U.S. Department
of Transportation

**Federal Aviation
Administration**

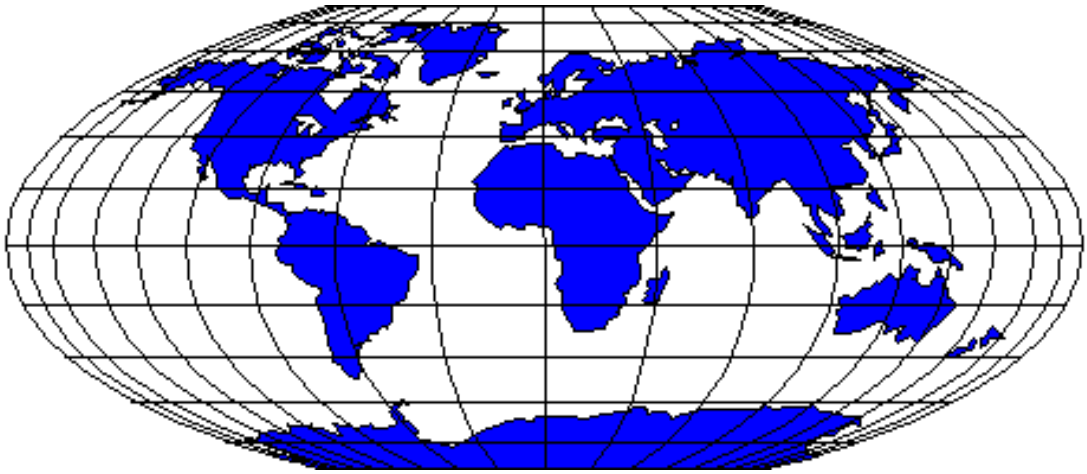
NOTICES TO AIRMEN

Domestic/International

August 15, 2019

Next Issue

September 12, 2019



*Notices to Airmen included in this publication are **NOT** given during pilot briefings unless specifically requested by the pilot. An electronic version of this publication is on the internet at http://www.faa.gov/air_traffic/publications/notices*

JANUARY – 2019

SUN	MON	TUE	WED	THU	FRI	SAT
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FEBRUARY – 2019

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MARCH – 2019

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31						

APRIL – 2019

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MAY – 2019

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JUNE – 2019

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JULY – 2019

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AUGUST – 2019

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SEPTEMBER – 2019

SUN	MON	TUE	WED	THU	FRI	SAT
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29	30					

OCTOBER – 2019

SUN	MON	TUE	WED	THU	FRI	SAT
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NOVEMBER – 2019

SUN	MON	TUE	WED	THU	FRI	SAT
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DECEMBER – 2019

SUN	MON	TUE	WED	THU	FRI	SAT
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29	30	31				

= Cutoff dates for submitting information to AJV−5 for next publication. (Twenty−three (23) days before effective date.)

= Effective dates and cutoff dates for submitting information to the Publications Staff, AJV−8 for next publication. (Twenty−eight (28) days before next effective date.)

NOTICES TO AIRMEN

August 15, 2019

Note: Part 1, FDC NOTAMs, was removed from the Notices to Airmen Publication effective February 28, 2019. NOTAMs can always be obtained prior to flight via www.1800wxbrief.com, notams.aim.faa.gov/notamSearch/, or through Flight Service Stations. FDC NOTAMs are available upon request from Flight Service (1–800–WX–BRIEF). Check the Foreword for more information.

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Section 3. Airport and Facility Notices

Northeast United States

**There are no Northeast United States notices for this edition.*

Southeast United States

**There are no Southeast United States notices for this edition.*

East Central United States

South Central United States

**There are no South Central United States notices for this edition.*

North Central United States

**There are no North Central United States notices for this edition.*

Northwest United States

**There are no Northwest United States notices for this edition.*

Southwest United States

Alaska and Hawaii

**There are no Alaska and Hawaii notices for this edition.*

Section 4. Major Sporting & Entertainment Events

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Temporary Flight Restrictions (TFR) and additional NOTAM information are available on the FAA website at http://www.faa.gov

NOTICES TO AIRMEN

Publication Schedule

PART 1

Information for **Part 1** (Part 95 Revisions) shall be submitted to the **National Flight Data Center, AJV−5,** before the information cutoff dates listed in the chart below. Information, as well as inquiries, should be addressed to:

Address	Category
Federal Aviation Administration National Flight Data Center (AJV−5) 1305 East−West Hwy Silver Spring, MD 20910	Airports & NAVAIDs Airspace & Procedures Part 95 Revisions

Current NOTAMs are available from *www.1800wxbrief.com*, *notams.aim.faa.gov*/*notamSearch*/, or through Flight Service Stations at 1−800−WX−BRIEF. Notices, restrictions, and advisories may change at any time and without notice. Do not attempt any operation in the National Airspace System without first obtaining and understanding a thorough pre−flight briefing.

PARTS 2 AND 3

Information for **Part 2** (International) and **Part 3** (Graphic Notices) shall be submitted electronically to **Air Traffic Procedures (AJV−8),** through the appropriate regional office. Requirements for Graphic Notices are listed on page viii of the Foreword and **must** be submitted well in advance of the event, but not later than 28 days prior to publication (see table below). Changes to submissions cannot be accepted after the cutoff dates. Graphic Notices for special events are published in two editions prior to the event. Information for Parts 2 and 3, as well as inquiries, should be addressed to:

Address	E−Mail	Phone Number
FAA HQ, Mission Support Services **Air Traffic Procedures (AJV−8)** **600 Independence Ave., SW** **Washington, DC 20597**	9−ATOR−HQ−PubGrp@faa.gov	1−202−267−0916

Cutoff Dates for Submitting Information To Be Published

Effective Date of Publication	Information Submission Cutoff Dates for **Graphic Notices (Parts 2 & 3)**	Information Submission Cutoff Dates for **FDC NOTAMs (Parts 1)**
~~January 3, 2019~~	~~December 6, 2018~~	~~December 12, 2018~~
~~January 31, 2019~~	~~January 3, 2019~~	~~January 9, 2019~~
~~February 28, 2019~~	~~January 31, 2019~~	~~February 6, 2019~~
~~March 28, 2019~~	~~February 28, 2019~~	~~March 6, 2019~~
~~April 25, 2019~~	~~March 28, 2019~~	~~April 3, 2019~~
~~May 23, 2019~~	~~April 25, 2019~~	~~May 1, 2019~~
~~June 20, 2019~~	~~May 23, 2019~~	~~May 29, 2019~~
~~July 18, 2019~~	~~June 20, 2019~~	~~June 26, 2019~~
~~August 15, 2019~~	~~July 18, 2019~~	~~July 24, 2019~~
September 12, 2019	August 15, 2019	August 21, 2019
October 10, 2019	September 12, 2019	September 18, 2019
November 7, 2019	October 10, 2019	October 16, 2019
December 5, 2019	November 7, 2019	November 13, 2019

SUBSCRIPTION INFORMATION

This and other selected Air Traffic publications are available online: www.faa.gov/air_traffic/publications

*General Public**	*Government Organizations**
Contact: Superintendent of Documents U.S. Government Printing Office P.O. Box 979050 St. Louis, MO 63197–9000 **Call:** 202–512–1800 **Online:** http://bookstore.gpo.gov	This publication is available on the FAA Website. All Government organizations are responsible for viewing, downloading, and subscribing to receive electronic mail notifications when changes occur to this publication. Electronic subscription information can be obtained by visiting the aforementioned website.
**For those desiring printed copies, current pricing is available on the GPO website at http://bookstore.gpo.gov*	

FOREWORD

NATIONAL AIRSPACE SYSTEM CHANGES

The main references for changes to the National Airspace System (NAS) are the Aeronautical Charts and the Chart Supplements. Most changes to the NAS meeting NOTAM criteria are known sufficiently in advance to be carried in these publications. When this cannot be done, changes are carried as a NOTAM.

NOTAMS IN THE NOTICES TO AIRMEN PUBLICATION

The Notices to Airmen publication is issued every 28 days. Data in this publication that is current on the effective date of the next Chart Supplement will be transferred to the supplements and removed from this publication.

PART 1. PUBLICATION CRITERIA

Revisions to Part 95 of the Code of Federal Regulations – Minimum En Route IFR Altitudes and Changeover Points are published four (4) weeks prior to the 56–day IFR chart cycle.

The revisions will remain in the NTAP until four (4) weeks prior to the next IFR chart 56–day cycle. (IFR 56–day cycle dates are published in the AFD in the General Information Section under Effective Date.)

The consolidation of Part 95 Altitudes will continue to be published as a separate document.

PART 2. INTERNATIONAL NOTICES TO AIRMEN

The International Notices to Airmen feature significant international information and data which may affect a pilot's decision to enter or use areas of foreign or international airspace. Each issuance of this Part is complete in itself. Temporary data will be repeated in each issue until the condition ceases to exist. Permanent data will be carried until it is sufficiently published or is available in other permanent sources. New items will be indicated by a black bar running in the left or right margin.

The information in Part 2 is divided into two sections. Section 1, Flight Prohibitions, Potentially Hostile Situations, and Foreign Notices is arranged alphabetically by country. Section 2, International Oceanic Airspace Notices, is divided into two sections: General and Region Specific.

Any notice submitted for inclusion must include the following information at the end of the notice: submitting office and date of the revision (e.g., AJV–81, 2/2/2017). In addition, all electronic mail submissions to 9–ATOR–HQ–PubGrp@faa.gov should specify a time frame in which to expect the removal of the notice from the publication. Submitting offices should notify AJV–8 when notices are no longer needed in the publication.

PART 3. GRAPHIC NOTICES

This section contains special notices and notices containing graphics pertaining to almost every aspect of aviation, such as military training areas, large scale sporting events that may attract media attention or draw large crowds of aircraft, air show information, and airport–specific information.

Data in this section is updated continuously. All submissions for inclusion in this section must have regional office approval and be submitted to AJV–8 through the regional office.

Notices for events requiring Special Traffic Management Programs (STMP) should be coordinated following the procedures in FAA Order JO 7210.3, Facility Operation and Administration.

Submissions should be sent to AJV–8 well in advance of but **no later than 28 days prior to** the effective date of the Notices to Airmen edition to ensure adequate lead time for inclusion in the publication.

Notices to Airmen (NOTAMS) submitted for inclusion in the NTAP are published **no earlier than two publication cycles (56 day periods) prior to the cycle in which the NOTAM becomes effective.** Special NOTAMS capture special events, like the Super Bowl, and are generally published in the NTAP for two consecutive publication cycles. NOTAMS that are more permanent in nature are posted in the NTAP until transferred to other appropriate Air Traffic Publications.

With the exception of dated special events, any notice submitted for inclusion must include the following information at the end of the notice: submitting office and date of the revision (e.g., AJV−81, 2/2/2017). In addition, all electronic mail submissions should specify a time frame in which to expect the removal of the notice from the publication. Regional offices should notify AJV−8 when notices are no longer needed in the publication.

Text files should be submitted as Word documents. Any graphics submitted for inclusion must be of high quality and in camera ready form; *FAX copies will not be accepted*. Electronic mail submissions are required and should be addressed to 9−ATOR−HQ−PubGrp@faa.gov . Graphics should be submitted in one of the following formats: GIF, JPEG, TIFF, BMP, or PDF. Please do not submit graphics with a ".doc" file extension. Each graphic must be submitted as a separate attachment. Graphic notices may be submitted in color or black and white. Avoid using white text in any graphic. Copyrighted materials, such as maps, should not be submitted for publication without written permission of the copyright owner.

REMOVED PARTS

Part 1. FDC NOTAMs

Effective with the February 28, 2019, edition, this part was removed from the publication. This included Section 1, Airway NOTAMs; Section 2, Airport, Facility and Procedural NOTAMs; and Section 3, General NOTAMs. These NOTAMs are still considered on request items when obtaining a briefing from Flight Service Stations (FSS). The most current and up−to−date information on NOTAMs is contained in the FAA's official NOTAM Search website, which can be found at https://notams.aim.faa.gov/notamSearch/. Pilots should obtain preflight IFR route and amendment FDC NOTAM information via the NOTAM Search website, an approved Flight Service web portal, or upon request by calling a Flight Service Station. Part 2, 3, and 4 of the NTAP were renumbered as Part 1, 2, and 3, respectively.

Part 5. Special Temporary Flight Restrictions/Prohibited Areas Around the Washington, DC, Thurmont, MD, and Crawford, TX, Areas

Effective with the November 27, 2003, edition, this part was removed from the publication. For information on flight restrictions, pilots are directed to www.1800wxbrief.com, notams.aim.faa.gov/notamSearch/, or through Flight Service Stations at 1−800−WX−BRIEF.

TIME REFERENCES

All time references are indicated as UTC or local. During periods of Daylight Saving Time, effective hours in local time will be one hour earlier than shown. All states observe Daylight Savings Time except Arizona, Hawaii, Puerto Rico, and the Virgin Islands.

NEW INFORMATION

Vertical lines in the outside margin indicate new or revised information.

INTERNET

The entire Notices to Airmen publication is published on the internet at the following address in PDF and HTML format: http://www.faa.gov/air_traffic/publications/notices/.

There are two copies of the NTAP on the website, the current version and the previous version. This is done to overlay any current NOTAMs and information that may be needed.

ERROR OR OBSOLETE DATA NOTIFICATION

Notification of erroneous or obsolete data should be directed to the Federal Aviation Administration, Air Traffic Procedures, AJV−81, 600 Independence Avenue, SW, Washington, DC 20597, or via e−mail at 9−ATOR−HQ−PubGrp@faa.gov.

CONTRACTIONS

NOTAM CONTRACTIONS

This list contains most of the commonly used contractions currently in use in Notices to Airmen (NOTAMS) and the standard aviation weather products, such as METAR/TAF, area forecasts, SIGMETs, AIRMETs, etc.

Contraction	*Decode*
A	
ABN	Aerodrome Beacon
ABV	Above
ACFT	Aircraft
ACT	Active or Activated or Activity
AD	Aerodrome
ADJ	Adjacent
AGL	Above ground level
ALS	Approach Light System
ALT	Altitude
ALTN	Alternate
AP	Airport
APCH	Approach
APP	Approach control or Approach Control Office
ARR	Arrival or Arrive
ASPH	Asphalt
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service
AUTH	Authority
AVBL	Available
AWY	Airway
AZM	Azimuth
B	
BA GOOD	Braking action good
BA GOOD TO MEDIUM	Braking action good to medium
BA MEDIUM	Braking action medium
BA MEDIUM TO POOR	Braking action medium to poor
BA NIL	Braking action nil
BC	Back Course
BCN	Beacon
BLW	Below
C	
CAT	Category
CK	Check
CL	Center Line
CLSD	Closed
CMB	Climb
COM	Communications
CONC	Concrete
CTC	Contact
CTL	Control
D	
DCT	Direct
DEG	Degrees
DH	Decision Height
DIST	Distance
DLA	Delay or delayed
DLY	Daily
DME	Distance Measuring Equipment
DP	Dew Point Temperature

Contraction	*Decode*
E	
E	East
ELEV	Elevation
ENG	Engine
EXC	Except
F	
FAF	Final Approach fix
FAN MKR	Fan Marker
FDC	Flight Data Center
FM	From
FREQ	Frequency
FNA	Final approach
FRI	Friday
FSS	Automated/Flight Service Station
FT	Foot, feet
G	
GCA	Ground Control Approach
GP	Glide Path
GPS	Global Positioning System
GRVL	Gravel
H	
HDG	Heading
HEL	Helicopter
HELI	Heliport
HIRL	High Intensity Runway Lights
HIWAS	Hazardous Inflight Weather Advisory Service
HLDG	Holding
HR	Hour
I	
IAF	Initial approach fix
IAP	Instrument Approach Procedure
INBD	Inbound
ID	Identification
IDENT	Identify/Identifier/Identification
IF	Intermediate approach fix
ILS	Instrument Landing System
IM	Inner Marker
IN	Inch/Inches
INFO	Information
INOP	Inoperative
INSTR	Instrument
INT	Intersection
INTL	International
INTST	Intensity
K	
KT	Knots
L	
L	Left
LAA	Local Airport Advisory
LAT	Latitude

Contraction	*Decode*
LAWRS	Limited Aviation Weather Reporting Station
LB	Pound/Pounds
LC	Local Control
LOC	Localizer
LGT	Light or lighting
LGTD	Lighted
LIRL	Low Intensity Runway Lights
LM	Locator Middle
LDG	Landing
LO	Outer Locator
LONG	Longitude
M	
MAINT	Maintain, maintenance
MALS	Medium Intensity Approach Light System
MALSF	Medium Intensity Approach Light System with Sequenced Flashers
MALSR	Medium Intensity Approach Light System with Runway Alignment Indicator Lights
MAPT	Missed Approach Point
MCA	Minimum Crossing Altitude
MDA	Minimum Descent Altitude
MEA	Minimum Enroute Altitude
MIN	Minute
MIRL	Medium Intensity Runway Lights
MLS	Microwave Landing System
MM	Middle Marker
MNM	Minimum
MNT	Monitor/Monitoring/Monitored
MOC	Minimum Obstruction Clearance
MON	Monday
MSG	Message
MSL	Mean Sea Level
N	
N	North
NA	Not Authorized
NAV	Navigation
NB	Northbound
NDB	Nondirectional Radio Beacon
NE	North−east
NGT	Night
NM	Nautical Mile(s)
NTAP	Notice To Airmen Publication
NW	North−west
O	
OBSC	Obscured
OBST	Obstacle
OM	Outer Marker
OPR	Operate
OPS	Operation
P	
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PARL	Parallel
PAX	Passenger
PCL	Pilot Controlled Lighting
PERM	Permanent/Permanently
PJE	Parachute jumping exercise
PLA	Practice Low Approach
PN	Prior Notice Required

Contraction	*Decode*
PPR	Prior Permission Required
PRN	Psuedo random noise
PROC	Procedure
PTN	Procedure Turn
R	
RAIL	Runway Alignment Indicator Lights
RCL	Runway Centerline
RCLL	Runway Centerline Light System
REC	Receive/Receiver
REDL	Runway Edge Light
REIL	Runway End Identifier Lights
REP	Report
RLLS	Runway Lead−in Lights System
RNAV	Area Navigation
RPLC	Replace
RSR	En Route Surveillance Radar
RTS	Return to Service
RVR	Runway Visual Range
RWY	Runway
S	
S	South
SAT	Saturday
SB	Southbound
SE	Southeast
SID	Standard Instrument Departure
SIMUL	Simultaneous
SKED	Scheduled
SSALF	Simplified Short Approach Lighting System with Sequenced Flashers
SSALR	Simplified Short Approach Lighting System with Runway Alignment Indicator Lights
SSALS	Simplified Short Approach Lighting System
SSR	Secondary Surveillance Radar
STA	Straight−in Approach
STAR	Standard Terminal Arrival
SUN	Sunday
SW	Southwest
T	
T	Temperature
TACAN	Tactical Air Navigational Aid
TAR	Terminal area surveillance radar
TDZ	Touchdown Zone
TEMPO	Temporary
TFC	Traffic
TFR	Temporary Flight Restriction
TGL	Touch and Go Landings
THR	Threshold
THRU	Through
THU	Thursday
TKOF	Takeoff
TUE	Tuesday
TWR	Tower
TWY	Taxiway
U	
U/S	Unserviceable
UNREL	Unreliable
V	
VASI	Visual Approach Slope Indicator

Contraction	*Decode*
VIS	Visibility
VOR	VHF Omni–Directional Radio Range
VORTAC	VOR and TACAN (colocated)
W	
W	West

Contraction	*Decode*
WB	Westbound
WED	Wednesday
WI	Within
WPT	Waypoint
WX	Weather

WEATHER CONTRACTIONS

Contraction	*Decode*
A	
A	Absolute (temperature)
A	Alaskan Standard Time (time groups only)
A	Arctic (air mass)
A01	Automated Observation without Precipitation Discriminator (rain/snow) (METAR)
A02	Automated Observation with Precipitation Discriminator (rain/snow) (METAR)
AAWF	Auxiliary Aviation Weather Facility
AC	Altocumulus
ACC	Altocumulus Castellanus
ACSL	Standing Lenticular Altocumulus
ACYC	Anticyclonic
ADRNDCK	Adirondack
ADV	Advise
ADVCTN	Advection
ADVY	Advisory
AFC	Area Forecast Center
AFDK	After Dark
ALF	Aloft
ALGHNY	Allegheny
ALQDS	All Quadrants
ALSEC	All Sectors
ALTA	Alberta
ALUTN	Aleutian
ALWF	Actual Wind Factor
AM	Ante Meridiem
AMD	Amended Forecast (TAF)
AMPLTD	Amplitude
AMS	Air Mass
AMS	American Meteorological Society
ANLYS	Analysis
APLCN	Appalachian
AS	Altostratus
ASOS	Automated Surface Observing System
ATLC	Atlantic
AURBO	Aurora Borealis
AWP	Aviation Weather Processors
B	
B	Beginning of Precipitation (time in minutes) (weather reports only)
B	Bering Standard Time (time groups only)
BACLIN	Baroclinic or Baroclinic Prognosis
BATROP	Barotropic or Barotropic Prognosis
BC	Patches (METAR)
BC	British Columbia
BCFG	Patchy Fog (METAR)
BCH	Beach
BCKG	Backing
BDA	Bermuda

Contraction	*Decode*
BECMG	Becoming (expected between 2 digit beginning hour and 2 digit ending hour) (TAF)
BFDK	Before Dark
BINOVC	Breaks in Overcast
BKN	Broken
BL	Between Layers
BL	Blowing (METAR)
BLD	Build
BLDUP	Buildup
BLKHLS	Black Hills
BLKT	Blanket
BLZD	Blizzard
BMS	Basic Meteorological Services
BNDRY	Boundary
BOVC	Base of Overcast
BR	Mist (METAR)
BRF	Brief
BRKHIC	Breaks in Higher Overcast
BRKSHR	Berkshire
BRM	Barometer
BTWN	Between
C	
C	Central Standard Time (time groups only)
C	Continental (air mass)
CAN	Canada
CARIB	Caribbean
CASCDS	Cascades
CAVOK	Cloud and Visibility OK (METAR)
CAVU	Clear or Scattered Clouds and Visibility Greater Than Ten Miles
CAWS	Common Aviation Weather Sub–system
CB	Cumulonimbus
CBMAM	Cumulonimbus Mamma
CC	Cirrocumulus
CCLKWS	Counterclockwise
CCSL	Standing Lenticular Cirrocumulus
CDFNT	Cold Front
CFP	Cold Front Passage
CHARC	Characteristic
CHSPK	Chesapeake
CI	Cirrus
CIG	Ceiling
CLD	Cloud
CLR	Clear at or below 12,000 feet (AWOS/ASOS report) (METAR)
CLRS	Clear and Smooth
CNCL	Cancel
CNDN	Canadian
CNVTV	Convective

Contraction	*Decode*
CONFDC	Confidence
CONTDVD	Continental Divide
CONTRAILS	Condensation Trails
COR	Correction to the observation (METAR)
CS	Cirrostratus
CST	Coast
CTGY	Category
CTSKLS	Catskills
CU	Cumulus
CUFRA	Cumulus Fractus
CYC	Cyclonic
CYCLGN	Cyclogenesis
D	
DABRK	Daybreak
DCAVU	Clear or Scattered Clouds and Visibility Greater than Ten, Remainder of Report Missing (weather reports only)
DKTS	Dakotas
DMSH	Diminish
DNS	Dense
DNSLP	Downslope
DNSTRM	Downstream
DP	Deep
DPNG	Deepening
DPTH	Depth
DR	Low Drifting (METAR)
DRFT	Drift
DS	Dust Storm (METAR)
DSIPT	Dissipate
DTLN	International Dateline
DTRT	Deteriorate
DU	Widespread Dust (METAR)
DVV	Downward Vertical Velocity
DWNDFTS	Downdrafts
DWPNT	Dew Point
DZ	Drizzle (METAR)
E	
E	Eastern Standard Time (time groups only)
E	Ending of Precipitation (time in minutes) (weather reports only)
E	Equatorial (air mass)
E	Estimated (weather reports only)
ELNGT	Elongate
EMBDD	Embedded
EMSU	Environment Meteorological Support Unit
ENERN	East−northeastern (weather reports only)
ENEWD	East−northeastward (weather reports only)
EOF	Expected Operations Forecast
ESERN	East−southeastern (weather reports only)
ESEWD	East−southeastward (weather reports only)
EXTRAP	Extrapolate
EXTRM	Extreme
F	
FA	Area Forecast
FAH	Fahrenheit
FEW	1 or 2 octas (eighths) cloud coverage (METAR)
FC	Funnel Cloud (METAR)
+FC	Tornado/ Water Spout (METAR)
FG	Fog (METAR)
FIBI	Filed but Impractical to Transmit
FILG	Filling

Contraction	*Decode*
FINO	Weather Report Will Not Be Filed for Transmission
FL	Flash Advisory
FLDST	Flood Stage
FLG	Falling
FLRY	Flurry
FLWIS	Flood Warning Issued
FM	From (4 digit beginning time in hours and minutes) (TAF)
FNT	Front
FNTGNS	Frontogenesis
FNTLYS	Frontolysis
FORNN	Forenoon
FRMG	Forming
FROPA	Frontal Passage
FROSFC	Frontal Surface
FRST	Frost
FRWF	Forecast Wind Factor
FRZ	Freeze
FRZLVL	Freezing Level
FRZN	Frozen
FT	Terminal Forecast
FU	Smoke (METAR)
FULYR	Smoke Layer Aloft
FUOCTY	Smoke Over City
FWC	Fleet Weather Central
FZ	Supercooled/freezing (METAR)
G	
G	Gusts Reaching (knots) (weather reports only)
GLFALSK	Gulf of Alaska
GLFCAL	Gulf of California
GLFMEX	Gulf of Mexico
GLFSTLAWR	Gulf of St. Lawrence
GR	Hail (METAR)
GRAD	Gradient
GRBNKS	Grand Banks
GRDL	Gradual
GRTLKS	Great Lakes
GS	Small Hail/Snow Pellets (METAR)
GSTS	Gusts
GSTY	Gusty
H	
HCVIS	High Clouds Visible
HDFRZ	Hard Freeze
HDSVLY	Hudson Valley
HI	Hi
HIEAT	Highest Temperature Equaled for All Time
HIEFM	Highest Temperature Equaled for The Month
HIESE	Highest Temperature Equaled So Early
HIESL	Highest Temperature Equaled So Late
HIFOR	High Level Forecast
HITMP	Highest Temperature
HIXAT	Highest Temperature Exceeded for All Time
HIXFM	Highest Temperature Exceeded for The Month
HIXSE	Highest Temperature Exceeded So Early
HIXSL	Highest Temperature Exceeded So Late
HLSTO	Hailstones
HLTP	Hilltop
HLYR	Haze Layer Aloft
HURCN	Hurricane
HUREP	Hurricane Report
HX	High Index
HZ	Haze (METAR)

Contraction	*Decode*
I	
IC	Ice Crystals (METAR)
ICG	Icing
ICGIC	Icing in Clouds
ICGICIP	Icing in Clouds and Precipitation
ICGIP	Icing in Precipitation
IMDT	Immediate
INLD	Inland
INSTBY	Instability
INTR	Interior
INTRMTRGN	Inter−Mountain Region
INTS	Intense
INTSFY	Intensify
INVRN	Inversion
IOVC	In Overcast
IR	Ice on Runway
J	
JTSTR	Jet Stream
K	
K	Cold (air mass)
KFRST	Killing Frost
L	
LABRDR	Labrador
LCTMP	Little Change in Temperature
LDG	Landing
LFT	Lift
LGRNG	Long Range
LIFR	Low IFR (weather reports only)
LK	Lake
LOEAT	Lowest Temperature Equaled for All Time
LOEFM	Lowest Temperature Equaled for The Month
LOESE	Lowest Temperature Equaled So Early
LOESL	Lowest Temperature Equaled So Late
LOTMP	Lowest Temperature
LOXAT	Lowest Temperature Exceeded for All Time
LOXFM	Lowest Temperature Exceeded for The Month
LOXSE	Lowest Temperature Exceeded So Early
LOXSL	Lowest Temperature Exceeded So Late
LSR	Loose Snow on Runway
LTGCC	Lightning Cloud-to-Cloud
LTGCCCG	Lightning Cloud-to-Cloud, Cloud-to-Ground
LTGCG	Lightning Cloud-to-Ground
LTGCW	Lightning Cloud-to-Water
LTGIC	Lightning in Clouds
LTLCG	Little Change
LTNG	Lightning
LX	Low Index
LYR	Layer or Layered or Layers
M	
M	Maritime (air mass)
M	In temperature field means ”minus” or below zero (METAR)
M	In RVR Field, indicates visibility less than lowest reportable sensor value (e.g. M0600FT)
M	Missing (weather reports only)
M	Mountain Standard Time (time groups only)
MA	Map Analysis

Contraction	*Decode*
MAN	Manitoba
MEGG	Merging
MEX	Mexico
MHKVLY	Mohawk Valley
MI	Shallow (METAR)
MIDN	Midnight
MIFG	Patches of Shallow Fog Not Deeper Than Two Meters (METAR)
MLTLVL	Melting Level
MMO	Main Meteorological Office
MNLD	Mainland
MOGR	Moderate or Greater
MONTR	Monitor
MOV	Move
MRGL	Marginal
MRNG	Morning
MRTM	Maritime
MS	Minus
MSTLY	Mostly
MSTR	Moisture
MTN	Mountain
MVFR	Marginal VFR
MXD	Mixed
N	
NB	New Brunswick
NCWX	No Change in Weather
NELY	Northeasterly (weather reports only)
NERN	Northeastern
NEW ENG	New England
NFLD	Newfoundland
NGT	Night
NL	No Layers
NMBR	Number
NNERN	North−northeastern (weather reports only)
NNEWD	North−northeastward (weather reports only)
NNWRN	North−northwestern (weather reports only)
NNWWD	Northwestward (weather reports only)
NO	Not available (e.g. SLPNO, RVRNO)
NORPI	No Pilot Balloon Observation Will Be Filed Next Collection Unless Weather Changes Significantly
NPRS	Nonpersistent
NS	Nimbostratus
NS	Nova Scotia
NSCSWD	No Small Craft or Storm Warning are Being Displayed
NSW	No Significant Weather (METAR)
NVA	Negative Vorticity Advection
NWLY	Northwesterly (weather reports only)
NWRN	Northwestern (weather reports only)
O	
OBS	Observation
OBSC	Obscure
OCFNT	Occluded Front
OCLD	Occlude
OCLN	Occlusion
OFP	Occluded Frontal Passage
OFSHR	Offshore
OMTNS	Over Mountains
ONSHR	On Shore
ONT	Ontario

Contraction	*Decode*
ORGPHC	Orographic
OSV	Ocean Station Vessel
OTAS	On Top and Smooth
OTLK	Outlook
OVC	Overcast
P	
P	Pacific Standard Time (time group only)
P	Polar (air mass)
P	In RVR field, indicates visibility greater than highest reportable sensor value (e.g. P6000FT)
P6SM	Visibility greater than 6 statute miles (TAF only)
PAC	Pacific
PBL	Probable
PCPN	Precipitation
PDMT	Predominant
PDMT	Predominate
PDW	Priority Delayed Weather
PL	Ice Pellets (METAR)
PEN	Peninsula
PGTSND	Puget Sound
PIBAL	Pilot Balloon Observation
PISE	No Pilot Balloon Observation Due To Unfavorable Sea Conditions
PISO	No Pilot Balloon Observation Due To Snow
PIWI	No Pilot Balloon Observation Due To High, or Gusty, Surface Wind
PLW	Plow (snow)
PNHDL	Panhandle
PO	Dust/Sand Whirls (METAR)
PPINA	Radar Weather Report Not Available (or omitted for a reason different than those otherwise stated)
PPINE	Radar Weather Report No Echoes Observed
PPINO	Radar Weather Report Equipment Inoperative Due To Breakdown
PPIOK	Radar Weather Report Equipment Operation Resumed
PPIOM	Radar Weather Report Equipment Inoperative Due To Maintenance
PR	Partial (METAR)
PRBLTY	Probability
PRESFR	Pressure Falling Rapidly
PRESRR	Pressure Rising Rapidly
PRJMP	Pressure Jump (weather reports only)
PROB40	Probability 40 percent (METAR)
PROG	Prognosis or Prognostic
PRSNT	Present
PS	Plus
PSG	Passage
PSG	Passing
PTCHY	Patchy
PTLY	Partly
PVA	Positive Vorticity Advection
PY	Spray (METAR)
Q	
QSTNRY	Quasi-stationary
QUE	Quebec
R	
R	Runway (used in RVR measurement)
RA	Rain (METAR)
RABA	No RAWIN Obs., No Balloons Available
RABAL	Radiosonde Balloon Wind Data
RABAR	Radiosonde Balloon Release

Contraction	*Decode*
RACO	No RAWIN Obs., Communications Out
RADAT	Radiosonde Observation Data
RADNO	Report Missing Account Radio Failure
RAFI	Radiosonde Observation Not Filed
RAFRZ	Radiosonde Observation Freezing Levels
RAHE	No RAWIN Obs., No Gas Available
RAICG	Radiosonde Observation Icing at
RAOB	Radiosonde Observation
RAREP	Radar Weather Report
RAVU	Radiosonde Analysis and Verification Unit
RAWE	No RAWIN obs., Unfavorable Weather
RAWI	No RAWIN Obs., High and Gusty Winds
RAWIN	Upper Winds Obs. (by radio methods)
RCD	Radar Cloud Detection Report
RCDNA	Radar Cloud Detection Report Not Available
RCDNE	Radar Cloud Detection Report No Echoes Observed
RCDNO	Radar Cloud Detector Inoperative Due to Breakdown Until
RCDOM	Radar Cloud Detector Inoperative Due to Maintenance Until
RCKY	Rockies (mountains)
RDG	Ridge
RDWND	Radar Dome Wind
RESTR	Restrict
RGD	Ragged
RH	Relative Humidity
RHINO	Radar Echo Height Information Not Available
RHINO	Radar Range Height Indicator Not Operating on Scan
RIOGD	Rio Grande
RMK	Remark(s)
RNFL	Rainfall
ROBEPS	Radar Operating Below Prescribed Standard
RPD	Rapid
RSG	Rising
RUF	Rough
RY/RWY	Runway
S	
SA	Sand (METAR)
SASK	Saskatchewan
SBSD	Subside
SC	Stratocumulus
SCSL	Standing Lenticular Stratocumulus
SCT	Scattered
SELS	Severe Local Storms
SELY	Southeasterly (weather reports only)
SERN	Southeastern (weather reports only)
SFERICS	Atmospherics
SG	Snow Grains (METAR)
SGD	Solar–Geophysical Data
SH	Showers (METAR)
SHFT	Shift (weather reports only)
SHLW	Shallow
SHRTLY	Shortly
SHWR	Shower
SIERNEV	Sierra Nevada
SKC	Sky Clear (METAR)
SLD	Solid
SLP	Sea Level pressure (e.g. 1013.2 reported as 132)
SLR	Slush on Runway
SLT	Sleet
SM	Statute mile(s)

Contraction	*Decode*
SMK	Smoke
SMTH	Smooth
SN	Snow (METAR)
SNBNK	Snowbank
SNFLK	Snowflake
SNOINCR	Snow Depth Increase in Past Hour
SNW	Snow
SNWFL	Snowfall
SP	Station Pressure
SPECI	Special Report (METAR)
SPKL	Sprinkle
SPLNS	South Plains
SPRD	Spread
SQ	Squall (METAR)
SQAL	Squall
SQLN	Squall Line
SS	Sandstorm (METAR)
SSERN	South-southeastern (weather reports only)
SSEWD	South-southeastward (weather reports only)
SSWRN	South-southwestern (weather reports only)
SSWWD	South–southwestward (weather reports only)
ST	Stratus
STAGN	Stagnation
STFR	Stratus Fractus
STFRM	Stratiform
STG	Strong
STM	Storm
STNRY	Stationary
SWLG	Swelling
SWLY	Southwesterly (weather reports only)
SWRN	Southwestern (weather reports only)
SX	Stability Index
SXN	Section
SYNOP	Synoptic
SYNS	Synopsis
T	
T	Trace (weather reports only)
T	Tropical (air mass)
TCU	Towering Cumulus
TEMPO	Temporary changes expected (between 2 digit beginning hour and 2 digit ending hour) (TAF)
THD	Thunderhead (non METAR)
THDR	Thunder (non METAR)
THK	Thick
THN	Thin
TKOF	Takeoff
TOP	Cloud Top
TOVC	Top of Overcast
TPG	Topping
TRIB	Tributary
TROF	Trough
TROP	Tropopause
TRPCD	Tropical Continental (air mass)
TRPCL	Tropical
TRPLYR	Trapping Layer
TS	Thunderstorm (METAR)
TSHWR	Thundershower (non METAR)
TSQLS	Thundersqualls (non METAR)
TSTM	Thunderstorm (non METAR)
TURBC	Turbulence
TURBT	Turbulent
TWRG	Towering

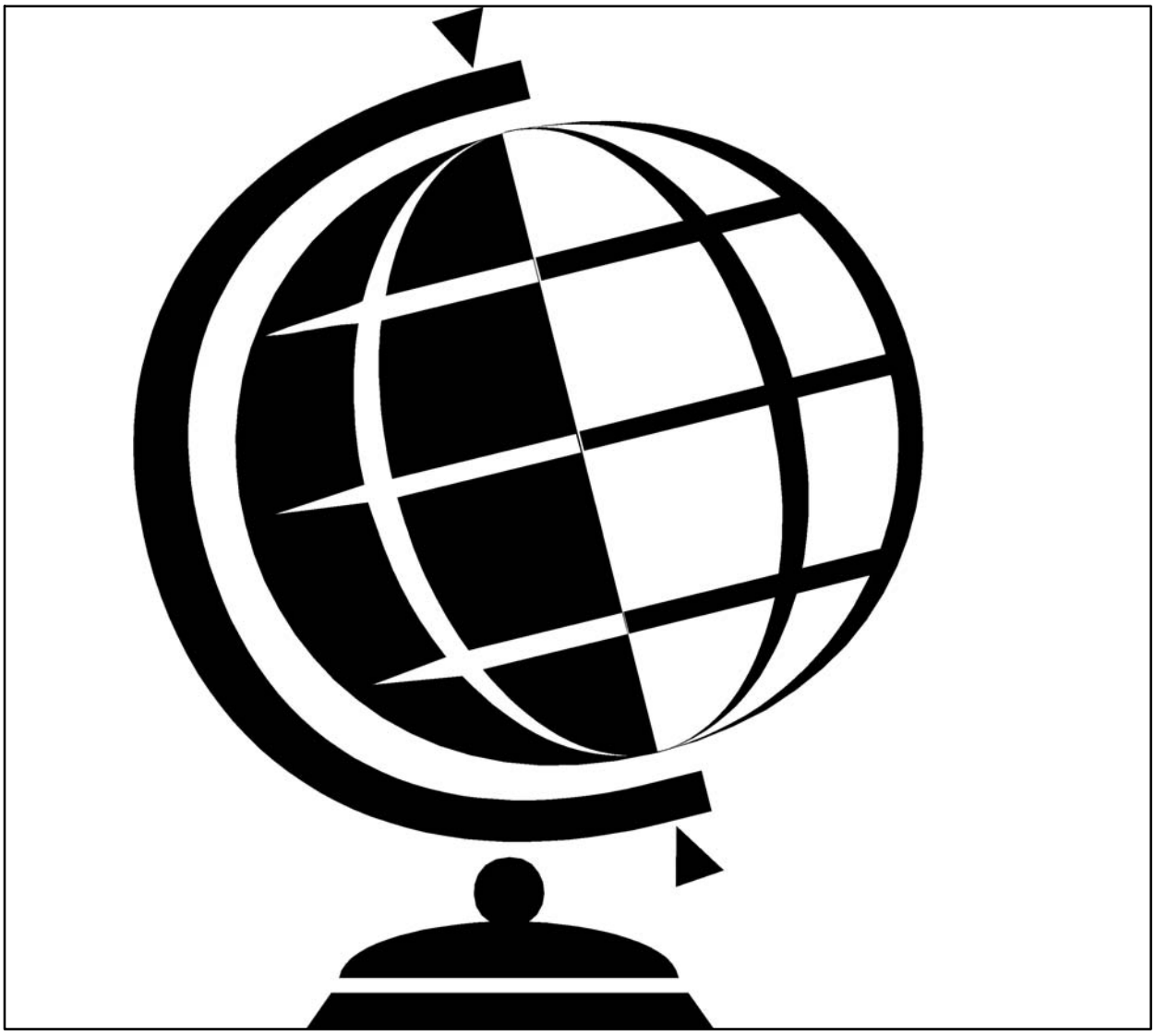
Contraction	*Decode*
U	
UAG	Upper Atmosphere Geophysics
UDDF	Up and Down Drafts
UNSBL	Unseasonable
UNSTBL	Unstable
UNSTDY	Unsteady
UNSTL	Unsettle
UP	Unknown Precipitation (Automated Observations)
UPDFTS	Updrafts
UPR	Upper
UPSLP	Upslope
UPSTRM	Upstream
UVV	Upward Vertical Velocity
UWNDS	Upper Winds
V	
V	Varies (wind direction and RVR)
V	Variable (weather reports only)
VA	Volcanic Ash (METAR)
VC	Vicinity
VLCTY	Velocity
VLNT	Violent
VLY	Valley
VR	Veer
VRB	Variable wind direction when speed is less than or equal to 6 knots
VRISL	Vancouver Island, BC
VRT MOTN	Vertical Motion
VSBY	Visibility
VSBYDR	Visibility Decreasing Rapidly
VSBYIR	Visibility Increasing Rapidly
VV	Vertical Visibility (Indefinite Ceiling) (METAR)
W	
W	Warm (air mass)
WA	AIRMET
WDC–1	World Data Centers in Western Europe
WDC–2	World Data Centers Throughout Rest of World
WDLY	Widely
WDSPRD	Widespread
WEA	Weather
WFP	Warm Front Passage
WINT	Winter
WND	Wind
WNWRN	West–northwestern (weather reports only)
WNWWD	West–northwestward (weather reports only)
WPLTO	Western Plateau
WR	Wet Runway
WRM	Warm
WRMFNT	Warm Front
WRNG	Warning
WS	Wind Shear (in TAFs, low level and not associated with convective activity)
WS	SIGMET
WSHFT	Wind Shift
WSOM	Weather Service Operations Manual
WSR	Wet Snow on Runway
WSWRN	West–southwestern (weather reports only)
WSWWD	West–southwestward (weather reports only)
WTR	Water
WTSPT	Waterspout
WV	Wave
WW	Severe Weather Forecast
WXCON	Weather Reconnaissance Flight Pilot Report

Contraction	*Decode*
X	
XCP	Except
XPC	Expect
Y	
Y	Yukon Standard Time (time groups only)

Contraction	*Decode*
YKN	Yukon
YLSTN	Yellowstone
Z	
ZI	Zonal Index
ZI	Zone of Interior

PART 1. Part 95 Revisions

Section 1. Revisions to Minimum En Route IFR Altitudes & Changeover Points



REVISIONS TO IFR ALTITUDES & CHANGEOVER POINT
AMENDMENT 547
EFFECTIVE DATE AUGUST 15, 2019

§95.6001 VICTOR ROUTES-U.S

§95.6004 VOR FEDERAL AIRWAY V4

FROM	TO	MEA
IS AMENDED TO READ IN PART		
*POCKET CITY, IN VORTAC	LAMBS, IN FIX	
	W BND	2500
	E BND	10000
*3600 - MCA POCKET CITY, IN VORTAC , E BND		
LAMBS, IN FIX	*LOUISVILLE, KY VORTAC	**10000
*10000 - MCA LOUISVILLE, KY VORTAC , W BND		
**3000 - GNSS MEA		
LOUISVILLE, KY VORTAC	LEXINGTON, KY VOR/DME	2800
LEXINGTON, KY VOR/DME	NEWCOMBE, KY VORTAC	3100

§95.6007 VOR FEDERAL AIRWAY V7

FROM	TO	MEA
IS AMENDED TO READ IN PART		
WIREGRASS, AL VORTAC	SKIPO, AL FIX	2300
SKIPO, AL FIX	*BANBI, AL FIX	**4000
*4000 - MCA BANBI, AL FIX , SE BND		
**1900 - MOCA		
**2300 - GNSS MEA		
BANBI, AL FIX	MONTGOMERY, AL VORTAC	2400
MONTGOMERY, AL VORTAC	VULCAN, AL VORTAC	3100

§95.6008 VOR FEDERAL AIRWAY V8

FROM	TO	MEA
IS AMENDED TO DELETE		
BRIGGS, OH VOR/DME	ATWOO, OH FIX	*4000
*3100 - MOCA		
*3100 - GNSS MEA		
ATWOO, OH FIX	BELLAIRE, OH VOR/DME	*6000
*3000 - MOCA		
BELLAIRE, OH VOR/DME	*GALLS, PA FIX	3600
*5000 - MCA GALLS, PA FIX , E BND		
GALLS, PA FIX	GRANTSVILLE, MD VOR/DME	5500
GRANTSVILLE, MD VOR/DME	MARTINSBURG, WV VORTAC	5500

§95.6012 VOR FEDERAL AIRWAY V12

FROM	TO	MEA
IS AMENDED TO READ IN PART		
COLUMBIA, MO VOR/DME	STITH, MO FIX	*4000
*2200 - MOCA		

STITH, MO FIX	FORISTELL, MO VORTAC	*3000
*2500 - MOCA		
FORISTELL, MO VORTAC	TROY, IL VORTAC	*2600
*2100 – MOCA		

§95.6018 VOR FEDERAL AIRWAY V18

FROM	TO	MEA
IS AMENDED TO DELETE		
GUTHRIE, TX VORTAC	BEKLE, TX FIX	
	NW BND	*6000
	SE BND	*8000
*3400 - MOCA		
BEKLE, TX FIX	MILLSAP, TX VORTAC	*8000
*3500 – MOCA		

§95.6078 VOR FEDERAL AIRWAY V78

FROM	TO	MEA
IS AMENDED TO DELETE		
ESCANABA, MI VOR/DME	SCHOOLCRAFT COUNTY, MI VOR/DME	2500
SCHOOLCRAFT COUNTY, MI VOR/DME	PELLSTON, MI VORTAC	2600

