

2008 U.S. & CANADIAN MILITARY AERIAL AIRCRAFT/PARACHUTE DEMONSTRATIONS

During CY 2008, 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 2008 aerial demonstration locations, subject to change without notice, are:

DATE:	USAF Thunderbirds	USN Blue Angels	Canadian Snowbirds	USA Golden Knights
June 7-8	Rockford, IL	MCAS Cherry Point, NC		Rockford, IL
7-8				MCAS Cherry Point, NC
10-11				Ocean City, MD
21	Klamath Falls, OR			
21-22		Davenport, IA		Davenport, IA
21-22				Sioux City, IA
24	Eielson AFB, AK			
27-28	Elmendorf AFB, AK			
28-29		Huntsville, AL		Huntsville, AL
28-29				Evansville, IN
July 3				Dubuque, IA
4				Cape Girardeau, MO
4-6	Battle Creek, MI			
5-6		Traverse City, MI		
12		Pensacola Beach, FL		
12-13	Milwaukee, WI			
19-20	McChord AFB, WA	Duluth, MN		Grand Forks, AFB, ND (19 th only)
19-20				Gary, IN
23	Cheyenne, WY			
26-27	Rochester, NY	Twin Falls, ID		Rochester, NY
August 2-3		Seattle, WA		
9-10		Fairchild AFB, WA		Fairchild AFB, WA
9-10				Hillsboro, OR
16-17	Offutt AFB, NE	Chicago, IL		Chicago, IL
20	Atlantic City, NJ			
20-22				Atlantic City, NJ
23-24	Kansas City, MO			Kansas City, MO
23-24				Indianapolis, IN
30-31	Travis AFB, CA	Cleveland, OH		Travis AFB, CA
30-31				Cleveland, OH
September 1		Cleveland, OH		Cleveland, OH
6-7	Westover ARB, MA	NAS Brunswick, ME		Westover ARB, MA (Chicopee)
6-7				NAS Brunswick, ME
13-14	Reno, NV	Eau Claire, WI		Eau Claire, WI
13-14				Montoursville, PA
19				Birmingham, AL
20-21	Scott AFB, IL	NAS Oceana, VA		Midland, TX
24			Tri Cities, WA	
26-27			Chico, CA	
27-28	Salinas, CA	Grand Junction, CO		Grand Junction, CO
28				Parkersburg, WV

SPECIAL NOTICES

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DATE:	USAF Thunderbirds	USN Blue Angels	Canadian Snowbirds	USA Golden Knights
October 1			Douglas, AZ	
4	Vance AFB, OK			
4-5		MCAS Miramar, CA	El Paso, TX	MCAS Miramar, CA
4-5				El Paso, TX
8			San Diego, CA	
11-12	Ft. Worth (Alliance), TX	San Francisco, CA	San Francisco, CA	Ft. Worth (Alliance), TX
11-12				West Chester, PA
18-19	Dobbins ARB, GA	Little Rock AFB, AR		Little Rock AFB, AR
18-19				Huntington Beach, CA
25-26	Houston, TX	NAS Jacksonville, FL		
November 1-2	Lafayette, LA	Lackland AFB, TX		Lafayette, LA
1-2				Lackland AFB, TX
8-9	Nellis AFB, NV	Cape Canaveral, FL		
15		NAS Pensacola, FL		

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.

**LASER LIGHT DEMONSTRATION
Celebration City, Branson, Missouri**

Laser light demonstrations are being conducted at Celebration City, Branson, MO. The show orientation and laser beam projection are directed to the northern half of a circle from this site. Harrison, AR (HRO) VOR/DME 344R/20.2 NM (36 38 56N/93 17 56W). Laser light beams may be injurious to pilots'/passengers' eyes within 1700 feet of the light source, 600 feet above ground level. The secondary effect of flash blindness or cockpit illumination may occur beyond these distances. The Columbia AFSS, 573-875-5319, is the FAA coordination facility.

**SEARCH LIGHT SHOW
Rosebud Casino, Valentine, Nebraska**

Searchlight Activity will be conducted in an area within a 1 NM radius of 42 59 56N/100 34 29W (ANW315/36.5), 1500 AGL and above, from 1900 to 0200 local hours nightly. Searchlight beams may be injurious to pilots/passengers eyes at 1500 AGL and above. Flash blindness or cockpit illumination may occur at greater distances, up to several miles from the source. Huron AFSS, 866-732-1331, is the FAA coordination facility.

**SPECIAL NORTH ATLANTIC, CARIBBEAN AND
PACIFIC AREA COMMUNICATIONS**

VHF air-to-air frequencies enable aircraft engaged in flights over remote and oceanic areas out of range of VHF ground stations to exchange necessary operational information and to facilitate the resolution of operational problems.

Frequencies have been designated as follows:

North Atlantic area:	123.45 MHz
Caribbean area:	123.45 MHz
Pacific area:	123.45 MHz

MILITARY TRAINING ROUTES

The DOD Flight Information Publication AP/1B provides textual and graphic descriptions and operating instructions for all military training routes (IR, VR, SR) and refueling tracks/anchors. Complete and more comprehensive information relative to policy and procedures for IRs and VRs is published in FAA Handbook 7610.4 (Special Military Operations) which is agreed to by the DOD and therefore directive for all military flight operations. The AP/1B is the official source of route data for military users.

CIVIL USE OF MILITARY FIELDS:

U.S. Army, Air Force, Navy and Coast Guard Fields are open to civil fliers only in emergency or with prior permission. Air installations, prior permission is required from the Commanding Officer of the installation.

For Air Force installations, prior permission should be requested at least 30 days prior to first intended landing from either Headquarters USAF (PRPOC) or the Commander of the installation concerned (who has authority to approve landing rights for certain categories of civil aircraft). For use of more than one Air Force installation, requests should be forwarded direct to Hq USAF (PRPOC), Washington, D.C. 20330.

Use of USAF installations must be specifically justified.

For Navy and Marine Corps installations, prior permission should be requested at least 30 days prior to first intended landing. An Aviation Facility License must be approved and executed by the Navy prior to any landing by civil aircraft.

Forms and further information may be obtained from the nearest U.S. Navy or Marine Corps aviation activity.

For Coast Guard fields prior permission should be requested from the Commandant, U.S. Coast Guard via the Commanding Officer of the field.

When instrument approaches are conducted by civil aircraft at military airports, they shall be conducted in accordance with the procedures and minimums approved by the military agency having jurisdiction over the airport.

AIRCRAFT LANDING RESTRICTIONS

Landing of aircraft at locations other than public use airports may be a violation of Federal or local law. All land and water areas are owned or controlled by private individuals or organizations, states, cities, local governments, or U.S. Government agencies. Except in emergency, prior permission should be obtained before landing at any location that is not a designated public use airport or seaplane base.

Landing of aircraft is prohibited on lands or waters administered by the National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and on many areas controlled by the U.S. Army Corps of Engineers, unless prior authorization is obtained from the respective agency.

**CONTROLLED FIRING
Parsons, Kansas
(Until Further Notice)**

Controlled Firing Area 1 NM radius 37°17'39"N/95°08'46"W, SFC-3200 MSL, Eff weekdays 0630-1700 LCL

**INTERSECTION DEPARTURES DURING PERIOD OF DARKNESS
MINNEAPOLIS-ST PAUL INTERNATIONAL/WOLD-CHAMBERLAIN AIRPORT (MSP)
MINNEAPOLIS, MINNESOTA**

Minneapolis International Airport Traffic Control Tower has been granted a waiver to the guideline that prohibits the control tower from taxiing an aircraft into "position and hold" at an intersection, between sunset and sunrise.

This waiver allows the tower to taxi the aircraft into "position and hold" during period of darkness, at the intersections listed below.

Runway 4 at Taxiways "S", "C2", "C3", "M2", or "M3"

Aircraft shall not taxi into position and hold under the provisions of this waiver when the subject intersection is not visible from the tower. When the provisions of this waiver are being exercised, the affected runway shall be used for departures only. Intersection departures will continue to be utilized at other locations between sunset and sunrise. However, aircraft cannot be taxied into "position and hold" prior to takeoff clearance.

LAMBERT-ST LOUIS INTERNATIONAL (STL), MISSOURI

STL Precision Runway Monitor Electronic Scan Radar System (PRM) commissioned. Full utilization of PRM is pending the future implementation of simultaneous instrument approaches. Until then no operational impact will result from the commissioning of PRM.

SIMULTANEOUS OFFSET INSTRUMENT APPROACH (SOIA) PROCEDURE FOR PILOTS FILING FLIGHT PLANS TO LAMBERT-ST LOUIS INTERNATIONAL AIRPORT (STL)

Effective Thursday, October 27, 2005. During the hours of 0700–2200 local, STL ATC may utilize LDA PRM and ILS PRM approaches as weather and traffic demand dictate. Aircraft arriving from the northeast and northwest (primarily over PETTI and LORLE intersections) should expect ILS PRM Runway 30R. Aircraft arriving from the west and southeast (primarily over FTZ and QBALL) should expect LDA PRM Runway 30L. If unable to participate in PRM apchs acft operators are required to contact FAA ATCSCC directly at 1–800–333–4286 or 703–904–4452 prior to departure to obtain a precoordinated arrival time. Non-participating acft may encounter delays. Pilot requirements and procedures are outlined in U.S. Terminal Procedures Publications available on pages entitled “ATTENTION ALL USERS OF ILS PRECISION RUNWAY MONITOR (PRM)” or “ATTENTION ALL USERS OF LDA PRECISION RUNWAY MONITOR (PRM)”. This notice is effective until further notice.

CONTINUOUS POWER FACILITIES

In order to insure that a basic ATC system remains in operation despite an areawide or catastrophic commercial power failure, key equipment and certain airports have been designated to provide a network of facilities whose operational capability can be utilized independent of any commercial power supply.

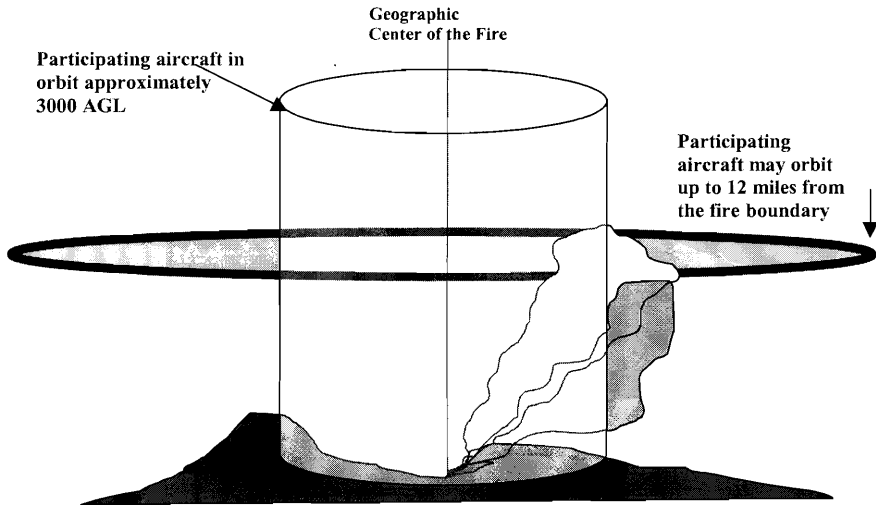
In addition to those facilities comprising the basic ATC system, the following approach and lighting aids have been included in this program for a selected runway.

1. ILS (Localizer, Glide Slope, COMLO, Inner, Middle and Outer Markers)
2. Wind Measuring Capability
3. Approach Light System (ALS) or Short ALS (SALS)
4. Ceiling Measuring Capability
5. Touchdown Zone Lighting (TDZL)
6. Centerline Lighting (CL)
7. Runway Visual Range (RVR)
8. High Intensity Runway Lighting (HIRL)
9. Taxiway Lighting
10. Apron Light (Perimeter Only)

The following have been designated “Continuous Power Airports,” and have independent back up capability for the equipment installed.