§95.6092 VOR FEDERAL AIRWAY V92

FROM	TO	MEA
IS AMENDED TO DELETE		
BELLAIRE, OH VOR/DME	*GALLS, PA FIX	3600
*5000 - MCA GALLS, PA FIX , E BND		
GALLS, PA FIX	GRANTSVILLE, MD VOR/DME	5500
GRANTSVILLE, MD VOR/DME	KEYER, WV FIX	5500
KEYER, WV FIX	ARMEL, VA VOR/DME	5000

§95.6102 VOR FEDERAL AIRWAY V102

FROM	TO	MEA
IS AMENDED TO DELETE		
LUBBOCK, TX VORTAC	GUTHRIE, TX VORTAC	5000
GUTHRIE, TX VORTAC	*SNEED, TX FIX	**3700
*4000 - MRA		
**3000 - MOCA		
*SNEED, TX FIX	**ELECT, TX FIX	2700
*4000 - MRA		
**3500 - MRA		
*ELECT, TX FIX	WICHITA FALLS, TX VORTAC	2700
*3500 – MRA		

§95.6184 VOR FEDERAL AIRWAY V184

FROM	TO	MEA
IS AMENDED TO READ IN PART		
DELRO, PA FIX	*MODENA, PA VORTAC	**10000
*10000 - MCA MODENA, PA VORTAC , W BND		
**4000 - GNSS MEA		

95.6214 VOR FEDERAL AIRWAY V214

FROM	TO	MEA
IS AMENDED TO DELETE		
BELLAIRE, OH VOR/DME *5000 - MCA GALLS, PA FIX , E BND	*GALLS, PA FIX	3600
GALLS, PA FIX	GRANTSVILLE, MD VOR/DME	5500
GRANTSVILLE, MD VOR/DME	MARTINSBURG, WV VORTAC	5500

§95.6224 VOR FEDERAL AIRWAY V224

FROM	TO	MEA
IS AMENDED TO DELETE		
SAWYER, MI VOR/DME *2600 – MOCA	SCHOOLCRAFT COUNTY, MI VOR/DME	*3500

§95.6275 VOR FEDERAL AIRWAY V275

FROM	TO	MEA
IS AMENDED TO READ IN PART		
CINCINNATI, KY VORTAC	DAYTON, OH VOR/DME	3000

§95.6278 VOR FEDERAL AIRWAY V278

FROM	TO	MEA
IS AMENDED TO DELETE		
PLAINVIEW, TX VOR/DME *4600 - MOCA	GUTHRIE, TX VORTAC	*5100
GUTHRIE, TX VORTAC *3300 - MOCA	NIFDE, TX WP	*4500
NIFDE, TX WP *2600 - MOCA *3300 - GNSS MEA	BOWIE, TX VORTAC	*4500

§95.6295 VOR FEDERAL AIRWAY V295

FROM	TO	MEA
IS AMENDED TO READ IN PART		
VIRGINIA KEY, FL VOR/DME *2100 - MOCA	HEATT, FL FIX	*5000
HEATT, FL FIX *6000 - MCA BLUFI, FL FIX , S BND **2000 - MOCA	*BLUFI, FL FIX	**6000
BLUFI, FL FIX *2000 – MOCA	STOOP, FL FIX	*5000

§95.6306 VOR FEDERAL AIRWAY V306

FROM	TO	MEA
IS AMENDED TO READ IN PART		
JUNCTION, TX VORTAC *5000 - MCA AMUSE, TX FIX , W BND **5000 - MOCA	*AMUSE, TX FIX	**7000
AMUSE, TX FIX *2900 - MOCA	CENTEX, TX VORTAC	*3300

CENTEX, TX VORTAC		NAVASOTA, TX VOR/DME	2400
ZMSKL, TX FIX *2400 - MOCA		CLEEP, TX FIX	*5000
CLEEP, TX FIX		DAISETTA, TX VORTAC	3100
DAISETTA, TX VORTAC		KUUPR, TX FIX	
	W BND		2300
	E BND		2800
KUUPR, TX FIX		OFERS, LA FIX	2800

95.6352 VOR FEDERAL AIRWAY V352

FROM		TO	MEA
IS AMENDED TO DELETE			
U.S. CANADIAN BORDER *10000 - MRA		*PATTA, ME FIX	6300
HOULTON, ME VOR/DME		U.S. CANADIAN BORDER	2000

§95.6404 VOR FEDERAL AIRWAY V404

FROM		TO	MEA
IS AMENDED TO READ IN PART			
CHILDRESS, TX VORTAC *5000 - MRA		*SNEED, TX FIX	4700
*SNEED, TX FIX		WICHITA FALLS, TX VORTAC	
	E BND		3000
	W BND		4700
*5000 – MRA			

§95.6430 VOR FEDERAL AIRWAY V430

FROM		TO	MEA
IS AMENDED TO READ IN PART			
WILLISTON, ND VOR/DME *3900 – MOCA		MINOT, ND VORTAC	*6000

§95.6438 VOR FEDERAL AIRWAY V438

FROM		TO	MEA
IS AMENDED TO DELETE			
GRANTSVILLE, MD VOR/DME		FLINT, MD FIX	6000
FLINT, MD FIX		TOMAC, WV FIX	
	E BND		4000
	W BND		6000
TOMAC, WV FIX		HAGERSTOWN, MD VOR	4000

§95.6474 VOR FEDERAL AIRWAY V474

FROM		TO	MEA
IS AMENDED TO READ IN PART			
DELRO, PA FIX *10000 - MCA MODENA, PA VORTAC , W BND **4000 - GNSS MEA		*MODENA, PA VORTAC	**10000

§95.6491 VOR FEDERAL AIRWAY V491

FROM	TO	MEA
IS AMENDED TO READ IN PART		
DICKINSON, ND VORTAC	MINOT, ND VORDME	*6000
*4400 – MOCA		

§95.6521 VOR FEDERAL AIRWAY V521

FROM	TO	MEA
IS AMENDED TO READ IN PART		
WIREGRASS, AL VORTAC	SKIPO, AL FIX	2300
SKIPO, AL FIX	*BANBI, AL FIX	**4000
*4000 - MCA BANBI, AL FIX , SE BND		
**1900 - MOCA		
**2300 - GNSS MEA		
BANBI, AL FIX	MONTGOMERY, AL VORTAC	2400

§95.6565 VOR FEDERAL AIRWAY V565

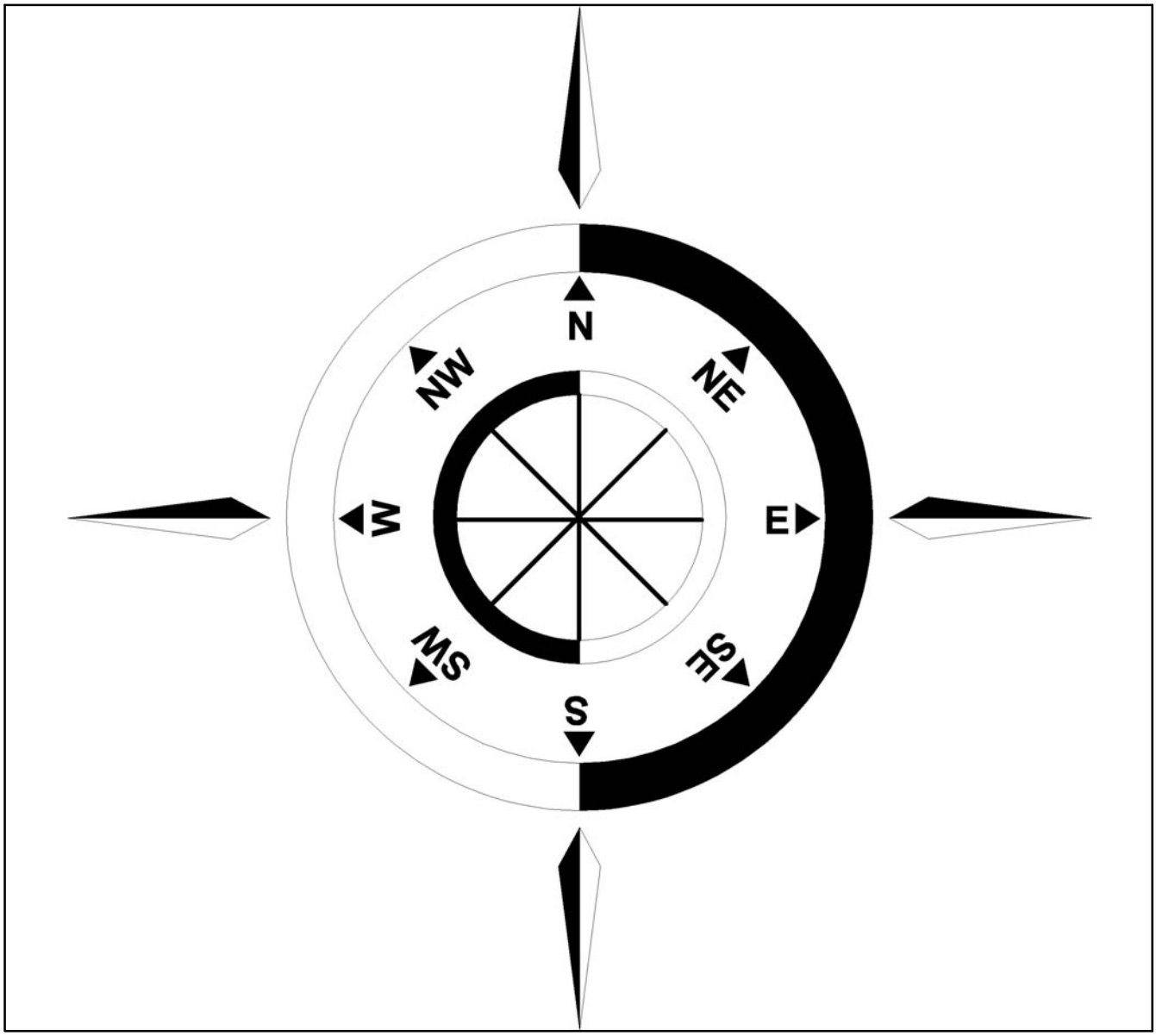
FROM	TO	MEA
IS AMENDED TO READ IN PART		
LLANO, TX VORTAC	AMUSE, TX FIX	3500
AMUSE, TX FIX	CENTEX, TX VORTAC	3300
*2900 - MOCA		
CENTEX, TX VORTAC	COLLEGE STATION, TX VORTAC	2400

§95.8005 JET ROUTES CHANGEOVER POINTS

AIRWAY SEGMENT		CHANGEOVER POINTS	
FROM	TO	DISTANCE	FROM
J153			
IS AMENDED TO ADD CHANGEOVER POINT			
ROME, OR VOR/DME	BAKER CITY, OR VOR/DME	120	ROME

Part 2.

INTERNATIONAL NOTICES TO AIRMEN



GENERAL

This part features significant international notices to airmen (NOTAM) information and special notices.

The information contained in the International Notices to Airmen section is derived from international notices and other official sources. International notices are of two types: Class One International Notices are those NOTAMs issued via telecommunications. They are made available to the U.S. flying public by the International NOTAM Office (Washington, DC) through the local Flight Service Station (FSS). Class Two International Notices are NOTAMs issued via postal services and are not readily available to the U.S. flying public. The International Notices to Airmen draws from both these sources and also includes information about temporary hazardous conditions which are not otherwise readily available to the flyer. Before any international flight, always update the International Notices to Airmen with a review of Class One International Notices available at your closest FSS.

Foreign notices carried in this publication are carried as issued to the maximum extent possible. Most abbreviations used in this publication are listed in ICAO Document DOC 8400. Wherever possible, the source of the information is included at the end of an entry. This allows the user to confirm the currency of the information with the originator.

International Information Source Code Table

Code	*Information Source*
I or II (followed by the NOTAM number)	Class One or Class Two NOTAMs
AIP	Aeronautical Information Publication (followed by the AIP change number)
AIC	Aeronautical Information Circular (followed by the AIC number)
DOS	Department of State advisories
FAA	Federal Aviation Administration.

The International Notices to Airmen section gives world wide coverage in each issue. Coverage for the U.S. and its external territories is limited and normally will not include data available on the domestic NOTAM circuit or published in other official sources available to the user.

Each issue of this section is complete in itself. Temporary data will be repeated in each issue until the condition ceases to exist. Permanent data will be carried until it is sufficiently published or is available in other permanent sources. New items will be indicated by a black bar running in the left or right margin.

This section includes data issued by foreign governments. The publication of this data in no way constitutes legal recognition of the validity of the data. This publication does not presume to tabulate all NOTAM data, although every effort is made to publish all pertinent data. The Federal Aviation Administration does not assume liability for failure to publish, or the accuracy of, any particular item.

INTERNATIONAL NOTICES TO AIRMEN

SECTION 1

Flight Prohibitions, Potentially Hostile Situations, and Foreign Notices

Introduction: This section contains information concerning FAA–issued flight prohibitions for countries and territories outside the United States, advisory notices on potentially hostile situations abroad, and notices issued by foreign governments and civil aviation authorities.

These may affect a pilot's decision to enter or use areas of foreign or international airspace. During the flight planning process, pilots should review FAA's Prohibitions, Restrictions, and Notices at https://www.faa.gov/air_traffic/publications/us_restrictions/ for foreign airspace and entry restrictions. Foreign airspace penetration without official authorization can involve extreme danger to the aircraft and the imposition of severe penalties and inconvenience on both passengers and crew. A flight plan on file with ATC authorities does not necessarily constitute the prior permission required by certain authorities. The possibility of fatal consequences cannot be ignored in some areas of the world.

All operators also should check the latest U.S. Department of State Travel Warnings and Public Announcements at http://travel.state.gov, and can obtain additional information by contacting the appropriate foreign government authorities.

BAHAMAS, THE

Communication Procedures for Aircraft Operations Within the Nassau and Grand Bahama Terminal Control Areas (TMAS')

Effective immediately, all aircraft operating or about to operate (IFR, VFR, including military unless specifically exempted, etc.) within the Nassau and Grand Bahama TMAS' and within a 50 nautical mile radius of Nassau and Freeport Int'l airports SHALL report, as a minimum, to the respective Approach Control Unit as follows:

1. Their identification.

2. Aircraft type.

3. Position.

4. Direction of flight.

5. Cruising level.

These reports shall enable the respective approach control unit to provide a more effective advisory service to possible conflicting flights, controlled and uncontrolled within the TMAS'.

Pilots shall contact the appropriate approach control unit as follows:

1. "Nassau Approach" on frequency 121.0 MHz.

2. "Freeport Approach" on frequency 126.5 MHz.

(Bahamas AIC 2/20/2010)

CHINA

Federal Aviation Administration (FAA) Flight Routing Authorization Requirements in United States Territorial Airspace

All aircraft with China registrations beginning with B; aircraft using the ICAO designator of a China company; or aircraft used for China diplomatic flights require FAA routing authorization for flights in United

States Territorial Airspace, unless the aircraft is registered in Hong Kong, Macau, or Taiwan, or the aircraft is operated by a company with FAA Part 129 operations specifications.

Only IFR flights are eligible for FAA routing authorization. See current FAA KFDC NOTAMS for other requirements and information regarding Aircraft that Operate To or From or Within or Transit Territorial Airspace of the United States (US).

FAA routing authorization is in addition to any US State Department (DOS) diplomatic clearance or US Transportation Security Administration (TSA) waiver. To obtain FAA routing authorization, contact the FAA System Operations Support Center at 9-ATOR-HQ-RT-REQ@faa.gov or FAX 202-267-5289 (Attention FAA SOSC), or call 202-267-8115.

Provide the following information:

1. Name and address of company or individual. Include a phone number (in case there are questions concerning your request) and a return E-Mail address. Aircraft Information: Callsign (including ICAO designator if assigned)/type/registration number.

2. General Route Itinerary: Date range. City (ICAO Location Identifier)- City (ICAO Location Identifier)- City (ICAO Location Identifier), etc.

3. Specific route information for each leg of the flight: Callsign, departure point, date/time (UTC), route, destination, date/time (UTC).

4. Purpose: Cargo, Passenger, Diplomatic, etc. for each leg of flight.

(FAA/AJR–2 System Operations Security 6/27/2013)

CUBA

Federal Aviation Administration (FAA) Flight Routing Authorization Requirements in United States Territorial Airspace

All aircraft with Cuba registration beginning with CU; aircraft using the ICAO designator of a Cuba company; or aircraft used for Cuba diplomatic flights require FAA routing authorization for flights in United States Territorial Airspace.

Only IFR flights are eligible for FAA routing authorization. See current FAA KFDC NOTAMS for other requirements and information regarding Aircraft that Operate To or From or Within or Transit Territorial Airspace of the United States (US).

FAA routing authorization is in addition to any US State Department (DOS) diplomatic clearance or US Transportation Security Administration (TSA) waiver. To obtain FAA routing authorization, contact the FAA System Operations Support Center at 9-ATOR-HQ-RT-REQ@faa.gov or FAX 202-267-5289 (Attention FAA SOSC), or call 202-267-8115.

Provide the following information:

1. Name and address of company or individual. Include a phone number (in case there are questions concerning your request) and a return E-Mail address. Aircraft Information: Callsign (including ICAO designator if assigned)/type/registration number.

2. General Route Itinerary: Date range. City (ICAO Location Identifier)- City (ICAO Location Identifier)- City (ICAO Location Identifier), etc.

3. Specific route information for each leg of the flight: Callsign, departure point, date/time (UTC), route, destination, date/time (UTC).

4. Purpose: Cargo, Passenger, Diplomatic, etc. for each leg of flight.

(FAA/AJR–2 System Operations Security 6/27/2013)

EUROPE

EUROCONTROL Integrated Initial Flight Plan Processing System (IFPS).

All aircraft flying into, departing from, or transiting Europe within the General Air Traffic (GAT) Civil system must file an International Civil Aviation Organization (ICAO) flight plan with the Integrated Initial Flight Plan Processing System (IFPS) managed by the EUROCONTROL Central Flow Management Unit (CFMU). This system is the sole source for the distribution of the IFR/GAT portions of flight plan information to Air Traffic Control (ATC) within participating European Countries collectively known as the IFPS Zone (IFPZ). Flight plans and associated messages for all IFR flights, including the IFR portions of mixed IFR/VFR flights, entering, over flying or departing the IFPZ, shall be addressed only to the two IFPS addresses for that portion of the flight within the IFPZ. The IFPS addresses to be included in flight plans and associated messages submitted by operators that intend to fly into or through the IFPZ are as follows:

Network	IFPS Unit Addresses	
IFPU1		
Haren, Belgium	**AFTN**	EUCHZMFP
SITA BRUEP7X		
IFPU2		
Brétigny, France	**AFTN**	EUCBZMFP
SITA PAREP7X		

IFPS will ensure distribution of the accepted flight plan to all relevant ATS units within their area of responsibility. Flight plan message originators filing to IFPS are responsible for ensuring that the flight plan and any modifications made thereto are addressed to all the relevant ATS units outside the IFPZ. In order to ensure consistency between the flight plan data distributed within the IFPZ and that distributed outside the IFPZ, the EUROCONTROL CFMU has established a “re-addressing function”. The “re-addressing function” is intended primarily for flights originating within the IFPZ and proceeding outside the IFPZ.

Note.— Detailed procedures and information applicable to flight plan addressing and distribution are contained in the EUROCONTROL “Basic CFMU Handbook”.

Additional information may be obtained from Aeronautical Information Publications (AIP) and/or Aeronautical Information Circulars (AIC) issued by individual countries, through commercial flight planners, or by contacting EUROCONTROL, rue de la Fusee, 96, B−1130, Brussels, Belgium. Telephone: 32−2− 745−1950, FAX: 32−2− 729−9041 and on the EUROCONTROL Web site: www.eurocontrol.int.

NOTE−IFPS Zone Countries − Albania, Armenia, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, Former Yugoslav Republic of Macedonia, Malta, Monaco, Morocco, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, Serbia and Montenegro.

(AEU-500 6/7/2010)

IRAN (ISLAMIC REPUBLIC OF)

Federal Aviation Administration (FAA) Flight Routing Authorization Requirements in United States Territorial Airspace

All aircraft with Iran registrations beginning with EP; aircraft using the ICAO designator of an Iran company; or aircraft used for Iran diplomatic flights require FAA routing authorization for flights in United States Territorial Airspace.

Only IFR flights are eligible for FAA routing authorization. See current FAA KFDC NOTAMS for other requirements and information regarding Aircraft that Operate To or From or Within or Transit Territorial Airspace of the United States (US).

FAA routing authorization is in addition to any US State Department (DOS) diplomatic clearance or US Transportation Security Administration (TSA) waiver. To obtain FAA routing authorization, contact the FAA System Operations Support Center at 9-ATOR-HQ-RT-REQ@faa.gov or FAX 202-267-5289 (Attention FAA SOSC), or call 202-267-8115.

Provide the following information:

1. Name and address of company or individual. Include a phone number (in case there are questions concerning your request) and a return E-Mail address. Aircraft Information: Callsign (including ICAO designator if assigned)/type/registration number.

2. General Route Itinerary: Date range. City (ICAO Location Identifier)- City (ICAO Location Identifier)- City (ICAO Location Identifier), etc.

3. Specific route information for each leg of the flight: Callsign, departure point, date/time (UTC), route, destination, date/time (UTC).

4. Purpose: Cargo, Passenger, Diplomatic, etc. for each leg of flight.

(FAA/AJR–2 System Operations Security 6/27/2013)

DEMOCRATIC PEOPLE'S REPUBLIC OF NORTH KOREA (DPRK)

Federal Aviation Administration (FAA) Flight Routing Authorization Requirements in United States Territorial Airspace

All aircraft with DPRK registrations beginning with P; aircraft using the ICAO designator of a DPRK company; or aircraft used for DPRK diplomatic flights require FAA routing authorization for flights in United States Territorial Airspace.

Only IFR flights are eligible for FAA routing authorization. See current FAA KFDC NOTAMS for other requirements and information regarding Aircraft that Operate To or From or Within or Transit Territorial Airspace of the United States (US).

FAA routing authorization is in addition to any US State Department (DOS) diplomatic clearance or US Transportation Security Administration (TSA) waiver. To obtain FAA routing authorization, contact the FAA System Operations Support Center at 9-ATOR-HQ-RT-REQ@faa.gov or FAX 202-267-5289 (Attention FAA SOSC), or call 202-267-8115.

Provide the following information:

1. Name and address of company or individual. Include a phone number (in case there are questions concerning your request) and a return E-Mail address. Aircraft Information: Callsign (including ICAO designator if assigned)/type/registration number.

2. General Route Itinerary: Date range. City (ICAO Location Identifier)- City (ICAO Location Identifier)- City (ICAO Location Identifier), etc.

3. Specific route information for each leg of the flight: Callsign, departure point, date/time (UTC), route, destination, date/time (UTC).

4. Purpose: Cargo, Passenger, Diplomatic, etc. for each leg of flight.

(FAA/AJR–2 System Operations Security 6/27/2013)

RUSSIA FEDERATION

Federal Aviation Administration (FAA) Flight Routing Authorization Requirements in United States Territorial Airspace

All aircraft with Russian Federation registrations beginning with RA; aircraft using the ICAO designator of a Russian Federation company; or aircraft used for Russian Federation diplomatic flights require FAA

routing authorization for flights in United States Territorial Airspace, unless the aircraft is operated by a company with FAA Part 129 operations specifications.

Only IFR flights are eligible for FAA routing authorization. See current FAA KFDC NOTAMS for other requirements and information regarding Aircraft that Operate To or From or Within or Transit Territorial Airspace of the United States (US).

FAA routing authorization is in addition to any US State Department (DOS) diplomatic clearance or US Transportation Security Administration (TSA) waiver. To obtain FAA routing authorization, contact the FAA System Operations Support Center at 9-ATOR-HQ-RT-REQ@faa.gov or FAX 202-267-5289 (Attention FAA SOSC), or call 202-267-8115.

Provide the following information:

1. Name and address of company or individual. Include a phone number (in case there are questions concerning your request) and a return E-Mail address. Aircraft Information: Callsign (including ICAO designator if assigned)/type/registration number.

2. General Route Itinerary: Date range. City (ICAO Location Identifier)- City (ICAO Location Identifier)- City (ICAO Location Identifier), etc.

3. Specific route information for each leg of the flight: Callsign, departure point, date/time (UTC), route, destination, date/time (UTC).

4. Purpose: Cargo, Passenger, Diplomatic, etc. for each leg of flight.

(FAA/AJR–2 System Operations Security 6/27/2013)

SUDAN

Federal Aviation Administration (FAA) Flight Routing Authorization Requirements in United States Territorial Airspace

All aircraft with Sudan registrations beginning with ST; aircraft using the ICAO designator of a Sudan company; or aircraft used for Sudan diplomatic flights require FAA routing authorization for flights in United States Territorial Airspace.

Only IFR flights are eligible for FAA routing authorization. See current FAA KFDC NOTAMS for other requirements and information regarding Aircraft that Operate To or From or Within or Transit Territorial Airspace of the United States (US).

FAA routing authorization is in addition to any US State Department (DOS) diplomatic clearance or US Transportation Security Administration (TSA) waiver. To obtain FAA routing authorization, contact the FAA System Operations Support Center at 9-ATOR-HQ-RT-REQ@faa.gov or FAX 202-267-5289 (Attention FAA SOSC), or call 202-267-8115.

Provide the following information:

1. Name and address of company or individual. Include a phone number (in case there are questions concerning your request) and a return E-Mail address. Aircraft Information: Callsign (including ICAO designator if assigned)/type/registration number.

2. General Route Itinerary: Date range. City (ICAO Location Identifier)- City (ICAO Location Identifier)- City (ICAO Location Identifier), etc.

3. Specific route information for each leg of the flight: Callsign, departure point, date/time (UTC), route, destination, date/time (UTC).

4. Purpose: Cargo, Passenger, Diplomatic, etc. for each leg of flight.

(FAA/AJR–2 System Operations Security 6/27/2013)

SYRIAN ARAB REPUBLIC

Federal Aviation Administration (FAA) Flight Routing Authorization Requirements in United States Territorial Airspace

All aircraft with Syrian Arab Republic registrations beginning with YK; aircraft using the ICAO designator of a Syrian Arab Republic company; or aircraft used for Syrian Arab Republic diplomatic flights require FAA routing authorization for flights in United States Territorial Airspace.

Only IFR flights are eligible for FAA routing authorization. See current FAA KFDC NOTAMS for other requirements and information regarding Aircraft that Operate To or From or Within or Transit Territorial Airspace of the United States (US).

FAA routing authorization is in addition to any US State Department (DOS) diplomatic clearance or US Transportation Security Administration (TSA) waiver. To obtain FAA routing authorization, contact the FAA System Operations Support Center at 9-ATOR-HQ-RT-REQ@faa.gov or FAX 202-267-5289 (Attention FAA SOSC), or call 202-267-8115.

Provide the following information:

1. Name and address of company or individual. Include a phone number (in case there are questions concerning your request) and a return E-Mail address. Aircraft Information: Callsign (including ICAO designator if assigned)/type/registration number.

2. General Route Itinerary: Date range. City (ICAO Location Identifier)- City (ICAO Location Identifier)- City (ICAO Location Identifier), etc.

3. Specific route information for each leg of the flight: Callsign, departure point, date/time (UTC), route, destination, date/time (UTC).

4. Purpose: Cargo, Passenger, Diplomatic, etc. for each leg of flight.

(FAA/AJR–2 System Operations Security 6/27/2013)

SECTION 2

INTERNATIONAL OCEANIC AIRSPACE NOTICES

INTRODUCTION

The following information contains the most current notices involving airspace matters pertaining to U.S. internationally delegated airspace. The information provided is divided into two sections: General and Region Specific.

GENERAL

COMMUNICATIONS REQUIREMENTS IN OCEANIC AIRSPACE DELEGATED TO THE FAA FOR PROVISION OF AIR TRAFFIC SERVICES

1. The United States Aeronautical Information Publication (AIP), (section ENR 7.1, paragraph 6) describes satellite voice (SatVoice) communications services available in Anchorage, New York and Oakland oceanic control areas (OCAs), along with the requirements for use of those services. The AIP currently allows use of suitably installed and operated SatVoice to communicate with New York and San Francisco Radio only "when unable to communicate on HF" (High Frequency) radio. Some questions have arisen as to what constitutes being "unable" to communicate on HF.

2. Anchorage, New York and Oakland OCAs are "high seas" (international) airspace (for U.S. operators, 14 CFR § 91.703 refers). Therefore, all operations therein must comply with ICAO Annex 2 (*Rules of the Air*), which requires that aircraft "maintain continuous air–ground voice communication watch on the appropriate communication channel…" (Paragraph 3.6.5.1). This means that a long–range communication system (LRCS) is required whenever operations will exceed the range of VHF voice communications between aircraft and air traffic control. Additionally, regulations issued by the State of Registry/ State of the Operator may stipulate how many LRCS are required. Examples of such regulations, for U.S. operators, include 14 CFR §§ 91.511, 121.351, 125.203 and 135.165.

3. A flight crew is considered to be "unable to communicate on HF" during poor HF propagation conditions (commonly referred to as "HF Blackouts"), or if there is an inflight HF radio failure. In those cases, that flight crew can use AIP–compliant SatVoice equipment and procedures to continue the flight to destination. A one–time return flight through Anchorage, New York and Oakland OCAs, to obtain maintenance on the HF radios, would also be acceptable under these circumstances, and would meet the criteria for use of SatVoice with New York and San Francisco Radio as per the AIP. Operators must still comply with applicable regulations on how many LRCS are required, as well as with applicable Minimum Equipment List (MEL) provisos.

4. When first establishing communications with New York or San Francisco Radio via SatVoice, the flight crew should request a "callback check." Such a check will help ensure Radio can contact the crew during the period of SatVoice use. The table below illustrates a sample callback check. Additionally, in the event the operator has indicated capability for SatVoice via both Iridium and Inmarsat (by listing codes M1 and M3 in Item 10 of the ATC flight plan), the flight crew should inform the Radio operator of the service to use for communicating with the aircraft.

Sample Transcript of SatVoice Callback Check	
SatVoice call from the air:	*"New York RADIO, Airline 123, request SatVoice Callback check."* For aircraft equipped with both Inmarsat and Iridium: *"… on Inmarsat/Iridium* (as applicable)*"*
Answer from the ground:	*"Airline 123, copy, terminating call, will call you right back"*
New SatVoice call from ground:	*"Airline 123, New York Radio with your SatVoice callback, how do you read?"*
SatVoice answer from the air:	*"Loud and clear, SatVoice callback check good, good day!"*

5. FAA point of contact: Aviation Safety Inspector Kevin C. Kelley, Flight Technologies and Procedures Division, 202−267−8854, Kevin.C.Kelley@faa.gov.

(Flight Operations Group, Flight Technologies and Procedures Division, Flight Standards Service, 7/18/2019)

REGION SPECIFIC

SPECIAL EMPHASIS ITEMS FOR OPERATIONS ON NORTH ATLANTIC TRACKS/ROUTES EMPLOYING REDUCED AIRCRAFT SEPARATION

The ICAO North Atlantic (NAT) region has implemented reduced aircraft separation, both longitudinally and laterally, between appropriately equipped and qualified aircraft. A trial of further reduced lateral separation will begin in October 2019 between ADS−B equipped aircraft flying in the NAT.

The purpose of this notice is to alert U.S. operators to a number of NAT OPS Bulletins published by the ICAO Europe/North Atlantic region office. (Anyone planning to fly across the NAT should read and become very familiar with the information contained in ALL current NAT OPS Bulletins.) The bulletins provide information on aircraft equipment and aircrew qualification requirements for taking advantage of the tracks and routes where air traffic controllers use reduced aircraft separation minimums. The bulletins also contain *special emphasis items* that should be part of aircrew training and operating procedures to enhance safety of operations in the NAT.

The bulletins most relevant to operations under reduced aircraft separation minimums are as follows:

Number 2018_006 *Trial Implementation of ASEPS Using ADS−B*

Number 2018_005 *Special Procedures for In−flight Contingencies in Oceanic Airspace*

Number 2018_004 *Implementation of Performance Based Separation Minima−Expanded Publication of PBCS OTS*

Number 2018_003 *Waypoint Insertion/Verification Special Emphasis Items*

Special emphasis items covered in these bulletins include:

- Pilot training on map and FMC displays of ½ degree and whole degree waypoints
- **Required** pilot procedures for verifying waypoint degrees and minutes inserted into navigation systems
- Pilot in−flight contingency and weather deviation procedures

To reiterate, operators are strongly encouraged to review all the current NAT OPS Bulletins and include relevant information in their training programs and normal oceanic procedures. Use the information in the bulletins hand in hand with the information published in the U.S. Aeronautical Information Publication (AIP).

Note: The emphasis items contained in bulletin 2018_003 are of value to safe operations in *any* oceanic airspace. ALL operators should provide the information contained therein to their oceanic flight crews.

Operators may find the bulletins on the *ICAO EUR/NAT* website (https://www.icao.int/EURNAT/Pages/welcome.aspx), then selecting *EUR/NAT Documents*, then *NAT Documents*, and then *NAT OPS Bulletins.*

(Flight Operations Group, Flight Technologies and Procedures Division, Flight Standards Service, AFS-470, 7/18/19)

NORTH ATLANTIC DATA LINK MANDATE MARCH 2018 UPDATE

1. Introduction.

a. This notice updates operators on the status of and requirements related to the International Civil Aviation Organization (ICAO) North Atlantic (NAT) region Data Link Mandate (DLM), first instituted in February 2015. This notice also identifies those portions of North Atlantic region airspace where data link equipment is not required. This notice is derived from information published in NAT OPS BULLETIN 2017–1 *NAT Common DLM AIC*. That bulletin is available at the ICAO Europe/North Atlantic office website, under EUR & NAT Documents > NAT Documents > NAT Ops Bulletins. All U.S. operators intending flights in the NAT region should familiarize themselves with all the current NAT Ops Bulletins.

b. Except as identified below, aircraft operating at FL 350 through FL 390, throughout the ICAO North Atlantic region, must be equipped with operable FANS 1/A (or equivalent) CPDLC and ADS–C equipment. This new phase of the NAT DLM went into effect on December 7, 2017. (Prior to December 7, 2017, the mandate applied only to the tracks of the NAT Organized Track System (OTS).)

c. The objectives of the ICAO NAT DLM are to enhance communication, surveillance and ATC intervention capabilities in the NAT in order to reduce collision risk and meet NAT target levels of safety. ADS–C provides conformance monitoring of aircraft adherence to cleared route and flight level, thereby significantly enhancing safety in the NAT. ADS–C also facilitates search and rescue operations and the capability to locate the site of an accident in oceanic airspace. CPDLC significantly enhances air/ground communications and controller intervention capability.

Note: The NAT DLM is expected to expand to include all operations at and above FL 290 beginning in January 2020.

2. Exceptions to DLM.

a. There is airspace within the NAT region where data link equipment is not required. That airspace is as follows:

(1) Air traffic services (ATS) surveillance airspace: airspace where ATS provides surveillance through radar, multilateration, and/or ADS–B and where VHF voice communications are available. In addition to VHF voice capability, aircraft operating in these areas must be equipped with a transponder and/or ADS–B extended squitter transmitter.

Note: The graphic provided at the end of this notice illustrates where ATS surveillance and VHF voice capability generally exists within the NAT region. Operators planning flights in the NAT region with aircraft not meeting DLM requirements must however consult with the applicable State Aeronautical Information Publication (AIP) to determine exactly where they may fly under this exception. Some portions of this surveillance airspace may specifically require ADS–B capability in order to qualify for the DLM exception.

(2) Airspace north of 80° North latitude. (Such airspace lies outside the reliable service area of geostationary satellites.)

(3) The entire New York Oceanic CTA/FIR.

(4) Tango routes T9, T13, T16, T25, and T213 (eastern portion of the NAT). However, the exception for data link equipage on these routes will end not later than January 2020. Operators must check with the applicable State AIPs before planning flights without data link equipment on those routes.

Note: Whenever a NAT OTS track infringes on a Tango route, data link equipage is required on that part of the route infringed upon, for operations at FL 350 through FL 390, for the duration of the published OTS time.

b. Certain specific categories of aircraft are also exempt from the data link equipage requirement. Those aircraft for which Item 18 of the ATC flight plan includes codes STS/FFR, HOSP, HUM, MEDEVAC SAR, or STATE are exempt. However, depending on traffic loading, ATC may not be able to clear those non−equipped flights on the requested route and/or flight level.

c. Pilots of non−equipped aircraft may request a continuous climb or descent, without intermediate level off, through DLM airspace (i.e. FL 350 through FL 390). ATC will approve such requests as traffic allows.

d. Altitude reservation (ALTRV) requests will likewise be considered by ATC on a case by case basis.

3. Contingency Procedures. The following procedures should be followed by operators/pilots experiencing data link equipment failure:

a. Failure prior to departure. Pilots/operators of aircraft with less than fully operational CPDLC and/or ADS−C equipment should flight plan to remain clear of NAT region data link mandate airspace (i.e. FL 350 through FL 390).

b. Failure after departure. ATC may clear aircraft with less than fully operational CPDLC and/or ADS−C equipment to operate in NAT data link mandate airspace as traffic permits. Pilots of such aircraft must notify ATC of their data link equipment status before entering NAT DLM airspace.

c. Failure after entering DLM airspace. Pilots must immediately notify ATC of a CPDLC or ADS−C equipment failure while operating within data link mandate airspace. Depending on traffic, ATC may permit the degraded aircraft to continue in DLM airspace, otherwise a climb or descent out of DLM flight levels may be required.

4. U.S. Operator Authorization to Use FANS 1/A (or equivalent) Data Link Systems.

a. U.S. operators intending to fly in NAT DLM airspace are required to have been issued operational authorization via Operations Specification, Management Specification or Letter of Authorization (as appropriate) A056 *Data Link Communications*. Advisory Circular (AC) 90−117 *Data Link Communications* provides guidance on operational use, aircraft eligibility, minimum performance and services of communication service providers, performance monitoring, training requirements, and discrepancy reporting related to the use of data link communication systems.

b. Operators may also find helpful the information posted in the "FAA NAT Resource Guide for U.S. Operators," under the Comm/Nav/Surveillance, Data Link Communications sections. Operators can find the resource guide at the following address:

https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs400/afs470/media/NAT.pdf

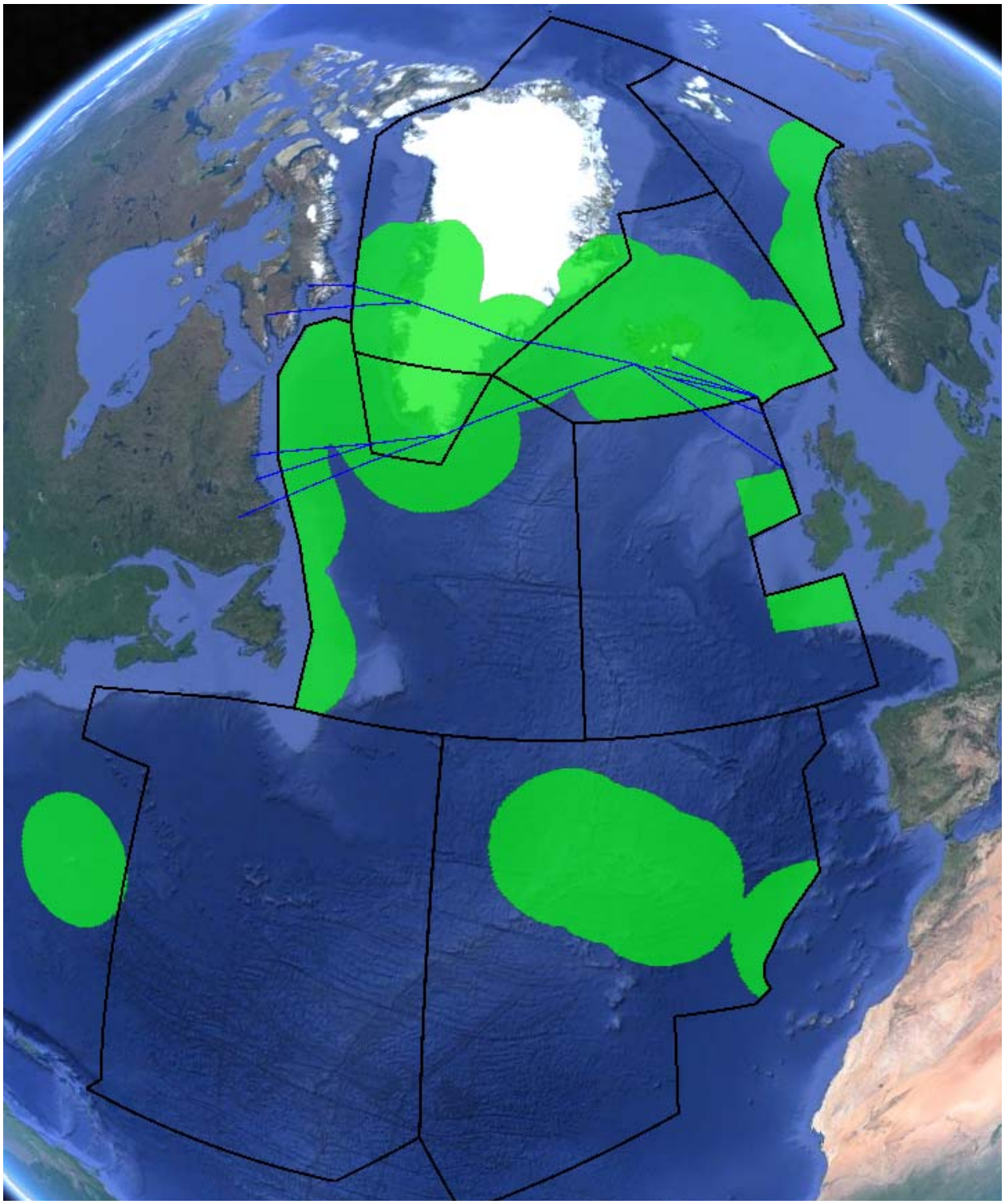
5. Contacts.

a. Aviation Safety Inspector Mark Patterson, Performance Based Flight Systems Branch, 202−267−8848, Mark.Patterson@faa.gov.

b. Aviation Safety Inspector Madison Walton, Performance Based Flight Systems Branch, 202−267−8850, Madison.Walton@faa.gov.

c. Senior Aviation Analyst Mark Wisniewski (SAIC), Performance Based Flight Systems Branch, 202−267−8843, Mark.ctr.Wisniewski@faa.gov.

ATS Surveillance Airspace Graphic - NAT Regional Data Link Mandate Phase 2



Note 1. ATS surveillance and VHF voice coverage is provided at and above FL 300 in the green shaded areas.

Note 2. the blue lines on the map represent the NAT Blue Spruce Routes.

(Performance Based Flight Systems Branch, AFS-470, 3/1/18)

SPECIAL NOTICE –– NAT ATS MESSAGE FORMAT

The following is submitted in an effort to standardize ATS message formats for air/ground communications in the North Atlantic (NAT) Region:

1. General

a. All NAT air–ground messages are categorized under one of the following headings (excluding emergency messages):

(1) Position Report.

(2) Request Clearance.

(3) Revised Estimate.

(4) Miscellaneous Message.

b. In order to enable ground stations to process messages in the shortest possible time, pilots should observe the following rules:

(1) Use the correct type of message applicable to the data transmitted.

(2) State the message type on the contact call to the ground station or at the start of the message.

(3) Adhere strictly to the sequence of information for the type of message.

(4) All times in each of the messages should be expressed in hours and minutes.

2. Description of ATS Message Types. Aircraft should transmit air–ground messages using standard RTF phraseology in accordance with the following:

a. POSITION. To be used for routine position reports.

Content and Data Sequence

(1) "POSITION."

(2) Flight identification.

(3) Present position.

(4) Time over present position (hours and minutes).

(5) Present flight level.

(6) Next position on assigned route.

(7) Estimated time for next position (hours and minutes).

(8) Next subsequent position.

(9) Any further information; e.g., MET data or Company message.

EXAMPLE–
"Position, SWISSAIR 100, 56N 010W 1235, flight level 330, estimating 56N 020W 1310, next 56N 030W"

b. REQUEST CLEARANCE.

(1) To be used, in conjunction with a routine position report, to request a change of mach number, flight level, or route and to request westbound oceanic clearance prior to entering Reykjavik, Santa Maria or Shanwick CTAs.

Content and Data Sequence

(a) "REQUEST CLEARANCE."

(b) Flight identification.

(c) Present or last reported position.

(d) Time over present or last reported position (hours and minutes).

(e) Present flight level.

(f) Next position on assigned route or oceanic entry point.

(g) Estimate for next position or oceanic entry point.

(h) Next subsequent position.

(i) Requested Mach number, flight level or route.

(j) Further information or clarifying remarks.

EXAMPLE–
"Request clearance, TWA 801, 56N 020W 1245, flight level 330, estimating 56N 030W 1320, next 56N 040W, requesting flight level 350"

(2) To be used to request a change in Mach number, flight level, or route when a position report message is not appropriate.

Content and Data Sequence

(a) "REQUEST CLEARANCE."

(b) Flight identification.

(c) Requested Mach number, flight level or route.

(d) Further information or clarifying remarks.

EXAMPLE–
"Request clearance, BAW 212, requesting flight level 370"

c. REVISED ESTIMATE. To be used to update estimate for next position.

Content and Data Sequence

(1) "Revised Estimate."

(2) Flight identification.

(3) Next position on route.

(4) Revised estimate for next position (hours and minutes).

(5) Further information.

EXAMPLE–
"Revised estimate, WDA 523, 57N 040W 0325"

d. MISCELLANEOUS. To be used to pass information or make a request in plain language that does not conform with the content of other message formats. No message designator is required as this will be inserted by the ground station.

Content and Data Sequence

(1) Flight identification.

(2) General information or request in plain language and format free.

(ZNY, Updated 5/24/2018)

GULF OF MEXICO RNAV ROUTES Q100, Q102, AND Q105

This NOTAM defines RNAV equipment requirements for operators filing Q100, Q102, and Q105 through Gulf of Mexico airspace. Only aircraft approved for IFR Area Navigation operations will be cleared to operate on Q100, Q102, and Q105 between the surface and FL600 (inclusive).

Operator Determination of RNAV Equipment Eligibility

In accordance with Federal Aviation Regulations 91.511, 121.351, 125.203, and 135.165 (as applicable) an approved Long-Range Navigation System (INS, IRS, GPS or Loran C) is required for operation on these routes.

In addition, operators will not flight plan or operate on these routes unless their aircraft are equipped with RNAV systems that are approved for IFR navigation and the pilots are qualified to operate them. Aircraft may be considered eligible to operate on these routes if they fall under one of the following categories:

1. For new installations, the Airplane Flight Manual must show that the navigation system installation has received airworthiness approval in accordance with one of the following FAA ACs:

a. AC 20-138, as amended (Airworthiness Approval of Positioning and Navigation Systems).

b. AC 25-15 (Flight Management System [FMS] approval).

2. Installations that have previously received airworthiness approval under the following ACs are eligible for Gulf of Mexico Q-route operation provided it is shown in the Airplane Flight Manual:

a. AC 90-45A (RNAV system approval).

b. AC 20-130, as amended (Multi-Sensor Navigation system approval).

***NOTE** - INS LIMITATIONS. See paragraph 6, below.*

Operational Requirements and Procedures

1. Class I Navigation: operations on Q100, Q102 and Q105 will continue to be categorized as Class I navigation, as defined in FAA Order 8900.1, Vol. 4, Chapter 1, Section 3, Class I Navigation.

2. Operations Specifications: operators are considered eligible to conduct operations on the Q-routes provided that aircraft are equipped with the appropriate equipment in accordance with the "Operator

Determination of RNAV Equipment Eligibility" paragraph above and operations are conducted in accordance with paragraph 3, 4, 5 and 6 below. Title 14 CFR Parts 121, 125, 135 operators are authorized to operate on the Q-routes when they are issued Operations Specifications (OpSpecs) paragraph B034 (Class I Navigation Using Area Navigation Systems). In addition, OpSpecs B034 must be annotated in OpSpecs paragraph B050 (Enroute Authorizations, Limitations and Procedures), for the Gulf of Mexico High Offshore Airspace.

3. Pilots in command filing on RNAV routes are certifying that the crews and equipment are qualified to conduct RNAV operations.

4. Pilots in command shall be responsible for navigating along route centerline (as defined by the aircraft navigation system) in accordance with the requirements of Title 14 CFR 91, section 181 (course to be flown) and ICAO Annex 2, paragraph 3.6.2.1.1. (Annex 2, paragraph 3.6.2.1 states that flights shall "in so far as practical, when on an established ATS route, operate on the defined centerline of that route.")

5. Pilots in command shall notify the Air Route Traffic Control Center (ARTCC) of any loss of navigation capability that affects the aircraft's ability to navigate within the lateral limits of the route.

6. INS or IRS LIMITATION. For the purposes of operating on the following RNAV routes, Q100, Q102, and Q105, aircraft equipped with Inertial Navigation Systems (INS) or Inertial Reference Systems (IRS) that cannot receive automatic position updates (e.g., DME/DME update) for the entire length of the route, are limited to 1.5 consecutive hours of un-updated operation. In preparation for take-off, this time starts at the time that the INS or IRS is placed in the navigation mode. En route, the maximum time allowed between automatic position updates is 1.5 hours. Systems that perform updating after the pilot has manually selected the navigation aid are considered to have "automatic update" capability.

7. Radar monitoring will normally be provided. In the event of loss of radar, aircraft will be advised. ATC will ensure that the appropriate nonradar separation is applied during these time periods.

FAA Contacts

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(AFS-470, 4/29/14)

PROCEDURES FOR IN–FLIGHT CONTINGENCIES IN THE NEW YORK OCEANIC CTA/FIR DURING ASEPS TRIAL

1. Introduction

a. The International Civil Aviation Organization's (ICAO) Separation and Airspace Safety Panel (SASP) has submitted a proposal for amendment to ICAO Document 4444, Procedures for Air Navigation Services – Air Traffic Management, which modifies aircraft contingency procedures to support the operational use of Advanced Surveillance Enhanced Procedural Separation (ASEPS) minima. The amendments for the new ASEPS minima and the new contingency procedures are expected to be published in November 2020.

b. Three Air Navigation Service Providers (ANSP) in the ICAO North Atlantic (NAT) Region – Gander (Canada), Shanwick (the United Kingdom and Ireland), and Santa Maria (Portugal) are planning to trial the ASEPS minima, using ADS–B as the advanced surveillance, beginning no earlier than March 28, 2019. To support this trial, and maintain regional procedural harmony, all of the NAT ANSPs are planning to implement the proposed contingency procedures at the time the trial starts. The trial is intended to last until

November 2020 when the new ASEPS minima are published in ICAO Doc 4444. At that time, the use of trial minima will transition to actual usage by those ANSPs who wish to do so.

c. The procedures contained herein are to be used in place of the procedures contained in the U.S. Aeronautical Information Publication (AIP), ENR 7.3, paragraphs 1, 2, and 4 for operations within the entirety of the New York Center oceanic CTA/FIR. The contingency procedures contained in the U.S. AIP, ENR 7.3, paragraphs 1, 2, and 4 remain applicable to operations within the Anchorage and Oakland Air Route Traffic Control Centers.

d. Although all possible contingencies cannot be covered, the procedures in paragraphs 2, 3, and 4 provide for the more frequent cases, such as:

(1) inability to comply with assigned clearance due to meteorological conditions (see paragraph 4);

(2) enroute diversion across the prevailing traffic flow (for example, due to medical emergencies (see paragraphs 2 and 3); and

(3) loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure (see paragraphs 2 and 3).

NOTE–
Guidance on procedures to follow when an aircraft experiences a degradation in navigation capabilities can be found in ICAO Doc 4444, Procedures for Air Navigation Services – Air Traffic Management, chapter 5, section 5.2.2.

e. The pilot shall take action as necessary to ensure the safety of the aircraft, and the pilot's judgement shall determine the sequence of actions to be taken, having regard to the prevailing circumstances. Air traffic control shall render all possible assistance.

2. General Procedures

NOTE–
Figure 1 provides an aid for understanding and applying the contingency procedures contained in paragraphs 2 and 3.

a. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance should be obtained, whenever possible, prior to initiating any action.

b. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received:

(1) leave the cleared route or track by initially turning at least 30 degrees to the right or to the left in order to intercept and maintain a parallel, same direction track or route offset of 9.3 km (5.0 NM). The direction of the turn should be based on one or more of the following:

(a) aircraft position relative to any organized track or route system;

(b) the direction of flights and flight levels allocated on adjacent tracks;

(c) the direction to an alternate airport;

(d) any strategic lateral offset being flown; and

(e) terrain clearance;

(2) the aircraft should be flown at a flight level and an offset track where other aircraft are less likely to be encountered;

(3) maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped) leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

(4) turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

(5) keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate;

(6) as soon as practicable, the pilot shall advise air traffic control of any deviation from assigned clearance;

(7) use whatever means is appropriate (i.e. voice and/or CPDLC) to communicate during a contingency or emergency;

(8) if voice communication is used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

(9) when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice communication contact with the aircraft;

NOTE–
Additional guidance on emergency procedures for controllers and radio operators, and flight crew, in data link operations can be found in the Global Operational Data Link (GOLD) Manual (Doc 10037).

(10) establish communications with and alert nearby aircraft by broadcasting, at suitable intervals on 121.5 MHz (or, as a backup, on the inter−pilot air−to−air frequency 123.45 MHz) and where appropriate on the frequency in use: aircraft identification, the nature of the distress condition, intention of the person in command, position (including the ATS route designator or the track code, as appropriate) and flight level; and

(11) the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions of the pilot and overall traffic situation.

3. Actions to be Taken Once Offset from Track

NOTE–
The pilot's judgement of the situation and the need to ensure the safety of the aircraft will determine if the actions outlined in 3. b. (1) or (2) will be taken. Factors for the pilot to consider when diverting from the cleared route or track without an ATC clearance include, but are not limited to:

a. operation within a parallel track system;

b. the potential for User Preferred Routes (UPRs) parallel to the aircraft's track or route;

c. the nature of the contingency (e.g. aircraft system malfunction); and

d. weather factors (e.g. convective weather at lower flight levels).

a. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

b. Once established on a parallel, same direction track or route offset by 9.3 km (5.0 NM), either:

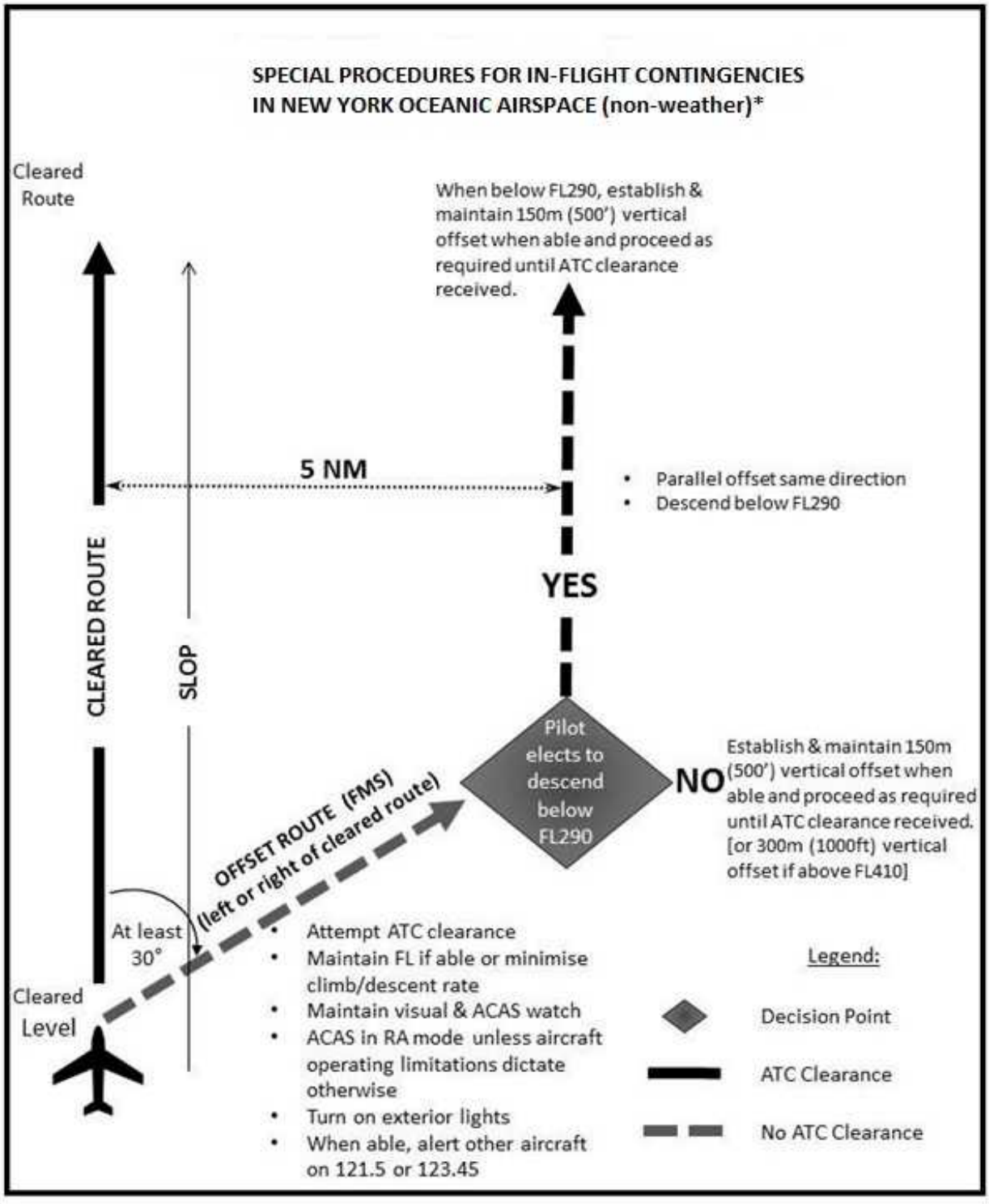
(1) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or, if an ATC clearance has been obtained, proceed in accordance with the clearance; or

NOTE–
Descent below FL 290 is considered particularly applicable to operations where there is a predominant traffic flow (e.g. east–west) or parallel track system where the aircraft's diversion path will likely cross adjacent tracks or routes. A descent below FL 290 can decrease the likelihood of conflict with other aircraft, ACAS RA events, and delays in obtaining a revised ATC clearance.

(2) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410 from those flight levels normally used, and proceed as required by the operational situation, or if an ATC clearance has been obtained, proceed in accordance with the clearance.

NOTE–
Altimetry system error may lead to less than actual 500 ft vertical separation when the procedure above is applied. In addition, with the 500 ft vertical offset applied, ACAS RAs may occur.

Figure 1. Visual aid for understanding and applying the contingency procedures guidance



*Consistent with North Atlantic regional implementation.

4. Weather Deviation Procedures

a. General

NOTE–
The following procedures are intended for deviations around adverse meteorological conditions.

(1) When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:

(a) stating, "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

(b) requesting a weather deviation using a CPDLC lateral downlink message.

(2) When necessary, the pilot should initiate the communications using the urgency call "PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.

(3) The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

b. Actions to be Taken When Controller–Pilot Communications are Established

(1) The pilot should notify ATC and request clearance to deviate from track or route, advising when possible, the extent of the deviation requested. The flight crew will use whatever means is appropriate (i.e. CPDLC and/or voice) to communicate during a weather deviation.

NOTE–
Pilots are advised to contact ATC as soon as possible with requests for clearance in order to provide time for the request to be assessed and acted upon.

(2) ATC should take one of the following actions:

(a) when appropriate separation can be applied, issue clearance to deviate from track; or

(b) if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC should:

[1] advise the pilot of inability to issue clearance for the requested deviation;

[2] advise the pilot of conflicting traffic; and

[3] request the pilot's intentions.

(3) The pilot should take one of the following actions:

(a) comply with the ATC clearance issued; or

(b) advise ATC of intentions and execute the procedures provided in paragraph 4.c. below.

c. Actions to be Taken if a Revised ATC Clearance Cannot be Obtained

NOTE–
The provisions of this paragraph apply to situations where a pilot needs to exercise the authority of a pilot–in–command under the provisions of ICAO Annex 2, 2.3.1.

(1) If the aircraft is required to deviate from track or route to avoid adverse meteorological conditions, and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

(a) if possible, deviate away from an organized track or route system;

(b) establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter–pilot air–to–air frequency 123.45 MHz);.

(c) watch for conflicting traffic both visually and by reference to ACAS (if equipped);

(d) turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

(e) for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or route remain at a level assigned by ATC;

(f) for deviations greater than or equal to 9.3 km (5.0 NM) from the originally cleared track or route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Table below;

(g) if the pilot receives clearance to deviate from cleared track or route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Table below before deviating beyond the cleared distance;

(h) when returning to track or route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the centerline; and

(i) if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

NOTE–
If, as a result of actions taken under the provisions of 4. c. (1), the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.

Altitude Offset When Denied Clearance to Deviate 9.3 km (5.0 NM) or More, Applicable in New York's Oceanic Airspace (consistent with North Atlantic regional implementation)

Originally Cleared Track or Route Center Line	Deviations ≥ 9.3 km (5.0 NM)	Level Change
EAST (000° – 179° magnetic)	LEFT	DESCEND 90 m (300 ft)
	RIGHT	CLIMB 90 m (300 ft)
WEST (180° – 359° magnetic)	LEFT	CLIMB 90 m (300 ft)
	RIGHT	DESCEND 90 m (300 ft)

(2/28/19)

NORTH ATLANTIC TRIAL IMPLEMENTATION OF ASEPS (LATERAL) USING ADS–B

The ICAO North Atlantic (NAT) region is conducting trials of reduced aircraft separation minimums based on the use of ADS–B. The NAT region officially refers to these aircraft separation minimums as *Advanced Surveillance–Enhanced Procedural Separation (ASEPS)*. The trials, conducted exclusively in the Gander, Shanwick and Santa Maria Oceanic Control Areas (OCA), began in March 2019 with reduced longitudinal separation minimums. The NAT region will expand the trials to include reduced *lateral* separation minimums, again only in Gander, Shanwick and Santa Maria OCAs, beginning as early as October 10, 2019. During the trials, the participating OCAs may separate aircraft on non–intersecting tracks not less than 19 nautical miles (NM) laterally. Aircraft currently flying on Performance Based Communications and Surveillance (PBCS) tracks in the NAT region can experience lateral spacing limited to 23 NM.

Air traffic controllers for the Gander and Shanwick OCAs will use space based ADS–B for aircraft surveillance during the trials, while controllers for Santa Maria OCA will use their existing ground–based ADS–B network.

As with the PBCS tracks, ATC will limit application of reduced lateral spacing to aircraft whose flight plan indicates authorization for RNP 4, RCP 240, RSP 180, RVSM, and operations in the North Atlantic High Level Airspace (NAT HLA). The flight plan must also indicate equipage with ADS–B out (1090 MHz) (Item 10 codes B1 or B2) and FANS 1/A CPDLC SATCOM (Item 10 codes J5 or J7).

ICAO NAT OPS Bulletin 2019–002 *Trial Implementation of ASEPS (Lateral) Using ADS–B* is the comprehensive source of guidance and information on the trials. Operators may find this OPS Bulletin, as well as all active NAT OPS Bulletins at www.icao.int/EURNAT. Subsequently click on *EUR/NAT Documents*, then *NAT Region Documents*, then *NAT OPS Bulletins*.

Flight crews crossing the NAT may experience some new and/or non–standard terminology regarding *surveillance* of their aircraft, particularly as they enter or travel between trial participating OCAs. Regardless of the surveillance status terminology that flight crews hear or receive via CPDLC when in oceanic airspace, they must perform *all* their normal oceanic procedures.

The FAA *recommends* flight crews of U.S. aircraft opt out of the ASEPS reduced lateral separation trial if flying with less than a fully functioning TCAS (ACAS II). Flight crews should inform ATC that they have “no ACAS” either when requesting their oceanic clearance (voice or CPDLC), 30 minutes prior to crossing the Gander, Shanwick or Santa Maria OCA boundaries if entering from New York or Iceland oceanic airspace, or otherwise as soon as possible if ACAS failure occurs while in Gander, Shanwick or Santa Maria OCAs.

Strategic Lateral Offset Procedures (SLOP) remain in effect during ASEPS trials. For safety of operations, flight crews should always use SLOP while within oceanic airspace on their NAT crossing.

Operators who fly across the North Atlantic should ensure their pilots are aware of the reduced lateral separation trials and the information presented in both this notice and NAT OPS Bulletin 2019–002.

For questions regarding this notice contact the Flight Technologies and Procedures Division, 202–267–8790.

(Flight Operations Group, Flight Technologies and Procedures Division, Flight Standards Service, AFS-470, 8/15/19)

Part 3.

GRAPHIC NOTICES

Section 1. General

Automatic Dependent Surveillance – Broadcast (ADS−B) Out Preflight Responsibilities

Purpose: To describe preflight responsibilities for Automatic Dependent Surveillance−Broadcast Out (ADS−B Out) operations in United States National Airspace System. The Federal Aviation Administration will incorporate this guidance into the next revision of Advisory Circular (AC) 90−114A Change 1, *Automatic Dependent Surveillance – Broadcast Operations* (https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_90−114A_CHG_1.pdf).

Background: In 2016, the FAA published guidance for ADS−B operations in AC 90−114A CHG 1. Since that time, the agency has refined and clarified ADS−B policy in a number of areas, most significantly with respect to preflight requirements and responsibilities for operators with specific ADS−B position sources. Use the information in this Graphic Notice to supplement guidance in AC 90−114A CHG 1.

a. Flight Planning Requirements. Operators of aircraft with position sources identified in this Notice are expected to conduct a preflight prediction to ensure compliance with Title 14 of the Code of Federal Regulations (14 CFR) section § 91.227(c)(1)(i) and (iii) (https://www.ecfr.gov/cgi−bin/text−idx?SID=8137158693744ba666e318c1f474d81b&node=se14.2.91_1227&rgn=div8). Preflight prediction requirements are summarized in Table 1−1 below.

b. Global Positioning System (GPS) Performance Prediction. For aircraft equipped with Technical Standard Order (TSO) C129() or TSO−C196() GPS units to support ADS−B Out equipment, a Navigation Accuracy Category for Position (NACp) and Navigation Integrity Category (NIC) GPS service availability prediction should be performed for the intended route of flight (route and time) using available GPS satellite information and guidance published in AC 90−114A CHG 1 as amended here.

Note: It is not necessary for operators of aircraft equipped with the Wide Area Augmentation System (WAAS) (TSO−C145 or TSO−C146) receivers to conduct a preflight availability prediction. Operators of aircraft equipped with specific aircraft−based augmentation systems (ABAS) that have been reviewed by the FAA and are approved for ADS−B operations (i.e., 14 CFR §§ 91.225 [https://www.ecfr.gov/cgi−bin/text−idx?node=se14.2.91_1225&rgn=div8] and 91.227) also do not need to conduct a preflight availability prediction.

1. Prediction Methods. Refer to AC 90−114A CHG 1, section 4−5c.(1) for a discussion of preflight availability prediction methods.

2. Flight Planning Guidance. Predictions should be conducted within 24 hours of departure and as close to departure time as feasible, but with sufficient time to re−plan the flight in the event a segment along the planned route is predicted to have insufficient GPS service availability. The prediction should be reevaluated prior to flight if new information (i.e., a Notice to Airmen) provides notice of an unscheduled GPS satellite outage. In the event of a *predicted* loss of performance for any part along the intended route in the airspace where ADS−B Out is required, the flight should be re−planned so that ADS−B Out performance requirements specified in 14 CFR § 91.227 can be met. Alternatively, to continue on the planned route, operators must obtain air traffic control (ATC) authorization to deviate from applicable regulatory requirements.

c. Operations conducted under Exemption No. 12555. Operators approved to conduct operations under the conditions and limitations of Exemption No. 12555 (https://www.faa.gov/nextgen/equipadsb/research/exemption/media/Exemption12555.pdf) should adhere to the guidance provided in this section.

1. Under the conditions of Exemption No. 12555, operators with receivers meeting the performance requirements of TSO−C196() may operate in designated airspace for which ADS−B Out is required when the

aircraft's NACp and NIC do not meet the performance specified in 14 CFR § 91.227. For these operations, the operator does not need to conduct any preflight availability prediction.

2. Operators conducting operations under Exemption No. 12555 equipped with TSO−C129() receivers may operate where ADS−B Out is required with performance below that specified in 14 CFR § 91.227 when the FAA determines use of backup surveillance is available. In these instances, operators must use the FAA Service Availability Prediction Tool (SAPT). The applicable SAPT run should be completed no more than 3−hours before the planned departure time. If ATC in the departure jurisdiction requires flight plan submission earlier than 3 hours prior, the SAPT for backup surveillance should be run just prior to flight plan submission. Under Exemption No. 12555, operators may elect their own tool for preflight prediction and use SAPT only to determine the availability of backup surveillance when needed under Exemption No. 12555.

NOTE: Some GPS receivers manufactured with a TSO−C129a approval are SA−Aware, and, therefore, have the same NACp and NIC availability as TSO−C196() approved equipment. Operators should check with their GPS receiver supplier to verify whether their installed TSO−C129() GPS receiver is SA−On or SA−Aware.

Note: Refer to AC 90−114A CHG 1, section 4−5c.(1) for determination of backup surveillance availability during a predicted GPS service disruption.

Table 1−1

Preflight Availability Prediction?			
	Years 2020 – 2024		**After 2024**
Equipment	**Exemption 12555**	**No Exemption**	
SA−On	Yes SAPT will determine backup surveillance and exemption authorizes flight if prediction results in NIC <7 and/or NACp<8.	Yes If prediction results in NIC <7 and/or NACp < 8, operator should re−plan the flight or request ATC authorization.	Yes If prediction results in NIC <7 and/or NACp < 8, operator should re−plan the flight or request ATC authorization.
SA−AWARE	No Exemption authorizes flight without the need for preflight prediction.	Yes If prediction results in NIC <7 and/or NACp < 8, operator should re−plan the flight or request ATC authorization.	Yes If prediction results in NIC <7 and/or NACp < 8, operator should re−plan the flight or request ATC authorization.
SBAS/ABAS	No	No	No

d. Preflight prediction compliance. Operators need to perform an ADS−B Out preflight prediction only for the intended route of flight to the intended destination. For example, when departure and/or arrival alternate airports are required, no preflight prediction is necessary for these routes. However, if you become aware of a change that could result in degraded ADS−B Out performance, such as a satellite outage prior to receiving an ATC clearance for the intended route of flight, then you should conduct a subsequent preflight prediction for the planned flight to ensure that ADS−B Out performance is still predicted to comply with the performance requirements of § 91.227(c)(1)(i) and (iii). Once the pilot has received an ATC route clearance, there is no requirement to conduct a subsequent preflight prediction. Therefore, upon receiving a satisfactory preflight availability prediction and an ATC clearance for an intended route of flight, the operator will be deemed to have complied with the preflight availability prediction requirement and the performance requirements of § 91.227(c)(1)(i) and (iii). The FAA accepts that unanticipated changes in route of flight and environmental conditions may adversely affect ADS−B Out performance. ATC will continue to exercise its responsibility for the safe and efficient movement of air traffic, including the routing of traffic to meet those objectives.

▶ ADS–B preflight planning should include:
- Identification of flights or aircraft that require completion of a preflight prediction.
- Identify the preflight prediction system (or systems) to be used.
- Include a means to document completion of a satisfactory prediction for each flight where a prediction is required.
- Retain documentation of prediction completion for a suitable period of time, such as three months.

e. GPS Interference. There may be times when the GPS position source cannot meet the required technical performance due to planned GPS interference. In the event of a scheduled interference outage of GPS, the FAA will issue a Notice to Airmen (NOTAM) that identifies the airspace and time periods that may be affected by the interference. The FAA has determined that it would be impractical and not in the public interest to require operators to avoid the affected area based on the chance that an otherwise compliant flight could experience GPS interference. Accordingly, operators should proceed with their intended operation if the only impediment to their operation is possible planned GPS interference. An operator who is required to perform a preflight availability prediction for the intended route of flight is still required to obtain a satisfactory preflight availability prediction. When a NOTAM identifies the airspace and time periods that may be affected by GPS interference, an operator will not be required to alter his or her route of flight to avoid the area based solely on that NOTAM. If an operator encounters actual GPS interference during their flight that results in a degradation of ADS–B Out performance, the FAA will not consider these events to constitute noncompliance with
§ 91.227.

f. SAPT Outages. The FAA will issue a NOTAM in the event of a SAPT outage. Operators who use SAPT as their preflight prediction tool will not need to conduct a preflight predication for the duration of the outage. When there is a SAPT outage, the FAA will not initiate compliance or enforcement actions against operators who rely on the SAPT if an operation falls below the performance requirements, despite the technical non–compliance with § 91.227. The FAA cautions that, for operators who have been notified by the FAA of consistent and repeated ADS–B Out performance issues, operating during SAPT outage without first redressing the identified non–performance issue will be considered a continuation of existing non–compliance of the performance requirements.

(AFS–410, 7/18/19)

COLD TEMPERATURE RESTRICTED AIRPORTS

Aug 15, 2019

Cold Temperature Altitude Corrections

Subject: Cold temperature altitude corrections at airports with a published cold temperature restriction.

Purpose: 1. To provide an updated list of 14 CFR Part 97 Cold Temperature Restricted Airports (CTRA) and segments designated with a temperature restriction; 2. Change the NTAP Segment(s) Method to the Individual Segment(s) Method; 3. Explain how to calculate and apply altitude corrections during cold temperature operations; 4. Explain how the All Segments Methods and Individual Segment(s) Method are used to make cold temperature altitude corrections.

This list may also be found at the bottom of the, "Terminal Procedures Basic Search" page. http://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/

Background: In response to aviation industry concerns over cold weather altimetry errors, the FAA conducted a risk analysis to determine if current 14 CFR Part 97 instrument approach procedures, in the United States National Airspace System, place aircraft at risk during cold temperature operations. This study applied the coldest recorded temperature at the given airports in the last five years and specifically determined if there was a probability that during these non−standard day operations, anticipated altitude errors in a barometric altimetry system could exceed the ROC used on procedure segment altitudes. If a probability, of the ROC being exceeded, went above one percent on a segment of the approach, a temperature restriction was applied to that segment. In addition to the low probability that these procedures will be required, the probability of the ROC being exceeded precisely at an obstacle position is extremely low, providing an even greater safety margin.

The 2019 list includes restricted temperatures based on standard Required Obstacle Clearance (ROC) values and values that account for additional altitude adjustments. These adjustments do not only reflect the minimum ROC for an approach segment based on terrain and/or an obstacle, but also an upward adjustment for other operational and/or ATC needs. These adjusted approach altitudes may result in the segment no longer being identified with a restriction or in a revised restricted temperature for the airport being published.

The CTRA risk analysis was only performed on airports of 2500 ft. and greater due to database constraints. Pilots must calculate a cold temperature altitude correction at any airport included in the airports list below. Pilots operating into an airport with a runway length less than 2500 feet may make a cold temperature altitude correction in cold temperature conditions, if desired. Pilots must advise ATC with the corrected altitude when applying altitude corrections on any approach segment with the exception of the final segment.

Identifying Cold Temperature Restricted Airport in the Terminal Procedure publication: Cold Temperature Restricted Airports are identified by a "snowflake" icon () and temperature limit, in Celsius, i.e.,  −30°C, on U.S. Government approach charts or a "textual" Note published on commercial charting publications.

All Segments Method: Pilots may correct all altitudes from the IAF altitude to the missed approach final holding altitude. Pilots familiar with the NTAP procedure for making altitude corrections and choosing to use the All Segments Method are only required to use the published "snowflake" icon  and associated temperature on the chart for making corrections. Pilots do not need to reference the restricted airports list in the NTAP or Terminal Procedures Basic Search" page. Calculations will be made based on the altitude at the Final Approach Fix (FAF)/Precision Final Approach Fix (PFAF), the Minimum Descent Altitude or Decision

Altitude (DA) and the Missed Approach (MA) final holding altitude. The calculations made at these fixes will be used to make altitude corrections on the other fixes in the applicable approach segment(s).

Individual Segment(s) Method: Pilots may correct only the required segment(s) indicated in this NTAP's restricted airports list. Pilots using the Individual Segment(s) Method will need to reference the restricted airports list to determine which segment(s) require a correction. Calculations will be made based on the altitude at the Final Approach Fix (FAF)/Precision Final Approach Fix (PFAF), the Minimum Descent Altitude or Decision Altitude (DA) and the Missed Approach (MA) final holding altitude. The calculations made at these fixes will be used to make altitude corrections on the other fixes in the applicable approach segment(s).

Actions:

When and where to correct: Pilots must make an altitude correction to the published, "at", "at or above" and "at or below" altitudes on all designated segment(s), for all published procedures and runways when the reported airport temperature is at or below the published airport cold temperature restriction on the approach plate. Pilots must advise ATC of the amount of altitude correction applied when correcting on any segment of the approach other than the final segment. ATC requires this information to ensure appropriate vertical separation between known traffic. Reference the **How to Apply Cold Temperature Altitude Corrections on an Approach** for examples and additional information.

Altitudes not corrected: ATC does not apply a cold temperature correction to Minimum Vectoring Altitude (MVA) charts. Pilots must request approval from ATC to apply a cold temperature correction to an ATC assigned altitude or an assigned altitude when flying on a radar vector in lieu of a published missed approach procedure. Pilots must not correct altitudes published on Standard Instrument Departures (SIDs), Obstacle Departure Procedures (ODPs) and Standard Terminal Arrivals (STARs).

Use of corrected MDA/DA: Pilots must use the corrected Minimum Descent Altitude (MDA) or Decision Altitude/ Decision Height (DA) as the minimum for an approach. Pilots must meet the requirements in 14 CFR Part 91.175 in order to operate below the corrected MDA or DA. Pilots must see and avoid obstacles when descending below the MDA.

Methods for Calculating Altitude Corrections: Pilots of aircraft **not equipped with** an RNAV system capable of temperature compensation must use the AIM 7−2−3, ICAO Cold Temperature Error Table to calculate a cold temperature altitude correction. The calculations for the approach will be calculated from three points on the approach:

NOTE: For the purpose of this procedure, when the FAF is referenced, it is the FAF altitude or the PFAF/Glideslope intercept altitude.

1. The FAF/PFAF will be used to calculate the correction to be applied to all altitudes from the FAF/PFAF:
    a. Up to but not including the intermediate fix (IF) altitude for the Individual Segment(s) Method
    b. Up to and including the initial approach fix (IAF) for the All Segments Method
2. The published MDA or DA will be used to calculate the correction to be applied to all altitudes in the final approach segment as applicable.
3. The final missed approach (MA) holding altitude will be used to calculate the correction to be applied to the final missed approach holding altitude only.

NOTE: Pilots may use Real Time Mesocscale Analysis (RTMA): Alternate Report of Surface Temperature, for computing altitude corrections, when airport temperatures are not available via normal reporting. See InFO 15006 for additional information,

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos/media/2015/info15006.pdf.
The RTMA website is http://nomads.ncep.noaa.gov/pub/data/nccf/com/rtma/prod/airport_temps/

Pilots of aircraft **equipped with** an RNAV system capable of temperature compensation, and choosing to use this system, must ensure the system is active and operating correctly. If the system is not operating correctly, or not being used, the pilot must manually calculate and apply a cold weather altitude correction using the AIM 7−2−3, ICAO Cold Temperature Error Table. The MDA/DA and step down fixes in the final segment will still require a manual correction.

PILOTS MUST NOT MAKE AN ALTIMETER CHANGE to accomplish an altitude correction. Pilots must ensure that the altimeter is set to the current altimeter setting provided by ATC in accordance with 14 CFR §91.121.

ICAO COLD TEMPERATURE ERROR TABLE
HEIGHT ABOVE AIRPORT IN FEET

REPORTED TEMP °C	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
+10	10	10	10	10	20	20	20	20	20	30	40	60	80	90
0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

Acceptable Use of Table:
Pilots may calculate a correction with a visual interpolation of the chart when using reported temperature and height above airport. This calculated altitude correction may then be rounded to the nearest whole hundred or rounded up. I.e., a correction of 130 ft. from the chart may be rounded to 100 ft. or 200 ft. A correction of 280 ft. will be rounded up to 300 ft. This rounded correction will be added to the FAF, all step−down fixes outside of the FAF and the IAF altitudes. The correction calculated from the MDA or DA may be used as is, rounded up, but never rounded down. This number will be added to the MDA, DA and all step−down fixes inside of the FAF as applicable. Do not round down when using the 5000 ft. column for calculated height above airport values greater than 5000 ft.

No extrapolation above the 5000 ft. column is required. Pilots may use the 5000 ft. “height above airport in feet” column for calculating corrections when the calculated altitude is greater than 5000 ft. above reporting station elevation. Pilots must add the correction(s) from the table to the affected segment altitude(s) and fly at the new corrected altitude.

It is important to understand that the correction from the table will place the aircraft back to an altitude based on a standard day. Although the techniques adopted in this NTAP to use the FAF altitude and MDA to correct the affected segment altitudes may not place the aircraft back to a standard day altitude on all fixes, a safe obstacle clearance will be maintained. These techniques have also been adopted to minimize the number of entries into the table while making corrections required by the pilot.

Additional Temperature Restrictions on IAP Charts: The charted temperature restriction for “uncompensated baro−VNAV systems” on 14 CFR Part 97 RNAV (GPS) and RNAV (RNP) Authorization Required (AR)

approach plates is independent of the temperature restriction established at a "Cold Temperature Restricted Airport". The charted temperature restriction for an uncompensated baro−VNAV system is applicable when the LNAV/VNAV line of minima is used on an RNAV (GPS) approach. The temperature restriction for an uncompensated baro−VNAV system on an RNAV (RNP) AR approach applies to the entire procedure. Aircraft without a compensating baro−VNAV system may not use the LNAV/VNAV line of minima on the RNAV (GPS) approach when the actual temperature is above or below the charted baro−VNAV temperature restriction. For aircraft without a compensating baro−VNAV system, the RNAV (RNP) AR approach is not authorized when the actual temperature is above or below the charted baro−VNAV temperature restriction. In all cases, a cold temperature altitude correction must be applied when the actual temperature is at or below the cold temperature restricted airport temperature restriction.

How to Apply Cold Temperature Altitude Corrections on an Approach:

All Segments Method: All segments corrected from IAF through MA holding altitude:

Step 1: Determine if there is a published "snowflake" icon, /CTRA temperature limit on the approach chart.

Step 2: If the reported airport temperature is at or below the published CTRA temperature limit, apply cold temperature altitude corrections to all published altitudes from the IAF altitude to the MA final holding altitude.

A Aircraft not equipped with a temperature compensating RNAV system or not using that system (use manual correction).

- All altitudes from the FAF/PFAF up to and including the IAF altitude: Calculate correction by taking FAF/PFAF altitude and subtracting the airport elevation. This number will be used to enter the height above airport in the ICAO table until reaching the reported temperature. Round this number as applicable and then add to all altitudes from the FAF altitude through the IAF altitude.

- All altitudes in final segment: Calculate correction by taking the MDA or DA for the approach being flown and subtract the airport elevation. This number will be used to enter the height above airport in the ICAO table until reaching the reported temperature. Use this number or round up. Add this number to MDA or DA/DH, as applicable, and any applicable step−down fixes in the final segment.

- Final holding altitude in the Missed Approach Segment: Calculate the correction by taking the final missed approach (MA) holding altitude and subtract the airport elevation. This number will be used to enter the height above airport in the ICAO table until reaching the reported temperature. Round this number as applicable and then add to the final MA altitude only.

B If flying an aircraft equipped with a RNAV system capable of temperature compensation, follow the instructions for applying temperature compensation provided in the AFM, AFM supplement, or RNAV system operating manual. Ensure that temperature compensation is active prior to the IAF and remains active through the entire approach. Manually calculate an altimetry correction for the MDA or DA. Determine an altimetry correction from the ICAO table based on the reported airport temperature and the height difference between the MDA or DA, as applicable, and the airport elevation.

NOTE: Some RNAV systems apply temperature compensation only to those altitudes associated with an instrument approach procedure loaded into the active flight plan while other systems apply temperature compensation to all procedure altitudes or user entered altitudes in the active flight plan,

including altitudes associated with a STAR. For those systems that apply temperature compensation to all altitudes in the active flight plan, delay activating temperature compensation until the aircraft has passed the last altitude constraint associated with the active STAR.

Step 3: For RNAV (GPS) approaches flown to the LNAV/VNAV line of minima using baro−VNAV vertical guidance, determine if there are published uncompensated baro−VNAV temperature limits. If the reported airport temperature is above or below the published limits, do not use the LNAV/VNAV line of minima unless the RNAV system is capable of temperature compensation and the system is active. Use an alternative line of minima (e.g., LNAV). CTRA correction must still be made on this approach if applicable.

Step 4: For RNAV (RNP) AR approaches, determine if there are uncompensated baro−VNAV temperature limits published on the approach. If the reported airport temperature is above or below the published temperature limits, the RNP (AR) approach may not be flown.

NOTE: When executing an approach with vertical guidance at a CTRA airport (i.e., ILS, LPV, LNAV/VNAV), pilots are reminded to follow the glideslope/glidepath as published when it is intersected inbound on the approach at the corrected altitude. The ILS glideslope and WAAS generated glidepath are unaffected by cold temperatures and will be provide reliable vertical guidance to the corrected DA/DH. A baro−VNAV generated glidepath will be affected by cold temperatures and must be corrected when at or below the published temperature limit and using the LNAV/VNAV line of minima to DA/DH.

Individual Segment(s) method:

Step 1: Determine if there is a published "snowflake" icon, /CTRA temperature limit on the approach chart.

Step 2: If the reported airport temperature is at or below the published CTRA temperature limit, apply cold temperature altitude corrections to all published altitudes, on the affected segment(s), listed in Cold Temperature Restricted Airports List.

A. Aircraft not equipped with a temperature compensating RNAV system or not using the system will make a manual correction using ICAO Cold Temperature Error Table.

- Intermediate Segment: All altitudes from the FAF/PFAF up to but not including the intermediate fix (IF) altitude. Calculate correction by taking FAF/PFAF altitude and subtracting the airport elevation. This number will be used to enter the height above airport in the ICAO table until reaching the reported temperature. Round this number as applicable and then add to FAF altitude and all step−down altitudes.

- Final segment: Calculate correction by taking the MDA or DA for the approach being flown and subtract the airport elevation. This number will be used to enter the height above airport in the ICAO table until reaching the reported temperature. Use this number or round up. Add this number to MDA or DA/DH, as applicable, and any applicable step−down fixes in the final segment.

- Missed Approach Segment: Calculate the correction by taking the final missed approach (MA) holding altitude and subtract the airport elevation. This number will be used to enter the height above airport in the ICAO table until reaching the reported temperature. Round this number as applicable and then add to the final MA altitude only.

B. If flying an aircraft equipped with a RNAV system capable of temperature compensation, follow the instructions for applying temperature compensation provided in the AFM, AFM supplement, or

RNAV system operating manual. Ensure that temperature compensation is active on the segment being corrected. Manually calculate an altimetry correction for the MDA or DA. Determine an altimetry correction from the ICAO table based on the reported airport temperature and the height difference between the MDA or DA, as applicable, and the airport elevation.

NOTE: Some RNAV systems apply temperature compensation only to those altitudes associated with an instrument approach procedure loaded into the active flight plan while other systems apply temperature compensation to all procedure altitudes or user entered altitudes in the active flight plan, including altitudes associated with a STAR. For those systems that apply temperature compensation to all altitudes in the active flight plan, delay activating temperature compensation until the aircraft has passed the last altitude constraint associated with the active STAR.

Step 3: For RNAV (GPS) approaches flown to the LNAV/VNAV line of minima using baro−VNAV vertical guidance, determine if there are published uncompensated baro−VNAV temperature limits. If the reported airport temperature is above or below the published limits, do not use the LNAV/VNAV line of minima unless the RNAV system is capable of temperature compensation and the system is active. Use an alternative line of minima (e.g., LNAV). CTRA correction must still be made on this approach if applicable.

Step 4: For RNAV (RNP) AR approaches, determine if there are uncompensated baro−VNAV temperature limits published on the approach. If the reported airport temperature is above or below the published temperature limits, the RNP (AR) approach may not be flown.

NOTE: When executing an approach with vertical guidance at a CTRA airport (i.e., ILS, LPV, LNAV/VNAV), pilots are reminded to follow the glideslope/glidepath as published when it is intersected inbound on the approach at the corrected altitude. The ILS glideslope and WAAS generated glidepath are unaffected by cold temperatures and will be provide reliable vertical guidance to the corrected DA/DH. A baro−VNAV generated glidepath will be affected by cold temperatures and must be corrected when at or below the published temperature limit and using the LNAV/VNAV line of minima to DA/DH.

Communication: Pilots must request approval from ATC whenever applying a cold temperature altitude correction. Pilots do not need to inform ATC of the final approach segment correction (i.e., new MDA or DA/DH). This report should be provided on initial radio contact with the ATC facility issuing approach clearance. ATC requires this information in order to ensure appropriate vertical separation between known traffic. Pilots should query ATC when vectored altitudes to a segment are lower than the requested corrected altitude. Pilots are encouraged to self−announce corrected altitude when flying into non−towered airfields.

The following are examples of appropriate pilot−to−ATC communication when applying cold−temperature altitude corrections.

- On initial check−in with ATC providing approach clearance: Hayden, CO (example below).
    - Vectors to final approach course: Outside of PICIN: "*Request 12100 ft. for cold temperature operations."*
    - Vectors to final approach course: Inside of PICIN: *"Request 10600 ft. for cold temperature operations.*"
    - Missed Approach segment: "*Require final holding altitude, 10600 ft. on missed approach for cold temperature operations.*"
- Pilots cleared by ATC for an instrument approach procedure; "Cleared the RNAV RWY 28 approach (from any IAF)". Hayden, CO (example below).
    - IAF: "*Request 13600 for cold temperature operations at TUSKK, TILLI or HIPNA*"

For additional information contact Kel Christianson, Flight Operations Group, at 202−267−8838.

Cold Temperature Restricted Airports: Airports are listed by ICAO code, Airport Name, Temperature Restriction in Celsius. The temperature will be indicated on Airport IAPs next to a snowflake symbol, ❄−XX°C in the United States Terminal Procedure Publication (TPP).