Airport/Ident	Runway No.	Airport/Ident	Runway No.
Albuquerque, NM (ABQ)	08	Milwaukee, WI (MKE)	01L
Andrews AFB, MD (ADW)	01L	Minneapolis, MN (MSP)	30L
Atlanta, GA (ATL)	09R	Nashville, TN (BNA)	02L
Baltimore, MD (BWI)	10	New Orleans, LA (MSY)	10
Bismarck, ND (BIS)	31	New York, NY (JFK)	04R
Boise, ID (BOI)	10R	New York, NY (LGA)	22
Boston, MA (BOS)	04R	Newark, NJ (EWR)	04R
Charlotte, NC (CLT)	36L	Oklahoma City, OK (OKC)	35R
Chicago, IL (ORD)	14R	Omaha, NE (OMA)	14R
Cincinnati, OH (CVG)	36L	Ontario, CA (ONT)	26L
Cleveland, OH (CLE)	06R	Philadelphia, PA (PHL)	09R
Dallas/Fort Worth, TX (DFW)	17C	Phoenix, AZ (PHX)	08R
Denver, CO (DEN)	35L	Pittsburgh, PA (PIT)	10L
Des Moines, IA (DSM)	31	Reno, NV (RNO)	16R
Detroit, MI (DTW)	03L	Salt Lake City, UT (SLC)	34L
El Paso, TX (ELP)	22	San Antonio, TX (SAT)	12R
Great Falls, MT (GTF)	03	San Diego, CA (SAN)	09
Houston, TX (IAH)	26L	San Francisco, CA (SFO)	28R
Indianapolis, IN (IND)	05L	Seattle, WA (SEA)	16C
Jacksonville, FL (JAX)	07	St. Louis, MO (STL)	30R
Kansas City, MO (MCI)	19R	Tampa, FL (TPA)	36L
Los Angeles, CA (LAX)	24R	Tulsa, OK (TUL)	35R
Memphis, TN (MEM)	36L	Washington, DC (DCA)	01
Miami, FL (MIA)	09L	Washington, DC (IAD)	01R
		Wichita, KS (ICT)	01L

NOTE—The existing CPA runway is listed. Pending and future changes at some locations will require a revised runway designation.

FIREFIGHTING TRAFFIC AREAS

Pilots are advised to stay clear of Firefighting Traffic Areas. Remain 15 miles from the area of activity. If you must over-fly the area, do so at an altitude of 5000 feet AGL above. However, to remain safe and out of the way of working aircraft, it is best to circumnavigate the area.

The wild-land fire environment can be very complex and involve a large number and variety of aircraft types including fixed and rotary wing aircraft. Some of the aircraft are small single and multi-engine command and control platforms that can be especially difficult to see and may give the appearance that the fire is not staffed. The aircraft participating in firefighting can orbit as far out as 12 miles from the perimeter of the fire. Any intrusion by aircraft not directly involved in the firefighting operation could delay the delivery of much needed retardant or water to ground firefighters and will adversely affect the safety of participating aircraft. Please stay well away from wild-land fires even if you feel that aircraft are not working the fire; they may be en route or unseen.

If you see a fire developing along your route, report it immediately to air traffic control who will advise the US Forest Service. The firefighting community would welcome this information.

The following narratives summarize the FAR Part 93 Special Air Traffic Rules, and Airport Traffic Patterns in effect as prescribed in the rule. This information is advisory in nature and in no way relieves the pilot from compliance with the specific rules set forth in FAR Parts 91 and 93.

Special Airport Traffic Areas prescribed in Part 93 are depicted on Sectional Aeronautical Charts, World Aeronautical Charts, Enroute Low Altitude Charts, and where applicable, on VFR Terminal Area Charts.

OPERATIONS RESERVATIONS FOR HIGH DENSITY TRAFFIC AIRPORTS KENNEDY, LAGUARDIA, AND WASHINGTON REAGAN NATIONAL

The Federal Aviation Administration (FAA) has designated New York's Kennedy and LaGuardia Airports and Washington Reagan National Airport as High Density Traffic Airports (HDTA), Title 14, Code of Federal Regulations, part 93, subpart K, and has prescribed air traffic rules and requirements for operating aircraft (excluding helicopters) to and from those airports during certain hours.

Reservations are required for operations from 6 a.m. through 11:59 p.m. local time at LaGuardia Airport and Washington Reagan National Airport. Reservations at Kennedy Airport are required from 3 p.m. through 7:59 p.m. local time.

Reservation procedures are detailed in Advisory Circular 93-1, Reservations for Unscheduled Operations at High Density Traffic Airports. A copy of the advisory circular is available on the FAA website at <http://www.faa.gov>. Reservations for unscheduled operations are allocated through the Enhanced Computer Voice Reservation System (e-CVRS) accessible via telephone or the Internet. This system may not be used to make reservations for scheduled air carrier or commuter flights.

The toll-free telephone number for accessing e-CVRS is 1-800-875-9694 and is available for calls originating within the United States, Canada, and the Caribbean. Users outside the toll-free areas may access e-CVRS by calling the toll number of 703-707-0568. The Internet web address for accessing the e-CVRS is <http://www.fly.faa.gov/ecvrs>. If you have any questions about reservation requirements or are experiencing problems with the system, you may telephone the Airport Reservation Office at the Air Traffic Control System Command Center at (703) 904-4452.

Requests for instrument flight rules (IFR) reservations will be accepted beginning 72 hours prior to the proposed time of operation at the high-density airport. For example, a request for an 11 a.m. reservation on a Thursday will be accepted beginning at 11 a.m. on the previous Monday.

IFR reservations must be obtained prior to IFR landing or takeoff at an HDTA during slot controlled hours. An air traffic control (ATC) clearance does not constitute a reservation. A reservation does not constitute permission to operate at an HDTA if additional operational limits or procedures are required by NOTAM and/or regulation.

Aircraft involved in medical emergencies will be handled by ATC without regard to a reservation after obtaining prior approval of the ATC System Command Center on (703) 904-4452. ATC will accommodate declared other emergency situations without regard to slot reservations.

NOTE: Visual flight rule (VFR) reservations via ATC for unscheduled operations at LaGuardia are not authorized from 7 a.m. through 8:59 a.m. local time and 4 p.m. through 6:59 p.m. local time, Monday through Friday and Sunday evenings, unless otherwise announced by NOTAM. Both IFR and VFR operations during those time periods must obtain an advance reservation through e-CVRS.

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FAA AND NWS TELEPHONE NUMBERS

Flight Service Station (FSS) numbers provide direct contact with an FAA pilot weather briefer.

Telephone Information Briefing Service (TIBS) provides continuous recordings of meteorological and/or aeronautical information including area and/or route briefings, airspace procedures and special announcements. A touch-tone telephone is required to fully utilize this service.

Transcribed Weather Broadcast telephone numbers (TEL-TWEB) provide access to the transcribed weather broadcast on selected navigational facilities.

National Weather Service (WS) numbers will connect you with a national weather service pilot briefer.

National AFSS Telephone Numbers are provided for direct contact with that AFSS from anywhere in the U.S. and certain areas outside the U.S.

Further information can be found in the Aeronautical Information Manual, Chapter 7.

Numerous additional telephone numbers are listed under COMMUNICATIONS in the A/FD tabulation. If you wish to call an FSS, but do not have access to a directory listing, call the toll-free number, 1-800-555-1212.

FAST FILE FLIGHT PLAN SYSTEM

Some flight service stations have inaugurated this system for pilots who already have obtained a weather briefing and desire only to file a flight plan. Pilots may call the discrete telephone numbers listed and file flight plans in accordance with recorded taped instructions. IFR flight plans will be extracted and entered in the appropriate ARTCC computer. VFR flight plans will be retained at the FSS for activation by the pilot. This equipment is designed to automatically disconnect after 8 seconds of no transmission, so pilots are instructed to speak at a normal speech rate without lengthy pauses between flight plan elements. Pilots are urged to file flight plans into this system at least 30 minutes in advance of proposed departure.

★ TIBS

■ TWEB

◆ Restricted Number for Aviation Weather Information

§§ Fast File (Flight Plan Filing Only)

National AFSS Numbers

**FAA AND NWS
TELEPHONE NUMBERS**

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Location and Identifier	Area Code	Telephone
IOWA		
Fort Dodge FOD..... FSS AFSS	(515)	573-8036 1-866-300-2858# 1-800-WX-BRIEF★ §§
CLNC DEL ONLY (Toll Free)		1-866-FOD-AFSS (363-2377)
KANSAS		
Wichita ICT..... FSS AFSS		800-WX-BRIEF★ §§ 1-866-672-5145# 1-866-ICT-AFSS (428-2377)
CLNC DEL ONLY	(316)	350-1514★ §§
MINNESOTA		
Princeton PNM..... FSS AFSS	(763)	389-5880★ §§ 1-866-841-6469#
INWATS..... FSS		800-WX-BRIEF★ §§
Winona, Mn. (see LaCrosse, Wi.)		
MISSOURI		
Entire State of Missouri Flight Services INWATS		1-800-WX-BRIEF 1-800-WX-BRIEF
CLNC DEL		1-877-4TIBS-WX★ 1-888-766-8267
NEBRASKA		
Columbus OLU..... FSS AFSS	(402)	564-3293 1-866-288-3448# 800-WX-BRIEF★ §§
CLNC DEL ONLY		1-866-OLU-AFSS (658-2377)
NORTH DAKOTA		
Grand Forks GFK (Intl.)..... FSS AFSS		1-866-306-6931#
INWATS..... FSS		800-WX-BRIEF§§★
SOUTH DAKOTA		
Huron HON (Rgnl)..... FSS AFSS		352-3806★ §§ 1-866-732-1331#
INWATS..... FSS		800-WX-BRIEF★ §§

KEY to AERODROME FORECAST (TAF) and AVIATION ROUTINE WEATHER REPORT (METAR)

TAF KPIT 091730Z 091818 15005KT 5SM HZ.FEW020 WS010/31022KT
FM1930 30015G25KT 3SM SHRA OVC015 TEMPO 2022 1/2SM +TSRA
OVC008CB
FM0100 27008KT 5SM SHRA BKN020 OVC040 PROB40 0407 1SM -RA BR
FM1015 18005KT 6SM -SHRA OVC020 BECMG 1315 P6SM NSW SKC

METAR KPIT 091955Z COR 22015G25KT 3/4SM R28L/2600FT TSRA OVC010CB
18/16 A2992 RMK SLP045 T01820159

Forecast	Explanation	Report
TAF	Message type: <u>TAF</u> -routine or <u>TAF AMD</u> -amended forecast, <u>METAR</u> -hourly, <u>SPECI</u> -special or <u>TESTM</u> -non-commissioned ASOS report	METAR
KPIT	ICAO location indicator	KPIT
091730Z	Issuance time: ALL times in UTC " <u>Z</u> ", 2-digit date, 4-digit time	091955Z
091818	Valid period: 2-digit date, 2-digit beginning, 2-digit ending times In U.S. METAR : <u>COR</u> rected ob; or <u>AUTO</u> mated ob for automated report with no human intervention; omitted when observer logs on	COR
15005KT	Wind: 3 digit true-north direction, nearest 10 degrees (or <u>VaRiAb</u> le); next 2-3 digits for speed and unit, <u>KT</u> (KMH or MPS); as needed, <u>G</u> ust and maximum speed; 00000KT for calm; for METAR , if direction varies 60 degrees or more, <u>V</u> ariability appended, e.g. 180 <u>V</u> 260	22015G25KT
5SM	Prevailing visibility: in U.S., <u>S</u> tatute <u>M</u> iles & fractions; above 6 miles in TAF <u>Plus</u> 6SM. (Or, 4-digit minimum visibility in meters and as required, lowest value with direction) Runway Visual Range: <u>R</u> ; 2-digit runway designator <u>L</u> eft, <u>C</u> enter, or <u>R</u> ight as needed; <u>"/</u> ; <u>M</u> inus or <u>P</u> lus in U.S., 4-digit value, <u>F</u> ee <u>T</u> in U.S., (usually meters elsewhere); 4-digit value <u>V</u> ariability 4-digit value (and tendency <u>D</u> own, <u>U</u> p or <u>N</u> o change)	3/4SM R28L/2600FT
HZ	Significant present, forecast and recent weather: see table (on back)	TSRA
FEW020	Cloud amount, height and type: <u>S</u> Ky <u>C</u> lear 0/8, <u>F</u> EW >0/8-2/8, <u>S</u> Ca <u>T</u> tered 3/8-4/8, <u>B</u> ro <u>K</u> e <u>N</u> 5/8-7/8, <u>O</u> Ver <u>C</u> ast 8/8; 3-digit height in hundreds of ft; <u>T</u> owering <u>C</u> Umulus or <u>C</u> umulonim <u>B</u> us in METAR ; in TAF , only <u>C</u> B. <u>V</u> ertical <u>V</u> isibility for obscured sky and height "VV004". More than 1 layer may be reported or forecast. In automated METAR reports only, <u>C</u> Lea <u>R</u> for "clear below 12,000 feet" Temperature: degrees Celsius; first 2 digits, temperature <u>"/</u> last 2 digits, dew-point temperature; <u>M</u> inus for below zero, e.g., M06 Altimeter setting: indicator and 4 digits; in U.S., <u>A</u> -inches and hundredths; (<u>Q</u> -hectoPascals, e.g., Q1013)	OVC010CB 18/16 A2992

KEY to AERODROME FORECAST (TAF) and AVIATION ROUTINE WEATHER REPORT (METAR)

Forecast	Explanation	Report
WS010/31022KT	In U.S. TAF , non-convective low-level ($\leq 2,000$ ft) <u>Wind Shear</u> ; 3-digit height (hundreds of ft); <u>"/";</u> 3-digit wind direction and 2-3 digit wind speed above the indicated height, and unit, <u>KT</u>	RMK SLP045 T01820159
FM1930	In METAR , <u>ReMarK</u> indicator & remarks. For example: <u>Sea-Level Pressure</u> in hectoPascals & tenths, as shown: 1004.5 hPa; <u>Temp/dew-point</u> in tenths °C, as shown: temp. 18.2°C, dew-point 15.9°C	
TEMPO 2022	<u>FroM</u> and 2-digit hour and 2-digit minute beginning time: indicates significant change. Each FM starts on new line, indented 5 spaces.	
PROB40 0407	<u>TEMPO</u> rary: changes expected for < 1 hour and in total, < half of 2-digit hour beginning and 2-digit hour ending time period	
BECMG 1315	<u>PROB</u> ability and 2-digit percent (30 or 40): probable condition during 2-digit hour beginning and 2-digit hour ending time period	
BECMG 1315	<u>BEC</u> oMinG: change expected during 2-digit hour beginning and 2-digit hour ending time period	

Table of Significant Present, Forecast and Recent Weather - Grouped in categories and used in the order listed below; or as needed in TAF, No Significant Weather.