Identifier	Airport Name	Temperature	Affected Segment		
			Intermediate	Final	Missed Appr
Alaska					
PABL	Buckland	−36C	X		
PABR	Wiley Post−Will Rogers	−42C	X		
PABT	Bettles	−37C	X	X	
PACE	Central	−43C	X	X	
PACH	Chuathbaluk	−34C		X	
PACI	Chalkyitsik	−32C	X		
PACM	Scammon Bay	−21C		X	
PACX	Coldfoot	−11C	X	X	
PADE	Deering	−39C		X	
PADM	Marshall Don Hunter Sr	−28C		X	
PAEG	Eagle	−49C	X		
PAEN	Kenai	−31C	X		
PAFA	Fairbanks Intl	−45C	X		
PAFM	Ambler	−35C		X	
PAGA	Edward G. Pitka Sr	−33C	X		
PAGH	Shungnak	−44C	X		
PAGK	Gulkana	−37C	X		
PAGM	Gambell	−26C		X	
PAHC	Holy Cross	−29C		X	
PAHV	Healy River	−11C	X	X	
PAHX	Shageluk	−37C	X		
PAIK	Bob Baker Memorial	−28C	X	X	
PAIL	Iliamna	−23C	X		
PAIW	Wales	−12C		X	
PAJN	Juneau Intl	−15C	X		
PAKN	King Salmon	−31C	X		
PAKP	Anaktuvuk	−31C	X		
PAKV	Kaltag	−32C	X	X	
PALG	Kalskag	−42C	X		
PAMB	Manokotak	−34C	X		
PAMH	Minchumina	−37C		X	
PAMK	St Michael	−37C	X		
PANA	Napakiak	−37C	X		
PANI	Aniak	−34C		X	
PANN	Nenana Muni	−43C	X		
PANV	Anvik	−32C	X		
PAOM	Nome	−34C	X		

Identifier	Airport Name	Temperature	Intermediate	Final	Missed Appr
PAOR	Northway	–41C	X		
PAOT	Ralph Wien Memorial	–44C	X		
PAQH	Quinhagak	–36C	X		
PAQT	Nuiqsut	–41C	X		
PARC	Artic Village	–46C	X		
PARS	Russian Mission	–18C	X	X	
PARY	Ruby	–33C	X	X	
PASC	Deadhorse	–45C	X		
PASK	Selawik	–36C	X		X
PATA	Ralph M Calhoun Memorial	–51C		X	
PATQ	Atqasuk Edward Burnell Sr. Mem	–43C	X		
PAUN	Unalakleet	–39C	X		
PAVD	Valdez Pioneer Field	–11C	X		
PAVE	Venetie	–42C	X		
PAVL	Kivalina	–34C	X		
PAWB	Beaver	–42C	X		
PAWD	Seward	–5C	X		
PAWG	Wrangell	–5C		X	
PAWI	Wainwright	–42C	X		
PAWS	Wasilla	–31C	X		
PFAL	Allakaket	–44C	X		
PFCL	Clarks Point	–34C	X		
PFEL	Elim	–29C		X	
PFKT	Brevig Mission	–26C	X		
PFKU	Koyukuk	–25C		X	
PFKW	Kwethluk	–38C	X		
PFSH	Shaktoolik	–35C	X		
PFYU	Fort Yukon	–45C	X	X	
California					
KSVE	Susanville Muni	–22C	X	X	
KTRK	Truckee – Tahoe	–13C	X	X	
O02	Nervino	–14C		X	
Colorado					
KAEJ	Central Colorado Rgnl	–17C		X	
KASE	Aspen–Pitkin County/Sardy Field	–26C	X		
KCAG	Craig–Moffat	–26C		X	
KEEO	Meeker Coulter Field	–25C		X	
KEGE	Eagle County Rgnl	–18C	X		
KGUC	Gunnison–Crested Butte Rgnl	–28C	X		
KHDN	Yampa Valley	–30C		X	
KLXV	Lake County	–27C		X	

Identifier	Airport Name	Temperature	Intermediate	Final	Missed Appr
KRIL	Garfield County Rgnl	−15C	X	X	
KSBS	Steamboat Springs/Bob Adams Fld	−32C	X		
KTAD	Perry Stokes	−26C	X		
20V	Mc Elroy Airfield	−21C		X	
Idaho					
KMYL	McCall Muni	−21C	X		
KSMN	Lemhi County	−14C	X	X	
KSUN	Friedman Memorial	−16C		X	
65S	Boundary County	−8C		X	
Indiana					
KSMD	Smith Field	−24C		X	
Iowa					
KAMW	Ames Muni	−27C	X		
KSPW	Spencer Muni	−32C	X		
Kansas					
KDDC	Dodge City Rgnl	−20C		X	
Kentucky					
KBYL	Williamsburg−Whitley County	−21C		X	
Maine					
KPQI	Northern Maine Rgnl	−30C	X		
Massachusetts					
KBAF	Westfield−Barnes Regional	−21C		X	
KFIT	Fitchburg Muni	−25C		X	
Michigan					
KAPN	Alpena County Rgnl	−32C	X		
KIWD	Gogebic−Iron County	−27C		X	
KPLN	Pellston Rgnl of Emmet County	−33C		X	
KTVC	Cherry Capital	−20C		X	
Minnesota					
KBFW	Silver Bay Municipal	−35C	X	X	
KCKC	Grand Marais/Cook County	−30C			X
KCQM	Cook Muni	−38C	X		
KELO	Ely Muni	−39C	X		
KHIB	Range Rgnl	−31C	X		
KINL	Falls Intl	−31C	X		
KRRT	Warroad Intl Memorial	−37C	X		
Montana					
KBTM	Bert Mooney	−19C	X	X	
KBZN	Bozeman Yellowstone Intl	−33C	X		
KGTF	Great Falls Intl	−33C	X		
KHLN	Helena Rgnl	−21C	X	X	

Identifier	Airport Name	Temperature	Intermediate	Final	Missed Appr
KHVR	Havre City−County	−30C			X
KMSO	Missoula Intl	−17C	X	X	
KOLF	L M Clayton	−38C	X		
KSBX	Shelby	−31C			X
KWYS	Yellowstone	−19C	X	X	
M46	Colstrip	−32C	X		
M75	Malta	−37C	X		
3U3	Bowman Field	−33C	X		
6S5	Ravalli County	−30C			X
6S8	Laurel Municipal	−30C	X		
Nebraska					
KCDR	Chadron Muni	−32C	X		
Nevada					
KEKO	Elko Rgnl	−24C		X	
KELY	Ely (Yelland Field)	−31C	X		
KRNO	Reno/Tahoe Intl	−15C		X	
KRTS	Reno/Stead	−15C		X	
New Hampshire					
KBML	Berlin Rgnl	−29C		X	
KCNH	Claremont Muni	−27C		X	
KHIE	Mount Washington Rgnl	−29C		X	
KLEB	Lebanon Muni	−20C	X	X	
New Mexico					
KAXX	Angel Fire	−31C	X		
New York					
KART	Watertown Intl	−37C	X		
KDKK	Chautauqua County/Dunkirk	−20C		X	
KELM	Elmira/Corning Rgnl	−17C		X	
KGFL	Floyd Bennett Memorial	−18C	X	X	
KITH	Ithaca Tompkins Rgnl	−19C		X	
KLKP	Lake Placid	−16C		X	
KSLK	Adirondack Rgnl	−29C		X	
4B6	Ticonderoga Muni	−29C		X	
North Carolina					
KRHP	Western Carolina Rgnl	−8C		X	
North Dakota					
KBIS	Bismarck	−35C	X		
KDIK	Dickinson−Theodore Roosevelt Rgnl	−30C	X		
KISN	Sloulin Field Intl	−36C	X		
Ohio					
KBKL	Burke Lakefront	−23C		X	

Identifier	Airport Name	Temperature	Intermediate	Final	Missed Appr
Oregon					
KLGD	La Grande/Union County	–16C		X	
KMFR	Rogue Valley Intl–Medford	–5C	X		
KPDT	Eastern Oregon Rgnl at Pendleton	–22C	X		
Pennsylvania					
KIPT	Williamsport Rgnl	–14C		X	
KSEG	Penn Valley	–14C		X	
N27	Bradford County	–25C		X	
South Dakota					
KIEN	Pine Ridge	–33C		X	
KMBG	Mobridge Muni	–31C	X		
Tennessee					
KMOR	Moore–Murrell	–22C		X	
0A9	Elizabethton Muni	–12C		X	
6A4	Mountain City/Johnson County	–12C		X	
Utah					
KBCE	Bryce Canyon Airport	–30C	X		
KENV	Wendover	–12C	X		
KLGU	Logan–Cache	–15C	X		
KRIF	Richfield Muni	–29C	X		
KSGU	St George Muni	–17C	X		
KVEL	Vernal Rgnl	–27C		X	
U55	Panguitch Municipal	–28C	X		
Vermont					
KBTV	Burlington Intl	–15C	X		
KDDH	William H. Morse State	–13C		X	
KEFK	Newport State	–30C	X		
KMPV	Edward F. Knapp State	–20C	X		
KMVL	Morrisville–Stowe State	–30C	X		
KRUT	Rutland–Southern Vermont Rgnl	–8C		X	
KVSF	Hartness State (Springfield)	–24C		X	
Virginia					
KROA	Roanoke Rgnl/Woodrum Field	–13C		X	
KVBW	Bridgewater Air Park	–20C	X		
Washington St.					
KEAT	Pangborn Memorial	–7C	X		
KOMK	Omak	–15C		X	
West Virginia					
KEKN	Elkins–Randolph County Jennings Randolph Field	–17C		X	

Identifier	Airport Name	Temperature	Intermediate	Final	Missed Appr
W99	Grant County	–9C		X	
12V	Ona Airpark	–25C	X		
3I2	Point Pleasant/Mason County	–18C		X	
Wisconsin					
KASX	John F. Kennedy Memorial	–31C	X		
KCMY	Sparta/Fort McCoy	–33C	X		
KLSE	La Crosse Muni	–20C		X	
KOVS	Boscobel	–31C		X	
KRHI	Rhinelander–Oneida County	–31C	X		
KRPD	Rice Lake Rgnl–Carl's Field	–35C	X		
4R5	Major Gilbert Field	–30C	X		
Wyoming					
KAFO	Afton Municipal Airport	–22C		X	
KCOD	Yellowstone Rgnl	–31C	X		
KDWX	Dixon	–38C		X	
KEMM	Kemmerer Muni	–35C	X		
KGEY	South Big Horn County	–33C	X	X	
KHSG	Hot Springs County	–36C	X		
KJAC	Jackson Hole	–26C	X	X	
KLAR	Laramie Rgnl	–35C	X		
KSHR	Sheridan County	–24C	X		
KWRL	Worland Muni	–33C			X
W43	Hulett Muni	–34C	X		

Additional Information: The following military airfields meet the criteria to be identified as a Cold Temperature Restricted Airport using the FAA cold temperature model. USAF, USA, USM, USN and USCG are not required to adhere to the procedures found in this NTAP at these airfields. This information is applicable to FAA authorized operators operating into these airfields.

Identifier	Airport Name	Temperature	Intermediate	Final	Missed Appr
KGTB	Wheeler–Sack AAF	–29C	X		
KRYM	Ray S. Miller AAF	–34C	X		
PAEI	Eielson AFB	–37C	X		X
PAFB	Ladd AAF	–33C	X		X
PAIM	Indian Mountain LRRS	–44C	X		
PALU	Cape Lisburne LRRS	–34C	X		
PASV	Sparrevohn LRRS	–21C	X		
PATC	Tin City LRRS	–37C	X		
PATL	Tatalina LRRS	–21C	X		X
PPIZ	Point Lay LRRS	–41C	X		

See the following examples for identifying and applying altitude corrections.

All Segments Method: All segments corrected from IAF through MA holding altitude.

Hayden/Yampa Valley (KHDN), Colorado. Reported Temperature −30°C: RNAV (GPS) RWY 28

Uncompensated Baro−VNAV System or Manual Method:

1. Cold Temperature Restricted Airport Temperature Limit: −30°C
2. Altitude at the Final Approach Fix (FAF) (BEEAR) = 10000 ft.
3. Airport elevation = 6606 ft.
4. Difference: 10000 ft. – 6606 ft. = 3394 ft.
5. Use the AIM 7−2−3 ICAO Cold Temperature Error Table for a height above airport of 3394 ft. and −30°C. Visual interpolation is approximately 600 ft. Actual interpolation is 645 ft. Add 600 ft. to the FAF and all procedure altitudes outside of the FAF up to and including IAF altitude:
   - TUSKK (IAF), TILLJ (IAF) and HIPNA (IAF HILO): 13000 + 600 = 13600 ft.
   - PICIN (stepdown fix): 11500 + 600 = 12100 ft.
   - BEEAR (FAF): 10000 + 600 = 10600 ft.
6. Correct altitudes within the final segment altitude based on the minima used. LP MDA = 7080 ft.
7. Difference: 7080 ft. – 6606 ft. = 474 ft.
8. AIM 7−2−3 Table: 474 ft. at −30°C is approximately 90ft. Use 90 ft. or round up to 100 ft.
9. Add corrections to altitudes up to but not including the FAF:
   - DICEV (stepdown fix): 8400 + 90 = 8490 ft.
   - BUYYA (stepdown fix): 7860 + 90 = 7950 ft.
   - LP MDA: 7080 + 90 = 7170 ft.
10. Correct MEKWY/Missed Approach Holding Altitude: MA altitude is same as BEEAR (10000); therefore, the same table calculation in step 5 may be used at MEKWY. Take 600 ft. correction for 10000 ft. and add to MA holding altitude:
    - MEKWY: 10000 + 600 = 10600 ft.

Compensated Baro−VNAV System:
Operators using a temperature compensating RNAV system to make altitude corrections will be set to the current airport temperature (−30°C) and activated prior to the passing the IAF. A manual calculation of the cold temperature altitude correction is required for the MDA/DA. Although using the temperature compensating system should provide clearance over step−down fixes on any segment, a correction will be added to all applicable step−down fixes and monitored during descent to ensure aircraft will be “at” or “above” the corrected step−down fix altitude during the approach.

Individual Segments Method: Final segment required.

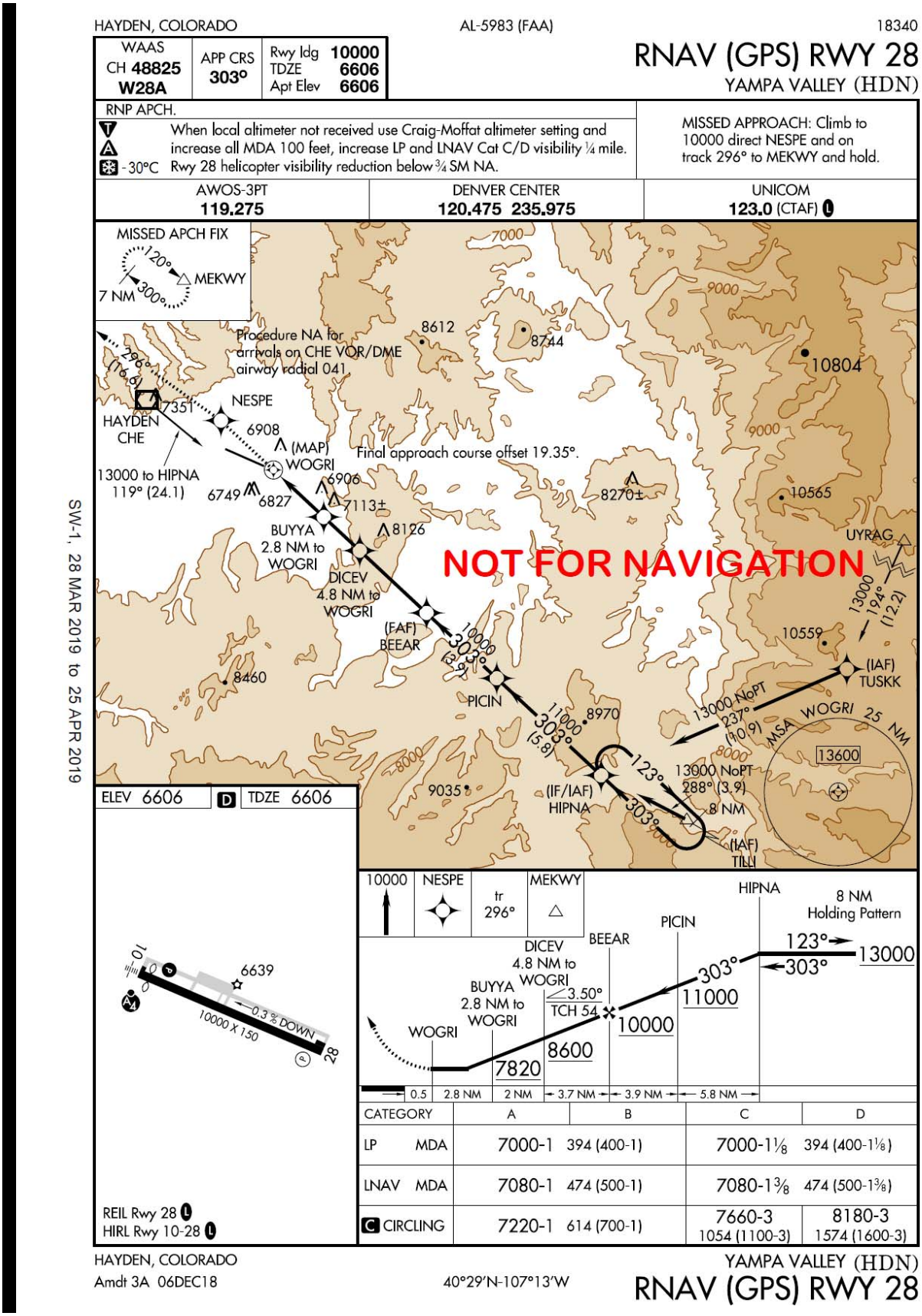
Hayden/Yampa Valley (KHDN), Colorado. Reported Temperature −30°C: RNAV (GPS) RWY 28.

Uncompensated Baro−VNAV System or Manual Method:

1. Cold Temperature Restricted Airport Temperature Limit: −30°C
2. Airport elevation = 6606 ft.
3. Correct altitudes within the final segment altitude based on the minima used. LP MDA = 7080 ft.
4. Difference: 7080 ft. – 6606 ft. = 474 ft.
5. AIM 7−2−3 Table: 474 ft. at −30°C is approximately 90ft. Use 90 ft. or round up to 100 ft.
6. Add corrections to MDA and all stepdown fix altitudes in final segment up to but not including the FAF:
   - DICEV (stepdown fix): 8400 + 90 = 8490 ft.
   - BUYYA (stepdown fix): 7860 + 90 = 7950 ft.
   - LP MDA: 7080 + 90 = 7170

Compensated Baro−VNAV System:

Operators using a temperature compensating RNAV system to make altitude corrections will set the current airport temperature (−30°C) and activate the system for the required segment(s). A manual calculation of the cold temperature altitude correction is required for the MDA/DA. Although using the temperature compensating system should provide clearance over step−down fixes on any segment, a correction will be added to all applicable step−down fixes and monitored during descent to ensure aircraft will be “at” or “above” the corrected step−down fix altitude during the approach.


HAYDEN, COLORADO
AL-5983 (FAA)
18340
WAAS
CH 48825
W28A
APP CRS
303°
Rwy Idg 10000
TDZE 6606
Apt Elev 6606
RNAV (GPS) RWY 28
YAMPA VALLEY (HDN)
RNP APCH.
When local altimeter not received use Craig-Moffat altimeter setting and increase all MDA 100 feet, increase LP and LNAV Cat C/D visibility ¼ mile.
-30°C Rwy 28 helicopter visibility reduction below ¾ SM NA.
MISSED APPROACH: Climb to 10000 direct NESPE and on track 296° to MEKWY and hold.
AWOS-3PT
119.275
DENVER CENTER
120.475 235.975
UNICOM
123.0 (CTAF)
MISSED APCH FIX
120°
MEKWY
7 NM
300°
Procedure NA for arrivals on CHE VOR/DME airway radial 041
296°
(16.6)
7351
NESPE
HAYDEN
CHE
6908
(MAP)
WOGRI
13000 to HIPNA
119° (24.1)
6749
6827
6906
7113±
BUYYA
2.8 NM to
WOGRI
8126
DICEV
4.8 NM to
WOGRI
(FAF)
BEEAR
10000
303°
(5.9)
PICIN
11000
303°
(5.8)
8970
8460
9035
(IF/IAF)
HIPNA
303°
(IAF)
TILLI
8612
8744
8270±
10804
10565
10559
UYRAG
13000
194°
(12.2)
(IAF)
TUSKK
13000 NoPT
237°
(10.9)
MSA
WOGRI 25 NM
13600
13000 NoPT
288° (3.9)
8 NM
123°
303°
NOT FOR NAVIGATION
SW-1, 28 MAR 2019 to 25 APR 2019
SW-1, 28 MAR 2019 to 25 APR 2019
ELEV 6606
D
TDZE 6606
6639
10
0
0.3% DOWN
10000 X 150
28
REIL Rwy 28
HIRL Rwy 10-28
10000
NESPE
tr
296°
MEKWY
HIPNA
8 NM
Holding Pattern
PICIN
BEEAR
DICEV
4.8 NM to
WOGRI
BUYYA
2.8 NM to
WOGRI
3.50°
TCH 54
WOGRI
7820
8600
10000
11000
303°
123°
303°
13000
0.5
2.8 NM
2 NM
3.7 NM
3.9 NM
5.8 NM
CATEGORY
A
B
C
D
LP MDA
7000-1 394 (400-1)
7000-1⅛ 394 (400-1⅛)
LNAV MDA
7080-1 474 (500-1)
7080-1⅜ 474 (500-1⅜)
C CIRCLING
7220-1 614 (700-1)
7660-3 1054 (1100-3)
8180-3 1574 (1600-3)
HAYDEN, COLORADO
Amdt 3A 06DEC18
40°29'N-107°13'W
YAMPA VALLEY (HDN)
RNAV (GPS) RWY 28

All Segments Method: All segments corrected from IAF through MA holding altitude.

(KMFR) Rogue Valley Intl−Medford, Oregon. Reported Temperature −5°C: RNAV (RNP) RWY 32.

Uncompensated Baro−VNAV System or Manual Method:

1. Cold Temperature Restricted Airport Temperature Limit: −5°C
2. Altitude at the Final Approach Fix (FAF) (CUNBA) = 2600 ft.
3. Airport elevation = 1335 ft.
4. Difference: 2600 ft. – 1335 ft. = 1265 ft.
5. Use the AIM 7−2−3 ICAO Cold Temperature Error Table for a height above airport of 1265 ft. and −5°C. The approximate calculation is 100 ft. Add the correction to the FAF and all procedure altitudes outside of the FAF up to and including IAF altitude:
    - BAYTS (IAF): 9100 + 100 = 9200, ZUNAS (IAF): 7400 + 100 = 7500, ACLOB (IAF): 7700 + 100 = 7800, SAMIE (IAF): 7300 + 100 = 7400
    - All Stepdown fixes between FILPU and the IAFs (BAYTS, ZUNAS, ACLOB and SAMIE).
        - OMACO (9200), NIGEE (7500), IPAGY (7500), HIDVO (6200)
        - NIGEE (7500), IPAGY (7500), HIDVO (6200)
        - KUSNE (7800), INITY (7700), HIDVO (6200)
        - RURTE (7400), ZIDAX (7400), WONIG (6700), PUNRE (5700)
    - FILPU (IF): 4600 +100 = 4700
    - ERBAW (Stepdown Fix): 3800 + 100 = 3900 ft.
    - CUNBA (PFAF): 2600 + 100 = 2700 ft.
6. Correct altitudes within the final segment altitude based on the minima used. RNP 0.15 DA = 1609 ft. or RNP 0.30 DA 1661 ft.
7. Difference: 1609 ft. – 1335 ft. = 274 ft.
8. AIM 7−2−3 Table: 274 ft. at −5°C is approximately 25 ft. Use 25 ft. or round up to 100 ft. for correction.
    - Add correction to RNP 0.15 DA: 1609 ft. + 25 ft. = 1634 ft.
9. Correction at CUTTR: Take final holding altitude and subtract field elevation: 9000 – 1335 = 7665 ft. Using table, 5000 ft height above airport and −5°C correction is approximately 230 ft. Round up to 300 ft.
    - Missed Approach Holding Altitude/CUTTR: 9000 + 300 = 9300 ft.

If the airport temperature decreases below −8°C, an uncompensated baro−VNAV system may not be used to fly this RNAV (RNP) approach. Cold temperature correction is still required on all segments for all other non RNAV (RNP) approaches flown at this airport.

Compensated Baro−VNAV System:

Operators using a temperature compensating RNAV system to make altitude corrections will be set to the current airport temperature (−5°C) and activated prior to the passing the IAF. A manual calculation of the cold temperature altitude correction is required for the MDA/DA. At temperatures below −8°C, a compensating baro−VNAV system must be on and active to fly the RNAV (RNP) approach. Manual calculation of a cold temperature compensated MDA or DA, as applicable, is still required. Cold temperature correction is still required on all segments.

Individual Segment(s) method: Intermediate segment required

(KMFR) Rogue Valley Intl−Medford. Reported Temperature −5°C: RNAV (RNP) RWY 32.

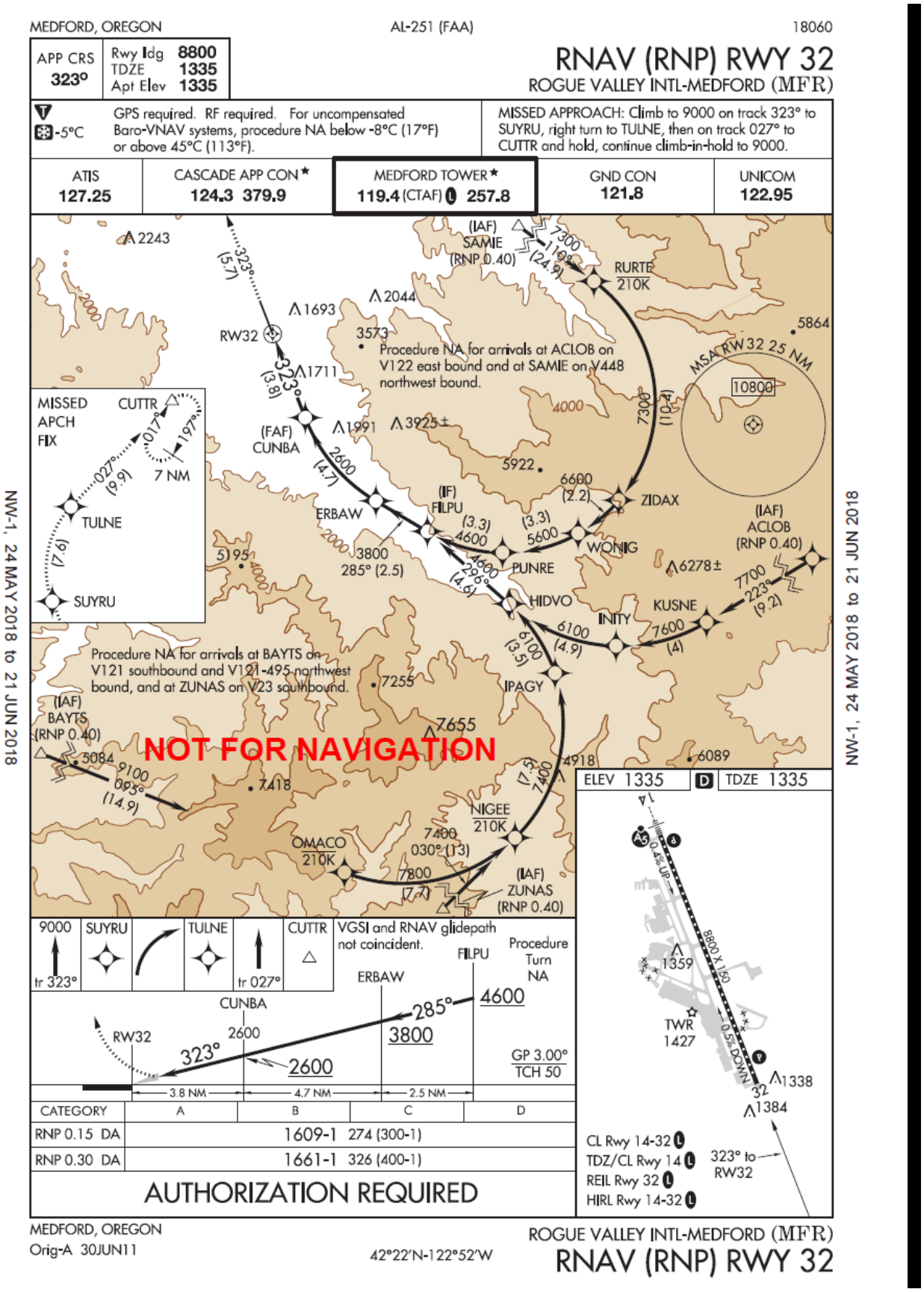
Uncompensated Baro−VNAV System or Manual Method:

1. Cold Temperature Restricted Airport Temperature Limit: −5°C
2. Altitude at the PFAF (CUNBA) = 2600 ft.
3. Airport elevation = 1335 ft.
4. Difference: 2600 ft. – 1335 ft. = 1265 ft.
5. Use the AIM 7−2−3 ICAO Cold Temperature Error Table for a height above airport of 1265 ft. and −5°C. The approximate calculation is 100 ft. Add the correction to the FAF and all procedure altitudes outside of the FAF up to but not including IF:
    - ERBAW (Stepdown Fix): 3800 + 100 = 3900 ft
    - CUNBA (PFAF): 2600 + 100 = 2700 ft.

If the airport temperature decreases below −8°C, an uncompensated baro−VNAV system may not be used to fly this approach. Cold temperature correction is still required on the intermediate segment for all other non RNAV (RNP) approaches flown at this airport.

Compensated Baro−VNAV System:

Operators using a temperature compensating RNAV system to make altitude corrections will set the current airport temperature (−5°C) and activate the system for the intermediate segment. At temperatures below −8°C, baro−VNAV temperature compensation must be on and active to fly this approach. Manual calculation of a cold temperature compensated MDA or DA, as applicable, is still required. Cold temperature correction is still required on the intermediate segment.


MEDFORD, OREGON
AL-251 (FAA)
18060
RNAV (RNP) RWY 32
ROGUE VALLEY INTL-MEDFORD (MFR)
APP CRS 323°
Rwy Idg 8800
TDZE 1335
Apt Elev 1335
-5°C
GPS required. RF required. For uncompensated Baro-VNAV systems, procedure NA below -8°C (17°F) or above 45°C (113°F).
MISSED APPROACH: Climb to 9000 on track 323° to SUYRU, right turn to TULNE, then on track 027° to CUTTR and hold, continue climb-in-hold to 9000.
ATIS 127.25
CASCADE APP CON 124.3 379.9
MEDFORD TOWER 119.4 (CTAF) 257.8
GND CON 121.8
UNICOM 122.95
NW-1, 24 MAY 2018 to 21 JUN 2018
NOT FOR NAVIGATION
Procedure NA for arrivals at ACLOB on V122 east bound and at SAMIE on V448 northwest bound.
Procedure NA for arrivals at BAYTS on V121 southbound and V121-495 northwest bound, and at ZUNAS on V23 southbound.
MISSED APCH FIX
CUTTR
TULNE
SUYRU
7 NM
(IAF) SAMIE (RNP 0.40)
(IAF) ACLOB (RNP 0.40)
(IAF) BAYTS (RNP 0.40)
(IAF) ZUNAS (RNP 0.40)
(FAF) CUNBA
(IF) FILPU
RURTE 210K
ZIDAX
WONIG
PUNRE
HIDVO
INITY
KUSNE
IPAGY
NIGEE 210K
OMACO 210K
ERBAW
MSA RW32 25 NM
10800
ELEV 1335
TDZE 1335
VGSI and RNAV glidepath not coincident.
Procedure Turn NA
GP 3.00°
TCH 50
CATEGORY A B C D
RNP 0.15 DA 1609-1 274 (300-1)
RNP 0.30 DA 1661-1 326 (400-1)
AUTHORIZATION REQUIRED
CL Rwy 14-32
TDZ/CL Rwy 14
REIL Rwy 32
HIRL Rwy 14-32
323° to RW32
TWR 1427
MEDFORD, OREGON
Orig-A 30JUN11
42°22'N-122°52'W
ROGUE VALLEY INTL-MEDFORD (MFR)
RNAV (RNP) RWY 32

All Segments Method: All segments corrected from IAF through MA holding altitude.

(KMFR) Rogue Valley Intl−Medford, Oregon. Reported Temperature −5°C ILS or LOC/DME RWY 14.

Uncompensated Baro−VNAV System or Manual Method:

1. Cold Temperature Restricted Airport Temperature Limit: −5°C
2. Altitude at the FAF (OSSAJ) = 3800 ft.
3. Airport elevation = 1335 ft.
4. Difference: 3800 ft. – 1335 ft. = 2465 ft.
5. Use the AIM 7−2−3 ICAO Cold Temperature Error Table for a height above airport of 2465 ft. and −5°C. The approximate calculation is 200 ft.
6. Add the correction to the FAF and all procedure altitudes outside of the FAF up to and including IAF altitudes:
    - SAMIE (IAF): 6000 + 200 = 6200 ft.
    - FISTA (IF): 5900 + 200 = 6100 ft.
    - AMASE (stepdown fix): 4700 + 200 = 4900 ft.
    - OSSAJ (FAF): 3800 + 200 = 4000 ft.
7. Correct altitudes in the final segment based on the minima used. ILS DA(H): 1503 ft.
8. Difference: 1503 ft. – 1335 ft. = 168 ft.
9. AIM 7−2−3 Table: 168 ft. at −5C is 20 ft. Use 20 ft. for correction or round up to 100 ft.
10. Add correction to DA: 1503 ft. + 20 ft. = 1523 ft.
11. Correction at final holding altitude (OED VORTAC): Take final holding altitude and subtract field elevation: 6400 ft. – 1335 ft. = 5065 ft. Using table, correction is approximately 400 ft.
    - Missed Approach final holding altitude (OED VORTAC): 6400 + 400 = 6800 ft.

Compensated Baro−VNAV System:
Operators using a temperature compensating RNAV system to make altitude corrections will be set to the current airport temperature (−5°C) and activated prior to the passing the IAF. A manual calculation of the cold temperature altitude correction is required for the MDA/DA.

Individual Segment(s) method: Intermediate segment required

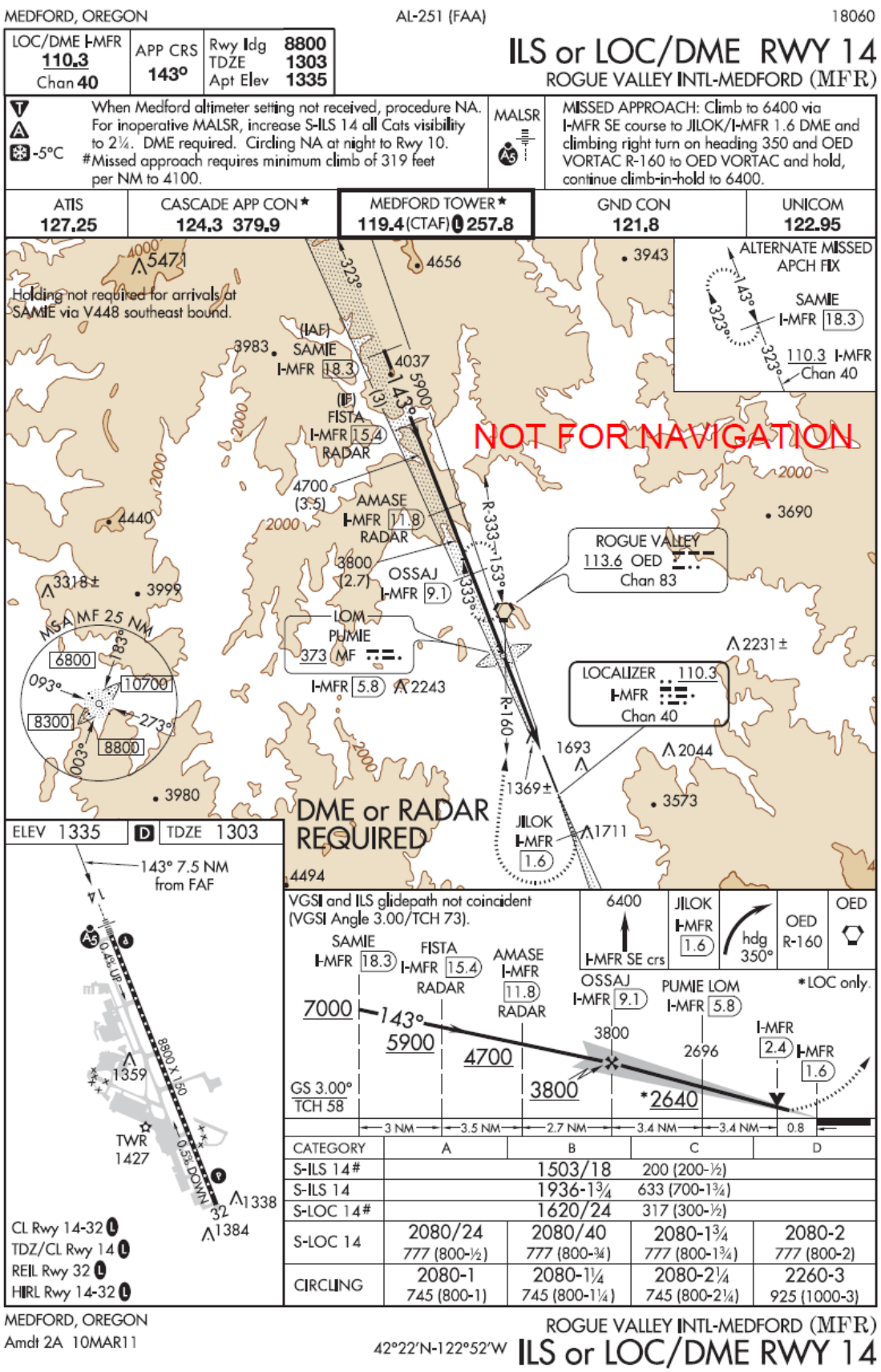
(KMFR) Rogue Valley Intl−Medford, Oregon. Reported Temperature −5°C ILS or LOC/DME RWY 14.

Uncompensated Baro−VNAV System or Manual Method:

1. Cold Temperature Restricted Airport Temperature Limit: −5°C
2. Altitude at the FAF (OSSAJ) = 3800 ft.
3. Airport elevation = 1335 ft.
4. Difference: 3800 ft. – 1335 ft. = 2465 ft.
5. Use the AIM 7−2−3 ICAO Cold Temperature Error Table for a height above airport of 2465 ft. and −5° C. The approximate calculation is 200 ft. Add the correction to the FAF and all procedure altitudes outside of the FAF up to but not including IF:
    - AMASE (stepdown fix): 4700 + 200 = 4900 ft.
    - OSSAJ (FAF): 3800 + 200 = 4000 ft.

Compensated Baro−VNAV System:

Operators using a temperature compensating RNAV system to make altitude corrections will set the current airport temperature (−5°C) and activate the system for the intermediate segment.


MEDFORD, OREGON
AL-251 (FAA)
18060
LOC/DME I-MFR 110.3 Chan 40
APP CRS 143°
Rwy Idg 8800
TDZE 1303
Apt Elev 1335
ILS or LOC/DME RWY 14
ROGUE VALLEY INTL-MEDFORD (MFR)
When Medford altimeter setting not received, procedure NA. For inoperative MALSR, increase S-ILS 14 all Cats visibility to 2¼. DME required. Circling NA at night to Rwy 10. #Missed approach requires minimum climb of 319 feet per NM to 4100.
-5°C
MALSR
MISSED APPROACH: Climb to 6400 via I-MFR SE course to JILOK/I-MFR 1.6 DME and climbing right turn on heading 350 and OED VORTAC R-160 to OED VORTAC and hold, continue climb-in-hold to 6400.
ATIS 127.25
CASCADE APP CON* 124.3 379.9
MEDFORD TOWER* 119.4 (CTAF) L 257.8
GND CON 121.8
UNICOM 122.95
Holding not required for arrivals at SAMIE via V448 southeast bound.
ALTERNATE MISSED APCH FIX
SAMIE I-MFR 18.3
110.3 I-MFR Chan 40
NOT FOR NAVIGATION
(IAF) SAMIE I-MFR 18.3
(IF) FISTA I-MFR 15.4 RADAR
AMASE I-MFR 11.8 RADAR
OSSAJ I-MFR 9.1
LOM PUMIE 373 MF
I-MFR 5.8
ROGUE VALLEY 113.6 OED Chan 83
LOCALIZER 110.3 I-MFR Chan 40
MSA MF 25 NM
6800
10700
8300
8800
DME or RADAR REQUIRED
JILOK I-MFR 1.6
ELEV 1335
D
TDZE 1303
143° 7.5 NM from FAF
8800 X 150
TWR 1427
CL Rwy 14-32 L
TDZ/CL Rwy 14 L
REIL Rwy 32 L
HIRL Rwy 14-32 L
VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 73).
6400
I-MFR SE crs
JILOK I-MFR 1.6
hdg 350°
OED R-160
OED
*LOC only.
PUMIE LOM I-MFR 5.8
I-MFR 2.4
I-MFR 1.6
7000
5900
4700
3800
*2640
2696
GS 3.00°
TCH 58
3 NM
3.5 NM
2.7 NM
3.4 NM
3.4 NM
0.8
CATEGORY A B C D
S-ILS 14# 1503/18 200 (200-½)
S-ILS 14 1936-1¾ 633 (700-1¾)
S-LOC 14# 1620/24 317 (300-½)
S-LOC 14 2080/24 777 (800-½) 2080/40 777 (800-¾) 2080-1¾ 777 (800-1¾) 2080-2 777 (800-2)
CIRCLING 2080-1 745 (800-1) 2080-1¼ 745 (800-1¼) 2080-2¼ 745 (800-2¼) 2260-3 925 (1000-3)
MEDFORD, OREGON
Amdt 2A 10MAR11
42°22'N-122°52'W
ROGUE VALLEY INTL-MEDFORD (MFR)
ILS or LOC/DME RWY 14
NW-1, 24 MAY 2018 to 21 JUN 2018
NW-1, 24 MAY 2018 to 21 JUN 2018

All Segments Method: All segments corrected from IAF through MA holding altitude.

(KAMW) Ames Muni. Reported Temperature −27°C: RNAV (GPS) RWY 1.

Uncompensated Baro−VNAV System or Manual Method:

1. Cold Temperature Restricted Airport Temperature Limit: −27°C
2. Altitude at the Final Approach Fix (FAF) (NIYKU) = 3400 ft.
3. Airport elevation = 956 ft.
4. Difference: 3400 ft. – 956 ft. = 2444 ft.
5. Use the AIM 7−2−3 ICAO Cold Temperature Error Table for a height above airport of 2444 ft. and −27° C. The approximate calculation is 400 ft. Add the correction to the FAF and all procedure altitudes outside of the FAF up to and including IAF altitude:
    - WOWLU (IAF): 4000 + 400 = 4400, SIFAY (IAF): 4000 + 400 = 4400, OHFAH (IAF): 4000 + 400 = 4400
    - OHFAH (IF): 4000 + 400 = 4400
    - NIYKU (PFAF): 3400 + 400 = 3800 ft.
6. Correct altitudes within the final segment altitude based on the minima used. LNAV/VNAV DA = 1364 ft.
7. Difference: 1364 ft. – 956 ft. = 408 ft.
8. AIM 7−2−3 Table: 408 ft. at −27°C is approximately 70 ft. Use 70 ft. or round up to 100 ft. for correction.
    - Add correction to LNAV/VNAV DA: 1364 ft. + 70 ft. = 1434 ft. No correction at CEXOG required, only required if using LNAV minima.
9. Correction at FULLE: Take final holding altitude and subtract field elevation: 3000 ft. – 956 ft. = 2044 ft. Using table, 2044 ft height above airport and −27°C correction is approximately 330 ft. Round down to 300 ft. or up to 400 ft.
    - Missed Approach Holding Altitude/FULLE: 3000 + 300 = 3300 ft.

If the airport temperature decreases below −16°C, an uncompensated baro−VNAV system may not be used to fly to the RNAV (GPS) LNAV/VNAV approach minima.

Compensated Baro−VNAV System:

Operators using a temperature compensating RNAV system to make altitude corrections will be set to the current airport temperature of −27°C and activated prior to the passing the IAF. A manual calculation of the cold temperature altitude correction is required for the MDA/DA. At temperatures below −16°C, a compensating baro−VNAV system must be on and active to fly to the LNAV/VNAV line of minima on this approach. Manual calculation of a cold temperature compensated MDA or DA is still required.

Individual Segment(s) method: Intermediate segment required

(KAMW) Ames Muni. Reported Temperature −27°C: RNAV (GPS) RWY 1.

Uncompensated Baro−VNAV System or Manual Method:

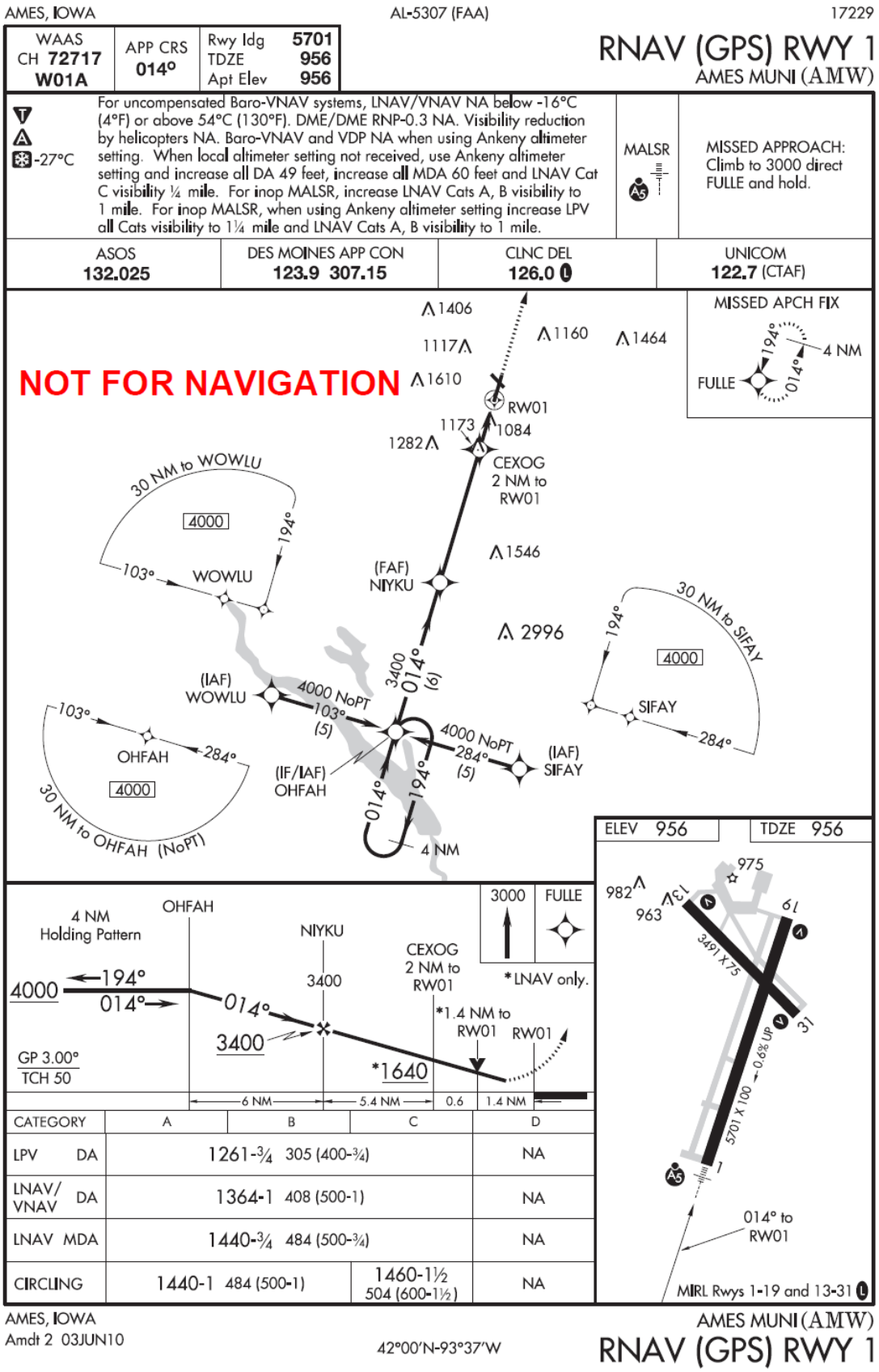
1. Cold Temperature Restricted Airport Temperature Limit: −27°C
2. Altitude at the PFAF (NIYKU) = 3400 ft.
3. Airport elevation = 956 ft.
4. Difference: 3400 ft. – 956 ft. = 2444 ft
5. Use the AIM 7−2−3 ICAO Cold Temperature Error Table for a height above airport of 2444 ft. and −27° C. The approximate calculation is 400 ft. Add the correction to the FAF and all procedure altitudes outside of the FAF up to but not including IF:

- NIYKU (PFAF): 3400 + 400 = 3800 ft.