QUALIFIER				
Intensity or Proximity				
- Light	"no sign"	Moderate	+ Heavy	
VC Vicinity; but not at aerodrome; in U.S. METAR , between 5 and 10SM of the point(s) of observation; in U.S. TAF , 5 to 10SM from center of runway complex (elsewhere within 8000m)				
Descriptor				
MI Shallow	BC Patches	PR Partial	TS Thunderstorm	
BL Blowing	SH Showers	DR Drifting	FZ Freezing	
WEATHER PHENOMENA				
Precipitation				
DZ Drizzle	RA Rain	SN Snow	SG Snow grains	
IC Ice crystals	PL Ice pellets	GR Hail	GS Small hail/snow pellets	
UP Unknown precipitation in automated observations				
Obscuration				
BR Mist ($\geq 5/8SM$)	FG Fog ($< 5/8SM$)	FU Smoke	VA Volcanic ash	
SA Sand	HZ Haze	PY Spray	DU Widespread dust	
Other				
SQ Squall	SS Sandstorm	DS Duststorm	PO Well developed dust/sand whirls	
FC Funnel cloud	+FC tornado/waterspout			

- Explanations in parentheses "()" indicate different worldwide practices.
- Ceiling is not specified; defined as the lowest broken or overcast layer, or the vertical visibility.
- NWS **TAFs** exclude turbulence, icing & temperature forecasts; NWS **METARs** exclude trend fcsts
- Although not used in US, Ceiling And Visibility OK replaces visibility, weather and clouds if: visibility ≥ 10 km; no cloud below 5000 ft (1500 m) or below the highest minimum sector altitude, whichever is greater and no CB; and no precipitation, TS, DS, SS, MIFG, DRDU, DRSA or DRSN.

UNITED STATES DEPARTMENT OF COMMERCE

NOAA/PA 96052

National Oceanic and Atmospheric Administration—National Weather Service

KEY AIR TRAFFIC FACILITIES

Air Traffic Control System Command Center

Main Number.....703-904-4400

RGNL AIR TRAFFIC DIVISIONS

REGION	TELEPHONE
Alaskan	907-271-5464
Central	816-329-2500
Eastern	718-553-4502
Great Lakes	847-294-7202
New England	781-238-7500
Northwest Mountain	425-227-2500
Southern	404-305-5500
Southwest	817-222-5500
Western Pacific	310-725-6500

AIR ROUTE TRAFFIC CONTROL CENTERS (ARTCCs)

ARTCC NAME	*24 HR RGNL DUTY OFFICE TELEPHONE #	BUSINESS HOURS	BUSINESS TELEPHONE #
Albuquerque	817-222-5006	7:30 a.m.-4:00 p.m.	505-856-4300
Anchorage	907-271-5936	7:30 a.m.-4:00 p.m.	907-269-1137
Atlanta	404-305-5180	7:30 a.m.-5:00 p.m.	770-210-7601
Boston	617-238-7001	7:30 a.m.-4:00 p.m.	603-879-6633
Chicago	847-294-8400	8:00 a.m.-4:00 p.m.	630-906-8221
Cleveland	847-294-8400	8:00 a.m.-4:00 p.m.	440-774-0310
Denver	425-227-1389	7:30 a.m.-4:00 p.m.	303-651-4100
Ft. Worth	817-222-5006	7:30 a.m.-4:00 p.m.	817-858-7300
Houston	817-222-5006	7:30 a.m.-4:00 p.m.	723-230-5300
Indianapolis	847-294-8400	8:00 a.m.-4:00 p.m.	317-247-2231
Jacksonville	404-305-5180	8:00 a.m.-4:30 p.m.	904-549-1501
Kansas City	816-329-3000	7:30 a.m.-4:00 p.m.	913-254-8500
Los Angeles	661-265-8200	7:30 a.m.-4:00 p.m.	661-265-8200
Memphis	404-305-5180	7:30 a.m.-4:00 p.m.	901-368-8103
Miami	404-305-5180	7:00 a.m.-3:30 p.m.	305-716-1500
Minneapolis	847-294-8400	8:00 a.m.-4:00 p.m.	651-463-5580
New York	718-995-5426	8:00 a.m.-4:40 p.m.	516-468-1001
Oakland	310-643-3200	6:30 a.m.-3:00 p.m.	510-745-3331
Salt Lake City	425-227-1389	7:30 a.m.-4:00 p.m.	801-320-2500
Seattle	425-227-1389	7:30 a.m.-4:00 p.m.	253-351-3500
Washington	718-995-5426	8:00 a.m.-4:30 p.m.	703-771-3401

MAJOR TERMINAL RADAR APPROACH CONTROLS (TRACONS)

TRACON NAME	*24 HR RGNL DUTY OFFICE TELEPHONE #	BUSINESS HOURS	BUSINESS TELEPHONE #
Atlanta	404-305-5180	7:00 a.m.-3:30 p.m.	404-669-1200
Chicago	847-294-8400	8:00 a.m.-4:00 p.m.	847-608-5509
Dallas/Ft. Worth	817-222-5006	7:30 a.m.-4:00 p.m.	972-615-2500
Denver	425-227-1389	7:30 a.m.-4:00 p.m.	303-342-1500
Houston	817-222-5006	7:30 a.m.-4:00 p.m.	713-230-8400
New York	718-995-5426	8:00 a.m.-4:30 p.m.	516-683-2901
Northern CA	310-725-3300	7:00 a.m.-3:30 p.m.	916-366-4001
Southern CA	310-725-3300	7:30 a.m.-4:00 p.m.	858-537-5800

*Facilities can be contacted through the Rgnl Duty Officer during non-business hours.

KEY AIR TRAFFIC FACILITIES

DAILY NAS REPORTABLE AIRPORTS

AIRPORT NAME	*24 HR RGNL DUTY OFFICE TELEPHONE #	BUSINESS HOURS	BUSINESS TELEPHONE #
Albuquerque Intl Sunport, NM	817-222-5006	8:00 a.m.-5:00 p.m.	505-842-4366
Andrews AFB, MD	718-995-5426	8:00 a.m.-4:30 p.m.	301-735-2380
Baltimore/Washington Intl Thurgood Marshall, MD	718-995-5426	8:00 a.m.-4:30 p.m.	410-962-3555
Boston Logan Intl, MA	617-238-7001	7:30 a.m.-4:00 p.m.	617-561-5901
Bradley Intl, CT	617-238-7001	7:30 a.m.-4:00 p.m.	203-627-3428
Burbank/Bob Hope, CA	310-725-3300	7:00 a.m.-5:30 p.m.	818-567-4806
Charlotte Douglas Intl, NC	404-305-5180	8:00 a.m.-4:30 p.m.	704-344-6487
Chicago Midway, IL	847-294-8400	8:00 a.m.-4:00 p.m.	773-884-3670
Chicago O'Hare Intl, IL	847-294-8400	8:00 a.m.-4:00 p.m.	773-601-7600
Cleveland Hopkins Intl, OH	847-294-8400	8:00 a.m.-4:00 p.m.	216-898-2020
Covington/Cincinnati, OH	708-294-7401	8:00 a.m.-4:30 p.m.	606-767-1006
Dallas/Ft. Worth Intl, TX	817-222-5006	8:30 a.m.-5:00 p.m.	972-615-2531
Dayton Cox Intl, OH	847-294-8400	7:30 a.m.-4:00 p.m.	937-454-7300
Denver Intl, CO	425-227-1389	7:30 a.m.-4:00 p.m.	303-342-1600
Detroit Metro, MI	847-294-8400	8:00 a.m.-4:00 p.m.	734-955-5000
Fairbanks Intl, AK	907-271-5936	7:30 a.m.-4:00 p.m.	907-474-0050
Fort Lauderdale Intl, FL	404-305-5180	7:00 a.m.-3:30 p.m.	305-356-7932
George Bush Intercontinental/Houston, TX	817-222-5006	7:30 a.m.-4:00 p.m.	713-230-8400
Hartsfield-Jackson Atlanta Intl, GA	404-305-5180	7:00 a.m.-3:30 p.m.	404-669-1200
Honolulu Intl, HI	310-643-3200	7:30 a.m.-4:00 p.m.	808-840-6100
Houston Hobby, TX	817-222-5006	8:00 a.m.-5:00 p.m.	713-847-1400
Indianapolis Intl, IN	847-294-8400	8:00 a.m.-4:00 p.m.	317-484-6600
Kahului/Maui, HI	310-643-3200	7:30 a.m.-4:00 p.m.	808-877-0725
Kansas City Intl, MO	816-329-3000	7:30 a.m.-4:00 p.m.	816-329-2700
Las Vegas McCarran, NV	310-725-3300	7:30 a.m.-4:00 p.m.	702-262-5978
Los Angeles Intl, CA	310-725-3300	7:00 a.m.-3:30 p.m.	310-342-4900
Louis Armstrong New Orleans Intl, LA	817-222-5006	7:00 a.m.-4:30 p.m.	504-471-4300
Memphis Intl, TN	404-305-5180	7:30 a.m.-4:00 p.m.	901-322-3350
Miami Intl, FL	404-305-5180	7:00 a.m.-4:00 p.m.	305-869-5400
Minneapolis/St. Paul, MN	847-294-8400	8:00 a.m.-4:00p.m.	612-713-4000
Nashville Intl, TN	404-305-5180	7:00 a.m.-3:30 p.m.	615-781-5460
New York Kennedy Intl, NY	718-995-5426	8:00 a.m.-4:30 p.m.	718-656-0335
New York La Guardia, NY	718-995-5426	8:00 a.m.-4:30 p.m.	718-335-5461
Newark Liberty Intl, NJ	718-995-5426	8:00 a.m.-4:30 p.m.	973-645-3103
Norman Y. Mineta San Jose Intl, CA	310-643-3200	7:30 a.m.-4:00 p.m.	408-982-0750
Ontario Intl, CA	310-643-3200	7:30 a.m.-4:00 p.m.	909-983-7518
Orlando Intl, FL	404-305-5180	7:30 a.m.-5:00 p.m.	407-850-7000
Philadelphia Intl, PA	718-995-5426	8:00 a.m.-4:30 p.m.	215-492-4100
Phoenix Sky Harbor Intl, AZ	310-643-3200	7:30 a.m.-4:00 p.m.	602-379-4226
Pittsburgh Intl, PA	718-995-5426	8:00 a.m.-4:30 p.m.	412-269-9237
Portland Intl, OR	425-227-1389	7:30 a.m.-4:00 p.m.	503-493-7500
Raleigh-Durham, NC	404-305-5180	8:00 a.m.-4:30 p.m.	919-840-5544
Ronald Reagan Washington National, DC	718-995-5426	8:00 a.m.-4:30 p.m.	703-413-1535
Salt Lake City, UT	425-227-1389	7:30 a.m.-4:00 p.m.	801-325-9600
San Antonio Intl, TX	817-222-5006	8:00 a.m.-4:30 p.m.	210-805-5507
San Diego Lindbergh Intl, CA	310-725-3300	8:00 a.m.-4:30 p.m.	619-299-0677
San Francisco Intl, CA	310-643-3200	7:00 a.m.-3:30 p.m.	650-876-2883
San Juan Intl, PR	404-305-5180	7:30 a.m.-5:00 p.m.	809-253-8663
Seattle-Tacoma Intl, WA	425-227-1389	7:30 a.m.-4:00 p.m.	206-768-2900
St. Louis Lambert, MO	816-329-3000	7:30 a.m.-4:00 p.m.	314-890-1000
Tampa Intl, FL	404-305-5180	7:30 a.m.-4:00 p.m.	813-371-7700
Ted Stevens Anchorage Intl, AK	907-271-5936	7:30 a.m.-4:00 p.m.	907-271-2700
Teterboro, NJ	718-995-5426	8:00 a.m.-4:30 p.m.	201-288-1889
Washington Dulles Intl, DC	718-995-5426	8:00 a.m.-4:30 p.m.	703-661-6031
West Palm Beach, FL	404-305-5180	8:00 a.m.-4:30 p.m.	407-683-1867
Westchester Co, NY	718-995-5426	8:00 a.m.-4:30 p.m.	914-948-6520

*Facilities can be contacted through the Rgnl Duty Officer during non-business hours.