Compensated Baro−VNAV System:

Operators using a temperature compensating RNAV system to make altitude corrections will be set to the current airport temperature of −27°C and activated prior to the intermediate segment. At temperatures below −16°C, a compensating baro−VNAV system must be on and active to fly to the LNAV/VNAV line of minima on this approach. Manual calculation of a cold temperature compensated MDA or DA is still required.

(Flight Operations Branch, Flight Technologies and Procedures Division, AFS−410, 8/15/19)


AMES, IOWA
AL-5307 (FAA)
17229
WAAS CH 72717 W01A
APP CRS 014°
Rwy Idg 5701
TDZE 956
Apt Elev 956
RNAV (GPS) RWY 1
AMES MUNI (AMW)
-27°C
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Baro-VNAV and VDP NA when using Ankeny altimeter setting. When local altimeter setting not received, use Ankeny altimeter setting and increase all DA 49 feet, increase all MDA 60 feet and LNAV Cat C visibility ¼ mile. For inop MALSR, increase LNAV Cats A, B visibility to 1 mile. For inop MALSR, when using Ankeny altimeter setting increase LPV all Cats visibility to 1¼ mile and LNAV Cats A, B visibility to 1 mile.
MALSR
MISSED APPROACH: Climb to 3000 direct FULLE and hold.
ASOS 132.025
DES MOINES APP CON 123.9 307.15
CLNC DEL 126.0
UNICOM 122.7 (CTAF)
NOT FOR NAVIGATION
MISSED APCH FIX
FULLE
194°
014°
4 NM
1406
1117
1160
1464
1610
RW01
1173
1084
1282
CEXOG
2 NM to RW01
30 NM to WOWLU
4000
103°
194°
WOWLU
(FAF)
NIYKU
1546
2996
3400
014°
(6)
(IAF)
WOWLU
4000 NoPT
103°
(5)
30 NM to SIFAY
194°
4000
SIFAY
284°
4000 NoPT
284°
(5)
(IAF)
SIFAY
103°
OHFAH
284°
4000
(IF/IAF)
OHFAH
014°
194°
4 NM
30 NM to OHFAH (NoPT)
ELEV 956
TDZE 956
975
982
963
13
6
24
3491 X 75
31
5701 X 100
0.6% UP
1
014° to RW01
MIRL Rwys 1-19 and 13-31
3000
FULLE
*LNAV only.
4 NM Holding Pattern
OHFAH
NIYKU
CEXOG 2 NM to RW01
4000
194°
014°
014°
3400
3400
*1.4 NM to RW01
RW01
*1640
GP 3.00°
TCH 50
6 NM
5.4 NM
0.6
1.4 NM
CATEGORY A B C D
LPV DA 1261-¾ 305 (400-¾) NA
LNAV/VNAV DA 1364-1 408 (500-1) NA
LNAV MDA 1440-¾ 484 (500-¾) NA
CIRCLING 1440-1 484 (500-1) 1460-1½ 504 (600-1½) NA
AMES, IOWA
Amdt 2 03JUN10
42°00'N-93°37'W
AMES MUNI (AMW)
RNAV (GPS) RWY 1
NC-3, 24 MAY 2018 to 21 JUN 2018
NC-3, 24 MAY 2018 to 21 JUN 2018

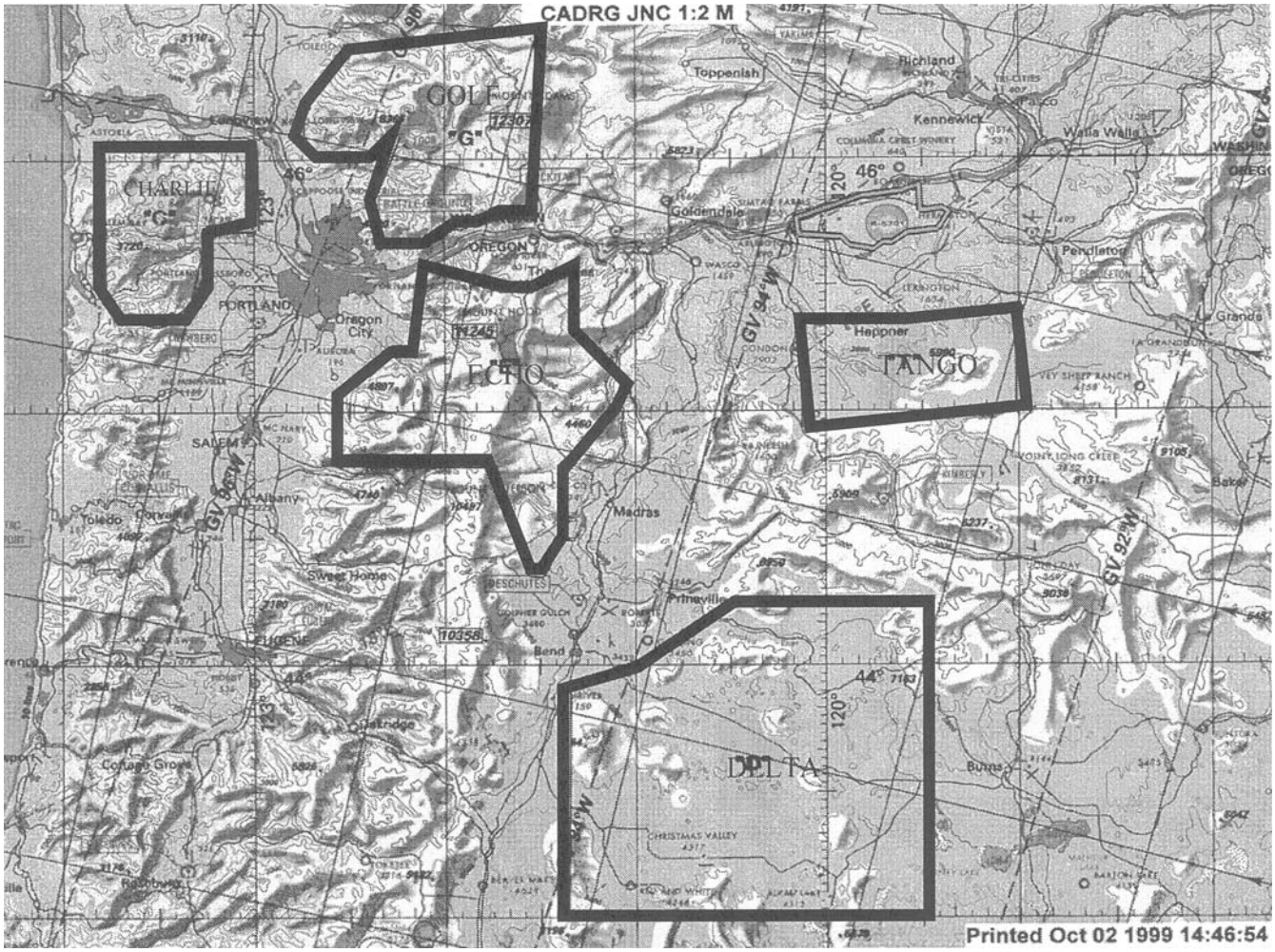
Section 2. Special Military Operations

Notice to Pilots and Interested Personnel in Northern Oregon and Southwest Washington

LIGHTS OUT MILITARY HELICOPTER OPERATIONS

Effective Date: April 30, 2000

The U.S. Air Force 304th Rescue Squadron conducts low altitude flight in five low altitude tactical navigation (LATN) Areas: “Charlie,” “Delta,” “Echo,” “Golf,” and “Tango.” These operations are conducted day and night below 200 feet above ground level (AGL). The night operations are conducted utilizing night vision goggles (NVGs). FAA exemption 5891A authorized NVG training in Air Force helicopters to be conducted without lighted position lights. These operations will ONLY be conducted below 200 feet AGL and outside of five (5) nautical miles from any public use airport, within the five (5) LATN areas.



(ANM–520.6 3/2/2000)

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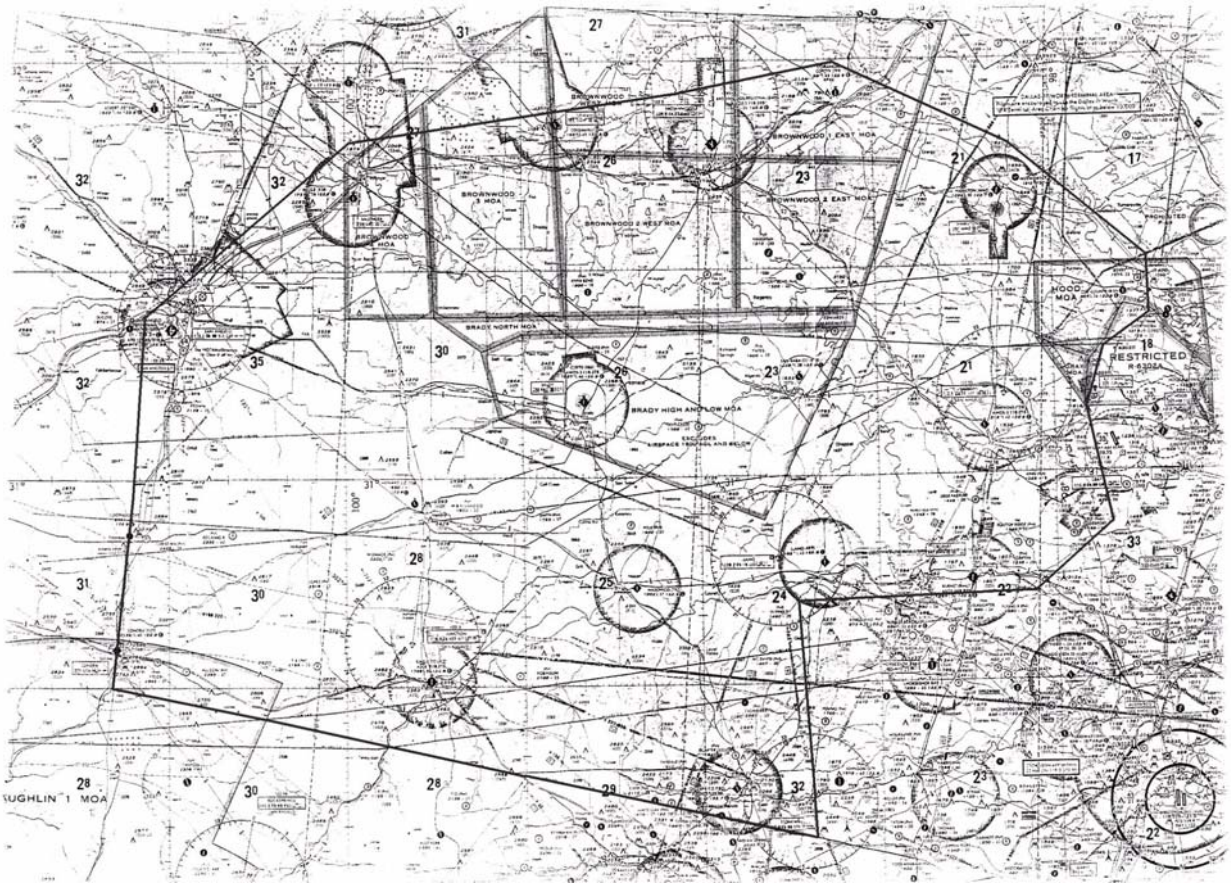
Notice to Pilots and Interested Personnel in Central and Southwest Texas

LIGHTS OUT MILITARY HELICOPTER OPERATIONS

The U.S. Army/National Guard is conducting "lights out" tactical helicopter training. These operations are conducted day and night. The night operations are conducted without the use of exterior aircraft lights from the surface up to 200 feet AGL, outside four (4) nautical miles from any public–use airport, and within the boundaries depicted below:



Beginning at lat. 31°24'00" N., long. 097°44'00" W./ North Fort Hood;
to lat. 31°30'00" N., long. 097°44'00" W.; to lat. 31°48'00" N., long. 098°07'00" W.;
to lat. 31°57'00" N., long. 098°37'00" W.; to lat. 31°48'00" N., long. 099°59'00" W.;
to lat. 31°23'00" N., long. 100°35'00" W.; to lat. 30°29'00" N., long. 100°40'00" W.;
to lat. 30°16'00" N., long. 098°42'00" W.; to lat. 30°43'00" N., long. 098°41'00" W.;
to lat. 30°45'00" N., long. 098°03'00" W.; to lat. 30°52'00" N., long. 097°52'00" W.;
to lat. 31°09'00" N., long. 097°55'00" W.; to lat. 31°17'00" N., long. 097°53'00" W.;
to point of origin.

(SJT 2/21/02)

LIGHTS OUT/LOW LEVEL MILITARY HELICOPTER OPERATIONS IN SOUTHWEST WISCONSIN

The Army National Guard is conducting "Lights Out" tactical operation training IAW FAA Exemption 3946J. These operations are conducted between official sunset and official sunrise at an altitude below 500' agl. and outside four (4) nautical miles from any public use airport.

The Routes are defined as below:

LONE ROCK (NVG Route #1)

42º 49.70' N 89º 24.70' W – SP

42º 45.50' N 89º 58.00' W – CP A

42º 46.00' N 90º 17.50' W – CP B

43º 03.80' N 90º 56.40' W – CP C

43º 17.74' N 91º 01.13' W – CP D

43º 43.16' N 91º 04.76' W – CP E

43º 53.21' N 91º 00.64' W – CP F

44º 08.82' N 90º 44.30' W – RP

DELLS (NVG Route #2)

43º 11.00' N 89º 54.50' W – SP

43º 26.35' N 90º 21.24' W – CP A

43º 41.34' N 90º 47.89' W – CP B

43º 43.49' N 90º 54.37' W – CP C

43º 50.10' N 90º 57.31' W – CP D

43º 51.32' N 90º 59.43' W – CP E

43º 53.21' N 91º 00.64' W – CP F

44º 08.82' N 90º 44.30' W – RP

CW3 TRAVIS E. BOXRUCKER
AASF#2 MADISON, WI
travis.boxrucker@us.army.mil

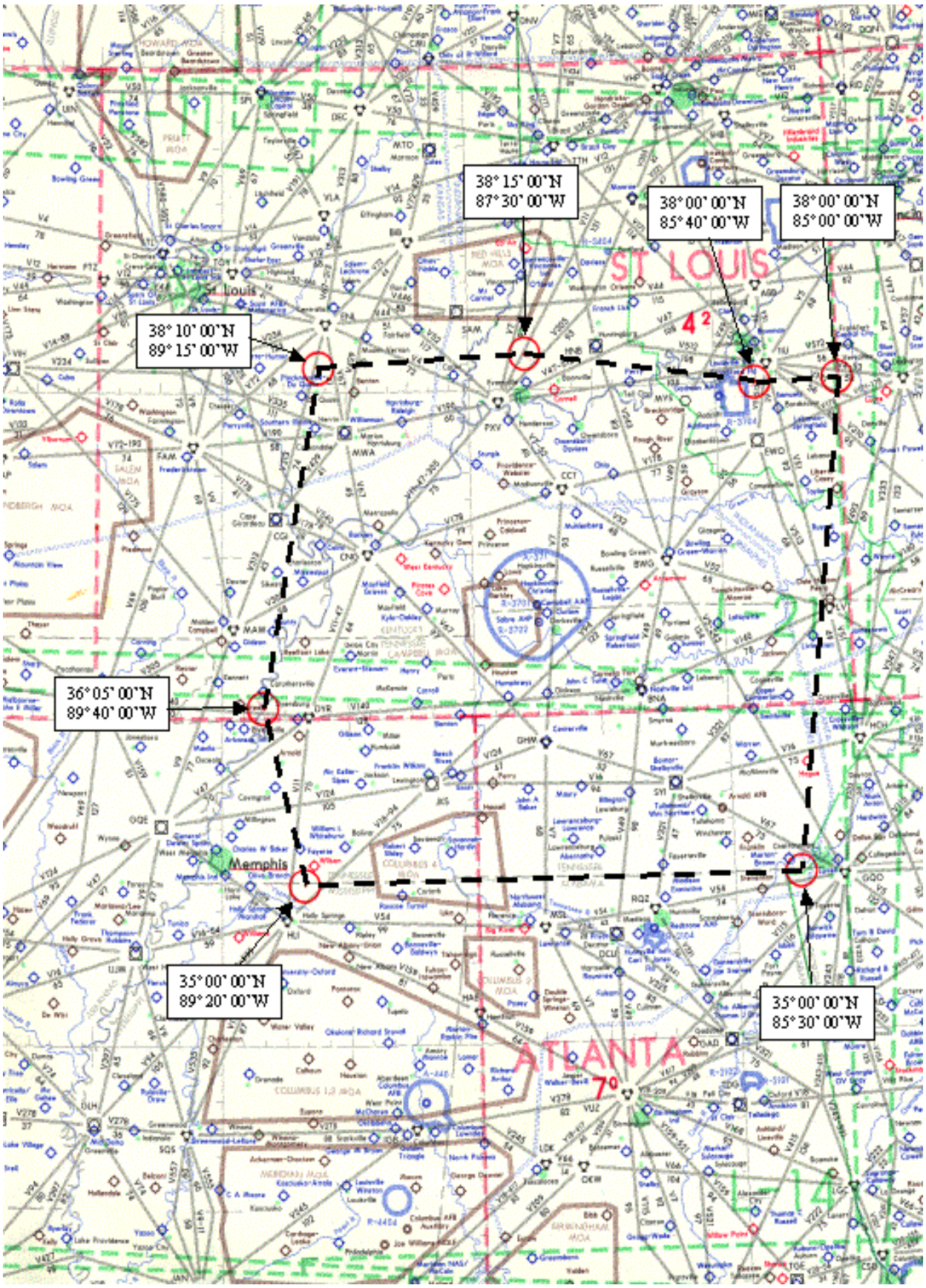
Notice to Pilots and Interested Persons in KY, TN, Southern IL, IN and Northern AL

LIGHTS OUT MILITARY HELICOPTER OPERATIONS

The U.S. Army is conducting "lights out" tactical helicopter training. These operations are conducted without the use of exterior aircraft lights from the surface to 500 feet above ground level, in accordance with FAA Exemption 3946, as amended, during the times of Sunset to Sunrise, and within the boundaries depicted below:

Lat. 38−00−00N, Long. 085−00−00W, to
Lat. 35−00−00N, Long. 085−30−00W, to
Lat. 35−00−00N, Long. 089−20−00W, to
Lat. 36−05−00N, Long. 089−40−00W, to
Lat. 38−10−00N, Long. 089−15−00W, to
Lat. 38−15−00N, Long. 087−30−00W, to
Lat. 38−00−00N, Long. 085−40−00W, to
point of origin. Excluding that airspace within a 4 nautical mile radius of all public use airports, and also excluding all class "B", "C", "D" and "E" controlled airspace.

(ASO−530/920 6/8/06)


38° 15' 00"N
87° 30' 00"W
38° 00' 00"N
85° 40' 00"W
38° 00' 00"N
85° 00' 00"W
38° 10' 00"N
89° 15' 00"W
36° 05' 00"N
89° 40' 00"W
35° 00' 00"N
89° 20' 00"W
35° 00' 00"N
85° 30' 00"W
ST LOUIS
ATLANTA
Memphis

SPECIAL USE AIRSPACE

Playas Temporary Military Operations Area, NM

Effective Dates: August 10–24, 2019.

The USAF will use the airspace for Exercise RED FLAG–RESCUE 19–2 from August 10–24, 2019. The purpose of this exercise is to allow combat air forces the opportunity to practice effective integration with ground forces, which is critical to the success of the real–world Combat Search and Rescue (CSAR) mission. It is designed to provide Personnel Recovery training for both U.S. and allied foreign combat aircrews, para–rescue teams, survival specialists, intelligence personnel, air battle managers, and Joint Personnel Recovery Center personnel.

Aeronautical activities will consist of A–10, C–12, HH–60G, MH–60S, HC–130J, and EC–130H aircraft conducting high speed combat maneuvering, non–standard formation flights, rescue escort, close air support, free–fall and static line parachute operations, and VFR aerial helicopter refueling missions. There will be no weapons employed, chaff/flares dispensed, or aerial refueling conducted.

PLAYAS Temporary MOA, NM

Boundaries: Beginning at lat. 32º10'43"N., long. 108º42'48"W.;
to lat. 32º09'20"N., long. 108º19'29"W.;
to lat. 31º49'27"N., long. 108º21'03"W.;
to lat. 31º50'48"N., long. 108º44'28"W.;
to the point of beginning.

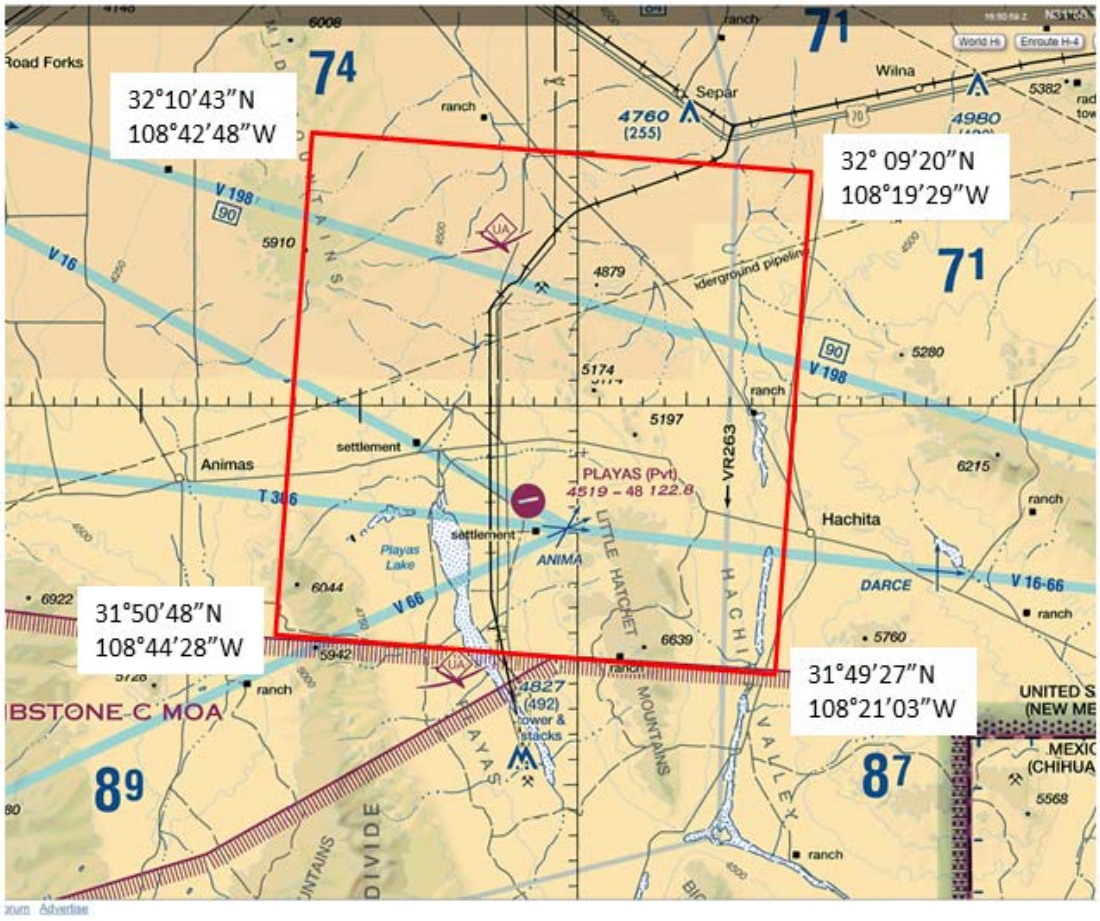
Altitudes: 300 feet AGL to, but not including, FL180.

Times of Use: August 10 – 24, 2019, by NOTAM.

Controlling Agency: FAA, Albuquerque ARTCC.

Using Agency: U.S. Air Force, Det 1, 414 CTS, Davis–Monthan AFB, AZ.

EL PASO SECTIONAL



PLAYAS Temporary MOA, NM

August 10 – 24, 2019

Times of Use: August 10 - 24, 2019, by NOTAM.

Altitudes: 300 feet AGL to, but not including FL180.

NOT FOR NAVIGATION

SPECIAL USE AIRSPACE

Playas Temporary Military Operations Area, NM

Effective Dates: August 26–30, 2019.

The USMC will use the airspace for Exercise CERTEX 20.1 from August 26–30, 2019. The purpose of this exercise is to provide the Marine commander the opportunity to conduct training in unfamiliar environments during the final phase of its pre–deployment training program. During CERTEX, the USMC will be required to conduct a series of challenging and realistic training events to test its ability to conduct conventional and specialized missions relating to Tactical Recovery of Aircraft and Personnel (TRAP).

Aeronautical activities will consist of (2) MV–22B, (2) FA– 18C/D or (2) F–16C, (4) A–10C, (1) HC–130J, and (2) HH–60G conducting tactical assaults, simulated air–to–ground ordnance delivery, and Close Air Support coordination between ground units and fixed/tilt/rotary wing aircraft. There will be no use of chaff/flares, surface–to–surface or surface–to–air weapons firing, or aerial refueling operations.

PLAYAS Temporary MOA, NM

Boundaries: Beginning at lat. 32º10'43"N., long. 108º42'48"W.;
to lat. 32º09'20"N., long. 108º19'29"W.;
to lat. 31º49'27"N., long. 108º21'03"W.;
to lat. 31º50'48"N., long. 108º44'28"W.;
to the point of beginning.

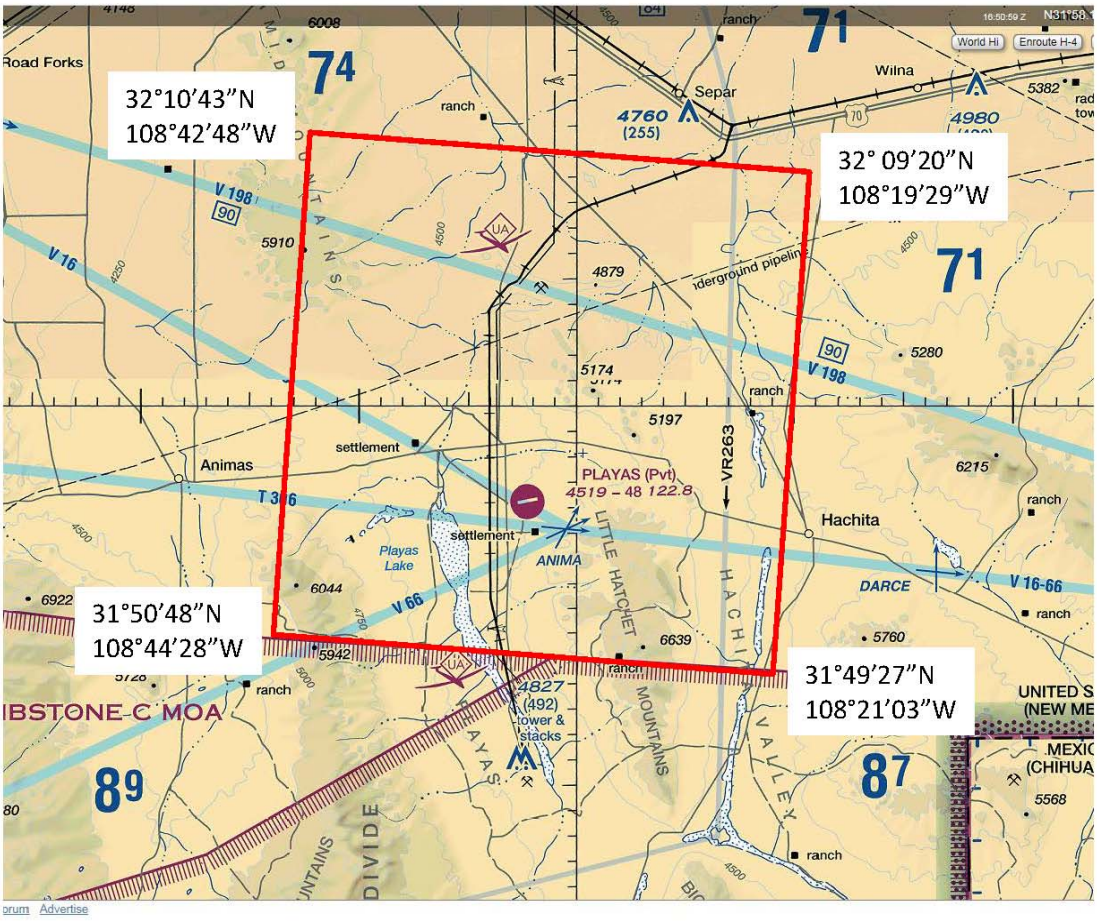
Altitudes: 300 feet AGL to, but not including, FL180.

Times of Use: August 26 – 30, 2019, by NOTAM.

Controlling Agency: FAA, Albuquerque ARTCC.

Using Agency: U.S. Marine Corps, Expeditionary Operations Training Group, I Marine Expeditionary Force, Camp Pendleton, CA.

EL PASO SECTIONAL



PLAYAS Temporary MOA, NM

Times of Use: August 26 - 30, 2019, by NOTAM.

Altitudes: 300 feet AGL to, but not including FL180.

NOT FOR NAVIGATION

Section 3. Airport and Facility Notices

Northeast
United States

**There are no Northeast United States notices for this edition.*

Southeast
United States

**There are no Southeast United States notices for this edition.*

East Central United States

CLEVELAND-HOPKINS INTERNATIONAL AIRPORT (CLE)

STANDARD (CODED) TAXI ROUTES

Effective: Until Further Notice

The Cleveland–Hopkins International Airport (CLE) has instituted standardized taxi routes to all runways for departure aircraft.

These standardized taxi routes will use color-coded designations for routings to various runways. The color-coded routes may be issued by the CLE ground controller instead of the normal traditional full taxiway routings. The routes and associated codes are published in text form below. Pilots who are unable to comply with standardized routes should advise ground control on initial contact.

READBACK ALL HOLD SHORT INSTRUCTIONS

Runway 6L		
Route ID	**Start Point**	**Routing Via**
Violet	All Terminal Parking Areas	Juliet, Kilo, Lima, November **HOLD SHORT OF RUNWAY 6R** and monitor 120.9, Golf. *(Monitor 124.5 when west of Runway 6R)*

Runway 6R		
Route ID	**Start Point**	**Routing Via**
Emerald	All Terminal Parking Areas	Juliet, Kilo and Lima.

Runway 6R, Intersection Tango		
Route ID	**Start Point**	**Routing Via**
Red	All Terminal Parking Areas	Juliet, Kilo, Lima and Tango

Runway 24L		
Route ID	**Start Point**	**Routing Via**
Blue	All Terminal Parking Areas	Juliet, Sierra, Lima, Whiskey

Runway 24R		
Route ID	**Start Point**	**Routing Via**
Grey	All Terminal Parking Areas	Juliet, Sierra, **HOLD SHORT OF RUWNAY 24L** and monitor 120.9, Sierra. *(Monitor 124.5 when west of Runway 24L)*

Runway 24R		
Route ID	**Start Point**	**Routing Via**
Orange	All Terminal Parking Areas	Juliet, Romeo **HOLD SHORT OF RUNWAY 24L** and monitor 120.9, Bravo, Golf, Sierra. *(Monitor 124.5 when west of Runway 24L)*

(CLE ATCT 10/23/08)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

STANDARD (CODED) TAXI ROUTES

RUNWAY 22L

Route ID	Starting Point	Routing Via
Green 5	**South terminal** circles 3N or 4N. CONTACT GROUND ON 121.8	Uniform, Yankee.
Green 6	**South terminal** circle 2S. CONTACT GROUND ON 119.25	J-8, Tango, Yankee. Hold short of Quebec and contact ground on 132.72. Hold short of Uniform and contact ground on 121.8.
Green 7	**North terminal** circle 1. CONTACT GROUND ON 119.45	Hotel, Yankee. Hold short of Kilo and contact ground 121.8.
Green 8	**South terminal** circle 2N. CONTACT GROUND ON 119.45	Uniform, Foxtrot, Hotel and Yankee. Hold short of Kilo and contact ground on 121.8.

RUNWAY 21R

Route ID	Starting Point	Routing Via
Blue 1	**South terminal** circles 3N or 4N. CONTACT GROUND ON 121.8.	TURN RIGHT on Uniform, Golf, RY 9L, Mike and M-6. Hold short of U-8 and contact ground on 119.45.
Blue 2	**South terminal** circles 3N or 4N. CONTACT GROUND ON 121.8.	TURN RIGHT on Uniform, Golf, Victor, Mike and M-6. Hold short of U-8 and contact ground on 119.45.
Blue 3	**South terminal** circle 2N. CONTACT GROUND ON 119.45.	Uniform, Golf, Victor, Mike, M-6.
Blue 4	**South terminal** circle 2N. CONTACT GROUND ON 119.45.	Uniform, Golf, RY 9L, Mike, M-6.
Blue 6	**South terminal** circle 3N or 4N CONTACT GROUND ON 121.8.	TURN LEFT on Uniform, join Kilo, RY 9L, Golf, Victor, Mike and M-6. Hold short of Foxtrot and contact ground on 119.45 joining RY 9L.

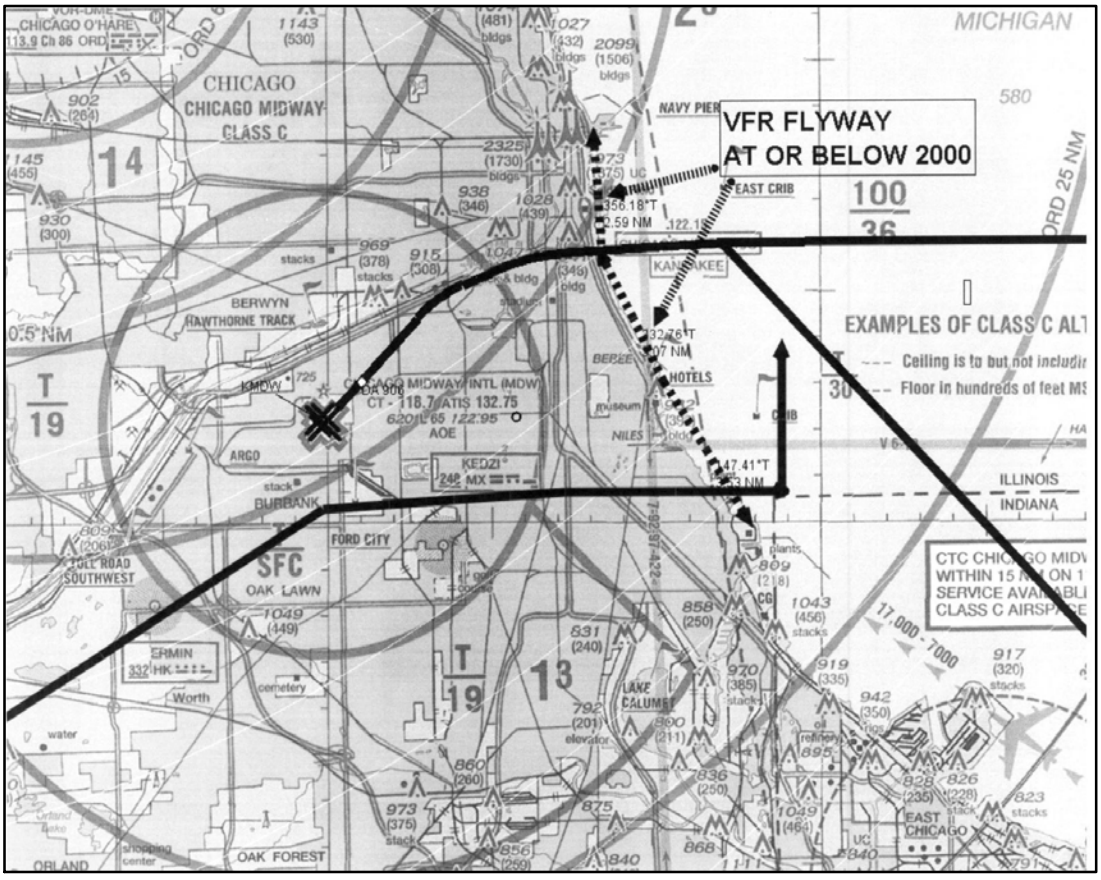
Blue 7	**South terminal** circles 2S. CONTACT GROUND ON 119.25	Juliet, Papa Papa, Foxtrot, Whiskey and Papa.
Blue 11	**South terminal** circles 3N or 4N CONTACT GROUND ON 121.8	TURN LEFT on Uniform, join Kilo, RY 9L, Mike and M-6. Hold short of Foxtrot and contact ground on 119.45 joining RY 9L.
Blue 16	**South terminal** Taxiway Kilo between Taxiways Romeo and Uniform CONTACT GROUND ON 132.72.	Kilo, RY 9L, Mike and M-6. Hold short of Uniform and contact ground 121.8. Hold short of Foxtrot and contact ground on 119.45 joining RY 9L.
Blue 17	**South terminal.** Taxiway Kilo between Taxiways Romeo and Uniform CONTACT GROUND ON 132.72.	Kilo, RY 9L, Golf, Victor, Mike and M-6. Hold short of Uniform and contact ground 121.8. Hold short of Foxtrot and contact ground on 119.45 joining RY 9L.
Blue 14	**North terminal** circle 1 CONTACT GROUND ON 119.45	Foxtrot, Victor, Mike, and M-6.
Blue 15	**North terminal** circles 2 through 6 CONTACT GROUND ON 121.8	Kilo, Victor, Mike and M-6. Hold short of Foxtrot and contact ground on 119.45.

RUNWAY 3L

Route ID	Starting Point	Routing Via
Brown 8	**South terminal** Taxiway Kilo between Taxiways Romeo and Uniform. CONTACT GROUND ON 132.72.	Kilo, RY 9L, Foxtrot and Mike. Hold short of Uniform and contact ground 121.8. Hold short of Foxtrot and contact ground on 119.45 joining RY 9L.
Brown 2	**South terminal** circle 2S. CONTACT GROUND ON 119.25.	Juliet, Papa Papa. Hold short of PP-1 and **MONITOR** tower on 118.4
Brown 4	**North terminal** circles 2 through 6 CONTACT GROUND ON 121.8	Kilo, Victor, Foxtrot, Mike. Hold short of Foxtrot and contact ground on 119.45.
Brown 6	**North terminal** circle 1 CONTACT GROUND ON 119.45	Foxtrot, Mike.
Brown 7	**South terminal** circle 2S. CONTACT GROUND ON 119.25.	Juliet, Papa Papa, PP1.

MIDWAY AIRPORT (MDW) ARRIVALS TO RUNWAY 22L AND VFR AIRCRAFT

During times when MDW arrivals are landing on runway 22L, MDW arrivals will cross the Lake Michigan shoreline (from Navy Pier to Gary/Chicago Int'l airport) between 3,000 feet and 2,400 feet, inbound to runway 22L. When transitioning the Chicago Metropolitan area along the Lake Michigan shoreline, VFR aircraft are advised that lower altitudes are strongly suggested.



*Solid bold tracks indicate the estimated flight paths into Runway 22L

Should you have any questions, please feel free to contact the Chicago TRACON Plans and Procedures office at:

847.608.5548
847.608.5590

(AJV–C21, 2/1/2018)

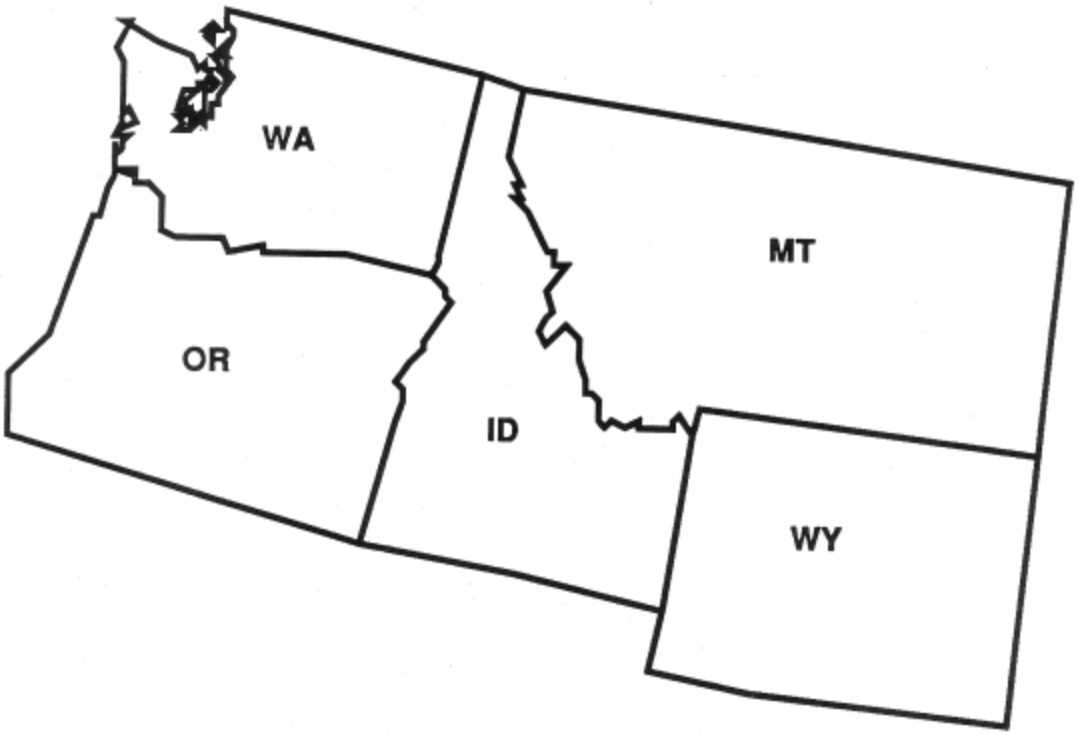
South Central United States

**There are no South Central United States notices for this edition.*

North Central United States

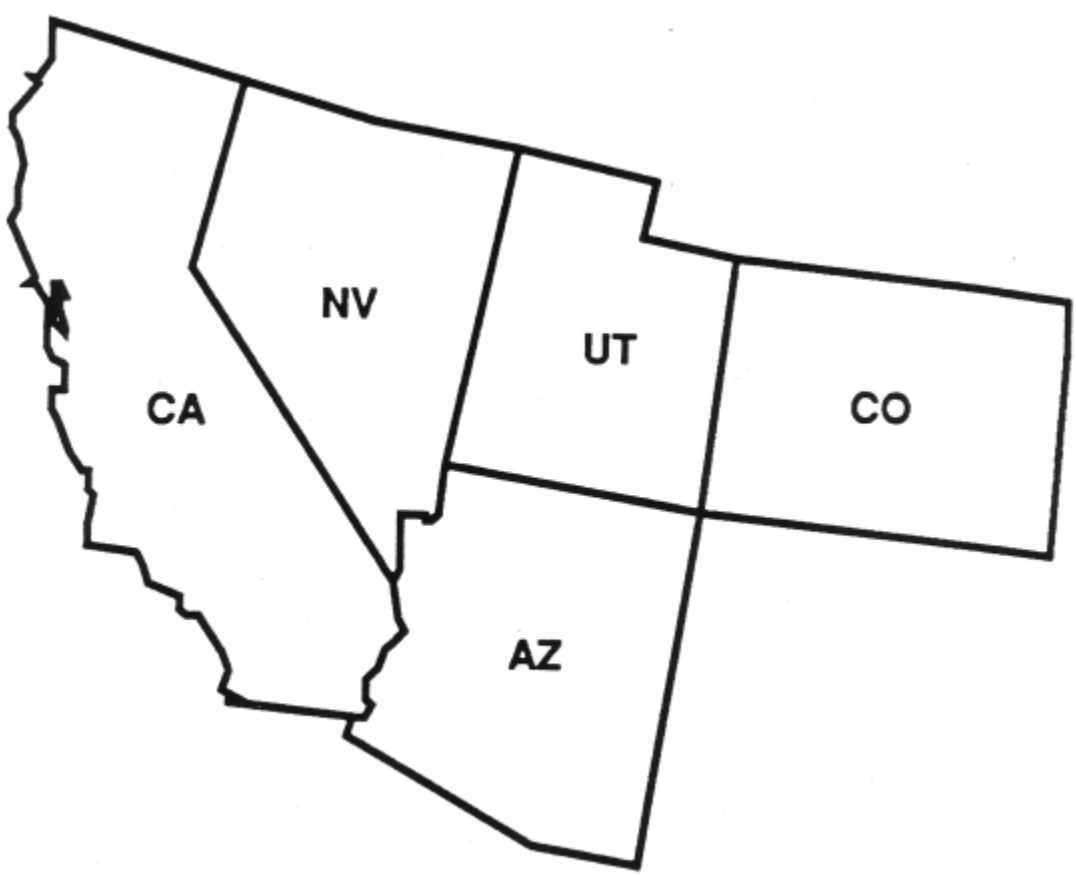
**There are no North Central United States notices for this edition.*

Northwest
United States



**There are no Northwest United States notices for this edition.*

Southwest
United States



Denver Tower

Standard Ramp Taxi Routes

Denver, Colorado

Denver Ramp Tower has instituted Standard Ramp Departure Taxi Routes for aircraft departing the main ramp and south cargo. Pilots who are unable to comply with standardized routes should advise Ramp Control on initial contact. The route will be issued by Ramp Control as "Standard Taxi East" or "Standard Taxi West".

Standard Ramp Departure Taxi Routes

Standard Taxi East	
Origin	**Routing**
Concourse A – South Side	Taxi via Taxiway Alfa Sierra (AS) towards Apron Location Point 2E. Hold short of Taxiway Lima (L). Contact Ground on 121.85 when number one at Apron Location Point 2E.
Concourse A – North Side	Taxi via Taxiway Bravo Sierra (BS) towards Apron Location Point 4E Hold short of Taxiway Lima (L). Contact Ground on 121.85 when number one at Apron Location Point 4E.
Concourse B – South Side	Taxi via Taxiway Bravo Sierra (BS) towards Apron Location Point 4E. Hold short of Taxiway Lima (L). Contact Ground on 121.85 when number one at Apron Location Point 4E.
Concourse B – North Side	Taxi via Taxiway Charlie Sierra (CS) towards Apron Location Point 6E. Hold short of Taxiway Lima (L).Contact Ground on 121.85 when number one at Apron Location Point 6E.
Concourse C – South Side	Taxi via Taxiway Charlie Sierra (CS) towards Apron Location Point 6E. Hold short of Taxiway Lima (L). Contact Ground on 121.85 when number one at Apron Location Point 6E.
Concourse C – North Side	Taxi via Taxiway Charlie November (CN) towards Apron Location Point 7E. Hold short of Taxiway Lima (L). Contact Ground on 121.85 when number one at Apron Location Point 7E.
South Cargo	Taxi east on Taxiway Alfa (A). Hold short of Taxiway Lima (L).Contact Ground on 121.85 when number one at the taxiway clearance bar.

Standard Ramp Departure Taxi Routes

Standard Taxi West	
Origin	**Routing**
Concourse A – South Side	Taxi via Taxiway Alfa Alfa (AA) towards Apron Location Point 1W. Hold short of Taxiway Golf (G). Contact Ground on 127.5 when number one at Apron Location Point 1W.
Concourse A – North Side	Taxi via Taxiway Alfa November (AN) towards Apron Location Point 3W. Hold short of Taxiway Golf (G). Contact Ground on 127.5 when number one at Apron Location Point 3W.
Concourse B – South Side	Taxi via Taxiway Alfa November (AN) towards Apron Location Point 3W. Hold short of Taxiway Golf (G). Contact Ground on 127.5 when number one at Apron Location Point 3W.
Concourse B – North Side	Taxi via Taxiway Bravo November (BN) towards Apron Location Point 5W. Hold short of Taxiway Golf (G). Contact Ground on 127.5 when number one at Apron Location Point 5W.
Concourse C – South Side	Taxi via Taxiway Bravo November (BN) towards Apron Location Point 5W. Hold short of Taxiway Golf (G). Contact Ground on 127.5 when number one at Apron Location Point 5W.
Concourse C – North Side	Taxi via Taxiway Charlie November (CN) towards Apron Location Point 7W. Hold short of Taxiway Golf (G). Contact Ground on 127.5 when number one at Apron Location Point 7W.

STANDARDIZED TAXI ROUTES FOR LOS ANGELES INTERNATIONAL AIRPORT (KLAX)

The following standardized taxi routes may be issued to all taxiing aircraft:

North Route:
Taxi towards Taxiway Tango (T), taxi northbound on Taxiway Tango (T), and at checkpoint 1 contact Ground Control on frequency 121.65; hold short of Taxiway Delta (D).

(Taxiway Tango (T) is not visible from the ATCT)

South Route:
Taxi towards Taxiway Romeo (R), taxi southbound on Taxiway Romeo (R), and at checkpoint 2 contact Ground Control on frequency 121.4; hold short of Taxiway Charlie (C).

(Taxiway Romeo (R) is not visible from the ATCT)

West Route:
Taxi westbound on Taxiway Charlie (C) towards Taxiway Alfa Alfa (AA), hold short of Taxiway Alfa Alfa (AA), contact Ground Control on frequency 121.65 when number one approaching Taxiway Alfa Alfa (AA).

Bridge Route:
Taxi towards Taxiway Alfa Alfa (AA), taxi southbound on Taxiway Alfa Alfa (AA), and at checkpoint 3 contact Ground Control on frequency 121.4; hold short of Taxiway Charlie (C).

(Taxiway Alfa Alfa (AA) is not visible from the ATCT)

Romeo Route:
Taxi westbound on Taxiway Charlie (C) towards Taxiway Romeo (R)**,** hold short of Taxiway Romeo (R), contact Ground Control on frequency 121.65 when number one approaching Taxiway Romeo (R).

(Taxiway Romeo (R) is not visible from the ATCT)

The Bradley Route was removed due to the extended closure of Taxilane Sierra (S)

(AJV–W21, 5/24/2018)

SAN DIEGO MCCLELLAN−PALOMAR AIRPORT

Pilots are encouraged to exercise caution when flying over exhaust plumes from power plant exhaust stacks 3.15 west of the McClellan−Palomar Airport. Information on avoiding flights over exhaust plumes is found in the Aeronautical Information Manual, Chapter 7, Section 7−5−15.

(AJV−W21, 5/24/2018)

Alaska

Hawaii

**There are no Alaska and Hawaii notices for this edition.*

Section 4. Major Sporting and Entertainment Events

Burning Man
NOTAM

Black Rock City Municipal Airport, NV
August 21 – September 2, 2019

BACKGROUND

The purpose of this Notice is to inform pilots of special procedures that will be implemented during Burning Man, August 21, 2019–September 2, 2019 in the vicinity of Black Rock Desert, NV. During this event a private–use airport, Black Rock City Municipal Airport (88NV), is created and operated by Black Rock City, LLC on land owned by the Bureau of Land Management (BLM). Pilots should review and adhere to the procedures contained in this Notice during the effective dates.

ALL AIRCRAFT USE CAUTION

HIGH VOLUME SIGHT–SEEING TRAFFIC, SKYDIVING, LASERS, FIREWORKS, AND/OR HOT AIR BALLOON ACTIVITY ABOVE AND IN THE VICINITY OF BLACK ROCK CITY

AIRPORT DATES AND HOURS

Airport Operational Dates	August 21, 2019 – September 2, 2019
Burning Man Event Dates	August 25, 2019 – September 2, 2019
Airport/Runway Operating Hours	06:00 PDT to 18:30 PDT

PRIOR PERMISSION REQUIRED

All pilots intending to land at 88NV must obtain permission from the Black Rock City Municipal Airport Operations to use the airport. Before departing for 88NV, pilots must register online and complete a training course. Upon completion, the pilot will receive an individual code to be announced on the 88NV Arrivals frequency. After verification of the pilot's individual code, permission to land will be granted by the radio operator. The 88NV (advisory) Tower has the authority to revoke any aircraft's permission to land or use the the 88NV private airport if it is determined that a pilot is flying in a manner that is unsafe or unwilling to comply with the rules stated in the Pilot Advisory.

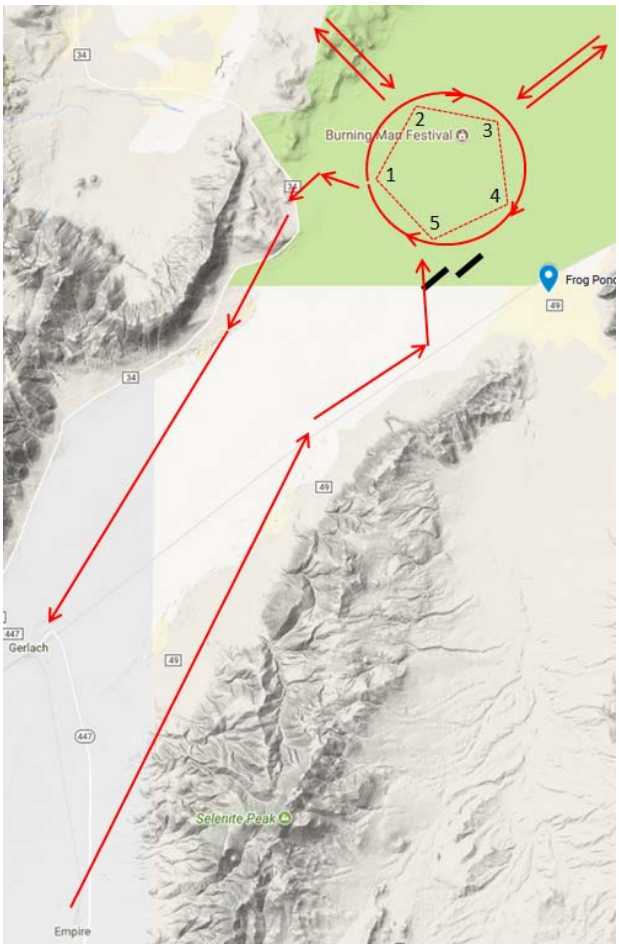
All detailed information regarding registration can be found on airport.burningman.org.

PROHIBITED OPERATIONS

- **Landing without prior permission**
- **Night Operations**
- **Flying Inside the City Perimeter Fence**
- Student Pilot Solo
- Flight Training
- Touch & Go's / Stop & Go's
- Low Approaches
- Gliders & Glider Towing
- Banner Towing
- Aircraft Over 12,500 Gross Weight
- Aircraft without Two–Way Communication
- Aircraft with Capacity of +30 Passengers

"SCENIC AND GO" PROCEDURE

For flights that wish to fly to Black Rock City, perform a scenic circuit, and then depart, should maintain above 7000' MSL, remain outside of the polygon shaped city perimeter fence, and circle clockwise.



AIRPORT INFORMATION

FAA Airport Identifier	88NV
Airport Coordinates	40°45’49.4”N 119°12’37.8”W
Field Elevation	3904’ MSL
Runways	23L / 05R – 6000’ x 75’ using cones 23R / 05L – 6000’ x 75’ using cones 23L and 5L Designated for Landing 23R and 5R Designated for Takeoff
Nearby Airports in Relation to 88NV	13nm NE of Empire (18NV) 64nm WSW of Winnemucca (WMC) 80nm NE of Reno (RNO)
Surface Conditions	Dry alkaline lake bed. Small dunes of powdery, sand–like soil. Runways and taxi areas conditioned by watering.
Airspace	Class G underlying the Reno MOA
Traffic Pattern Directions	23L & 23R – Left Traffic 5L & 5R – Right Traffic

Traffic Pattern Altitude (TPA)	5000' MSL for aircraft less than 120 knots 5500' MSL for aircraft greater than 120 knots
Scenic Pattern Altitude (SPA)	5500' MSL for aircraft less than 120 knots 6000' MSL for aircraft greater than 120 knots 7000' MSL for aircraft arriving from outside the area
Frequencies	134.7 – Black Rock Arrivals (Permission To Land) 122.9 – CTAF / Unicom 118.35 – Black Rock Ops (GA Parking/Departures) 121.05 – BxA Ops (BxA Parking/Starting) 128.8 – Oakland Center (>10,000 MSL)
Weather	• Text "C" for current conditions or "M" for METAR to 775–442–0739. • Weather Underground (https://www.wunderground.com/) station "88NV" or "Black Rock City." • Contact any 88NV aviation frequency.

Oakland Air Route Traffic Control Center Information

Oakland Air Route Traffic Control Center requests the following from aircraft transiting to and from 88NV airport;

Departing Aircraft requesting VFR flight following West and Southbound should contact Oakland Center on Frequency: 128.8.

Departing Aircraft requesting VFR flight following North and Eastbound should contact Salt Lake Center on 132.25.

Radio and Radar coverage is limited in the area of Empire Airport (18NV) and Burning Man airport (88NV) below 10,000ft.

When requesting flight following to Empire Airport (18NV) it will be assumed you are going to 88NV.

Expect radar service to terminate around Empire Airport (18NV). If your Radar service is not terminated and you are approaching Empire Airport please ask to terminate with ATC. If you leave Oakland Center frequency without termination of Radar service, we will be required to issue an Alert Notice.

When the frequency is busy please keep communications to a minimum. The Air Traffic Sector that works Burning Man is large and contains 5 separate transmitters. Because of transmitter location you might not hear other pilots on the frequency.

Please use caution for Temporary Flight Restrictions (TFR's) for firefighting operations. If you are receiving flight following from Oakland Center you are still required to be aware of current TFR's and NOTAMS along your flight path. If you are getting close to a TFR we will advise and issue a vector.

If planning on an IFR pickup with Oakland Center, expect a minimum IFR altitude of 13,000 going West over the Sierras and 11,000 going North or East. Lower altitudes are available if flying on airways.

When en–route to Burning Man, please avoid unnecessary flights in the vicinity of the following airports; KTRK, KRNO and KTVL. These areas will be busy with Glider operations and increased traffic loads.

BANK OF AMERICA ROVAL 400
MONSTER ENERGY NASCAR CUP EVENT

CHARLOTTE MOTOR SPEEDWAY
CHARLOTTE, NC

September 28–30, 2019

SPECIAL AIR TRAFFIC PROCEDURES

Special air traffic procedures to manage increased traffic, enhance safety, and minimize delays are in effect during the following periods:

VFR HELICOPTER OPERATIONS

Charlotte International Airport to Speedway– BLUE ROUTE
Contact CLT Tower 118.1 and request "BLUE ROUTE". After receiving VFR departure instructions, proceed direct Central Piedmont Community College, inside the I–277 loop, then on course Charlotte Motor Speedway. Expect Radar Service termination when leaving CLT CLASS B airspace.

Speedway to Charlotte International Airport– GREY ROUTE
Contact CLT Tower 118.1 on the north side of Highway 49/29 and W. Sugar Creek Road, request "GREY ROUTE". After receiving Class B clearance, proceed VFR inbound remaining on the North side of Highway 49/29 to I–277 loop, direct Bank of America Stadium, direct CLT Airport.

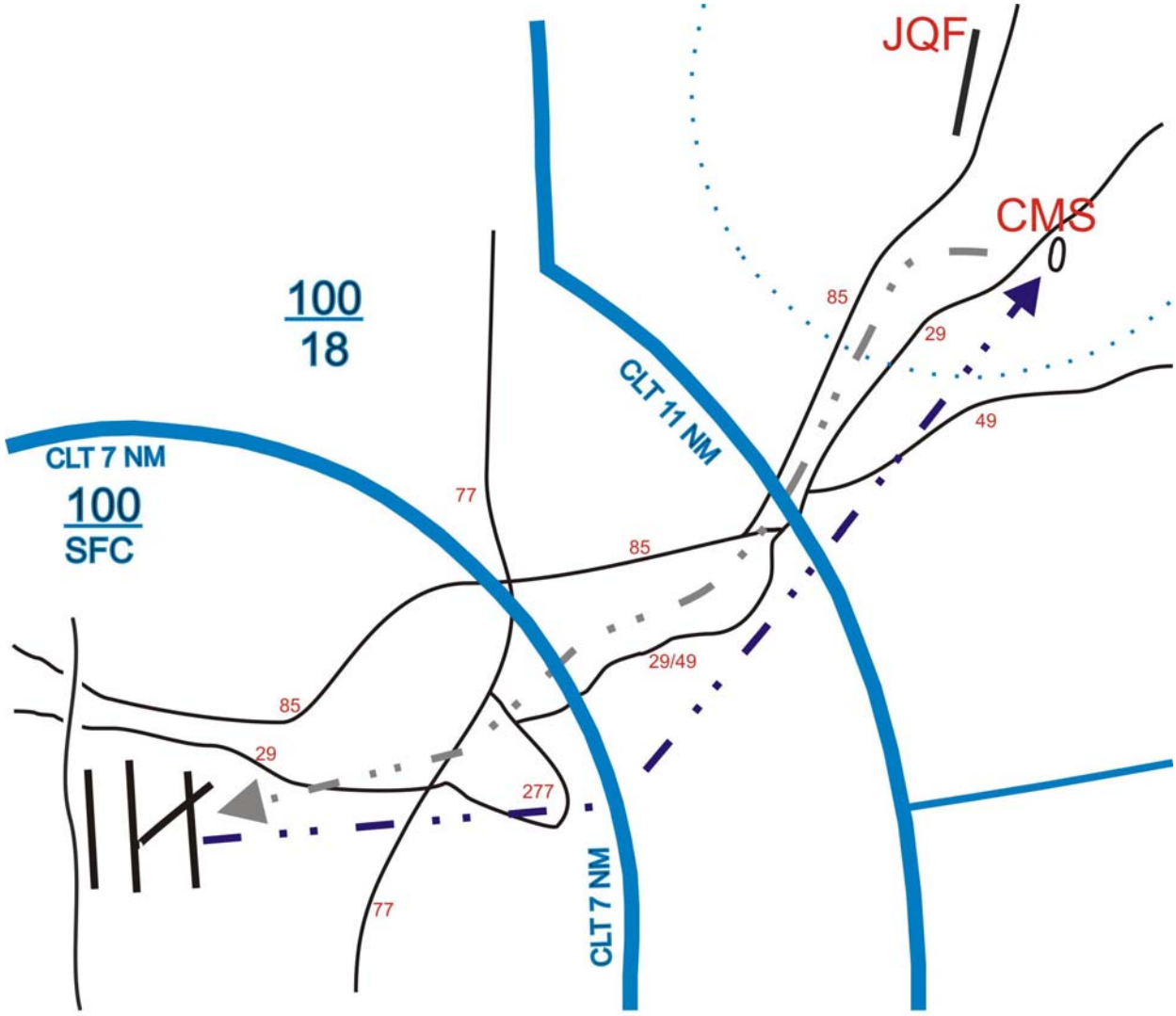
TRAFFIC MANAGEMENT INITIATIVES

IFR and VFR flights operating to/from Concord Regional Airport should anticipate traffic management initiatives including Expect Departure Clearance Times (EDCT), holding, or other potential delay.

Inbound and outbound helicopters squawk assigned beacon codes.

FREQUENCIES

Concord (JQF) Tower	134.65
Charlotte (CLT) Approach	128.32



Remain clear of Charlotte Class B Airspace unless authorized by ATC

NATIONAL BUSINESS AVIATION ASSOCIATION (NBAA) CONVENTION

LAS VEGAS, NEVADA

October 22–24, 2019

In anticipation of a large number of aircraft operating to and from the Las Vegas area in conjunction with the 2019 NBAA Convention, the following procedures will be used to enhance safety and minimize air traffic delays. **These procedures will be in effect from 1400z October 18 until 0600z October 24, 2019.**

NOTE: *Pilots should review all applicable NOTAMS and arrival/departure procedures prior to conducting flight in the Las Vegas area.*

NBAA CONVENTION SITE

Henderson Executive Airport (KHND) in Henderson, NV will be the host airport for the 2019 NBAA Convention static display of aircraft.

SPECIAL AIR TRAFFIC PROCEDURES

Affected Airports

AIRPORT	IDENTIIFIER
Henderson Executive Airport	KHND
North Las Vegas Airport	KVGT
McCarran International Airport	KLAS

Las Vegas Area Airport Traffic Control Towers Hours of Operation

HND	Daily 6:00am PST (1400z) – 8 pm PST (0400z)
VGT	Daily 6:00am PST (1400z) – 10 pm PST (0600z)

NOTE: *Check current NOTAMs for possible modifications to the hours of operation.*

Preferred Arrival Routings

In order to expedite aircraft movement through the Las Vegas metropolitan area, arrivals to KHND need to file one of the following arrival routes:

RNAV Arrivals:

From the NW: ADDEL ONE RNAV Arrival From the NE: NOOTN TWO RNAV Arrival From the S/SE: KNGMN TWO RNAV Arrival From the S/SW: JOMIX ONE RNAV Arrival.

NOTE: *Due to the complexity and volume associated with this event, users can anticipate dynamic reroutes that will allow an orderly transition of all users inbound to the controlled airports.*

Practice Approaches

Practice approaches to airports within 40 NM of LAS will be extremely limited and potentially unavailable due to the volume associated with the NBAA convention.

Air−Files/IFR Pick−Ups

Due to the high volume of traffic, IFR "Air−File" and IFR "Pick−Up" clearances will not be accepted/issued within 100 miles of LAS.

TRAFFIC MANAGEMENT INITIATIVES

The Federal Aviation Administration Air Traffic Control Systems Command Center (ATCSCC) may utilize traffic management initiatives for this event when arrival/departure demand is expected to approach or exceed airport capacity.

Traffic management initiatives for this event are designed to provide equitable access to airports and airspace. To maintain program integrity and minimize delays, airborne changes of destination between LAS, HND or VGT will not be accepted. Duplicate flight plans, same call sign with multiple times, to these airports are subject to removal from the system.

Flight plans should be filed at least 12 hours prior to proposed time of departure, but not more than 22 hours. This will ensure that your flight is properly considered in the planning of any traffic management initiative and will ensure that demand predictions are accurate.

Possible traffic management initiatives may include the use of "Expect Departure Clearance Times" (EDCT) for all domestic IFR arrivals. Aircraft assigned an EDCT will be expected to depart within 5 minutes of the assigned time. Aircraft unable to depart within 5 minutes of assigned EDCT shall advise ATC and request a new EDCT assignment.

In addition, "Gate−Hold" procedures may be implemented during times of heavy arrival/ departure traffic. The ATIS will specify whether all (VFR and IFR) or only IFR aircraft are temporarily being subjected to ground delay at the ramp. Affected departures will be informed which frequency to contact for receipt of an engine start/taxi clearance time.

EXAMPLE: *"GATE HOLD PROCEDURES ARE IN EFFECT. ALL AIRCRAFT (or ALL IFR AIRCRAFT) CONTACT (ATC Position) ON (frequency) FOR ENGINE START TIME."*

NOTE: *Due to the high number of itinerant departures, aircraft may be held on the ramp to facilitate sequencing, expedite departures, and comply with traffic management restrictions.*

There will be no air traffic slot reservations required for this event.

NOTE: *Aircraft on published Flight Demonstration routes are exempt from this program.*

DEPARTURE INFORMATION

To help mitigate compacted departure demand which can contribute to departure delays, please go to the website below to register your intended departure time. This is information sharing only, and is intended to make your flying experience at HND and LAS a better one. This is not a slot time.

This is a new program for General Aviation that will allow you to submit an intended departure time, view demand information for your departure airport, and give you a better awareness of busy departure times, allowing you and your customers to make informed departure time decisions. This program will serve the GA community 24/7 at Henderson Executive Airport and McCarran International Airport.

GO TO:
PACER.AERO

AIRPORT STATUS INFORMATION

Real time flight delay, airport status, and program information is available at the following

Sites: www.fly.faa.gov/ois/
www.fly.faa.gov/edct/jsp/edctLookUp.jsp

HND PROCEDURES AND INFORMATION

HND Frequencies

FREQUENCIES	
HND ATCT – monitor ATIS for appropriate frequency	125.1
HND Ground Control	127.8
HND Clearance Delivery	135.35
HND Unicom	122.95
HND ATIS	120.77

Parking

Henderson Executive Airport is requiring reservations for all parking, drop–off and pick–up operations from October 18th through October 24th. Operators may call the HND FBO at (702) 261–4800 or utilize http://hnd.aero/Forms/NBAABACE site for reservations.

HND airport management may ask arrivals, without prior parking arrangements, to depart if parking areas reach capacity.

Student training flights and flight schools are highly encouraged to operate at other airports between October 18, 2019 and October 24, 2019. Training flights during this time period for student solo cross country flights,

touch−and−go landings, low approaches and practice instrument approaches at Henderson Executive Airport are highly discouraged.

Visit the Henderson Executive Airport website (http://www.hnd.aero/) for other information.

- Monitor ATIS prior to initial call.

IFR Arrivals

- **DO NOT STOP ON ACTIVE RUNWAY.** Expeditious clearing of the runway is essential.
- Utilize the first available exit unless otherwise instructed.
- Contact Ground Control on frequency 127.8 when instructed by the Tower Controller.

VFR Arrivals

- Monitor ATIS for VFR arrival procedures and the appropriate tower frequency.
- Contact HND Tower at least 10 miles from the airport.
- Advise Tower of aircraft type, call sign, direction and distance from the airport, and the appropriate ATIS code.
- Follow the tower controller's directions for pattern entry, sequencing or holding instructions.
- **DO NOT STOP ON ACTIVE RUNWAY.** Expeditious clearing of the runway is essential.
- Utilize the first available exit unless otherwise instructed.
- Contact Ground Control on frequency 127.8 when instructed by the Tower Controller.

DO NOT ENTER LAS VEGAS CLASS BRAVO AIRSPACE WITHOUT APPROVAL

Departure Procedures

- All fixed wing VFR/IFR aircraft should monitor the ATIS before engine start for special ground movement instructions.
- Do not call for taxi until you are the number one aircraft that can enter a taxiway from the ramp or parking area.
- If you are IFR do not call for taxi until you have received an IFR clearance.
- Remain on ground control until instructed to contact/monitor tower or until number one for departure at the runway.
- ATIS will indicate if IFR clearances are available on ground control or clearance delivery.
- Aircraft parked on the NBAA Static Display ramp will receive special instructions from the NBAA on site ramp coordinator for their departure after the show closes.

Airship and Military Aircraft Operations

Airship operations, including parking, are restricted to those operators who have made prior arrangements with the HND Airport Manager's Office.

Military Aircraft must have Prior Permission Required (PPR) authorization. Military helicopter contract fuel will not be available.

Airship and military aircraft pilots shall contact the HND Airport Manager's Office directly with their requests at (702) 261−4802.

Fixed−Based Operator (FBO)

FBO	PHONE NUMBER	FREQUENCY
HND Executive Airport	(702) 261−4800	131.575

DEMONSTRATION AND PRESENTATION FLIGHTS

The airspace and military ranges in and around the Las Vegas area present very unique challenges to air traffic management of local "out and back" flights. Areas near Las Vegas are problematic for ATC and the necessary coordination between Las Vegas TRACON and Los Angeles Center may not support the needs of a typical demo flight profile.

Therefore, you should provide Las Vegas TRACON with as much advance notice as possible of your requested flight parameter. The FAA will accommodate your request to the best of our ability consistent with normal operations in to and from the Las Vegas area.

IFR Flight Demonstration Procedures

- Contact Las Vegas TRACON TMU at (725) 600−7011 for approval.
- File a flight plan for this route through Flight Service (1−800−wxbrief).
- Aircraft Identification while using these routes shall be "DEMO" plus the last three characters of the aircraft registration.
- File one of the following routes:
  - **FL270 and below:** ***HND.PALLY6.PALLY.GFS..EED..IGM.KNGMN2.HND***
  - **FL280 and above:** ***HND.FLAMZ6.GUMPZ.FLG..IGM.KNGMN2.HND***
- Any deviation from these routes will terminate special handling procedures.
- Aircraft terminating early on any demonstration route could encounter significant delays.

VFR Flight Demonstration Area

A VFR flight demonstration area will be available, traffic permitting, during the NBAA convention. The VFR practice area is located NW of VGT in Nellis Air Traffic Control Facility Airspace. Assistance with flight plan filing and specific location information regarding this area can be obtained from VGT ATCT at (702) 648−6588.

FLIGHT SERVICES

Pilot briefing and flight planning services are available by telephoning Flight Service at 1−800− WX−BRIEF (1−800−992−7433).

Contact Flight Service Radio on 122.35 for VFR flight plan activation and closure. In−flight pilot reports are encouraged.

UNIVERSITY OF MISSISSIPPI FOOTBALL

OXFORD, MS
September 7 – November 16, 2018

SPECIAL AIR TRAFFIC PROCEDURES

Special air traffic procedures to manage increased traffic, enhance safety, and minimize delays are in effect for the following University of Mississippi home football games:

DAY	DATE	OPPONENT
Saturday	September 7	Arkansas
Saturday	September 14	Southeastern Louisiana
Saturday	September 21	California
Saturday	October 5	Vanderbilt
Saturday	October 19	Texas A&M
Saturday	November 9	New Mexico State
Saturday	November 16	LSU

Be alert for a high volume of various aircraft types. Keep radio transmissions to a minimum to reduce frequency congestion.

OBTAIN A COMPLETE WEATHER BRIEFING AND CHECK NOTAMS AND FLIGHT ADVISORIES PRIOR TO DEPARTURE TO ENSURE YOU HAVE THE MOST CURRENT INFORMATION

TEMPORARY AIRPORT TRAFFIC CONTROL TOWER

A Temporary Airport Traffic Control Tower (TATCT) will be in operation at University–Oxford Airport (UOX) during select, high–traffic games. Check NOTAMs for Oxford Tower information.

FREQUENCIES:	
TOWER	119.55
GROUND	121.725
AWOS–3	132.725

ARRIVAL ROUTES

Landing RWY 27

FROM NE	NOJEF FOVAB UOX
FROM SW	SQS HYYTE PNKLY FOVAB UOX
FROM SE	VUZ PNKLY FOVAB UOX
FROM MEMPHIS APPROACH	HLI NOJEF FOVAB UOX

Landing RWY 09

FROM NW	TOOOD JODIB UOX
FROM SW	SQS HYYTE JODIB UOX
FROM NE	NOJEF TOOOD JOBID UOX
FROM SE	PNKLY HYYTE JODIB UOX

DEPARTURES

Ensure IFR flight plans are on file with flight service.

DO NOT expect IFR pick up or air–filed flight plan clearance within 50 NM of UOX except in an EMERGENCY. Airborne IFR pickup is strongly discouraged

Do not request IFR pickup below 3000FT MSL due to limited radar coverage

Departing VFR, squawk 1200

Departing VFR, do not contact Memphis Center frequency until at least 20NM from UOX

TEMPORARY FLIGHT RESTRICTION

A Temporary Flight Restriction will be in effect over the stadium. See NOTAM FDC 8/3032 for details.
http://tfr.faa.gov/

LEIDOS FLIGHT SERVICES

Pilot briefing and flight planning services are available online through the Leidos Pilot Portal at https://www.1800wxbrief.com/Website/ or by telephone at 1–800–WX–BRIEF (**1–800–992–7433**).

MISSISSIPPI STATE FOOTBALL

STARKVILLE, MS
September 7– November 28, 2018

SPECIAL AIR TRAFFIC PROCEDURES

Special air traffic procedures to manage increased traffic, enhance safety, and minimize delays are in effect for the following Mississippi State home football games:

DAY	DATE	OPPONENT
Saturday	September 7	Southern Miss
Saturday	September 14	Kansas State
Saturday	September 21	Kentucky
Saturday	October 19	LSU
Saturday	November 16	Alabama
Saturday	November 23	Abilene Christian
Thursday	November 28	Ole Miss

Be alert for a high volume of various aircraft types. Keep radio transmissions to a minimum to reduce frequency congestion.

OBTAIN A COMPLETE WEATHER BRIEFING AND CHECK NOTAMS AND FLIGHT ADVISORIES PRIOR TO DEPARTURE TO ENSURE YOU HAVE THE MOST CURRENT INFORMATION

ARRIVAL ROUTES

LANDING STF RWY 36	
FROM WEST	BOOSI FEXIS STF
FROM ZTL/BHM	LDK FEXIS STF

LANDING STF RWY 18	
FROM WEST	TOMLN FESBO STF
FROM ZTL/BHM	LDK FESBO STF

LANDING GTR RWY 36	
FROM WEST	MHZ DIXVU GTR
FROM ZTL/BHM	LDK DIXVU GTR

LANDING GTR RWY18	
FROM WEST	TOMLN JOIST GTR
FROM ZTL/BHM	LDK JOIST GTR

DEPARTURES

Ensure IFR flight plans are on file with flight service.

DO NOT expect IFR pick up or air−filed flight plan clearance within 50 NM of UOX except in EMERGENCY situation. Airborne IFR pickup is strongly discouraged

Do not request IFR pickup below 3000FT MSL due to limited radar coverage

Departing VFR, squawk 1200

Departing VFR, do not contact Memphis Center frequency until at least 28NM from STF.

TEMPORARY FLIGHT RESTRICTION

A Temporary Flight Restriction will be in effect over the stadium. See NOTAM FDC 8/3032 for details.
http://tfr.faa.gov/

LEIDOS FLIGHT SERVICES

Pilot briefing and flight planning services are available online through the Leidos Pilot Portal at https://www.1800wxbrief.com/Website/ or by telephone at 1−800−WX−BRIEF (**1−800−992−7433**).

Section 5. Airshows

2019 U.S. & Canadian Military Aerial Aircraft/Parachute Demonstrations

During CY 2019, the U.S. and Canadian Military Aerial Demonstration Teams (Thunderbirds, Blue Angels, Snowbirds, and Golden Knights) will be performing on the dates and locations listed below.

Pilots should expect Temporary Flight Restrictions (TFR) in accordance with 14 CFR Section 91.145, Management of aircraft operations in the vicinity of aerial demonstrations and major sporting events. The dimensions and effective times of the TFRs may vary based upon the specific aerial demonstration event and will be issued via the U.S. NOTAM system. Pilots are strongly encouraged to check FDC NOTAMs to verify they have the most current information regarding these airspace restrictions.

The currently scheduled 2019 aerial demonstration locations, subject to change without notice, are:

DATE		USAF Thunderbirds	USN Blue Angels	USA Golden Knights	Canadian Snowbirds
August	17–18	Sioux Falls, SD	Chicago, IL		
	21	Atlantic City, NJ		Atlantic City, NJ	
	24			Long Pond, PA	
	24–25	Rochester, NY	New Windsor, NY		
	31	Cleveland, OH			
September	1–2	Cleveland, OH			
	7–8	Grissom ARB, IN	Chesterfield, MO		
	14–15	Reno, NV			
	18				Columbus, IN
	21–22	NAS Oceana, VA	NAS Lemoore, CA		
	28–29	Robins AFB, GA	MCAS Miramar, CA	Charleston, WV	Santa Rosa, CA
October	5–6	San Juan, PR	Sacramento, CA		Huntington Beach, CA
	12–13	Hampton, GA	San Francisco, CA		Hampton, GA
	19–20	Houston, TX	Fort Worth, TX		Houston, TX
	26–27	Sheppard AFB, TX	Jacksonville Beach, FL		
November	2–3	Punta Gorda, FL	Moody AFB, GA		
	8–9		NAS Pensacola, FL		
	16–17	Nellis AFB, NV			

Note: Dates and locations are scheduled "show dates" only and do not reflect arrival or practice date TFR periods that may precede the specific aerial demonstration events listed above. Again, pilots are strongly encouraged to check FDC NOTAMs to verify they have the most current information regarding any airspace restrictions.

Arlington Fly-In
NOTAM

August 16-18, 2019

2019 ARLINGTON FLY-IN
August 16-18, 2019

Please submit any questions, comments or suggestions to:

Stephnie Anason
Spokane ATCT Manager
8314 W. Electric Ave.
Spokane, WA 99224
Phone: (509) 742-2501
E-mail: Stephnie.L.Anason@Faa.gov

CONTROL TOWER HOURS AND AIRSHOW CLOSURES

Control Tower Hours

The fly-in procedures outlined in this NOTAM will be in effect only during the times the control tower is open. Outside the below times, consult the FAA Chart Supplement for normal airport operations.

Friday, August 16, 2019	9:00 AM to 6:30 PM local time
Saturday, August 17, 2019	9:00 AM to 6:30 PM local time
Sunday, August 18, 2019	8:00 AM to 4:00 PM local time

Airport Closures and Airshow Times

There will be a TFR in effect from the surface to 8000' MSL within a 5 NM radius of AWO during the airshow. All departures will stop 15 minutes prior to these airshow times and there will be no arrivals or departures during the following periods[1]:

Friday, August 16, 2019	6:30 PM to 10:30 PM local time
Saturday, August 17, 2019	2:00 PM to 5:00 PM local time

[1] The only exception to operations during the TFR is through prior permission from the Airport Manager, Air Show Boss and Air Traffic Control.

FREQUENCY AND CONTACT GUIDE

Arlington ATIS	132.225
Arlington Tower	127.2
Arlington Tower Back-up	118.575
Arlington Ground	121.25
Arlington Ramp Control	124.375
Seattle Approach Control	128.5
Arlington Unicom & CTAF	122.725
Arlington AWOS	135.625
Warbird Parking Advisory	125.225
Light Flight Advisory	133.575
Flight Service	1(800)992-7433
Fly-In Flight Operations	1(425)224-6611 Flyin@arlingtonflyin.org www.arlingtonflyin.org
FAA Control Tower	1(425)466-2672

*Please use this number for NORDO requests and urgent requests.

COMMUNICATING WITH ATC

The Arlington temporary tower is staffed by FAA air traffic controllers. The tower is a modified trailer outfitted with two-way radio communications and 180° windows. Unlike most towered airports throughout the country, the controllers are working with no radar to assist in providing traffic calls or sequencing arrivals. Instead, they are constantly scanning the sky with binoculars searching for inbound aircraft near Green Valley Airfield. Because of this, it is important for pilots to fly inbound via the standard routes and be vigilant in searching for other aircraft.

After you are spotted near Green Valley, ATC will issue instructions using color and type instead of registration number. Aircraft call signs will not be used. Use wing rocks instead of verbal acknowledgements, unless requested, to minimize frequency congestion.

When departing during the busiest traffic periods, red or green hand paddles may be used for takeoff clearances. See 'VFR Departures' section for more information about this procedure.

Arlington Temporary Tower (Photo Credit: JBFlying.com)

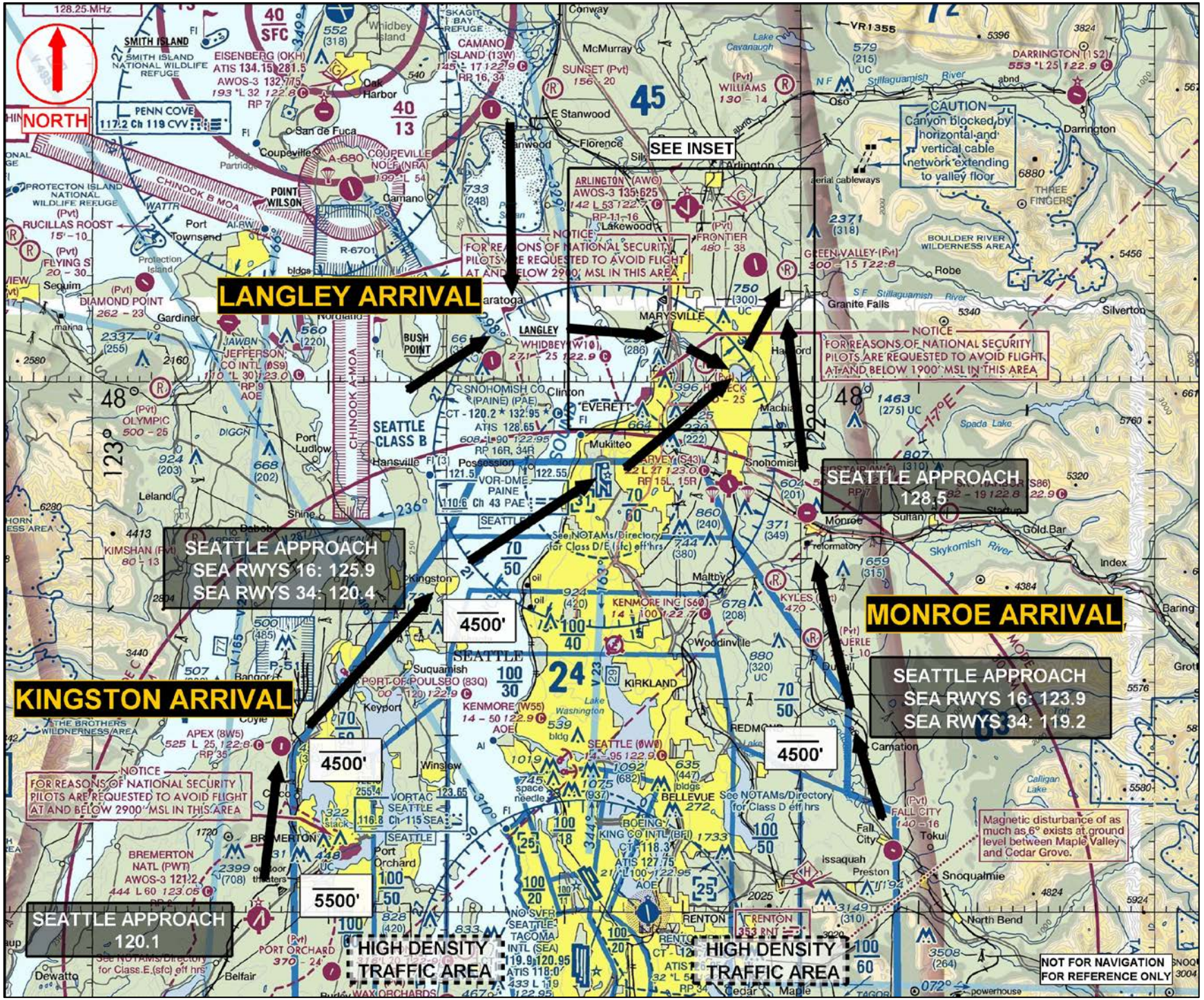
VFR ROUTE PLANNING TO GREEN VALLEY

General Planning:

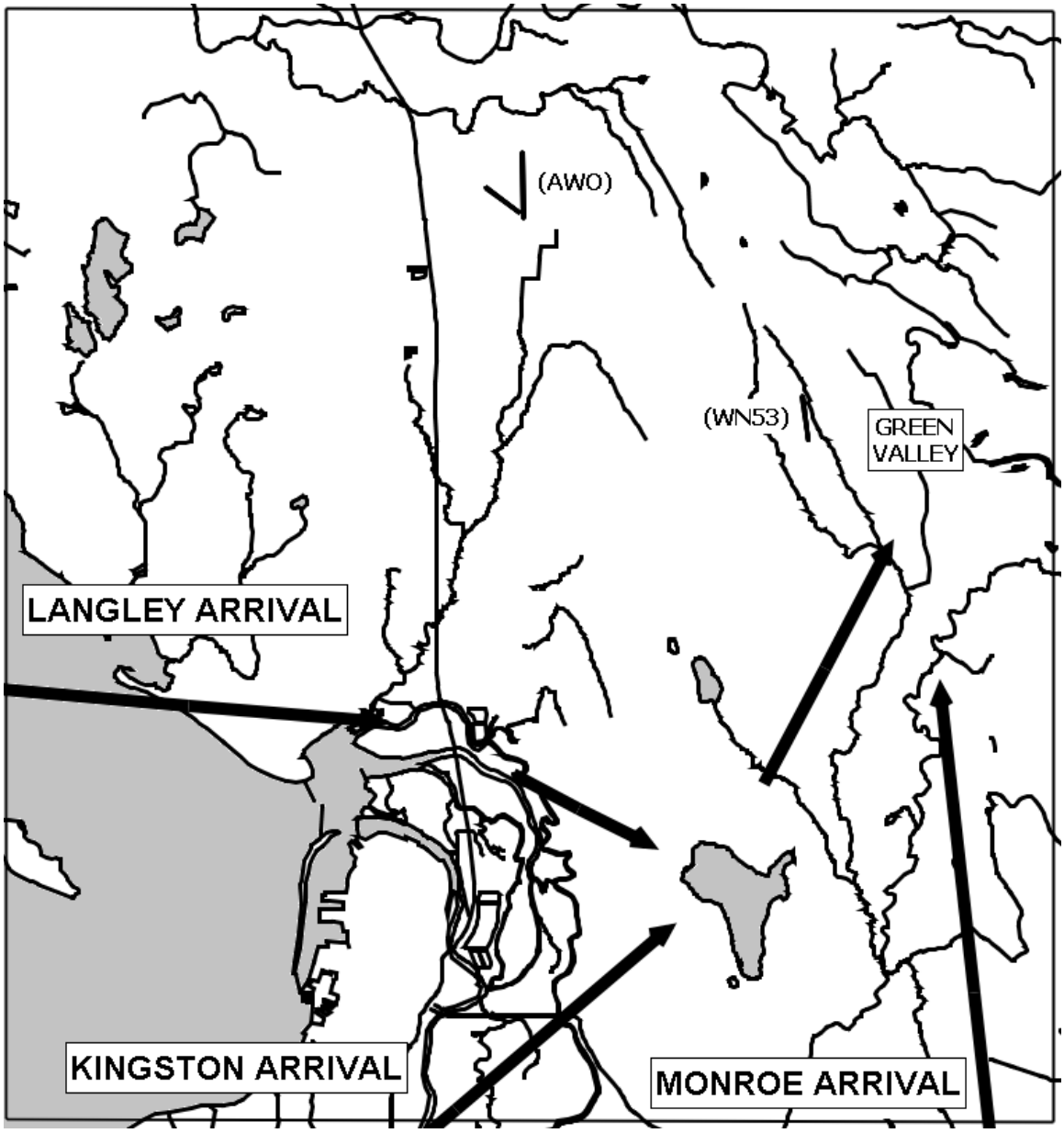
- Turn on landing lights 30NM from AWO to aid in being spotted.
- Monitor Arlington ATIS 15-20 miles from the airport for landing information.
- Be familiar with and avoid the nearby:
    - Prohibited Area (P-51)
    - 3 National Security Areas (NSAs)
    - Parachuting zone near Harvey Field (S43)
- Remain outside the Seattle Class B airspace unless authorized by ATC.
- No transponder aircraft: refer to the Seattle-Tacoma Airport Mode C Veil Exemption included at the end of this packet.

VFR sequencing inbound to Arlington Airport begins over Green Valley Airfield. Green Valley Airfield (WA25) is a grass strip located 7 NM SE of Arlington Airport and 3NM SE of Frontier Airpark (WN53) at N48 06 W 122 04.

To reach Green Valley, ATC strongly recommends you obtain VFR flight following from Seattle Approach and request the Langley, Kingston or Monroe Arrival. See the following pages for route depictions.



Request the Langley, Kingston, or Monroe Arrival towards Green Valley.



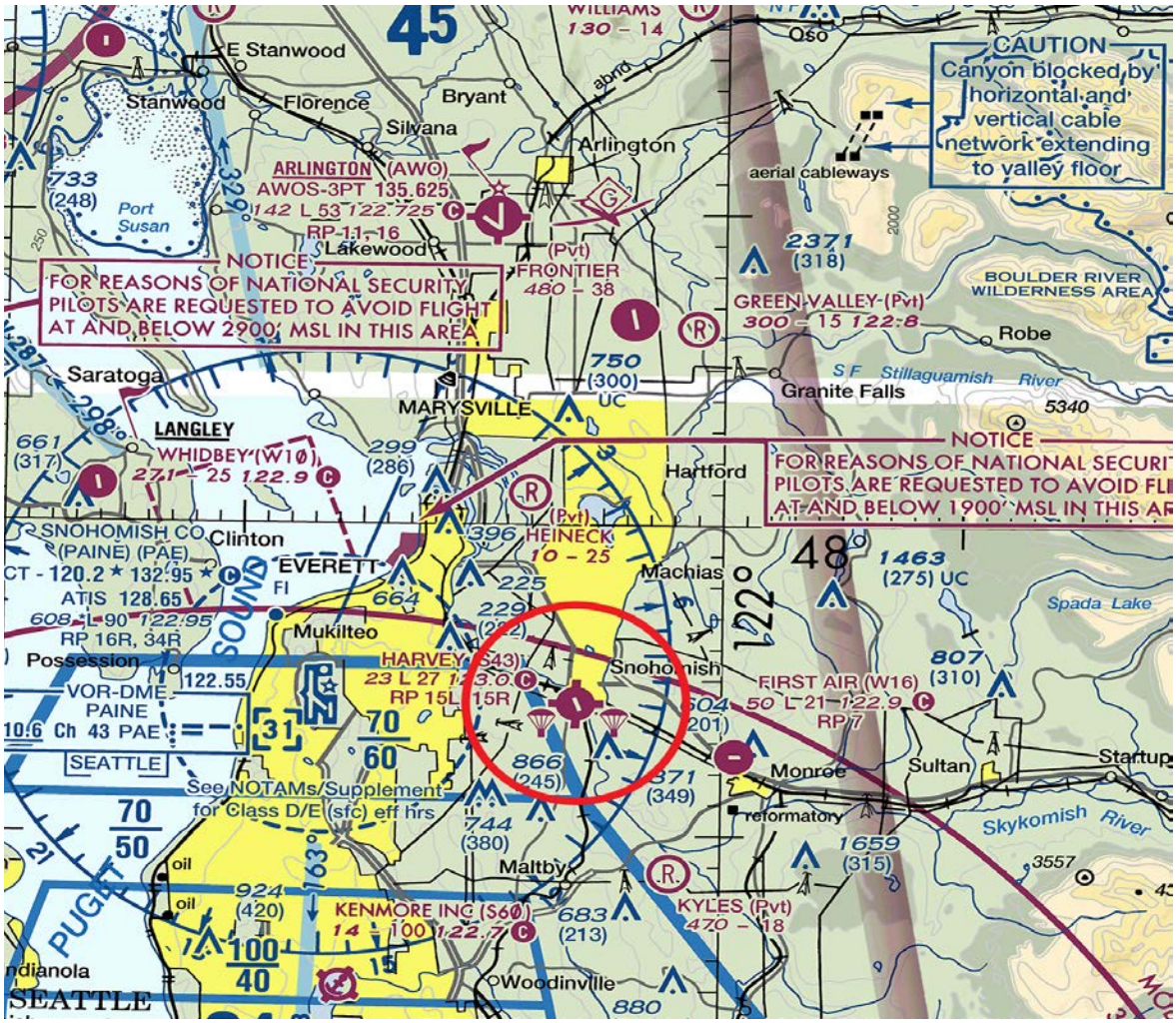
Inset showing the three VFR flight following routes feeding toward Green Valley. The area over Lake Stevens where the Langley and Kingston Arrivals merge as well as the airspace over Green Valley where all routes merge are traffic hot spots.