Air Route Traffic Control Center frequencies and their remoted transmitter sites are listed below for the coverage of this volume. Bold face type indicates high altitude frequencies, light face type indicates low altitude frequencies. To insure unrestricted IFR operations within the high altitude enroute sectors, the use of 720 channel communications equipment (25 kHz channel spacing) is required.

Ⓡ CHICAGO CENTER

Burlington – 135.6
 Cedar Rapids – 132.8
 Des Moines – 127.05
 Dubuque – 133.95 **127.775 125.225**
 Moline – **135.825** 118.75
 Ottumwa – 118.15
 Washington – **134.325 133.35 125.575**

H-2-5-10, L-12-27-28-31, A-1
 (KZAU)

Ⓡ DENVER CENTER – 124.8

Ainsworth – 132.7 127.95
 Cheyenne – 125.9
 Colby – **132.175 127.65**
 Crawford – **135.025** 127.95
 Goodland – 132.5
 Grand Island West – 132.7
 Hayes Center – **127.025**
 Hill City – 132.5
 North Platte – 132.7 **124.225**
 Ogallala – 132.7 **126.325**
 O'Neill – **135.025** 132.7
 Rapid City – 127.95
 Scottsbluff – 127.95
 Sterling – 118.475

H-1-2-3-4-5-6, L-8-9-10-11-12-13-14-15
 (KZDV)

Ⓡ KANSAS CITY CENTER – 132.325

Anthony – **133.2** 118.35
 Butler – 125.55
 Chanute – 132.9
 Chillicothe – 125.25
 Columbia – **134.5** 134.5 **119.475** 118.4
 Edna – 128.6
 Emporia – **132.25** 127.725 120.2
 Farmington – **120.825** 128.4 127.475
 Garden City – **133.45** 125.2
 Hutchinson – **135.9 134.3** 118.8
 Kirksville – **134.625** 132.6
 Liberal – **134.675** 134.0
 Manhattan – 127.35
 Maples – 128.35
 Quincy – 135.525 **133.725**
 Richland – 128.35 124.1
 Russell – 124.4
 St. Charles – 125.9
 St. Joseph – 127.9
 St. Louis – 128.1 **127.225** 128.35
 Salina – 134.9
 Sedalia – 135.575
 Springfield – **135.175 132.9** 127.5
 Topeka – **134.7** 123.8

H-5-6, L-10-15-16-27, A-2
 (KZKC)

Ⓡ MEMPHIS CENTER

Malden – 134.65

H-5-6-9, L-15-16-17-18-22-25-26
 (KZME)

® MINNEAPOLIS CENTER – 134.45 125.5 120.3H-2-5-10-11, L-10-12-13-14-27-28-31
(KZMP)

Aberdeen – 120.6
 Alexandria – **133.4** 126.1
 Bemidji – 134.75
 Bismark – 125.6 **125.6**
 Brainerd – 118.05
 Darwin – 125.5
 Des Moines – **135.775 118.825** 125.65
 Dickinson – 124.25
 Duluth – **134.55** 134.55 127.9
 Dupree – 126.8
 Fairmont – 127.75
 Fargo – **127.35**
 Farmington – 133.7
 Ft. Dodge – 134.0
 Grand Forks – **132.15**
 Grand Island – 126.05
 Green Bay – 125.55
 Hastings – **135.1** 119.4
 Huron – **126.25**
 International Falls – 120.9
 Iron Mountain – 133.45 121.25
 Jamestown – 125.6 **124.2**
 La Crosse – 128.6 **118.85**
 Lincoln – **119.525**
 Mankato – 135.0
 Marysville – **134.225** 126.4
 Mason City – **134.25** 127.3
 Minot – **127.6** 127.6 118.9
 Mosinee – 124.4
 Omaha – **132.725** 128.75 119.6
 O'Neill – 128.0 **124.875**
 Pierre – **128.425** 125.1
 Princeton – 121.05
 Redwood Falls – **133.075** 127.1 **119.875**
 Rochester – 132.35
 Roseau – 134.75
 Sioux City – **119.725** 124.1
 Sioux Falls – 132.05
 Traverse City – 338.3
 Watertown – 128.5
 White Cloud – **132.55** 120.85

® SALT LAKE CITY CENTERH-1-2-3, L-9-11-12-13-14
(KZLC)Watford City – **126.85** 126.85

VHF frequencies available at Flight Service Stations and at their remote communication outlets (RCO's) are listed below for the coverage of this volume. Frequencies in bold type are available all altitudes but recommended for use FL180 and above. "T" indicates transmit only and "R" indicates receive only. RCO's available at NAVAID's are listed after the NAVAID name. RCO's not at NAVAID's are listed by name.

COLUMBIA AFSS 122.2 122.65

BUTLER VORTAC 115.9T 122.1R
 CHILLICOTHE RCO 122.25
 CLINTON RCO 122.4
 COLUMBIA VOR/DME 110.2T 122.1R
 DOGWOOD VORTAC 109.4T 122.1R
 DOWNTOWN RCO **122.6**
 HALLSVILLE VORTAC 114.2T 122.1R
 JEFFERSON CITY RCO 122.25
 JOHNSON COUNTY RCO 122.15
 JOPLIN RCO 122.6
 KANSAS CITY VORTAC 113.25T 122.1R 122.65
 KIRKSVILLE VORTAC 114.6T 122.1R 122.2
 LEBANON RCO 122.5
 MACON VOR/DME 112.9T 122.1R
 MAPLES VORTAC 113.4T 122.1R
 NEOSHO VOR/DME 117.3 122.1R
 POINT LOOKOUT RCO 122.65
 ST JOSEPH VORTAC 115.5T 122.1R 122.3
 SEDALIA RCO 122.05
 SPRINGFIELD VORTAC 116.9T 122.1R **122.55**
 SUNSHINE RCO 122.15
 VICHY VOR/DME 117.7T 122.1R 122.35
 WEST PLAINS RCO 122.15

COLUMBUS AFSS

AINSWORTH RCO 122.4
 ALLIANCE RCO 122.3
 BEATRICE RCO 122.5
 CENTRAL NEBRASKA RCO 122.45
 CHADRON VOR/DME 113.4T 122.1R 122.5
 COLUMBUS RCO 122.2 122.4
 HASTINGS VOR/DME 108.8T 122.1R
 HAYES CENTER VORTAC 117.7T 122.1R
 KEARNEY RCO 122.55
 LEE BIRD RCO **122.5**
 LINCOLN RCO **122.65**
 MC COOK RCO **122.6**
 NORFOLK VOR/DME 109.6T 122.15
 OMAHA RCO **122.35**
 O'NEILL RCO 122.45
 PAWNEE CITY VORTAC 112.4T 122.1R
 SCOTTSBLUFF VORTAC 112.6T 122.1R **122.6**
 SIDNEY VORTAC 115.9T 122.1R **122.45**
 THEDFORD RCO 122.4
 WOLBACH VORTAC 114.8T 122.1R

FORT DODGE AFSS

BURLINGTON RCO 122.65
CEDAR RAPIDS RCO 122.55
CHARLES CITY RCO 122.4
DAVENPORT RCO 122.5
DENISON RCO 122.25
DES MOINES RCO 122.65
DUBUQUE RCO 122.05
FORT DODGE RCO 122.2 122.3
GRINNELL RCO **122.35**
IOWA CITY VORTAC 116.2T 122.1R 122.25
LAMONI VORTAC 116.7T 122.1R
MASON CITY RCO 122.6
NEWTON VOR/DME 112.5T 122.1R
OMAHA VORTAC 116.3T 122.1R
OTTUMWA RCO 122.4
SIOUX CITY VORTAC 116.5T 122.1R 122.45
SPENCER RCO 122.15
WATERLOO RCO 122.05
WAUKON VORTAC 116.6T 122.1R

GRAND FORKS AFSS

BISMARCK RCO 122.2
BOWMAN RCO 122.4
DEVILS LAKE RCO 122.3
DICKINSON RCO 122.2
FARGO RCO 122.425
GRAND FORKS RCO 122.2 **122.6**
GRAND FORKS VOR/DME 114.3T
HAZEN RCO 122.45
JAMESTOWN VOR/DME 114.5T 122.2 123.6
MINOT RCO 122.2
ROLLA RCO 122.65
WILLISTON RCO **123.6**

GREEN BAY AFSS 122.2 122.55

RED WING RCO 122.6

HURON AFSS

ABERDEEN VOR/DME 113.0T 122.1R 122.4
BROOKINGS RCO 122.65
BUFFALO RCO 122.15
DUPREE RCO 122.6
HURON VORTAC 117.6T 122.1R 122.2 122.6 123.6
MITCHELL RCO 122.3
MOBRIDGE RCO 122.35
PHILIP RCO 122.4
PIERRE RCO 122.2
RAPID CITY VORTAC 112.3T 122.1R 122.65
SIOUX FALLS RCO 122.2
SPEARFISH RCO 122.55
WATERTOWN RCO 122.5
WINNER VOR 112.8T 122.1R
YANKTON RCO 122.55

PRINCETON AFSS 122.2

ALBERT LEA RCO 122.05
ALEXANDRIA RCO 122.6
ANOKA COUNTY RCO 122.55
AUSTIN RCO 122.5
BAUDETTE RCO 122.4
BEMIDJI RCO 123.6
BRAINERD RCO 123.65
CRANE LAKE RCO 122.2
DARWIN VORTAC 109.0T 122.1R
DETROIT LAKES RCO 122.5
DULUTH RCO 122.35
ELY VOR/DME 109.6T 122.1R
EVELETH RCO 122.45
FAIRMONT VOR/DME 110.2T 123.6R
FARMINGTON VORTAC 115.7T 122.1R
FERGUS FALLS RCO 122.35
GRAND MARAIS RCO 122.3
GRAND RAPIDS RCO 122.05
HIBBING RCO 122.6
HUMBOLDT VORTAC 112.4T 122.1R
INTL FALLS RCO 123.6
MADISON RCO 122.3
MANKATO VOR/DME 110.8T 122.1R
MARSHALL RCO 122.35
MINNEAPOLIS RCO 122.3
MONTEVIDEO RCO 122.45
MORA RCO 122.4
MORRIS RCO 122.25
NODINE VORTAC 117.9T 122.1R
OWATONNA RCO 122.25
PARK RAPIDS VOR/DME 110.6T 122.1R
REDWOOD FALLS RCO 122.4
THIEF RIVER FALLS VOR/DME 108.4T 122.1R 123.6R
ROCHESTER RCO 122.45
ROSEAU RCO 122.25
ST CLOUD RCO 122.5
WARROAD RCO 122.55
WILLMAR RCO 122.15
WINONA RCO 122.15
WORTHINGTON VOR/DME 110.6T 122.1R 123.6R

SAINT LOUIS AFSS

BIBLE GROVE VORTAC 109.0T 122.05R
CAPE GIRARDEAU VOR/DME 112.9T 122.1R **122.4**
CAPITAL VORTAC 112.7T 122.1R 122.25
CENTRALIA VORTAC 115.0T 122.1R
CHAMPAIGN (URBANA) RCO 122.45
DECATUR RCO 122.3
FARMINGTON VORTAC 115.7T 122.1R 122.3
FORISTELL VORTAC 110.8T 122.1R
MALDEN VORTAC 111.2T 122.1R
MARION VOR/DME 110.4T 122.1R
QUINCY VORTAC 113.6T 122.1R 122.5
ST LOUIS VORTAC 117.4T 122.1R 122.2 122.6 122.45
ST LOUIS RGNL RCO 122.05
SAMSVILLE VOR/DME 116.6T 122.1R
VANDALIA VORTAC 114.3T 122.1R

WICHITA AFSS

ANTHONY VORTAC 112.9T 122.1R
CHANUTE RCO 122.35
DODGE CITY RCO 122.35
EMPORIA RCO 122.3
FT LEAVENWORTH RCO 122.35
GARDEN CITY RCO 122.45
GOODLAND RCO 122.4
GREAT BEND RCO 122.5
HAYS RCO 122.3
HILL CITY RCO **122.65**
HUTCHINSON RCO 122.05
LIBERAL RCO 122.4
MANHATTAN RCO **122.65**
MANKATO VORTAC 109.8T 122.1R
MC PHERSON RCO 122.15
OSWEGO VORTAC 117.6T 122.1R
PARSONS RCO 122.35
RUSSELL RCO 122.6
SALINA RCO 122.4
STROTHER RCO 122.5
TOPEKA RCO 122.45
ULYSSES RCO 122.3
WICHITA RCO 122.2 **122.65**

**FLIGHT SERVICE STATION COMMUNICATION FREQUENCIES
FLIGHT STANDARDS DISTRICT OFFICES (FSDO)**

Below is a list of FSDO's in the area of coverage of this directory. These offices serve the aviation industry and the general public on matters relating to certification and operation of general aviation aircraft. Address letters to Manager, Flight Standards District Office—Federal Aviation Administration.