Approaching Green Valley (Flying north)

Green Valley Airfield (Facing north)

Parachute Activities at Harvey Field S43

Use extreme cation skydivers descending both in freefall and under their parachute canopy can be expected within a 3 NMR (three nautical mile radius) from the center of the Harvey Field airport (S43) from 14,000 ft. to the surface. This skydive dropzone is active at all times. Radio calls will be made on the Harvey Field CTAF 123.0 MHz and on Seattle Approach frequency 128.5 MHz at the time skydiving commences. The absence of a radio call should not be misrepresented that there are no skydivers in the air. Jump planes, climbing and descending at high vertical speeds (climb rates of up to 2,000 ft./min., descent rates of more then 6,000 ft./min) can be expected within the same area.



GENERAL ARRIVAL PROCEDURES FROM GREEN VALLEY TO ARLINGTON

From Green Valley Airfield, all arrivals must fly inbound to Arlington via the routes depicted in the following pages for the runway in use unless instructed otherwise by ATC.

If VFR holding becomes necessary due to traffic volume or an unanticipated runway closure, ATC will provide holding instructions and advertise it on the ATIS. If holding is in effect, do not proceed past Green Valley without clearance to do so. Expect to hold over the Stillaguamish River between Green Valley and Granite Falls. Be vigilant of heavy traffic in the vicinity and look for another aircraft to follow. Plan for right turns.

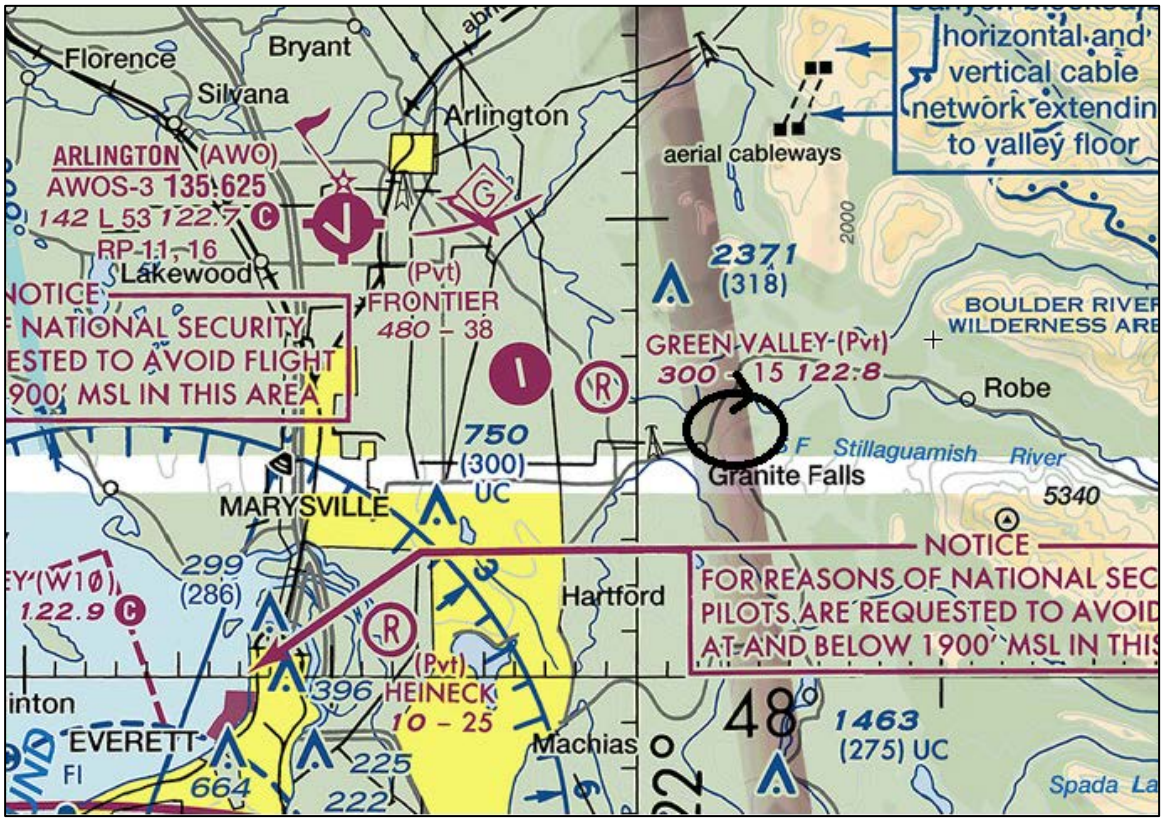


Diagram of VFR holding area (Shown as a black oval)

All inbound and departure patterns must be flown east of the runway. The airspace west of the runway is reserved for pre-authorized fly-by aircraft that are not under ATC control. To join the fly-by pattern west of the runway you must first receive a briefing from Arlington Fly-In Flight Operations.

Monitor Arlington Tower as you approach Green Valley and expect to be contacted and sequenced by ATC.

Watch for and sequence your aircraft with other observed traffic. Maintain single file. Maintain 90 KTS and 1200 MSL. If unable, maintain 135 KTS and 1700 MSL. Notify ATC if you are unable to maintain at least 90 KTS. Advise ATC immediately if your fuel status is critical.

Touch-and-go or closed traffic operations may not be authorized during the fly-in.

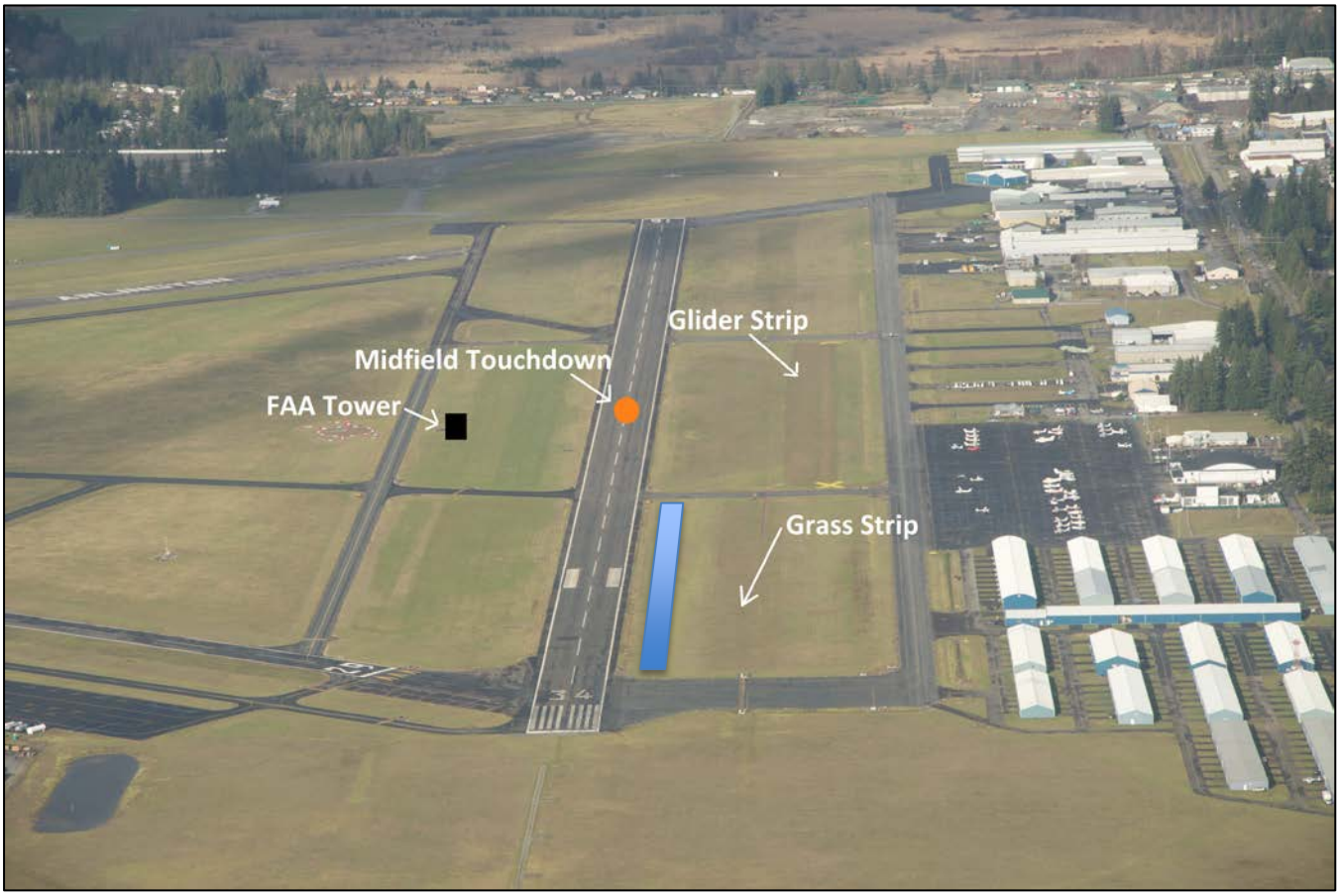
Use caution for gliders flying a high east-side pattern on approach to the grass glider strip located east of Runway 16/34.

Runway 16/34 has an orange dot painted on the runway surface to designate the mid-field touchdown point. You may be asked to land long and touch down at the midfield intersection for traffic. Reduced runway separation may be in effect.

The grass strip landing area available upon request as traffic permits. It is immediately east and adjacent to Runway 34 at the south end. The landing area is marked with orange cones in the shape of a chevron. The glider strip is marked with an X farther northeast of the grass strip.

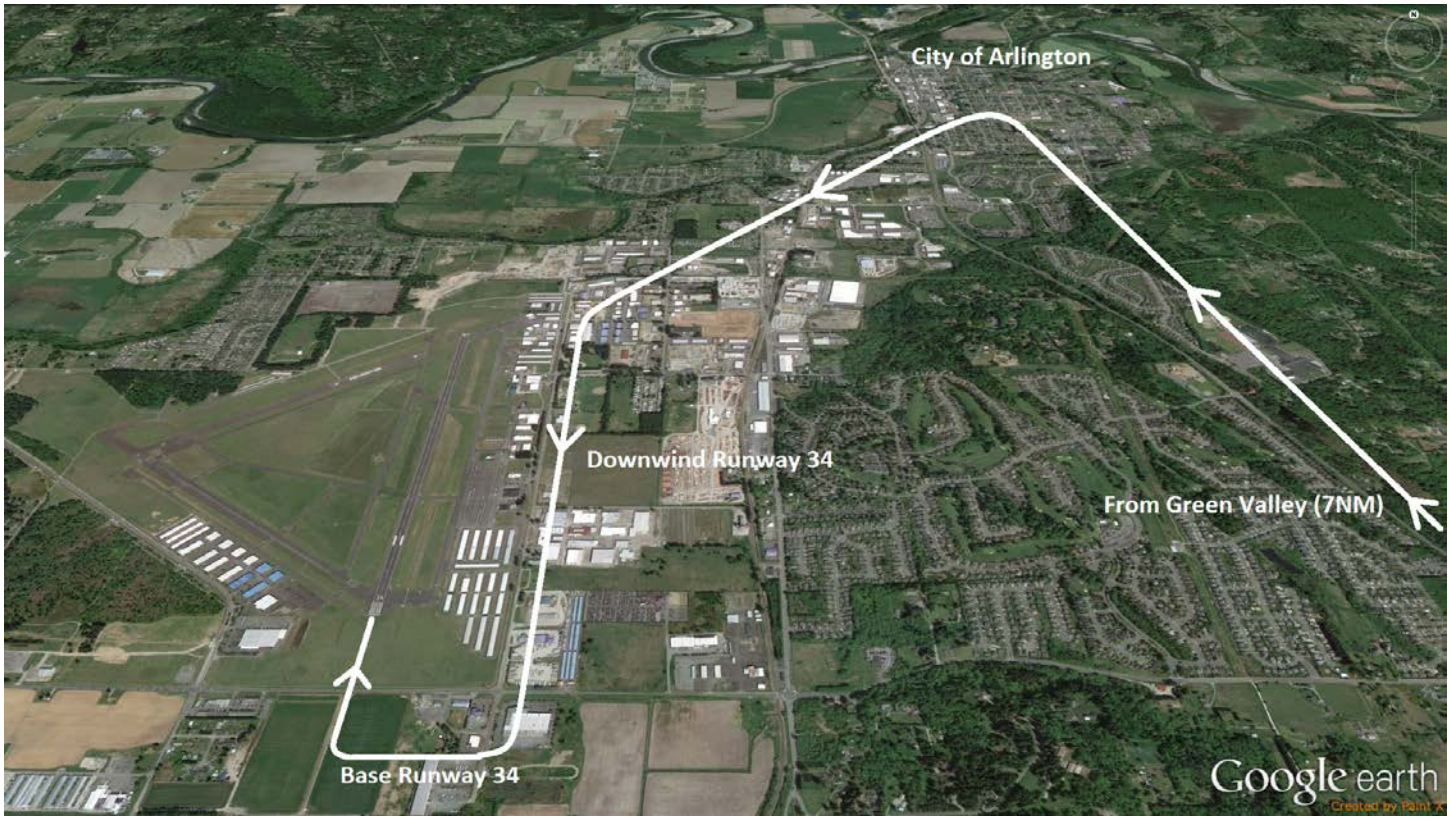
After landing, exit the runway onto a taxiway without delay. Remain on the hard surfaces at all times unless instructed otherwise by ATC.

Fly-in parking is on the west side. If your destination is on the east side, use caution for glider tow operations departing and arriving the glider strip.



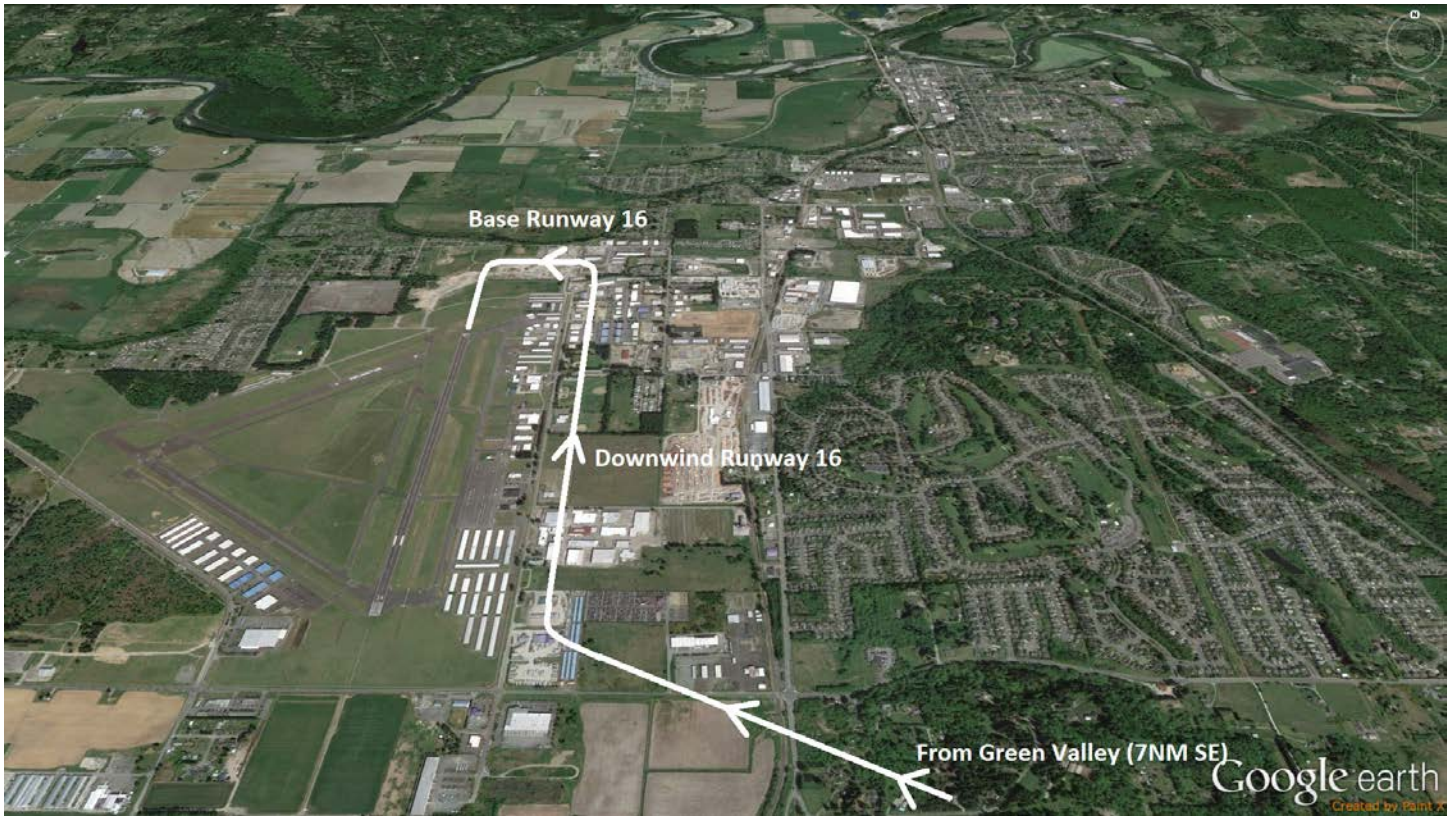
North facing picture of RWY 16/34

VFR RUNWAY 34 ARRIVAL



From Green Valley Airfield, fly single file direct to the City of Arlington, then turn inbound to Arlington Airport and enter a right downwind for Runway 34.

VFR RUNWAY 16 ARRIVAL



From Green Valley Airfield, fly single file directly toward Arlington Airport and enter a left downwind for Runway 16.

IFR ARRIVALS

IFR practice approaches will not be permitted.

Be prepared to discontinue IFR approach and enter the VFR traffic pattern for landing sequence. When the ceiling and visibility at Arlington Airport is reported at or above 3000 feet and five (5) miles, expect a vector for a visual approach. Arlington tower will assign VFR pattern entry instructions on initial contact.

Provide IFR cancellation information to Seattle TRACON. If you have not canceled prior to landing, advise ground control.

GROUND OPERATIONS AND PARKING

Arrivals

Contact Arlington Ground Control (121.25) for taxi instructions after exiting the runway. When nearing the parking area, Ground Control will instruct you to contact Arlington Ramp Control (124.375) for parking instructions. Monitor ramp control at all times when active on the fly-in grounds.

Departures

Contact Arlington Ramp Control (124.375) prior to start-up for instructions. Monitor the ATIS (132.225) before taxiing and contact Arlington Ground Control (121.25) for instructions after passing Taxiway D2. Complete any required run-up before reaching the runway.

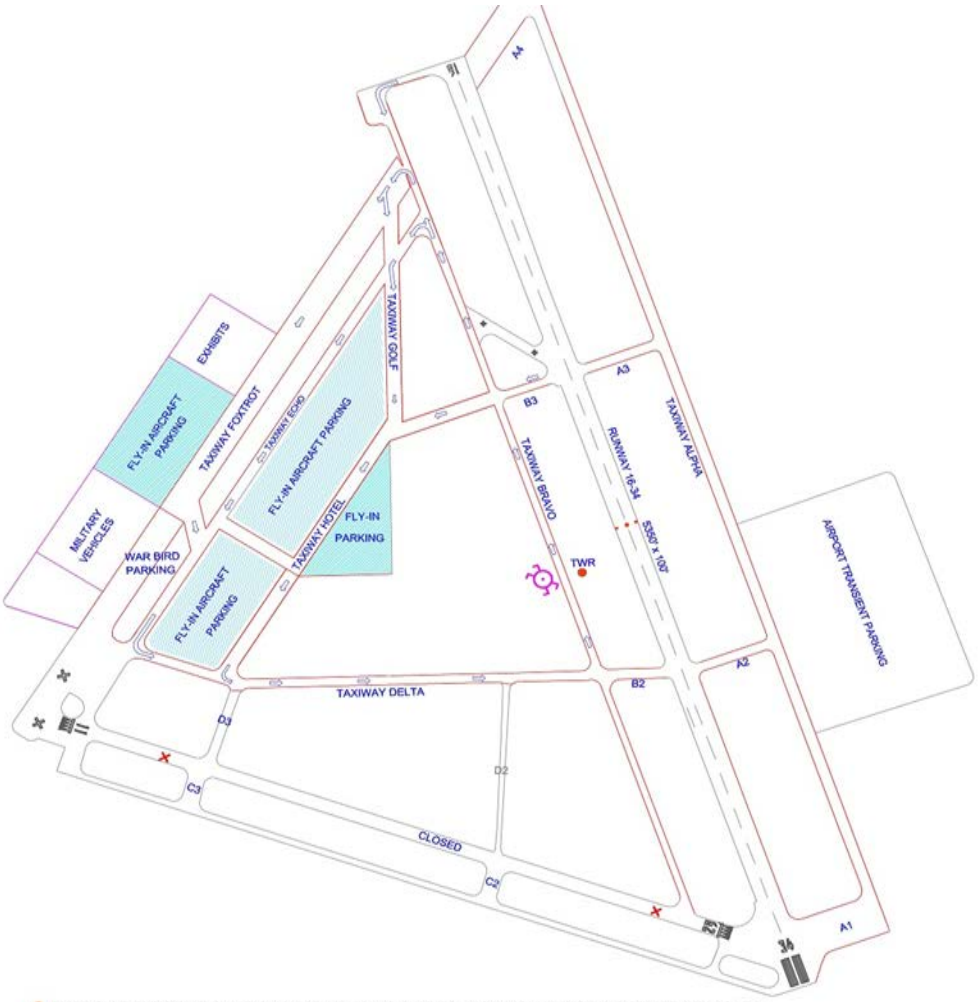
Runway 11/29 and Taxiway Echo are closed from Saturday August 10th to Wednesday August 21st.

Fly-in parking is closed sunset to sunrise local time. Parking will also close 15 minutes prior to airshow times and this will be denoted by a red flag flown over the orange aircraft parking tower. During the time the flag is displayed no running engines will be permitted. Arrivals will be temporarily redirected to park at east airport transient parking.
Please prepare a sign that denotes your parking area and display it on the left side of your windshield. The sign should have dark letters on a light background readable from 50 feet away. Signs can be handmade or printed from www.arlingtonflyin.org/flying-in/aircraft-parking-signs/ . Use one of the following codes:

Abbreviation	Category
GA	General Aviation Daily
GAO	General Aviation Overnight
HB	Home-Built Daily
HBO	Home-Built Overnight
ANQ	Antique Barn Display
VA	Vintage Aircraft Daily
VAO	Vintage Aircraft Overnight
WBD	Warbird Parking
IAC	Aerobatic Aircraft
EXH	Exhibit-Vendor Area
CHK	Cherokee Daily & Overnight
LSA	Light Sport Aircraft
ZEN	Zenith Aircraft
WPA	Washington Pilots Association
FATPNW	Flights Above the Pacific Northwest

Parking Sign Example

Arlington Airport Diagram and Parking Map



- EXERCISE EXTREME CAUTION WHEN TAXIING DUE TO HIGH VOLUME OF AIRCRAFT, VEHICLES, AND PERSONNEL
- CONTACT AIRCRAFT PARKING AT BRAVO 3
- TAXIWAYS GOLF, HOTEL, AND PARTS OF BRAVO 3 ARE GRASS
- PARK ONLY WHRE DIRECTED BY FLY-IN PERSONEL

VFR DEPARTURES

Contact tower as you approach the runway. On departure, fly straight out until reaching 500 AGL.

During heavy departure traffic, orange-vested controllers may be positioned on the runway and directing aircraft with red and green paddles. Aircraft will be lined up on both the left and right side of the runway. To avoid conflict, if you depart the left side depart straight out or via left turn only. If you depart the right side depart the area straight out or right turn only.

IFR DEPARTURES

File your flight plan at least one hour prior to the proposed departure time. Ensure you have received an IFR clearance from Ground Control prior to taxiing for departure.

Ensure you have received your departure release from Ground Control prior to entering the runway for takeoff. If you have not received it prior to reaching the runway, attempt to taxi into an area that allows VFR aircraft to pass you for departure.

SPECIAL OPERATIONS

Ultralight and Light-Sport (LSA) Operations

All LSA aircraft must conduct initial arrivals to Runway 16/34. Ultralight arrivals to Arlington Airport should join the Ultralight pattern from the northwest, observing the altitude restriction.

Pre-briefed Ultralight and LSA operations are to be conducted in the southwest quadrant of the airport south of the numbers of Runway 11. Pattern altitude is 500 AGL. Fly left traffic to the midfield of Runway 29 only. Remain west of Runway 16/34 at all times. All operations will be conducted between the southwest corner of the airfield and the Island Crossing (I-5) intersection to the northwest.

No-Radio (NORDO) Procedures

This procedure is provided for use by vintage aircraft incapable of radio communication. Each arriving no-radio aircraft must land at an airport within approximately 45 minutes of AWO. Contact the FAA Tower via phone or tower frequency to coordinate your arrival.

If a red light gun signal is observed from the control tower (see graphics on page 10 or 12 for tower location), exit the traffic pattern then re-enter following the published arrival procedures for the runway in use.

Helicopters

The northwest helicopter arrival route runs from Interstate Highway 5 (I-5) from the State Route 530 exit (Island Crossing) to the landing zone. Crossing I-5, at 800 feet, descend at your discretion to arrive at the NE corner of the housing development at 500 feet as depicted on the graphic. From that point to the LZ, descend to 250 feet for your final approach to landing.

Use caution for commercial helicopter operations and passengers near the civilian landing zone, light sport operations on Runway 11/29 and aircraft in the fly-by pattern.

There are two parking areas for helicopters at Arlington. Arlington Tower (127.3) will hand you to Arlington Ramp (124.375) who will direct you to your landing zone.

- The civilian landing zone is on the grass near the Taxiway B grass extension (see map). Look for the ride hopping R44 and land just south of their location.
- Military display helicopters are to operate as briefed from the Warbird parking area.

Tower will clear aircraft into these areas but pilots should be familiar with the traffic patterns established for the event. See the attached diagram.

Departing the Fly-In please fly the reverse inbound course from your landing zone to I-5. Over the airport property, do not ascend above 500 feet, once over the streets, ascend to 800 feet before resuming own navigation at I-5. Contact Arlington Ramp (124.375) prior to engine start and Arlington Tower (127.3) prior to departure.

Helicopter route and landing zone in and out of AWO

SEATTLE-TACOMA AIRPORT MODE C VEIL EXEMPTION

AUTHORIZATION TO DEVIATE FROM ATC TRANSPONDER AND ALTITUDE REPORTING EQUIPMENT REQUIREMENTS WITHIN THE SEATTLE-TACOMA AIRPORT 30 MILE MODE C VEIL DURING THE ARLINGTON FLY-IN, August 16-18, 2019.

Seattle TRACON has authorized aircraft to deviate from the ATC transponder and altitude reporting equipment and use requirements prescribed in 14 CFR 91.215b(2) within the Seattle-Tacoma Airport Mode C veil during the Arlington Fly-In, August 16-18, 2019. This exemption provides pilots with a general north/south route through the Seattle area 30 mile Mode C Veil, along the following designated route only.

ROUTING
The route starts in the vicinity of Eatonville, to the Eastside of Lake Kapowsin, then to Orting, Enumclaw, Issaquah, Monroe to Arlington. Pilots are advised to follow the arrival procedures outlined in the Arlington Fly-In NOTAM. All operations shall be conducted VFR; at or below 2500' MSL South of Enumclaw, and at or below 4500' MSL North of Enumclaw to Monroe.

This exemption does not authorize entry into the Seattle Class B airspace.

This exemption does not authorize pilots to operate within the Boeing, Renton or Paine Class Delta surface areas without establishing two-way communication.

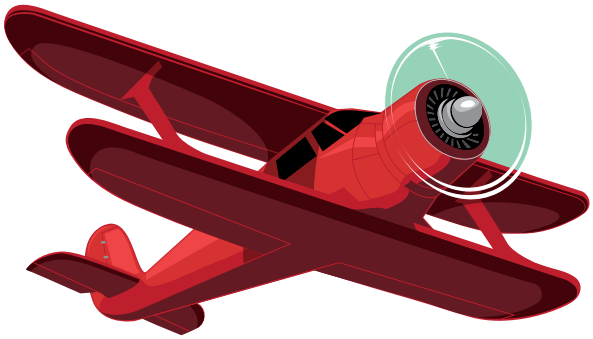
A GENERAL WARNING

- Use caution for heavy traffic and parachute jump activity around Snohomish airport/Harvey Field
- Prohibit Area (P-51), up to 2,500' MSL, located over Bangor, WA
- National Security Area's (NSA's) in effect, over Everett, Bremerton and Port Townsend, WA up to the altitude specified on the VFR sectional charts.

All pilots are encouraged to obtain the coordinates and dimensions of these areas, mark them for easy visibility on your navigational charts and comply with FAR's while navigating to/from the Arlington Fly-In.

Due to the restrictions of P-51 and the NSA's, NO West route Mode C Veil Exemption will be authorized for this event.

FLY-IN



SEPTEMBER 13-14, 2019

TULLAHOMA REGIONAL AIRPORT (THA) TULLAHOMA, TN

NOTAM

SPECIAL FLIGHT PROCEDURES

EFFECTIVE:

Thursday	Sept 12, 2019	12:00	NOON	CDT	until	6:30	PM	CDT
Friday	Sept 13, 2019	6:30	AM	CDT	until	6:00	PM	CDT
Saturday	Sept 14, 2019	6:30	AM	CDT	until	6:00	PM	CDT

AOPA

Think TULLAHOMA

IMPORTANT INFORMATION

PLEASE NOTE NOTAM EFFECTIVE TIMES

12:00 Noon CDT until 6:30 PM CDT Thursday, September 12, 2019

6:30 AM CDT until 6:00 PM CDT Friday, September 13, 2019

6:30 AM CDT until 6:00 PM CDT Saturday, September 14, 2019

AIRPORT CLOSED TO FIXED-WING AIRCRAFT DURING THE FOLLOWING TIMES

6:30 PM CDT Thursday, September 12, 2019 to 6:30 AM CDT Friday, September 13, 2019

6:00 PM CDT Friday, September 13, 2019 to 6:30 AM CDT Saturday, September 14, 2019

12:00 Noon CDT to 1:30 PM CDT Saturday, September 14, 2019

RUNWAY CLOSURE

Runway **18/36** is expected to be closed for aircraft parking from 12:00 Noon CDT Thursday, September 12, 2019 until 6:00 PM CDT Saturday, September 14, 2019.

CHOCKS, TIE DOWNS, AND/OR TOWBARS ARE REQUIRED AND NOT PROVIDED. PLEASE BRING YOUR OWN.

EARLY ARRIVALS (PRIOR TO THURSDAY, SEPTEMBER 12, 2019 – 12:00 NOON CDT) WILL NOT BE ACCOMMODATED IN THE AOPA ATTENDEE PARKING

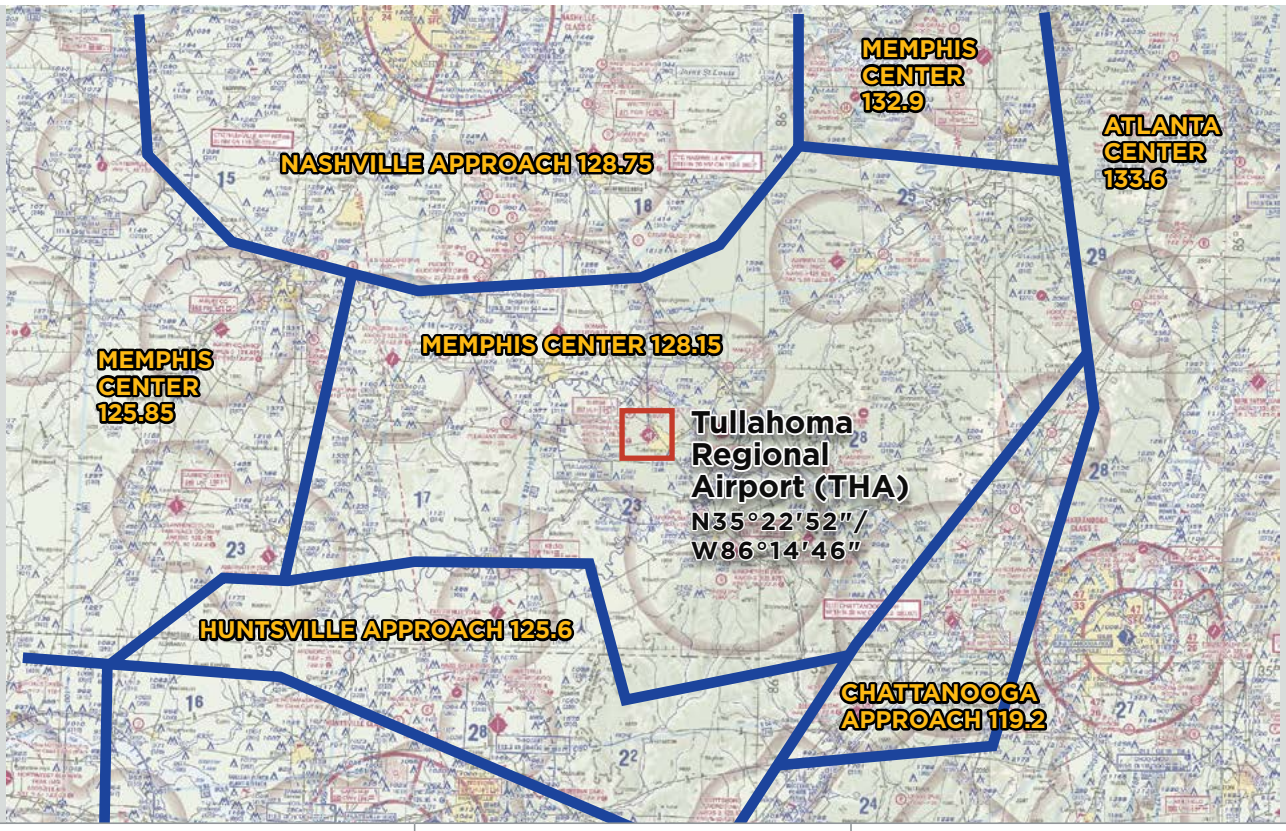
- Camping will **NOT** be permitted prior to Thursday, September 12, 2019.
- Aircraft parking will be at designated transient spaces managed by the FBO.
- Overnight fees may apply.

AIRCRAFT CAMPING

- All campers must pre-pay and pre-register. Camping availability not assured without reservation.
- Please bring your own food and water. Food is **NOT** provided on the airfield.
- Ground transportation is **NOT** provided to get to locations offsite. Taxi or rental car reservations must be made on your own.
- Food, Water, Sunscreen, and Rain gear is highly recommended.
- Restroom and shower facilities are “primitive”. Portable toilets and handwashing stations will be provided. Limited shower facilities might be available but not assured. No guarantee on hot water. Please come prepared!
- Aircraft camping is open from 12:00 Noon CDT Thursday, September 12, 2019 until 12:00 Noon CDT Sunday, September 15, 2019.

TABLE OF CONTENTS

VFR PROCEDURES - Enroute Frequency Chart

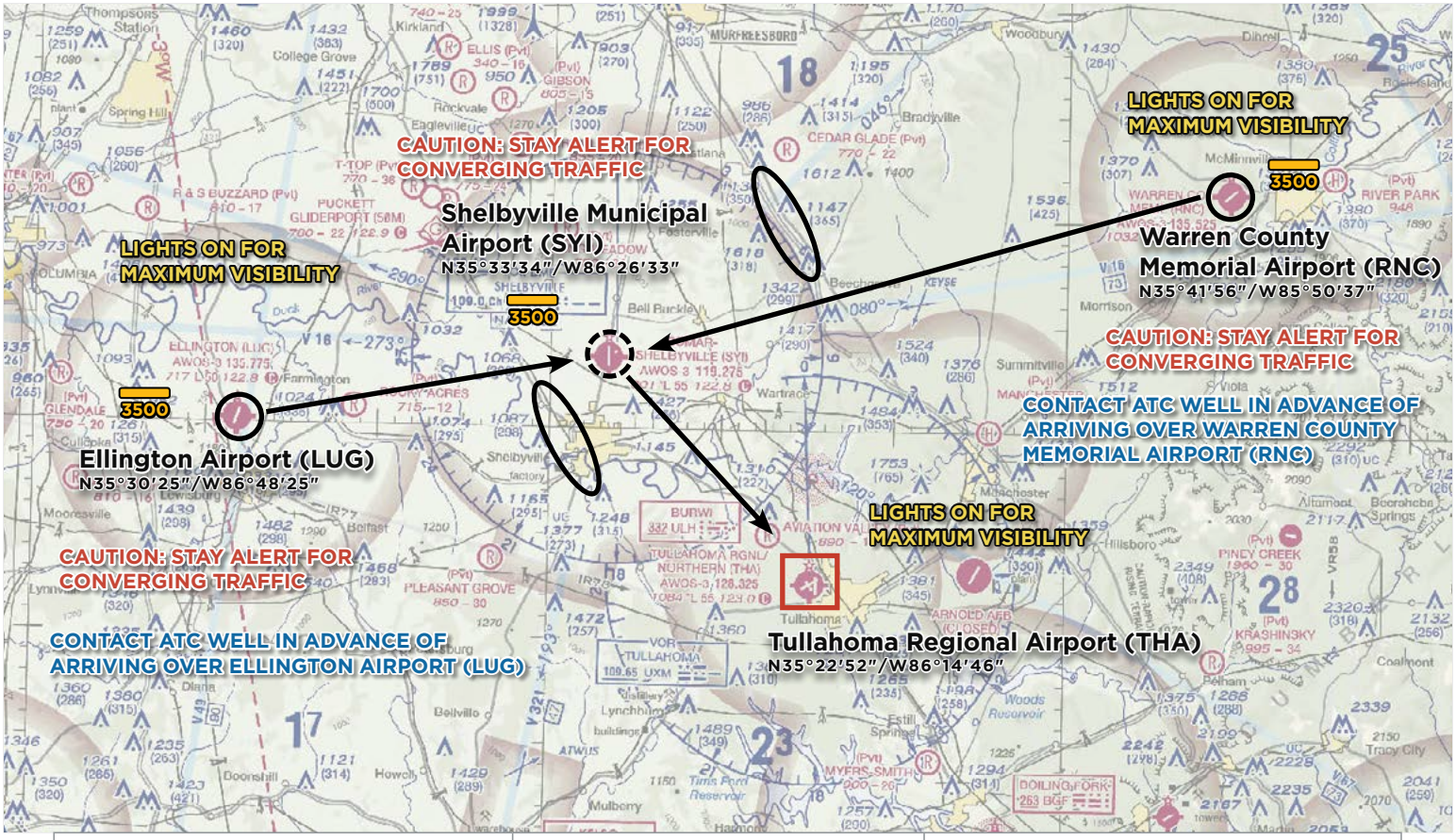


AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

SEE AND BE SEEN!

REMEMBER, LIGHTS ON FOR SAFETY!

VFR ARRIVALS OVERVIEW



AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

ALL VFR ARRIVALS SHOULD BEGIN AT:

1. **Warren County Memorial Airport (RNC)**, 27 NM northeast of Tullahoma Regional Airport (THA), or
2. **Ellington Airport (LUG)**, 28 NM northwest of Tullahoma Regional Airport (THA).

TULLAHOMA AIRPORT ADVISORY

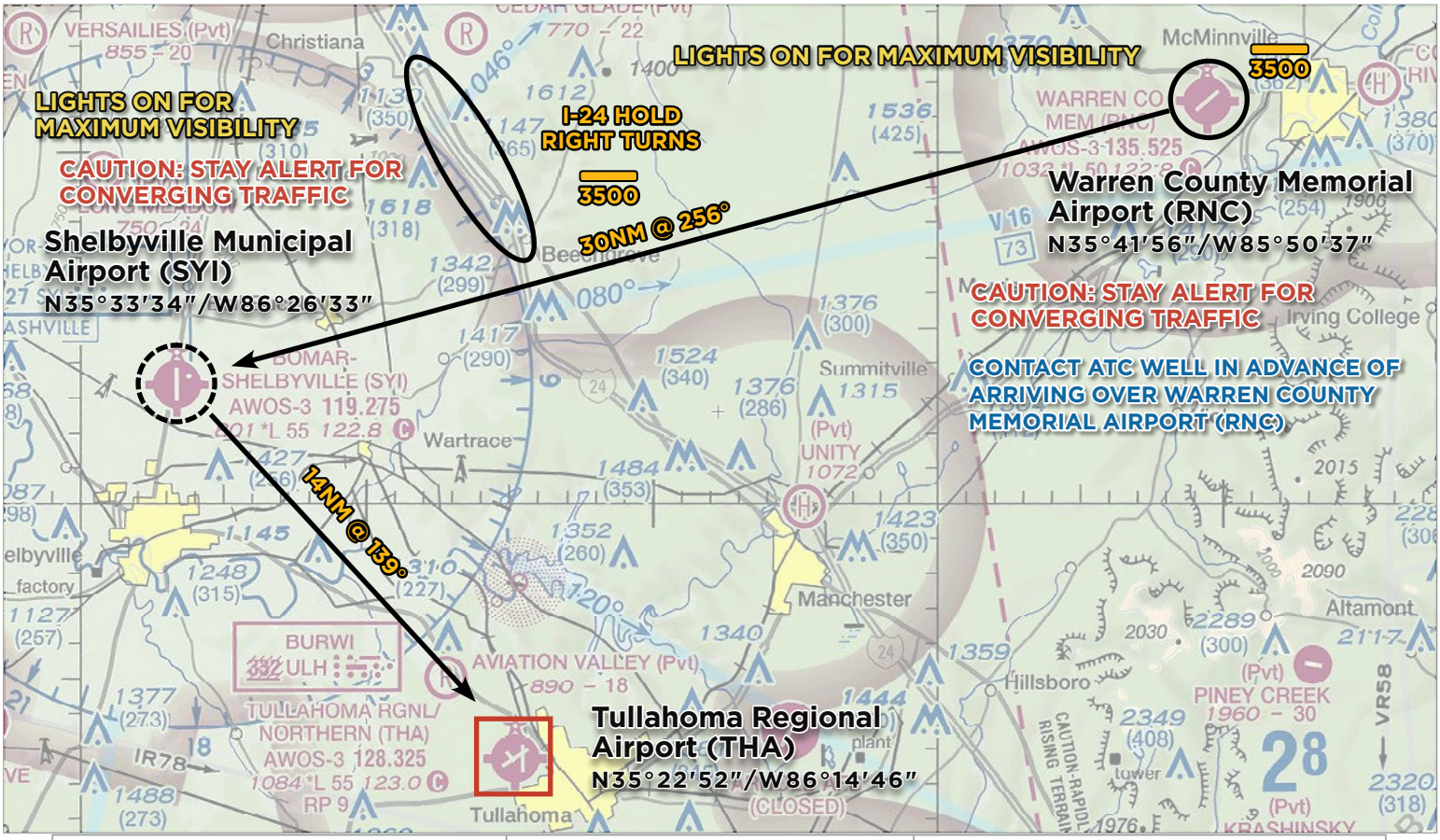
AirBoss (non-Federal) personnel will provide Airport ADVISORY service on **118.7** to aircraft operating to and from Tullahoma Regional Airport during the procedures NOTAM effective times. Outside NOTAM times, or if unable to contact Advisory, contact Tullahoma UNICOM on **123.0** and follow standard non-towered airport procedures.

NOTE: Advisory service does NOT constitute Air Traffic Control (ATC) Service, or ATC Clearance.

TEMPORARY VFR PROCEDURES

Specific procedures contained within this NOTAM may be revised at the time of the event. Pilots are urged to review all applicable NOTAMs and arrival/departure procedures prior to conducting a flight to Tullahoma Regional Airport. Users are encouraged to check NOTAMs frequently to verify they possess the most current revisions. This NOTAM does not supersede restrictions pertaining to the use of airspace contained in FDC NOTAMS.

VFR PROCEDURES - Arrivals over Warren County Memorial Airport (RNC)



AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

✓ **CHECK AWOS ON 128.325 AS SOON AS PRACTICAL.**

This arrival procedure begins over Warren County Memorial Airport (RNC) at or below **3500** feet MSL. Pilots are strongly encouraged to obtain flight following from the appropriate ATC facility well in advance of arriving over Warren Country Memorial Airport to assist with sequencing and reduce congestion.

CAUTION: Stay alert for converging traffic. Monitor Warren County Memorial Airport UNICOM 122.8 if practical.

From Warren County Memorial Airport, aircraft should proceed direct to Shelbyville Municipal Airport (SYI) **(30NM/256°)**. If receiving flight following from ATC, expect radar services to be terminated prior to reaching the I-24 Hold. Pilots not in communication with ATC should announce their position over Shelbyville Municipal Airport (SYI) on the Tullahoma Advisory frequency **118.7**.