IOWA

3753 Convenience Blvd
Ankeny, IA 50021
Telephone: 515-289-3840

KANSAS

Room 103, FAA Building
1801 Airport Road
Wichita, KS 67209
Telephone: 316-941-1200

MINNESOTA

6020 28TH Ave. South, Room 201
Minneapolis, MN 55450
Telephone: 612-713-4211

MISSOURI

Kansas City FSDO
10015 N. Executive Hills Blvd
Kansas City, MO 64153
Telephone: 816-891-2100

FAA FSDO-62
FAA Building
10801 Pear Tree Lane
Suite 200
St. Ann, MO 63074
Telephone: 314-429-1006

NEBRASKA

FAA FSDO CE-09
3431 Aviation Rd, Suite 120
Lincoln, NE 68524
Telephone: 402-475-1738

NORTH DAKOTA

Fargo FSDO GL-21
4620 Amber Valley Parkway
Fargo, ND 58104
701 277-1245
Fax 701-277-3682

SOUTH DAKOTA

909 St. Joseph Street
Suite 700
Rapid City, SD 57701-2699
Telephone: 605-737-3050
FAX: 605-737-3069



PREFERRED IFR ROUTES

A system of preferred routes has been established to guide pilots in planning their route of flight, to minimize route changes during the operational phase of flight, and to aid in the efficient orderly management of the air traffic using federal airways. The preferred IFR routes which follow are designed to serve the needs of airspace users and to provide for a systematic flow of air traffic in the major terminal and en route flight environments. Cooperation by all pilots in filing preferred routes will result in fewer traffic delays and will better provide for efficient departure, en route and arrival air traffic service.

The following lists contain preferred IFR routes for the low altitude stratum and the high altitude stratum. The high altitude list is in two sections; the first section showing terminal to terminal routes and the second section showing single direction route segments. Also, on some high altitude routes low altitude airways are included as transition routes.

The following will explain the terms/abbreviations used in the listing:

1. Preferred routes beginning/ending with an airway number indicate that the airway essentially overlies the airport and flights are normally cleared directly on the airway.
2. Preferred IFR routes beginning/ending with a fix indicate that aircraft may be routed to/from these fixes via a Standard Instrument Departure (SID) route, radar vectors (RV), or a Standard Terminal Arrival Route (STAR).
3. Preferred IFR routes for major terminals selected are listed alphabetically under the name of the departure airport. Where several airports are in proximity they are listed under the principal airport and categorized as a metropolitan area; e.g., New York Metro Area.
4. Preferred IFR routes used in one direction only for selected segments, irrespective of point of departure or destination, are listed numerically showing the segment fixes and the direction and times effective.
5. Where more than one route is listed the routes have equal priority for use.
6. Official location identifiers are used in the route description for VOR/VORTAC nav aids.
7. Intersection names are spelled out.
8. Navaid radial and distance fixes (e.g., ARD201113) have been used in the route description in an expediency and intersection names will be assigned as soon as routine processing can be accomplished. Navaid radial (no distance stated) may be used to describe a route to intercept a specified airway (e.g., MIV MIV101 V39); another navaid radial (e.g., UIM UIM255 GSW081); or an intersection (e.g., GSW081 FITCH).
9. Where two nav aids, an intersection and a navaid, a navaid and a navaid radial and distance point, or any navigable combination of these route descriptions follow in succession, the route is direct.
10. The effective times for the routes are in UTC. During periods of daylight saving time effective times will be one hour earlier than indicated. All states observe daylight saving time except Arizona, Puerto Rico and the Virgin Islands. Pilots planning flight between the terminals or route segments listed should file for the appropriate preferred IFR route.
11. (90–170 incl) altitude flight level assignment in hundred of feet.
12. The notations "pressurized" and "unpressurized" for certain low altitude preferred routes to Kennedy Airport indicate the preferred route based on aircraft performance.
13. High Altitude Preferred IFR Routes are in effect during the following time periods unless otherwise noted.
 Sun 1300–2259 local time.
 Mon thru Fri 0701–2259 local time.
 Sat 0701–1459 local time.
14. Use current SIDs and STARs for flight planning.
15. For high altitude routes, the portion of the routes contained in brackets [] is suggested but optional. The portion of the route outside the brackets will likely be required by the facilities involved.

LOW ALTITUDE

Terminals	Route	Effective Times (UTC)
DES MOINES (DSM)		
Memphis (MEM)	V175 MAW	0000–2359
KANSAS CITY METRO AREA		
Chicago Midway (MDW)	PIA MOTIF–STAR	0000–2359
Chicago O'Hare (ORD)	EXCEL V116 PIA V262 BDF V10 PLANO	0000–2359
Indianapolis (IND)	EXCEL V116 UIN V50	0000–2359
Louisville (SDF)	ANX V12 COU V44 HODGS V175 VIH V178 FAM V190 PXV V4	0000–2359
	or	
	ANX V159 AUGIE V234 VIH V178 FAM V190 PXV V4	0000–2359
St. Louis (STL)	LAKES–DP COU TRAKE TRAKE–STAR	0000–2359
Terre Haute (HUF)	EXCEL V116 UIN V50	0000–2359
MINNEAPOLIS METRO AREA		
Chicago Midway (MDW)	V2 LNR V171 RFD V128 V8 JOT	0000–2359
Chicago O'Hare (ORD)	V2 V97 KRENA	0000–2359
ST. LOUIS METRO AREA		
Chicago Midway (MDW)	CARDS–DP SPI V9 PNT V69 JOT	0000–2359

Terminals	Route	Effective Times (UTC)
Chicago O'Hare (ORD).....	(at or blo 170) CARDS-DP SPI V9 PNT V227 PLANO	0000-2359
Cleveland (CLE).....	(non-turbojets) TURBO-DP DEC VHP V14 MIE V210 ROD ABERZ-STAR	
Columbus (CMH).....	TOY V12 J134 GBEES CVG V5 JOGER	0000-2359
Indianapolis (IND)	(Turbojets) GATWY-DP VHP	
	or	
	(Non-turbojets) TURBO-DP DEC VHP	
Kansas City (MCI).....	OZARK-DP MCM BQS-STAR	
SPRINGFIELD (SGF)		
Indianapolis (IND)	V190 FAM V72 BIB V12 KELLY	0000-2359
	or	
	V190 PXV V11	0000-2359
Springfield (SPI)	V63 UIN V50 SPI	0000-2359
Terre Haute (HUF).....	V190 PXV V7	0000-2359
WICHITA (ICT)		
Indianapolis (IND)	V12 EMP V234 ENL V72 BIB V12 KELLY	0000-2359
Louisville (IIU).....	V350 CNU V132 SGF V190 PXV V4	0000-2359
Terre Haute (HUF).....	V12 EMP V234 ENL V72 BIB	0000-2359

HIGH ALTITUDE

Terminals	Route	Effective Times (UTC)
KANSAS CITY (MCI)		
Baltimore (BWI).....	LAKES-DP COU STL J24 VHP ROD J152 J162 MGW EMI-STAR	0000-2359
Chicago O'Hare (ORD).....	ROYAL-DP JTHRO IRK BDF BDF-STAR	
Cleveland Metro Area (CLE) (CGF) (BKL) (LNN) (LPR)	OBK CRL HIMEZ-STAR.....	0000-2359
Dallas/Fort Worth (DFW)	RACER TUL UKW	
Detroit Metro-Wayne (DTW).....	MKG POLAR-STAR.....	0000-2359
Kennedy (JFK).....	LAKES-DP COU STL J24 VHP ROD J29 JHW J70 LVZ LENDY-STAR	
La Guardia (LGA)	ROYAL-DP JTHRO IRK BDF JOT J146 ETG MIP-STAR	1100-0400
Milwaukee (MKE)	ROYAL-DP JTHRO IRK BDF JOT VEENA-STAR	
Newark (EWR).....	ROYAL-DP JTHRO IRK BDF JOT J146 GIJ J554 CRL J584 SLT FQM-STAR	1100-0400
Washington Dulles (IAD).....	LAKES-DP COU STL J24 VHP J80 J30 BUCKO JASEN-STAR	
	or	
	LAKES-DP COU STL J24 VHP J80 AIR MGW MGW 121 VERNI ESL ROYIL-STAR.....	1100-0400
	or	
	(GPS or DME/DME IRU equipped)	
	or	
	LAKES-DP COU STL J24 VHP J80 AIR MGW VERNI ESL SHNON (RNAV)-STAR	1100-0400
Washington Natl (DCA).....	LAKES-DP COU STL J24 VHP J80 J30 BUCKO BUCKO-STAR	
	or	
	LAKES-DP COU STL J24 VHP J80 J30 SHAAR WZRRD-STAR	1100-0400
	or	
	LAKES-DP COU STL J24 VHP J80 J30 SHAAR ELDEE (RNAV)-STAR.....	
LINCOLN (LNK)		
Chicago O'Hare (ORD).....	FOD DBQ JVL-STAR	0700-2359
MINNEAPOLIS (MSP)		
Atlanta (ATL).....	ZMBRO-DP ODI J30 BRIBE BDF ENL ENL162 PLESS TINGS J45 BNA RMG-STAR	1100-0400
	or	

PREFERRED IFR ROUTES

Terminals	Route	Effective Times (UTC)
	(RNAV only) ZMBRO-DP ODI J30 BRIBE ENL ENL162 PLESS TINGS J45 BNA ERLIN (RNAV)-STAR.....	1100-0400
Baltimore (BWI).....	DLL J34 AIR J162 MGW EMI-STAR	
Chicago Midway (MDW).....	DBQ CVA MOTIF-STAR	1100-0400
Chicago O'Hare (ORD).....	RST JVL-STAR	0000-2359
Cleveland Metro Area (CLE) (CGF) (BKL) (LNN) (LPR)	COULT-DP DLL J34 GRR HIMEZ-STAR	
Dallas/Fort Worth (DFW)	J21 IRW UKW	
Denver (DEN).....	FSD J114 SNY LANDR-STAR	
Detroit Metro Area (PTK), (YIP), (ARB) (DET), (CYQG)	DLL BAE MKG LAN SPRTN-STAR	
Fort Lauderdale (FLL).....	ROCHESTER-DP ALO J233 J45 STL J45 BNA J73 SZW J43 PIE FORTL-STAR	
	or (/E, /G, /R, /J, /L, /Q) MSP ROCHESTER-DP ALO J233 J45 STL J45 BNA J73 SZW J43 PIE SWAGS (RNAV)-STAR FLL.....	
Fort Myers (RSW)	ODI J30 BRIBE BDF ENL ENL162 PLESS J45 BNA J73 SZW J43 PIE JOSFF-STAR	1100-0300
Kansas City (MKC)	FOD RBA-STAR	
Kennedy (JFK).....	ODI DLL OBK J584 CRL J554 JHW J70 LVZ LENDY-STAR	0000-2359
La Guardia (LGA).....	DLL BAE J34 J146 ETG MIP-STAR	
Madison (MSN).....	ODI MSN	0700-2359
Marco Island (MKY)	ODI J30 BRIBE BDF ENL ENL162 PLESS J45 BNA J73 SZW J43 PIE ZEILR-STAR	
Memphis (MEM).....	ALO J233 STL J35 FAM GQE-STAR	
Miami (MIA).....	ROCHESTER-DP ALO J233 J45 STL J45 BNA J73 SZW J43 PIE CYY-STAR	
	or (/E, /G, /R, /J, /L, /Q) MSP ROCHESTER-DP ALO J233 J45 STL J45 BNA J73 SZW J43 PIE DEEDS (RNAV)-STAR	
Milwaukee (MKE)	ODI MSN V2 WAITS	0700-2359
Myrtle Beach (MYR).....	EARND ELANR EMMLY ERECO IIU RYANS	
Naples (APF).....	ODI J30 BRIBE BDF ENL ENL162 PLESS J45 BNA J73 SZW J43 PIE ZEILR-STAR	
Nashville (BNA).....	ODI J30 BRIBE BDF ENL ENL162 PLESS J45	1100-0400
Newark (EWR).....	DLL BAE J34 CRL J584 SLT FQM-STAR	
Oakland (OAK).....	ABR J32 MLD J158 MVA ECA	
Orlando (ORL) (MCO)	ODI J30 BRIBE BDF ENL ENL162 PLESS J45 ATL J89 OTK LEESE-STAR	1100-0400
	or (GPS or DME/DME-IRU equipped) ODI J30 BRIBE BDF ENL ENL162 PLESS J45 ATL J89 OTK PIGLT (RNAV)-STAR	1100-0400
Palm Beach (PBI)	(GPS or DME/DME-IRU equipped) ROCHESTER-DP ALO J233 J45 STL J45 BNA J73 SZW CTY GULLO (RNAV)-STAR	
Philadelphia (PHL).....	COULT-DP DLL BAE J34 CRL CXR EWC JST BUNTS-STAR.....	
Phoenix (PHX).....	ONL LBF PUB ALS J102 ZUN FOSSL-STAR	
Pottstown (PTW).....	COULT-DP DLL BAE J34 CRL CXR EWC JST	
St. Louis (STL).....	RST ALO J233 CNOTA RIVRS-STAR	
Salt Lake City (SLC).....	ABR J158 DDY J202 OCS OGD.....	
San Francisco (SFO).....	ABR J32 FMG ILA PYE	
Sarasota/Bradenton (SRQ).....	ODI J30 BRIBE BDF ENL ENL162 PLESS J45 BNA J73 SZW CLAMP-STAR	1100-0400
Tampa (TPA).....	ODI J30 BRIBE BDF ENL ENL162 PLESS J45 BNA J73 SZW DARBS-STAR	1100-0400
Washington Dulles (DCA).....	DLL J34 SHAAR WZRRD-STAR	
	or DLL J34 SHAAR ELDEE (RNAV)-STAR.....	

Terminals	Route	Effective Times (UTC)
Washington Natl (IAD).....	DLL J34 AIR MGW MGW121 VERNI ESL ROYIL-STAR	
	or (GPS or DME/DME-IRU equipped) DLL J34 AIR MGW VERNI SHNON (RNAV)-STAR	
West Palm Beach (PBI)	(GPS or DME/DME-IRU equipped) ROCHESTER-DP ALO J233 J45 STL J45 BNA J73 SZW CTY GULLO (RNAV)-STAR	
	or ROCHESTER-DP ALO J233 J45 STL J45 BNA J73 SWZ CTY LLAKE-STAR	1100-0400
OMAHA (OMA)		
Chicago O'Hare (ORD).....	FOD DBQ JVL-STAR	0700-2359
ROCHESTER (RST)		
Chicago O'Hare (ORD).....	RST JVL-STAR	0000-2359
ST LOUIS (STL)		
Baltimore (BWI).....	GATWY-DP IIU J526 BKW J147 CSN OTT-STAR	
Boston (BOS).....	GATWY-DP ROD J29 JHW J82 ALB GDM GDM-STAR	
Chicago Midway (MDW).....	CARDS-DP SPI MOTIF-STAR	1200-0400
Chicago O'Hare (ORD).....	CARDS-DP BDF BDF-STAR,	0000-2359
Cleveland Metro Area (CLE) (CGF) (BKL) (LNN) (LPR)	GATWY-DP JIGSY J134 JUDDI CVG ABERZ-STAR.. or (turbojets) GATWY-DP JIGSY J134 JUDDI CVG ABERZ-STAR	
Columbus (CMH).....	GATWY-DP ROD V210 GUNNE	
Dallas/Fort Worth (DFW)	LINDY-DP MAP RZC FSM BYP	
Detroit Metro Area (PTK), (YIP), (ARB) (DET), (CYQG)	GATWY-DP VHP FWA CRUX-STAR	
	GATWY-DP VHP FWA V96 VVV VVV051 POOFE.... (all others) PLESS-DP BNA J73 SZW J43 PIE FORTL-STAR.....	
	or (/E, /G, /R, /J, /L, /Q) PLESS-DP BNA J73 SZW J43 PIE SWAGS (RNAV)-STAR	
Fort Lauderdale (FLL).....	LINDY-DP MAW VUZ J39 MGM J41 SZW J43 PIE JOSFF-STAR	1100-0300
La Guardia (LGA)	GATWY-DP ROD J29 J146 ETG MIP-STAR	
Miami (MIA)	PLESS-DP BNA J73 SZW J43 PIE CYY-STAR	
	(all others) PLESS-DP BNA J73 SZW J43 PIE CYY-STAR	
	or (/E, /G, /R, /J, /L, /Q) PLESS-DP BNA J73 SZW J43 PIE DEEDS (RNAV)-STAR.....	
Orlando Executive (ORL).....	PLESS-DP BNA J73 SZW OTK LEESE-STAR	
	or (GPS or DME/DME-IRU equipped) PLESS BNA J73 SZW OTK PIGLT (RNAV)-STAR	1100-0400
Orlando Intl (MCO)	(GPS or DME/DME-IRU equipped) PLESS BNA J73 SZW OTK PIGLT (RNAV)-STAR	1000-0400
Tampa (TPA)	LINDY-DP MAW VUZ J41 SZW DARBS-STAR	1100-0400
Washington Dulles (IAD).....	BLUES-DP IIU J526 BKW ROYIL-STAR	
	or BLUES-DP IIU J526 BKW SHNON (RNAV)-STAR ... GATWY-DP IIU J526 BKW WZRRD-STAR	
	or GATWY-DP IIU J526 BKW ELDEE (RNAV)-STAR (/E, /G, /R, /J, /L, /Q) PLESS-DP BNA J73 SZW CTY GULLO (RNAV)-STAR	
	or PLESS-DP BNA J73 SZW CTY GULLO(RNAV)-STAR	

**PREFERRED IFR ROUTES
SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES**

Terminals	Route	Effective Times (UTC)
Traffic overflying Kansas City VORTAC (MCI to IAD): MCI	J24 IIU J8 HVQ ROYIL-STAR	
	or	
	J24 IIU J8 HVQ SHNON (RNAV)-STAR	
Traffic overflying Lamoni VORTAC (LMN) to IAD: LMN	(GPS or DME/DME-IRU equipped) J64 FWA APE AIR MGW VERNI ESL ROYIL-STAR	
	or	
	(GPS or DME/DME-IRU equipped) J64 FWA APE AIR MGW VERNI ESL SHNON (RNAV)-STAR	
Traffic overflying Saint Louis VORTAC (STL) to IAD: STL	IIU J8 HVQ ROYIL-STAR	
	or	
	IIU J8 HVQ SHNON (RNAV)-STAR	

Q-ROUTES

Q ROUTES REGULATORY

Q1, Q3, Q5, Q7, Q9 and Q11 are preferred single direction (Southbound) Q routes; flight planning Northbound not authorized.

Q routes are RNAV routes that require the use of GNSS or DME/DME/IRU RNAV, unless otherwise indicated. Please note that this section does not apply to Q routes in the Gulf of Mexico. Gulf of Mexico Q routes are explained in the Southeast and South Central A/FD volumes. Q routes listed in this A/FD volume have at least part of one of their leg segments within this volume's area of coverage.

GNSS and DME/DME/IRU RNAV operations are authorized along Q routes at FL 180 and above. GNSS and DME/DME/IRU RNAV MEAs will only be published if above FL 180.

DME facilities that have been assessed for RNAV operations are listed below. Q routes with no DME facilities listed are limited to GNSS RNAV operations only. Those routes will have an enroute chart note "GNSS REQUIRED".

Route	Segment	DME
Q1	ELMAA-ERAVE	BTG, OLM, HQM, HUH, UBG
	ERAVE-EASON	BTG, OLM, HQM, HUH, LTJ, CVO, DSD, OED, UBG, ONP, EUG
	EASON-EBINY	CVO, DSD, OED, BTG, UBG, ONP, EUG, LMT
	EBINY-ENVIE	CVO, OED, EUG, LMT, RBL, ENI, ONP, FJS
	ENVIE-ETCHY	OED, PYE, OAK, LIN, ECA, LMT, RBL, ENI, SAC, FJS
Q2	ETCHY-POINT REYES	LIN, ECA, RBL, ENI, SAC, OAK
	BOILE-HEDVI	HEC, PDZ, OCN, PMD, LAX, RZS, IPL, TRM, PKE, BLH, EED, BZA, GBN, PXR
	HEDVI-HOBOL	BZA, GBN, BLH, EED, PXR, IPL, TFD, DRK, TUS
	HOBOL-ITUCO	TFD, GBN, BLH, PXR, TUS, CIE, SSO
Q3	ITUCO-NEWMAN	EWM, TFD, PXR, CIE, SSO, TUS, TCS
	FEPOT-FAMUK	OLM, TOU, HQM, CVO, BTG, DSD, LTJ, UBG, ONP, EUG
	FAMUK-FRFLY	BTG, DSD, OED, CVO, EUG, ONP, UBG, RBL, LMT
Q4	FRFLY-FINER	OED, EUG, RBL, LMT, ENI, CVO, FJS
	FINER-FOWND	OED, PYE, ECA, LIN, OAK, ENI, RBL, LMT, SAC, FJS
	FOWND-POINT REYES	LIN, ECA, PYE, RBL, SAC, ENI
	BOILE-HEDVI	HEC, PDZ, OCN, PMD, LAX, RZS, IPL, TRM, PKE, BLH, EED, BZA, GBN, PXR
	HEDVI-SCOLE	EED, BLH, BZA, GBN, TRM, IPL, TFD
Q5	SCOLE-SPTFR	EED, BLH, BZA, GBN, TRM, IPL, TFD
	SPTFR-ZEBOL	EED, IPL, BZA, GBN, TFD, PXR, BLH
	ZEBOL-SKTR	PXR, BLH, BZA, GBN, TFD, TUS, SSO, CIE, SVC, TCS
	SKTR-EL PASO	EWM, CUS, SVC, TCS, SSO, CIE, ELP, DMN, CME
	HAROB-HISKU	OLM, ONP, CVO, EUG, HQM, UBG, BTG, LTJ, DSD, HUH
Q7	HISKU-HARPR	ONP, CVO, EUG, LTJ, DSD, UBG, BTG, RBL, OED, LMT, FJS, LKV
	HARPR-HOMEG	CVO, EUG, OED, RBL, LMT, ENI, FJS, LKV
	HOMEG-HUPTU	SAC, PYE, LIN, OAK, ECA, LMT, RBL, ENI, OED, FJS
Q9	HUPTU-STIKM	OAK, ECA, PYE, LIN, SAC, ENI, RBL
	JINMO-JOGEN	CVO, HQM, LTJ, UBG, BTG, ONP, IMB, EUG, OLM, DSD, YKM, PDT, SEA
	JOGEN-JUNEJ	LTJ, IMB, UBG, EUG, CVO, RBL, LMT, FMG, DSD, LKV, OED, BTG
Q11	JUNEJ-JAGWA	RBL, LMT, FMG, LIN, SAC, ECA, ENI, MOD, SWR, OAK, LKV, CZQ, AVE, SNS
	JAGWA-AVENAL	OAK, MOD, ECA, EHF, PRB, AVE, SNS, CZQ
	SUMMA-SMIGE	OLM, UBG, SEA, YKM, BTG, ONP, IMB, HQM, PDT, EUG, LTJ, CVO, DSD, OED, EPH, MWH
	SMIGE-SUNBE	IMB, UBG, EUG, IMB, RBL, LMT, FMG, SAC, OED, CVO, LKV, DSD, BTG
	SUNBE-REBRG	RBL, LMT, FMG, SAC, ECA, MVA, CZQ, OAK, EHF, PMD, LKV, LIN, MOD, AVE, OED, SWR
Q13	REBRG-DERBB	CZQ, PMD, EHF, LAX, RZS, AVE, MOD, ECA
	PAAGE-PAWLI	EPH, UBG, CVO, EUG, HQM, YKM, OLM, PDT, BTG, ONP, IMB, LTJ, DSD, LKV, OED, SEA
	PAWLI-PITVE	EUG, FMG, SAC, IMB, LKV, OED, DSD, RBL, LMT, CVO, REO
Q15	PITVE-PUSHH	FMG, SAC, LIN, SWR, MOD, OAL, RBL, LKV, LMT, MVA, CZQ
	PUSHH-LOS ANGELES	SAC, ECA, FMG, LIN, OAL, MOD, EHF, LAX, PMD, PDZ, HEC, OCN, CZQ, AVE, RZS
Q19	All segments	None; GNSS required
Q20	All segments	None; GNSS required
Q21	PLESS-NASHVILLE	ENL, GQO, PXV, BNA, IJU, FAM, BWG, CSX
	CORONA-HONDS	CNX, ABQ, ACH, ONM, TXO, LVS, TCC, CME
	HONDS-UNNOS	CNX, INK, CME, TXO, TCC
	UNNOS-FUSCO	FST, ACH, INK, CME, SGT, TXO, TCC
	FUSCO-JUNCTION	ABI, CWK, CSI, INK, LZZ, JCT, SGT, STV, FST
Q22	JONEZ-RAZORBACK	BYP, EOS, TUL, TXK, ADM, RZC, OKM
	GUSTI-OYSTY	AEX, DAS, MCB, LLA, BTR, LCH, HRV, LFT, LEV
	OYSTY-ACMES	RQR, GCV, MCB, BTR, PCU, GPT, HRV, LEV, SJI
	ACMES-CATLN	SJI, MGM, MCB, BFM, GPT, GCV, HRV, CEW, MVC, PCU, MEI