CAUTION: Stay alert for converging traffic.

In the event traffic volume requires holding, follow the hold procedure as depicted in the ***I-24 HOLD GRAPHIC***. All aircraft should fly right turns at or below **3500** feet MSL. Monitor Tullahoma Advisory on **118.7** for information on when to depart the hold. When holding is no longer required, complete the hold and return to the inbound course approximately one nautical mile south of the semi-cloverleaf at Beechgrove, TN and continue inbound toward Shelbyville Municipal Airport (SYI).

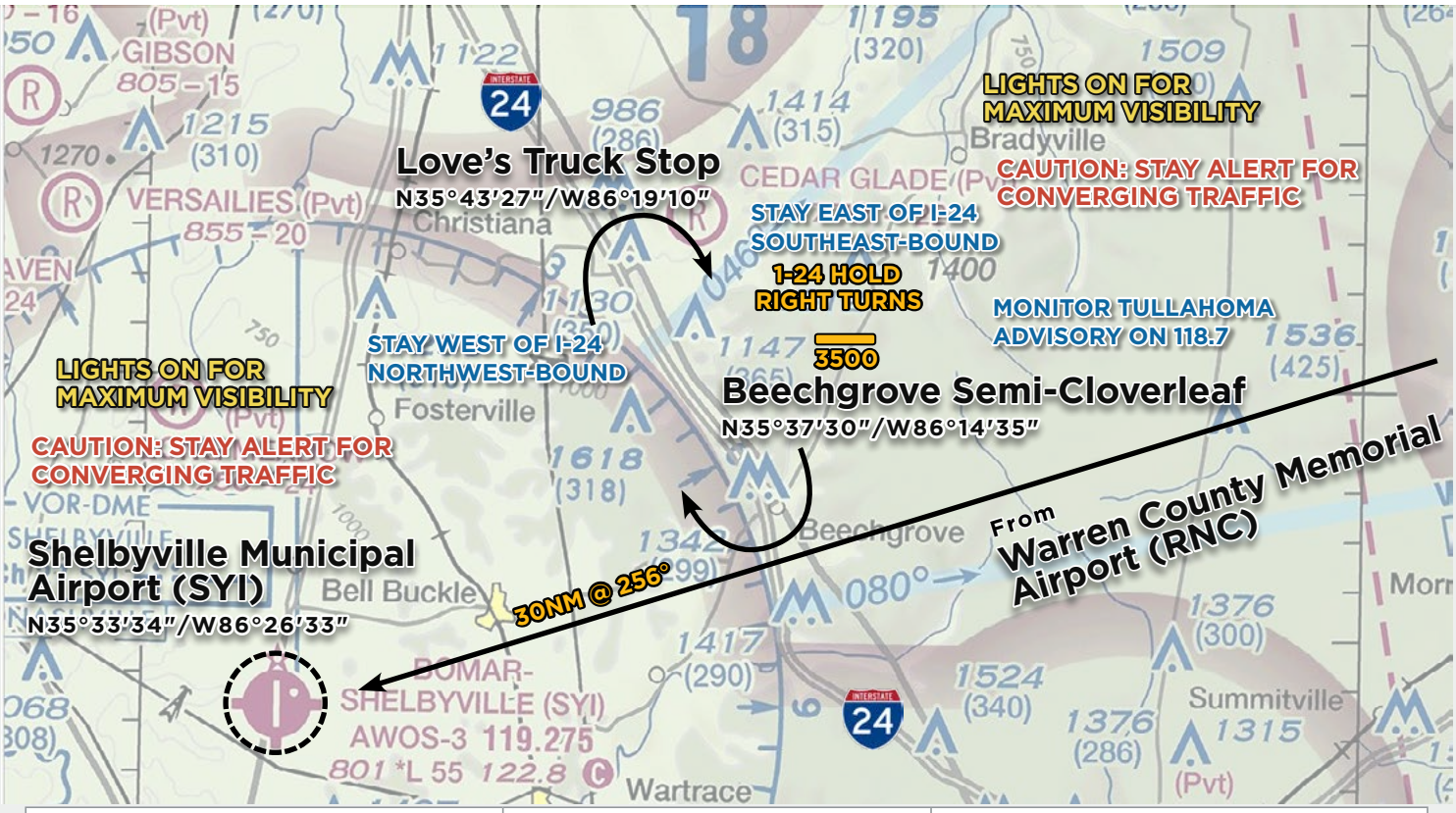
CAUTION: Stay alert for converging traffic. Monitor Shelbyville Municipal Airport UNICOM 122.8 if practical.

Contact Tullahoma Advisory on **118.7** when passing Shelbyville Municipal Airport (SYI) inbound. Begin descent to pattern altitude at pilot's discretion and follow instructions from Tullahoma Advisory. Depending on wind conditions, expect to land on either Runway **6** or Runway **24**.

Traffic Pattern Altitude: 2100 MSL

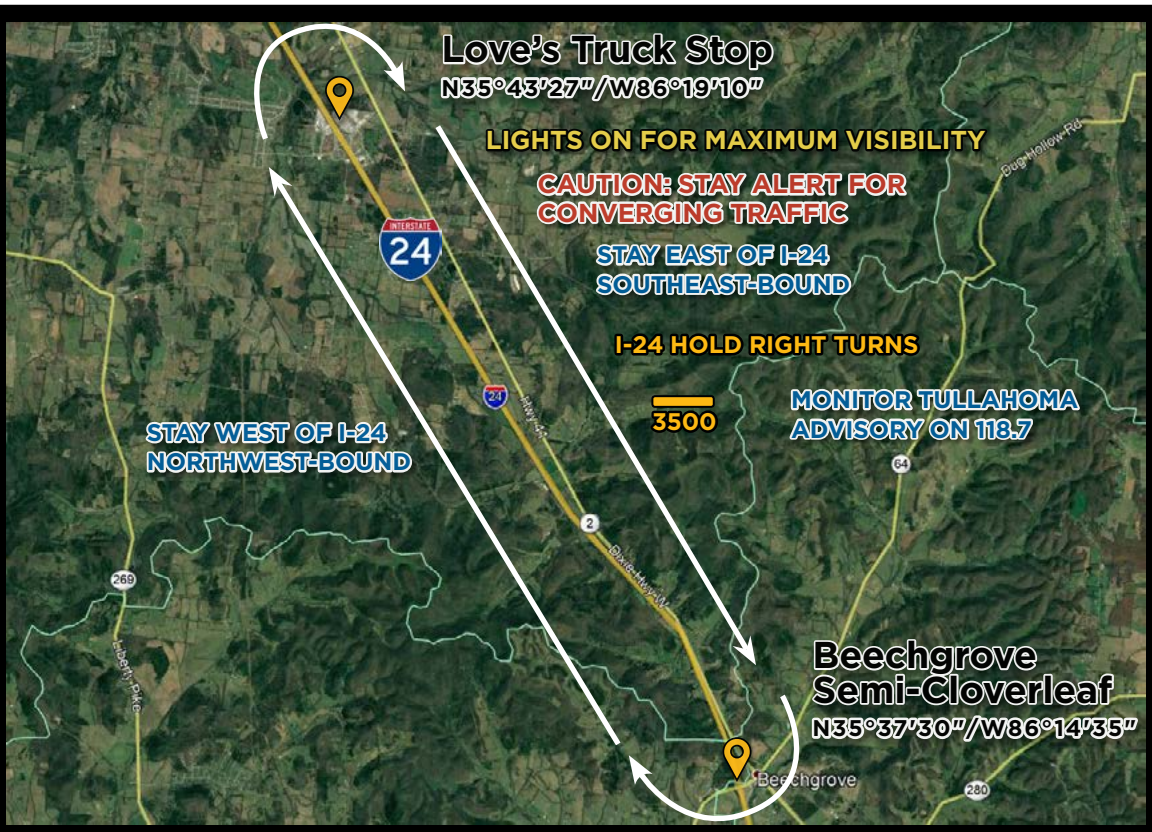
After landing, exit the runway as quickly and as safely as possible. Do not stop on the runway unless necessary. Keep moving after exiting the runway so as not to block subsequent arrivals. Marshallers will direct aircraft to the parking areas.

VFR PROCEDURES - I-24 VFR Hold



AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

VFR PROCEDURES - I-24 VFR Hold



AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

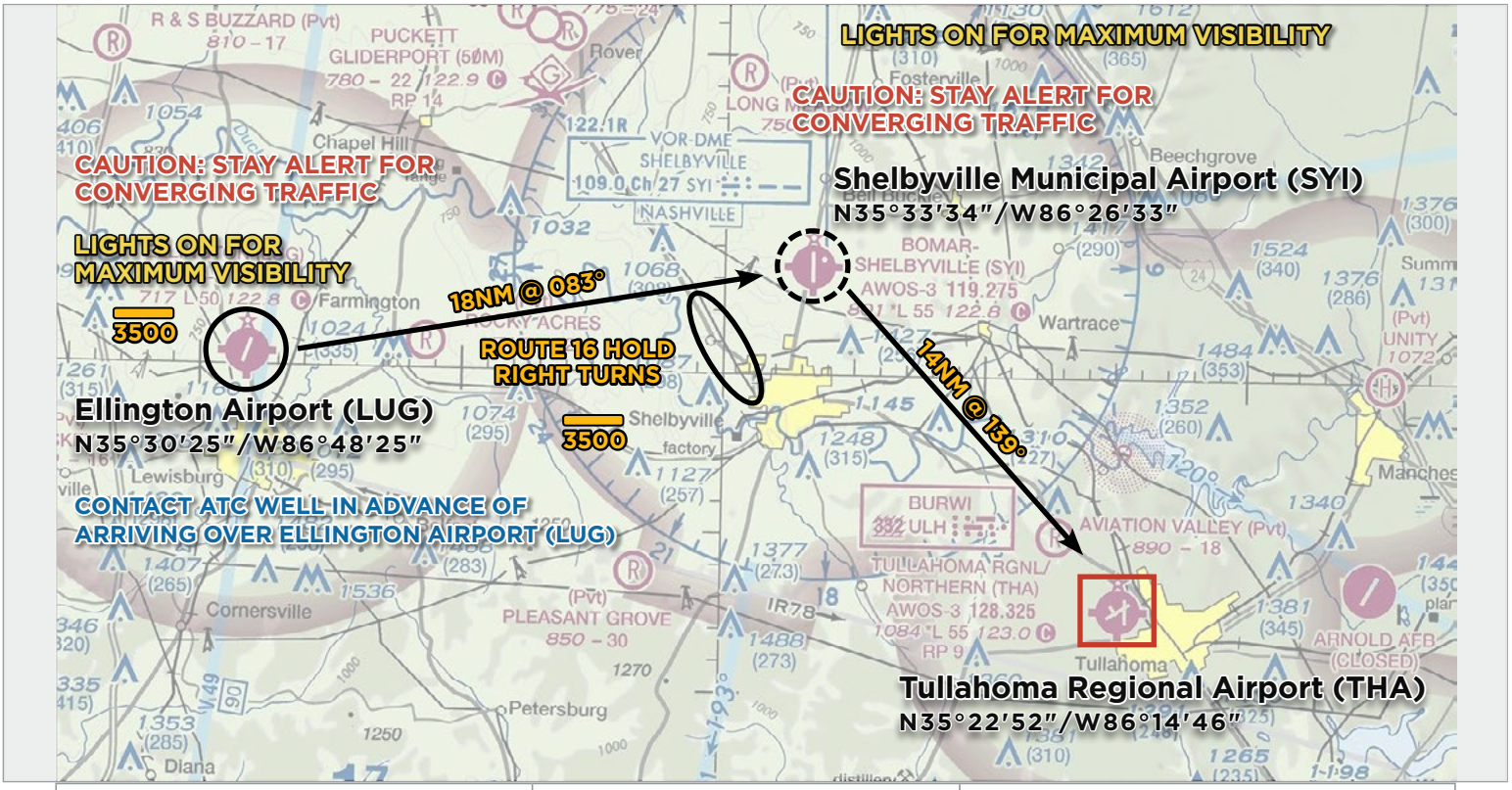
VFR PROCEDURES - I-24 VFR Hold - Love's Truck Stop

AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

VFR PROCEDURES - I-24 VFR Hold - Beechgrove Semi-Cloverleaf

AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

VFR PROCEDURES - Arrivals over Ellington Airport (LUG)



AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

✓ **CHECK AWOS ON 128.325 AS SOON AS PRACTICAL.**

This arrival procedure begins over Ellington Airport (LUG) at or below **3500** feet MSL. Pilots are strongly encouraged to obtain flight following from the appropriate ATC facility well in advance of arriving over Ellington Airport to assist with sequencing and reduce congestion.

CAUTION: Stay alert for converging traffic. Monitor Ellington Airport UNICOM 122.8 if practical.

From Ellington Airport, aircraft should proceed direct to Shelbyville Municipal Airport (SYI)**(18NM/083°)**. If receiving flight following from ATC, expect radar services to be terminated prior to reaching the Route 16 Hold. Pilots not in communication with ATC should announce their position over Shelbyville Municipal Airport (SYI) on the Tullahoma Advisory frequency **118.7**.

CAUTION: Stay alert for converging traffic.

In the event traffic volume requires holding, follow the hold procedure as depicted in the ***ROUTE 16 HOLD GRAPHIC***. All aircraft should fly right turns at or below **3500** feet MSL.

Monitor Tullahoma Advisory on **118.7** for information on when to depart the hold. When holding is no longer required, complete the hold and return to the inbound course approximately one nautical mile north of the junkyard and continue toward Shelbyville Municipal Airport (SYI).

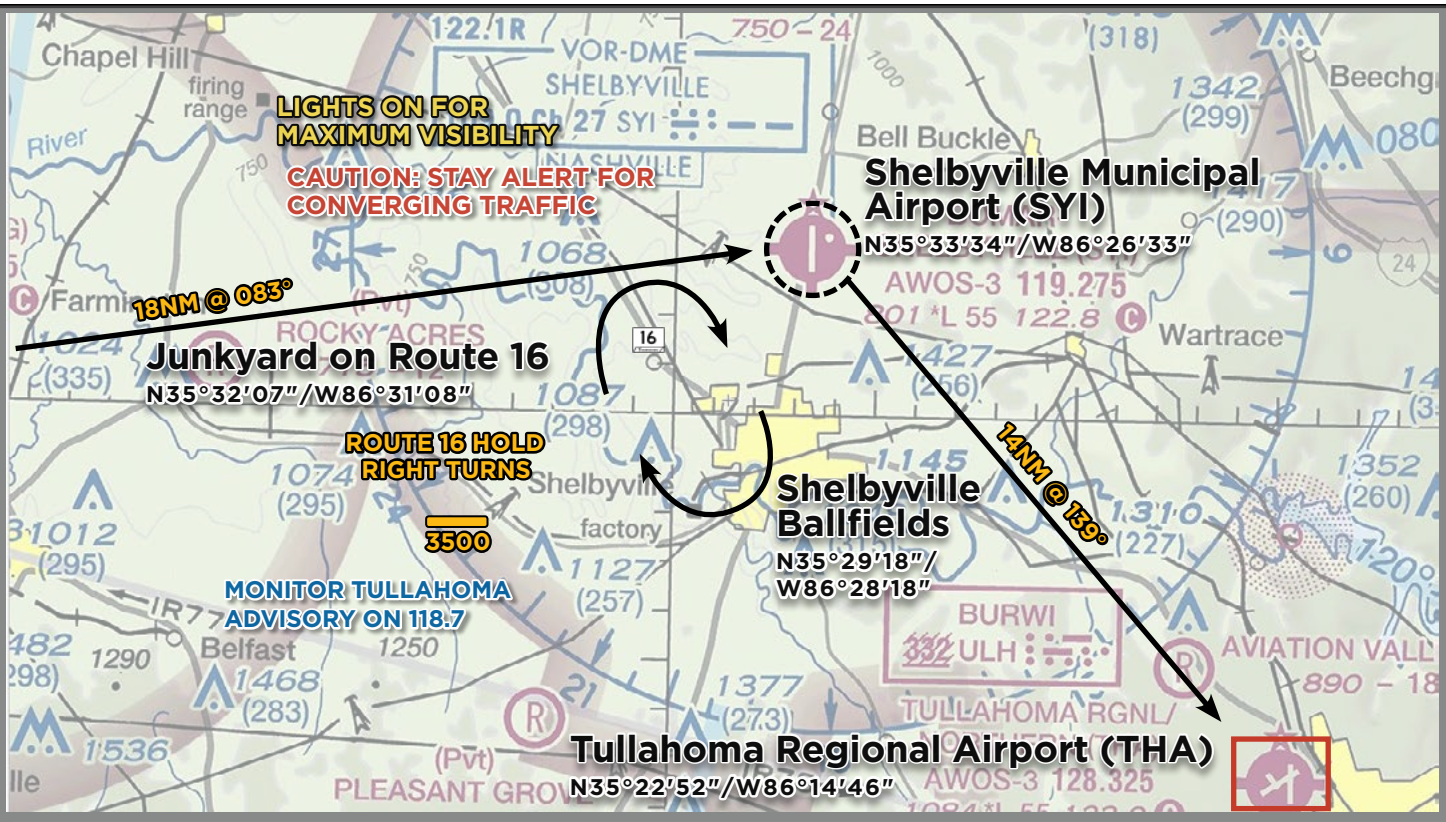
CAUTION: Stay alert for converging traffic. Monitor Shelbyville Municipal Airport UNICOM 122.8 if practical.

Contact Tullahoma Advisory on **118.7** when passing Shelbyville Municipal Airport (SYI) inbound. Begin descent to pattern altitude at pilot's discretion and follow instructions from Tullahoma Advisory. Depending on wind conditions, expect to land on either Runway **6** or Runway **24**.

Traffic Pattern Altitude: 2100 MSL

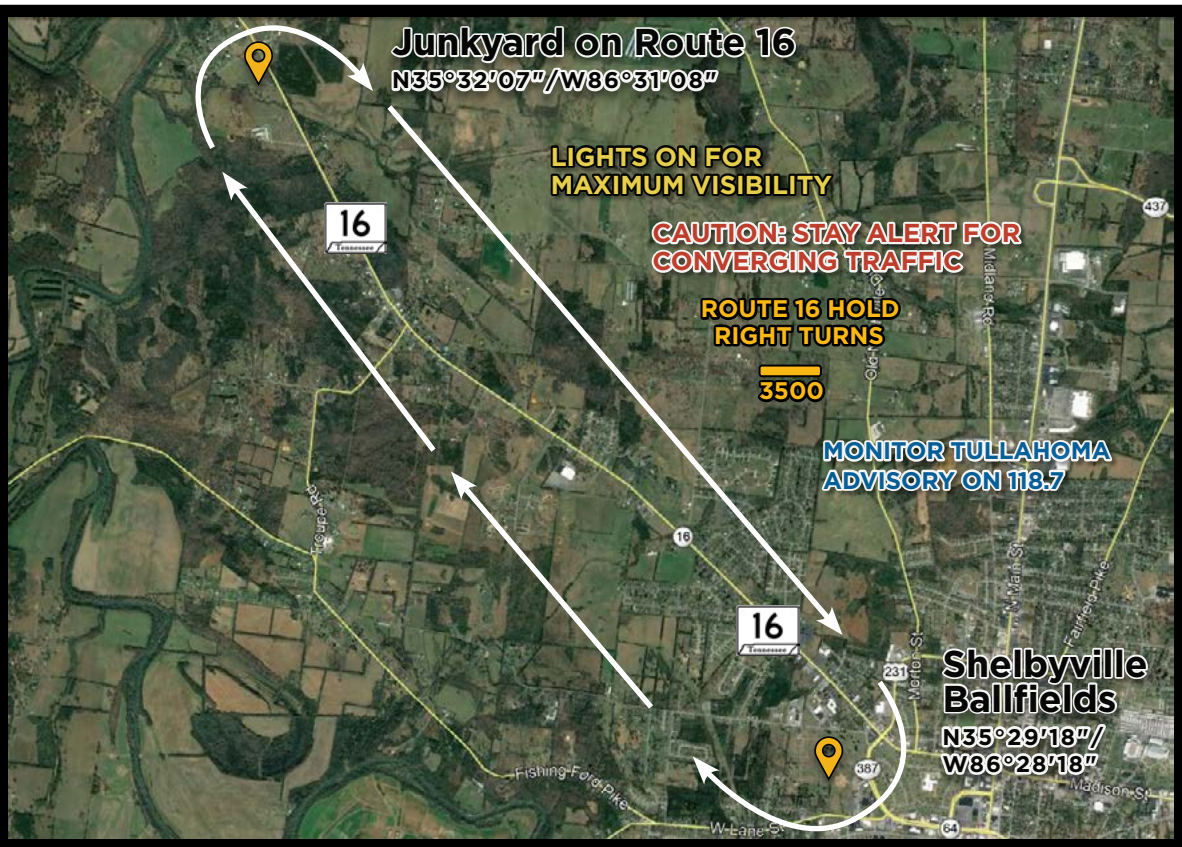
After landing, exit the runway as quickly and as safely as possible. Do not stop on the runway unless necessary. Keep moving after exiting the runway so as not to block subsequent arrivals. Marshallers will direct aircraft to the parking areas.

VFR PROCEDURES - Route 16 VFR Hold



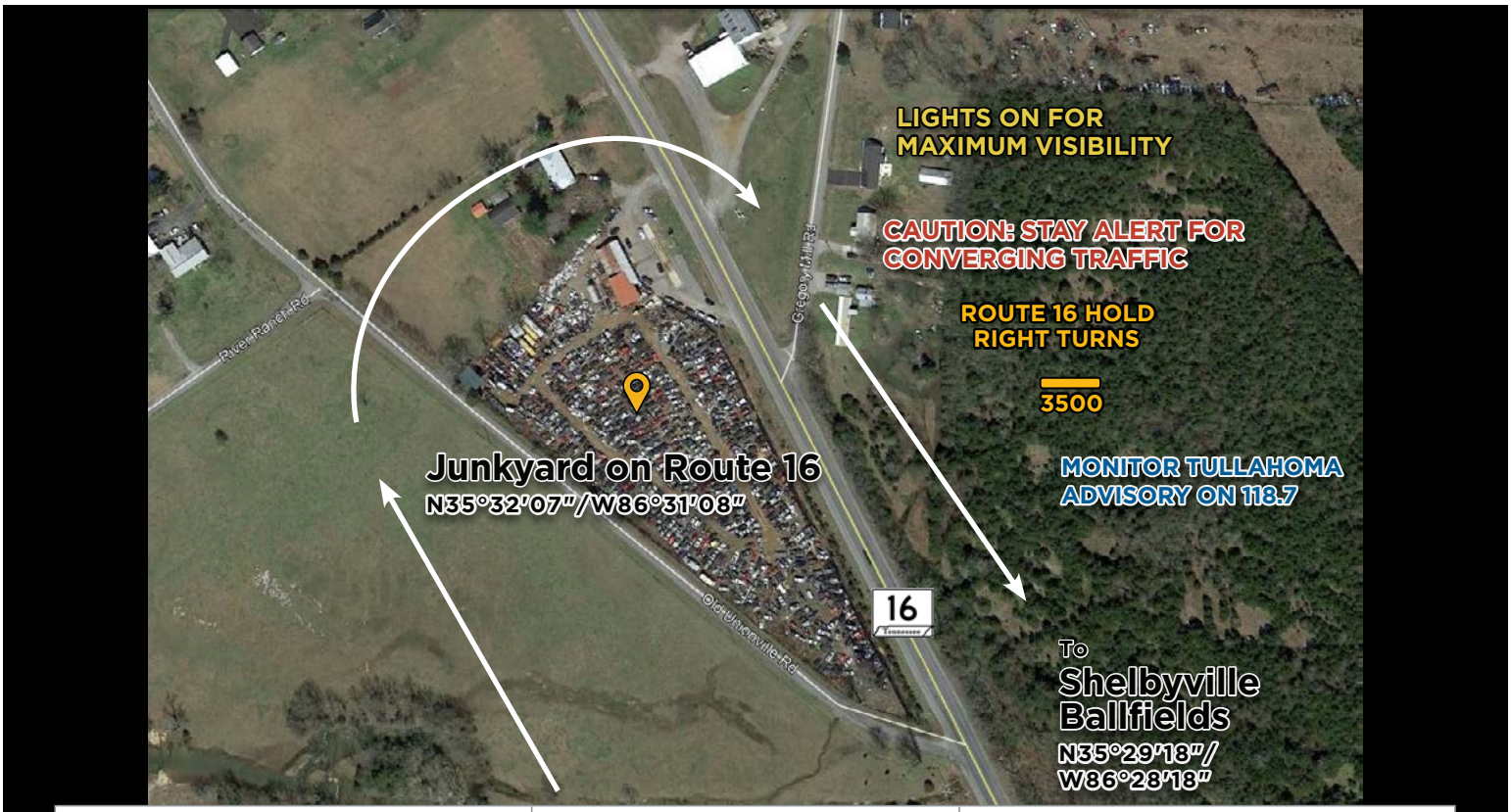
AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

VFR PROCEDURES - Route 16 VFR Hold



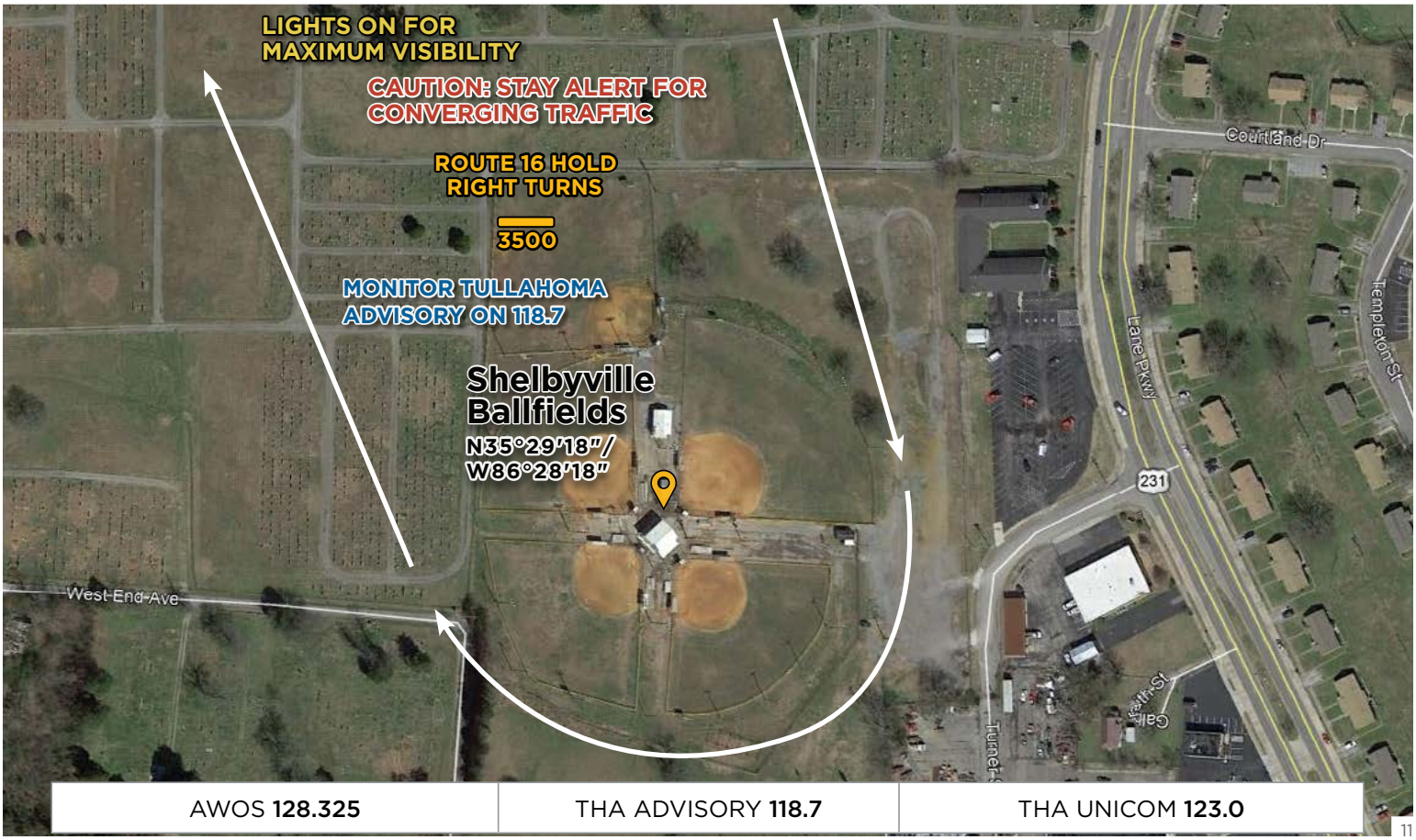
AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

VFR PROCEDURES - Route 16 VFR Hold - Junkyard



AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

VFR PROCEDURES - Route 16 VFR Hold - Shelbyville Ballfields



AWOS **128.325**	THA ADVISORY **118.7**	THA UNICOM **123.0**

VFR PROCEDURES - Arriving from Shelbyville Municipal Airport (Northwest)

LANDING RUNWAY 24 - Tullahoma Regional Airport

LANDING RUNWAY 6 - Tullahoma Regional Airport

LANDING RUNWAY 27 - Tullahoma Regional Airport

LANDING RUNWAY 9 - Tullahoma Regional Airport

SEE AND BE SEEN!

REMEMBER, LIGHTS ON
FOR SAFETY!

IFR ARRIVALS/IFR DELAYS

There is no Special Traffic Management Program for this event. No arrival or departure reservations are required. IFR separation requirements may cause delays when arrival rates exceed airport capacity. Pilots on an IFR flight plan should be prepared for potential holding. IFR flight plans to Tullahoma Regional Airport should be filed at least 4 hours prior to proposed departure time. **IFR arrivals should file to IDEYA and expect the RNAV (GPS) RWY 24 approach**.

VFR flight on designated arrival routes is highly recommended if practical except turbojet aircraft.

AIRPORT CLOSURES

Tullahoma Regional Airport will be closed to fixed-wing aircraft during the following times.

Thursday

- 6:30 PM CDT Thursday, September 12, 2019 to 6:30 AM CDT Friday, September 13, 2019.

Friday

- 6:00 PM CDT Friday, September 13, 2019 to 6:30 AM CDT Saturday, September 14, 2019.

Saturday

- 12:00 Noon CDT to 1:30 PM CDT Saturday, September 14, 2019.

RUNWAY CLOSURE

Runway **18/36** is expected to be closed for aircraft parking from 12:00 Noon CDT Thursday, September 12, 2019 until 6:00 PM CDT Saturday, September 14, 2019.

HELICOPTER OPERATIONS

Helicopters are not expected to fly the special VFR Arrival Procedures. When inbound, contact Tullahoma Advisory on **118.7** as soon as practical for specific instructions.

LOCAL TRAINING AND PRACTICE APPROACHES

Local traffic pattern, closed traffic training, and practice instrument approaches **will not be available** at Tullahoma Regional Airport (THA) during the AOPA Fly-In.

NO RADIO AIRCRAFT

Due to high density traffic, aircraft operations without a radio are not authorized.

STUDENT PILOTS

Due to high density traffic, solo student pilot operations are not recommended.

CAUTIONS

Possible lengthy delays associated with heavy arrival and departure times. Heavy arrivals expected **7:00 AM CDT—10:00 AM CDT** Friday, September 13, 2019 and Saturday, September 14, 2019. Heavy departures expected **3:00 PM CDT—6:00 PM CDT** Saturday, September 14, 2019.

Converging traffic over Warren County Memorial Airport (RNC)/Monitor UNICOM **122.8** if practical.

Converging traffic over Ellington Airport (LUG)/ Monitor UNICOM **122.8** if practical.

Converging traffic over Shelbyville Municipal Airport (SYI)/Monitor UNICOM **122.8** if practical.

Geese and deer on and in the vicinity of the airport.

Runway **9-27** field condition soft when wet.

FREQUENCIES AND WAYPOINT INFORMATION

EN ROUTE FREQUENCIES	
Memphis Center	125.85
Memphis Center	128.15
Memphis Center	132.9
Nashville Approach	128.75
Huntsville Approach	125.6
Chattanooga Approach	119.2
Atlanta Center	133.6

* See frequency graphic for correct facility to contact depending on position.

TULLAHOMA REGIONAL AIRPORT FREQUENCIES	
AWOS-3	128.325 (931-454-2052)
TULLAHOMA ADVISORY	118.7
CTAF	123.0
UNICOM	123.0

SPECIFIC LATITUDE/LONGITUDE COORDINATES

ARRIVALS OVER WARREN COUNTY MEMORIAL AIRPORT (RNC)	
Warren County Airport (RNC)	N35°41´56´´/W85°50´37´´
Beechgrove Semi-Cloverleaf	N35°37´30´´/W86°14´35´´
Love's Truck Stop	N35°43´27´´/W86°19´10´´
Shelbyville Municipal Airport (SYI)	N35°33´34´´/W86°26´33´´
Tullahoma Regional Airport (THA)	N35°22´52´´/W86°14´46´´

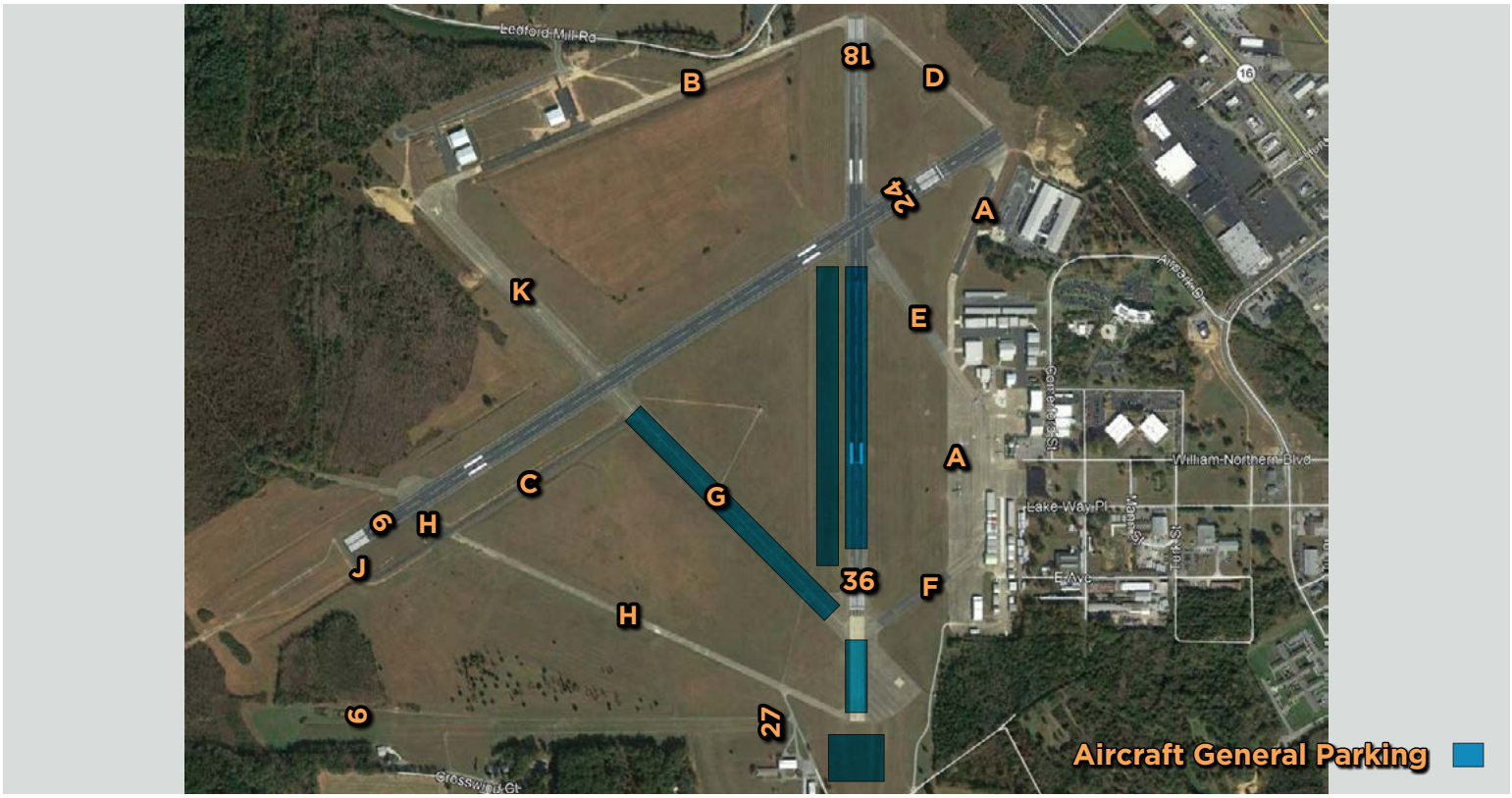
ARRIVALS OVER ELLINGTON AIRPORT (LUG)	
Ellington Airport (LUG)	N35°30´25´´/W86°48´25´´
Junkyard on Route 16	N35°32´07´´/W86°31´08´´
Shelbyville Ballfields	N35°29´18´´/W86°28´18´´
Shelbyville Municipal Airport (SYI)	N35°33´34´´/W86°26´33´´
Tullahoma Regional Airport (THA)	N35°22´52´´/W86°14´46´´

DEGREES, MINUTES, SECONDS CONVERTED TO DECIMAL DEGREES

ARRIVALS OVER WARREN COUNTY MEMORIAL AIRPORT (RNC)	
Warren County Airport (RNC)	35.69888889°/ 35.69888889°
Beechgrove Semi-Cloverleaf	35.625°/ 85.243056°
Love's Truck Stop	34.724167°/ 86.319444°
Shelbyville Municipal Airport (SYI)	35.559444°/ 86.4425°
Tullahoma Regional Airport (THA)	35.381111°/ 86.246111°

ARRIVALS OVER ELLINGTON AIRPORT (LUG)	
Ellington Airport (LUG)	35.506944°/ 86.806944°
Junkyard on Route 16	35.535278°/ 86.518889°
Shelbyville Ballfields	35.488333°/ 86.471667°
Shelbyville Municipal Airport (SYI)	35.559444°/ 86.4425°
Tullahoma Regional Airport (THA)	35.381111°/ 86.246111°

TULLAHOMA REGIONAL AIRPORT GENERAL INFORMATION



PARKING AREAS

- When operating in the parking areas, pilots are encouraged to be extra alert for taxiing aircraft, aircraft with engine(s) running, and vehicle/pedestrian traffic.
- Marshallers will be assisting aircraft to and from parking areas and run-up areas.
- For safety reasons, high RPM engine running is prohibited in designated parking areas. For departure, it is recommended that pilots conduct their run-up procedures in queue if practical.
- Please review the parking map prior to landing and departing.

VEHICULAR TRAFFIC

- Vehicles are not allowed on ramps except those belonging to airport operators and tenants.

PREFLIGHT PLANNING

- Please ensure that you have reviewed the special flight information, departure procedures, and temporary taxi procedures prior to engine start.
- High density traffic is expected Friday and Saturday morning. Consider arriving during off-peak hours.

PARKING AND SERVICE DETAILS

- Fuel/oil orders will be taken at the time your aircraft is parked. If you need either, please make sure to make the request at that time. Orders made at a later time might delay your departure. Credit card information will be requested at the time the order is placed. Receipts if requested will be emailed or available in the FBO. Order slip will be attached to propeller. If you are uncomfortable providing credit card information on the ramp, you can provide the information directly to the FBOs front desk.

CHOCKS, TIE DOWNS, AND TOWBARS

- Chocks will not be available, so we highly recommend that you bring your own. Tie down hooks are few and far between and parking on a tie down space is very unlikely. It is recommended that you bring tie-downs and anchors for any additional aircraft securing needs. Bring your own towbar as well if you will need one.

CAMPING

- Aircraft camping will be permitted at Tullahoma Regional Airport (THA) from 12:00 Noon CDT Thursday, September 12, 2019 until 12:00 Noon CDT Sunday, September 15, 2019. Space is limited and will be available on a first-come, first-served basis. If you plan to camp, you must RSVP ahead of time. A confirmation will be sent with additional information. Camping aircraft will be requested to prominently display the letter **C** in the windshield. See the AOPA website for more information.

TULLAHOMA REGIONAL AIRPORT DEPARTURE PROCEDURES

IFR DEPARTURES

Place printed large IFR letters in the windshield. Follow marshallers instructions to taxi to the nearest designated IFR departure holding area and contact Tullahoma Advisory on **118.7**.

VFR DEPARTURES

VFR Flight Following: Pilots wanting VFR flight-following should make the request to the following ATC facility at the distance specified. Please do not contact the ATC facility until you have reached the specified distance from Tullahoma Regional Airport.

VFR Traffic Advisories/Flight Following will be provided on a workload-permitting basis only.

THA 300-030 Bearing at 20 NM,
contact Nashville Approach on **128.75**

THA 030-060 Bearing at 35 NM,
contact Memphis Center on **132.9**

THA 060-080 Bearing at 45 NM,
contact Atlanta Center on **133.6**

THA 080-140 Bearing at 35 NM,
contact Chattanooga Approach on **119.2**

THA 140-250 Bearing at 35 NM,
contact Huntsville Approach on **125.6**

THA 250-300 Bearing at 35 NM,
contact Memphis Center on **125.85**

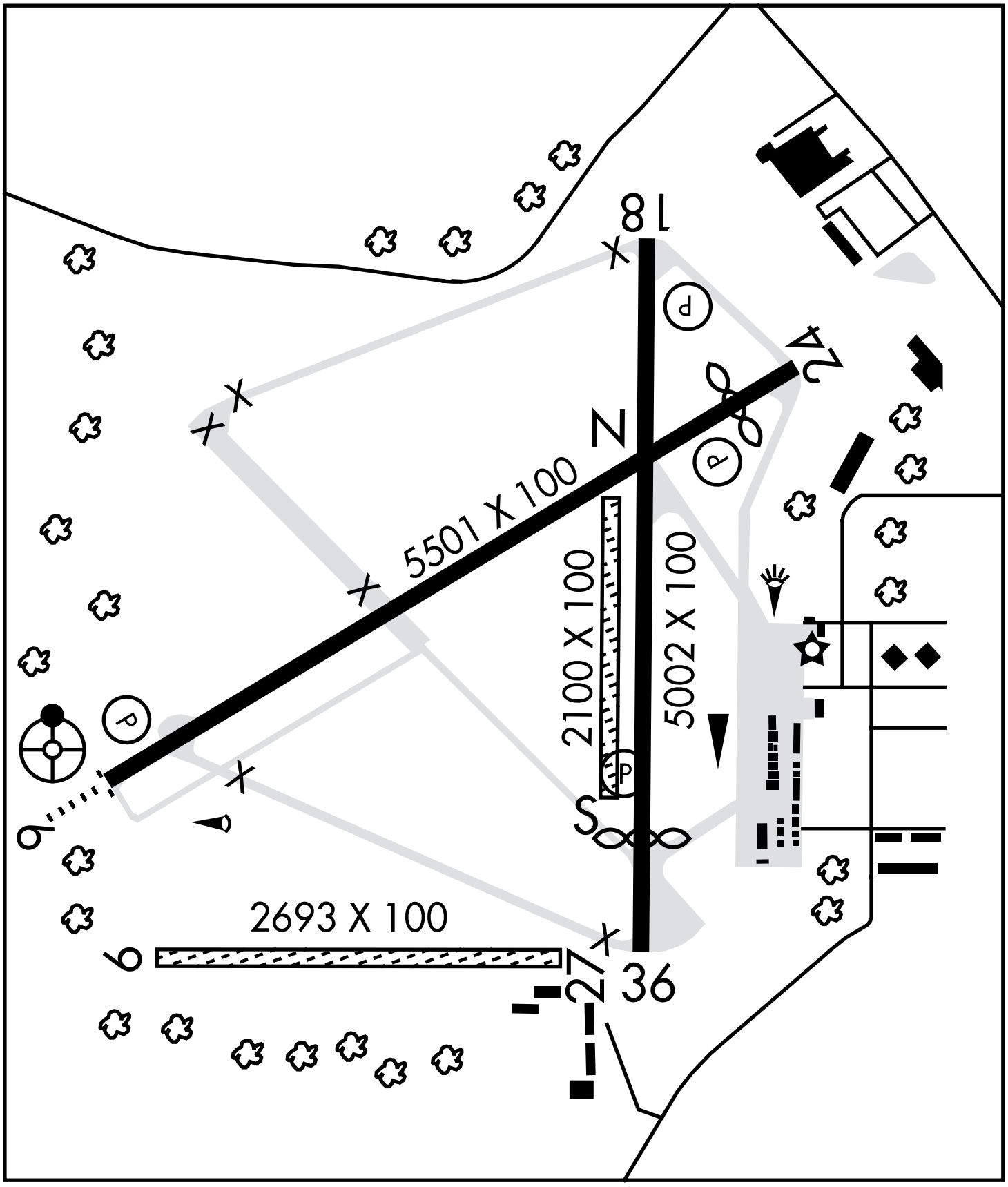
Prior to start-up — Please ensure that you have reviewed the special flight information, departure procedures, and temporary taxi procedures prior to engine start. Check AWOS on **128.325**.

- **Engine start/Run Up** – If practical, it is recommended that you conduct your run-up while in queue for departure. Please consider propeller blast during your run-up.

- **Taxi** – Follow instructions from marshallers to taxi for departure runway. **MONITOR ONLY** Tullahoma Advisory on 118.7.

- **Departure** — Contact Tullahoma Advisory on **118.7** when **number one** for departure and be prepared for immediate take-off. Expect to fly runway heading for 3 NM before turning on course or as instructed.

TULLAHOMA REGIONAL AIRPORT DIAGRAM



Print & place graphic in aircraft windshield if departing IFR

JANUARY – 2020

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
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FEBRUARY – 2020

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MARCH – 2020

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APRIL – 2020

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MAY – 2020

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JUNE – 2020

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JULY – 2020

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AUGUST – 2020

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SEPTEMBER – 2020

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OCTOBER – 2020

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NOVEMBER – 2020

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DECEMBER – 2020

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27	28	29	30	31		

= Cutoff dates for submitting information to AJV−5 for next publication. (Twenty−three (23) days before effective date.)

= Effective dates and cutoff dates for submitting information to the Publications Staff, AJV−8 for next publication. (Twenty−eight (28) days before next effective date.)

U.S. Department
of Transportation

Federal Aviation
Administration

800 Independence Ave., S.W.
Washington, DC 20591

Critical to
Flying
Safety

Flight Information Publication
Notices to Airmen