Q-ROUTES

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Route	Segment	DME
Q23	FORT SMITH–RAZORBACK	OKM, RZC, EOS, TUL
Q24	LAKE CHARLES–BATON ROUGE BATON ROUGE–IRUBE IRUBE–PAYTN	AEX, DAS, LCH, MCB, LFT, BTR AEX, LEV, MCB, LCH, RQR, HRV, BTR, GCV, MCB, PCU, SJI, LBY GCV, MCB, JYU, PCU, MEI, HRV, CEW, SJI
Q25	MEEOW–WALNUT RIDGE WALNUT RIDGE–WLSUN WLSUN–POCKET CITY	ELD, MEM, LIT, FAM, RZC MEM, STL, BWG, PXV, ENL, FAM, ARG, BNA, CSX, TTH BWG, PXV, ENL, BNA, TTH
Q26	WALNUT RIDGE–DEVAC	LIT, JKS, GQO, MEM, BNA, FAM, ARG, DYR, VUZ, RMG
Q27	FORT SMITH–ZALDA	OKM, SGF, RZC, EOS, TUL
Q28	GRAZN–PYRMD PYRMD–HAKAT HAKAT–ESTEE ESTEE–POCKET CITY	EIC, LIT, ELD, OKM, TXK ARG, LIT, FAM, ELD, SGF, RZC, MEM, TXK ARG, LIT, FAM, SGF, MEM ARG, CSX, FAM, PXV, ENL, MEM, STL, BWG, TTH, BNA
Q29	HARES–MEMPHIS MEMPHIS–SIDAE SIDAE–POCKET CITY	MEM, ARG, LIT, JAN, ELD, SQS MEM, PXV, BNA, BWG, ARG, ENL PXV, TTH, BWG, ENL
Q30	SIDON–VULCAN	GLH, MEM, VUZ, JAN, JYU, MEI, MGM, SQS, RMG
Q31	DHART–JODOX JODOX–MARVELL MARVELL–TIIDE TIIDE–POCKET CITY	SQS, LIT, TXK SQS, LIT, ELD, MEM, ARG ARG, BWG, PXV, FAM, LIT, MEM, ENL, TTH BWG, PXV, ENL, TTH
Q32	EL DORADO–GAGLE GAGLE–CRAMM CRAMM–NASHVILLE NASHVILLE–SWAPP	AEX, JAN, MEM, SQS, SWB, ELD, LIT, TXK JAN, SQS, MEM, ARG, VUZ, BNA, LIT BWG, MEM, VUZ, BNA, GQO BWG, IJU, PXV, VXV, BNA, GQO
Q33	DHART–LITTLE ROCK LITTLE ROCK–PROWL	AEX, ELD, LIT, TXK, SWB, ARG, MEM, SQS ELD, SGF, FAM, LIT, ARG, MEM, RZC, CSX, STL
Q34	TEXARKANA–MATIE MATIE–MEMPHIS MEMPHIS–SWAPP KIMBERLY–NEERO	LIT, SWB, TXK, BYP, EIC, ELD, SQS LIT, ARG, MEM, ELD, SQS BWG, ARG, MEM, MKL, SQS, PXV, BNA, GQO, IJU, VXV LTJ, PDT, DSD, IMB, LKV, BOI, REO, BAM, SDO
Q35	NEERO–WINEN WINEN–CORKR CORKR–DRAKE	BQU, SDO, BAM, REO, BVL, ILC, DTA, ELY, CDC, MLF, BCE CDC, BCE, BLD, ILC, MLF, TBC, PGS, INW, DRK TBC, BCE, BLD, DRK, PGS, FLG, GCN, INW, TFD
Q36	RAZORBACK–TWITS TWITS–DEPEC DEPEC–NASHVILLE NASHVILLE–SWAPP	RZC, MEM, SGF, BUM, TUL, EOS, FAM, ARG, LIT MEM, GQO, BNA, BWG, FAM, ARG, PXV, IJU GQO, BWG, BNA, PXV, IJU VXV, BWG, BNA, GQO, PXV, IJU
Q38	ROKIT–INCIN INCIN–LAREY LAREY–BESOM	DAS, LCH, SWB, IAH, LFK, HUB, AEX JAN, MCB, SWB, AEX JAN, JYU, MEI, SQS, VUZ
Q40	ALEXANDRIA–DOOMS DOOMS–WINAP WINAP–MISLE	AEX, SWB, LCH, JAN, HEZ, MCB JAN, SQS, MEI, MCB MEI, VUZ, JYU
Q104	DEFUN–HEVVN HEVVN–PLYER PLYER–SWABE SWABE–ST PETERSBURG ST PETERSBURG– CYPRESS	PIE, PZD, CRG, SZW, TAY, JYU, CEW, MGM, OTK, CRG PIE, ORL, OMN, SRQ, TAY, LAL, CRG, SZW, PZD PIE, ORL, OMN, SRQ, TAY LAL, ORL, OMN, SRQ, PHK, PIE PHK, PBI, SRQ, PIE, VRB, ORL, FLL, LAL, OMN
Q106	SME LZ–BULZI BULZI–DRABK DRABK–GADAY	LAL, ORL, OMN, PHK, PIE, CRG, VRB, TAY, OTK, PZD, AMG, SZW AMG, PZD, TAY, CRG, SZW, MGM, OTK, JYU, CEW, SJI MGM, PZD, OTK, JYU, SZW, CEW, SJI
Q108	GADAY–CLAWZ	MGM, SJI, CEW, JYU, PZD, OTK, MCN, SZW, LGC, TAY, AMG
Q110	KPASA–BRUTS BRUTS–GULFR GULFR–FEONA	SRQ, VRB, ORL, PHK, TAY, PIE, OMN, OTK, LAL, CRG, SZW, AMG OMN, AMG, CRG, SZW, PIE, TAY, PZD, OTK TAY, MCN, PZD, CRG, OTK, SZW, AMG, MCN, ATL, MGM
Q112	DEFUN–HEVVN HEVVN–INPIN	PIE, OTK, CRG, OMN, LAL, SZW, SRQ, ORL, VRB JYU, PZD, CEW, SZW, MGM, OTK, TAY, AMG, PIE, CRG
Q116	KPASA–BRUTS BRUTS–GULFR GULFR–CEEYA	SRQ, VRB, ORL, PHK, TAY, PIE, OMN, OTK, LAL, CRG, SZW, AMG OMN, AMG, CRG, TAY, LAL, PZD, SZW, OTK MCN, AMG, PZD, OTK, SZW, TAY
Q118	KPASA–BRUTS BRUTS–LENIE	SRQ, VRB, ORL, PHK, TAY, PIE, OMN, OTK, LAL, CRG, SZW, AMG OMN, AMG, CRG, TAY, LAL, PZD, SZW, OTK, MCN

Route	Segment	DME
	VIXIS-GOPHER	ECK, FNT, APN, SSM, GRR, MBL, SAW, BAE, MNM, DLL, AUW, ODI, STE, FGT, EAU, DLH, GEP, BRD, MCW, MSP, ASP, TVC, GRB, RWF
Q502	GOPHER-SOBME KENPA-GOPHER	FGT, BRD, MCW, GEP, ABR, FAR, DLH, ODI, RWF, FSD SSM, FNT, ECK, APN, SAW, GRB, BAE, DLL, AUW, ODI, FGT, DLH, EAU, MCW, MSP, MNM, ASP, TVC, GEP, RWF, BRD
Q504	GOPHER-SOBME NOTAP-CESNA	FGT, DLH, ODI, MCW, ABR, FAR, MSP, GEP, RWF, FSD, BRD SSM, ECK, APN, GLR, PLN, ISQ, MNM, DLL, RHI, DLH, GEP, FGT, ODI, ASP, TVC, SAW, GRB, BRD
Q505	CESNA-HEMDI OMAGA-RIMBE RIMBE-CESNA CESNA-HEMDI	ODI, GEP, DLH, FGT, RWF, FAR, AXN, FSD, ABR, DLL, BRD SSM, TVC, ASP, SAW, GRB SSM, RHI, DLL, DLH, GEP, FGT, TVC, SAW, GRB, BRD, ODI GEP, DLH, FGT, RWF, FAR, AXN, FSD, ABR, BRD, ODI, GRB

*Denotes Critical DME Facility

RNAV Routing Pitch and Catch Points

The purpose of this section of the Special High Altitude Routes is to present user routing options for flight within the initial HAR Phase I expansion airspace. Users are able to fly user-preferred routes, referred to as non-restrictive routing (NRR), between specific fixes described by **pitch** (entry into) and **catch** (exit out of) fixes in the HAR airspace. Pitch points indicate an end of departure procedures, preferred IFR routings, or other established routing programs where a flight can begin a segment of NRR. The catch point indicates where a flight ends a segment of NRR and joins published arrival procedures, preferred IFR routing, or other established routing programs.

The HAR Phase I expansion airspace is defined as that airspace at and above FL 350 in fourteen of the western and southern Air Route Traffic Control Centers (ARTCCs). The airspace includes Minneapolis (ZMP), Chicago (ZAU), Kansas City (ZKC), Denver (ZDV), Salt Lake City (ZLC), Oakland (ZOA), Seattle Centers (ZSE), Los Angeles (ZLA), Albuquerque (ZAB), Fort Worth (ZFW), Memphis (ZME), and Houston (ZHU). Jacksonville (ZJX) and Miami (ZMA) are included for east-west routes only.

To develop a flight plan, select pitch and catch points based upon your desired route across the Phase I airspace. Filing requirements to pitch points, and from catch points, remain unchanged from current procedures. For the portion of the route between the pitch and catch points, non-restrictive routing is permitted.

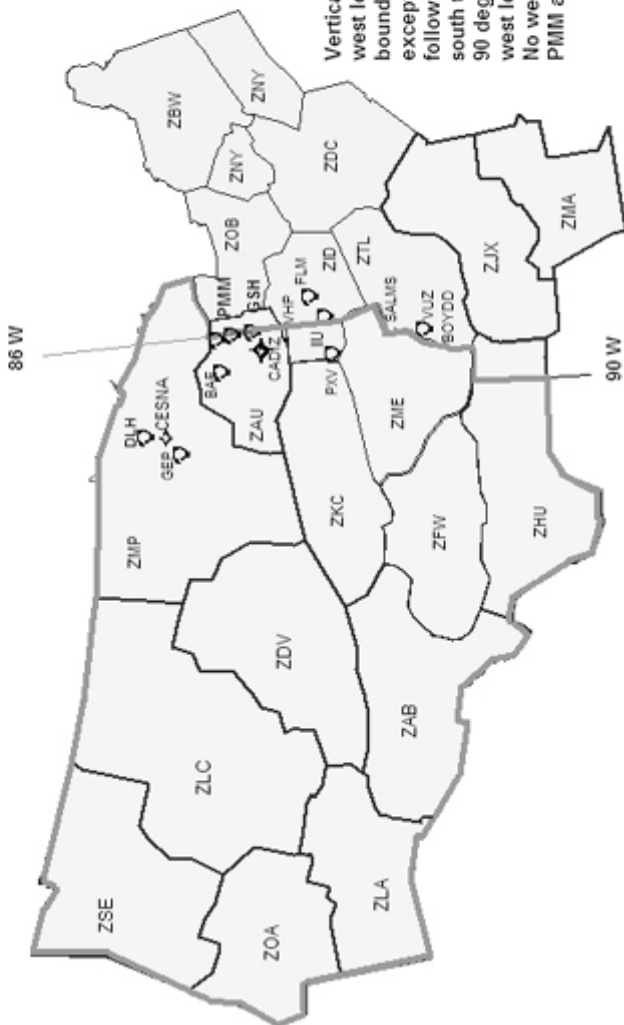
Where pitch points for a specific airport are not identified, aircraft should file an appropriate departure procedure (DP), or any other user preferred routing prior to the NRR portion of their routing. Where catch points for a specific airport are not identified aircraft should file, after the NRR portion of their routing, an appropriate arrival procedure or other user preferred routing to their destination.

Additionally, information concerning the location and schedule of Special Use Airspace (SUA) and Air Traffic Control Assigned Airspace (ATCAA) can be found on the Web Site: <http://sua.faa.gov/sua/Welcome.do>. ATCAA refers to airspace in the high altitude structure supporting military and other special operations. Users are encouraged to file around these areas when they are scheduled to be active, thereby avoiding unplanned reroutes around them.

In conjunction with the HAR program RNAV routes have been established to provide for a systematic flow of air traffic in specific portions of the enroute flight environment. The designator for these RNAV routes begin with the letter Q, for example, Q-501. Where those routes aid in the efficient orderly management of air traffic they will be published as preferred IFR routes.

High Altitude Redesign (HAR) Phase One Expansion Airspace

Except as noted, flights entering HAR expansion airspace may pitch at the airspace boundary, at the vertical pitch line, or at the fixes listed on the following page.



Vertical Pitch Line: 86 degrees west longitude from the ZMP/ZAU boundary to the ZME/ZID boundary, except between PMM and GSH, then following the ZME east boundary south to the ZHU boundary. Then west to 90 degrees west longitude, the 90 degrees west longitude to the ZHU southern boundary. No westbound traffic between PMM and GSH.

HAR Special High Altitude Pitch (entry) Points for Nonrestrictive Routing for Airports Located Outside HAR Phase I Expansion Airspace

Westbound traffic originating outside of HAR airspace entering ZMP, ZAU, ZKC and ZME can begin non-restrictive routing over any of the following pitch points (listed from north to south):

DLH, CESNA, GEP, BAE, MKG, GRR, PMM, GSH, CADIZ, FWA, VHP, FLM, IIU, PXV, SGF, RZC, BNA, SALMS, VUZ, BOYDD, MIE.

Traffic originating outside of HAR airspace may also begin Nonrestrictive Routing upon crossing the pitch line depicted on the associated graphic.

HAR Special High Altitude Pitch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

This section lists pitch points for airports within the HAR Phase I expansion airspace.

Albuquerque	ABQ, GUP, HANOS or ZUN
Austin	ABI, FUZ, JCT, MQP, NAVYS, SJT or TNV
Boca Raton, FL	TBIRD KPASA Q118 LENIE or TBIRD KPASA Q116 CEEYA or TBIRD KPASA Q110 FEONA or TBIRD SMELZ Q106 BULZI or TBIRD SMELZ Q106 GADAY
Burbank includes Santa Monica and Van Nuys	GMN, MARKS or DAG LAS or HEC EED or PMD BLH
Chicago Terminal Area	IOW, PLL275065, MZV or BAE
Dallas/Fort Worth Terminal Area	ABI, LBB, GTH, CDS, MRMAC, IRW, TUL, MLC, TXK ELD, SWB or Aircraft destined the Chicago terminal area Except MDW EAKER MIDEE BDF BRADFORD-STAR Or MLC J105 SGF BDF BRADFORD-STAR
Denver Terminal Area	PUB, DVC, DBL, RLG, EKR, LAR, MBW, CYS, BFF, HANKI, NATTI, ASHBY, BELKE, CABET, WEEDS, OR BINKE
Fort Lauderdale (or) Fort Lauderdale Executive	THNDR KPASA Q118 LENIE or THNDR KPASA Q116 CEEYA or THNDR KPASA Q110 FEONA or THNDR SMELZ Q106 GADAY or THNDR SMELZ Q106 BULZI
Houston Bush	LIT, EMG, MLC, JCT or Aircraft destined Atlanta Terminal Area LCH Q24 PAYTN HONIE-RNAV STAR or Aircraft joining J37 to the northeast, BPT GUSTI Q22 CATLN or Aircraft joining J42 to the northeast, ELD Q32 J42

Houston Hobby	LIT, EMG, MLC, JCT, or Aircraft joining J42 to the northeast, ELD Q32 J42
Jacksonville, FL	TAY
Kansas City Terminal Area	TIFTO, CATTS or KENTN
Los Angeles, includes Ontario	GMN, RZS or DAG LAS or TRM EED or TRM PKE
Las Vegas	DOBNE, MOSBI, NICLE, TRALR or ZELOT
Long Beach includes Orange County	GMN SNS, EHF, LANDO or TRM PKE or TRM EED
Memphis	BNA, HAAWK, SALMS or SQS
Miami Terminal Area	WINCO KPASA Q118 LENIE or WINCO KPASA Q116 CEEYA or WINCO KPASA Q110 FEONA or WINCO SMELZ Q106 GADAY or WINCO SMELZ Q106 BULZI
Milwaukee	GREAS
Minneapolis Terminal Area*	ONL, ABR, FAR, OBH, OVR, FOD
New Orleans Terminal Area	AEX, MEI, SQS, KAPLN
Orlando Terminal Area	WEBBS BRUTS Q118 LENIE or WEBBS GULFR Q116 CEEYA or WEBBS BULZI Q106 GADAY or WEBBS FEONA or WEBBS BULZI
Palm Beach, FL	TBIRD KPASA Q118 LENIE or TBIRD KPASA Q116 CEEYA or TBIRD KPASA Q110 FEONA or TBIRD SMELZ Q106 BULZI or TBIRD SMELZ Q106 GADAY
Palm Springs	TRM JOTNU BLD or TRM EED or TRM PKE
Phoenix	CHILY, CIE, CULTS, RSK, DOVEE, GCN, MESSI, SJN, DRYHT or MOHAK
Portland, OR	PDT, TIMEE

Salt Lake City	HVE, DTA, MLF, BCE, OAL, MTU, BVL, OCS, TWF, DBS, BPI or TCH J56 CHE or TCH J173 EKR
Saint Louis	VIH, MAP, MYERZ, MCM or HLV MCI
San Antonio Terminal Area	FUZ, SJT, MQP, ABI or Aircraft North of LFK, LFK or Aircraft South of HUB, ELA or Aircraft South of LFK and North of HUB LCH
San Diego	TRM EED or TRM PKE or TRM JOTNU BLD
San Francisco Bay Area Oakland San Jose	GALLI, INSLO, HAROL JSICA GALLI, INSLO, HAROL JSICA GALLI or INSLO
Seattle	BLUIT
Southwest Florida Airports (RSW/FMY)	JOCKS KPASA Q118 LENIE or JOCKS KPASA Q116 CEEYA or JOCKS KPASA Q110 FEONA or JOCKS SMELZ Q106 GADAY or JOCKS SMELZ Q106 BULZI
Tampa Terminal Area	FEONA, BULZI or BRUTS Q118 LENIE or GULFR Q116 CEEYA or BULZI Q106 GADAY

*MSP area departures with destinations east of 93 degrees west longitude via preferred IFR routing.

Catch Points for Airports Located Outside HAR Phase I Expansion Airspace

This section lists exit points for aircraft destined to specific destinations which are outside the HAR Phase I airspace.

Atlanta Terminal Area	Aircraft through ZME airspace from ZKC airspace east of FAM, Pless Q19 BNA or Aircraft through ZME airspace from ZKC airspace west of FAM, ARG Q26 DEVAC or MEM or Aircraft through ZME airspace from ZID airspace west of a line from VHP to BWG, BNA or Aircraft through ZME airspace from ZID airspace east of a line from VHP to BWG, BWG or Aircraft through ZME airspace from ZFW airspace, MEM or MEI HONIE (RNAV)-STAR or PATYN HONIE (RNAV)-STAR
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Baltimore–Washington*	GIJ, GEP, FLM, IIU, BAE, VHP, WHETT, BNA or VUZ
Boston*	GEP, CRL, ECK, IIU, BNA or VUZ
Buffalo*	GEP, CRL
Hartford Bradley*	GEP, CRL
Canton–Akron*	GIJ, VHP, GEP
Charlotte	BNA, VUZ
Cincinnati Terminal Area	BNA, PXV or Aircraft north of SLC, JOT or Aircraft over or south of SLC, ENL or SLC or SFO departures, ENL, JOT
Cleveland Terminal Area*	OBK
Detroit Terminal Area	BAE MKG POLAR–STAR or VHP FWA MIZAR–STAR
Detroit Young	VHP FWA or LAN SPRTN–STAR
Indianapolis Terminal Area	BIB, SPI, JOT
Louisville	ENL, MEM
Newark*	GEP, VHP, FLM, IIU, BNA, VUZ or IOW GIJ J554 CRL J584 SLT FQM
New York Kennedy*	GEP, VHP, FLM, IIU, BNA, VUZ or DBQ J94 PMM J70 LVZ LENDY–STAR
New York LaGuardia*	GIJ, GEP, VHP, BAE, FLM, IIU, BNA, VUZ
Philadelphia Terminal Area*	GIJ, GEP, VHP, BAE, WHETT, BNA, VUZ
Pittsburgh Terminal Area*	VHP, GIJ, BAE, GEP
Pontiac	LFD, LAN, VHP, FWA, GEP
Providence	JHW, HEMDI, CESNA, GEP, GRB, TVC, ASP, VHP, IIU, BNA, VUZ
Raleigh–Durham	FLM, IIU, BNA, VUZ
Toronto Terminal Area	ECK, SVM, SSM, GEP
Teterboro*	GEP, VHP, CRL, BNA, VUZ
Washington Dulles/National*	GIJ, GEP, FLM, IIU, BAE, VHP, WHETT, BNA, VUZ
White Plains*	GEP, VHP, CRL, FLM, IIU, BNA, VUZ
Willow Run*	LAN, LFD, VHP, FWA, GEP

*Eastbound aircraft over flying ZMP center airspace entering Toronto center airspace, file direct SSM or via J63, J522, Q505, Q504, Q502, Q501

or

Entering ZAU or ZOB airspace from north of DPR J16 MCW, GEP

or

Entering ZAU or ZOB airspace from or south of DPR J16 MCW, CRL.

Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

This section lists exit points for aircraft destined to airports which are below HAR Phase I airspace.

Albuquerque Terminal Area	CURLY CURLY-STAR or ESPAN FRIHO-STAR or LAVAN LAVAN-STAR or FTI FRIHO-STAR or MIERA MIERA-STAR
Austin Terminal Area	Aircraft west of a north-south line at LFK, BLEWE or Aircraft east of a north-south line at LFK, IDU or LLO
Boca Raton, FL	CEW DEFUN Q112 INPIN SHDAY (RNAV)-STAR Aircraft through ZHU remain south of ZME and ZTL airspace or DEFUN Q112 INPIN SHDAY (RNAV)-STAR Aircraft through ZHU remain south of ZME and ZTL airspace or SZW INPIN SHDAY (RNAV)-STAR
Chicago Midway	CVA MOTIF-STAR or PIA MOTIF-STAR or DBQ CVA MOTIF-STAR or LMN MOTIF-STAR
Chicago O'Hare Terminal Area	GEP DLL MSN JVL JANESVILLE-STAR or TVC PULLMAN-STAR or FOD DBQ JVL JANESVILLE-STAR or MCW JANESVILLE-STAR or GCK IRK BRADFORD-STAR
Dallas/Fort Worth Terminal Area	IRW, LOSZY, FSM, LIT, SQS, MLU, AEX, JUMBO, TQA, TURKI, HEATR Aircraft through ZME airspace from north and west of PXV, RZC, Q23 FSM or Aircraft through ZME airspace from east of PXV, PXV Q25 MEEOW or Aircraft through ZME airspace from J6 down to, but not including J52, LIT, SQS or Aircraft through ZME airspace from J52 and south of J52, SQS

Denver Terminal Area	OATHE DANDD-STAR or HGO QUAIL-STAR or LOPEC-STAR or ALS LARKS-STAR or HBU POWDR-STAR or EKR TOMSN-STAR or CHE TOMSN-STAR or BFF LANDR-STAR or LBF SAYGE-STAR or HCT SAYGE-STAR or RSK LARKS-STAR or LAA QUAIL-STAR or GCK J154 RYLIE DANDD-STAR or OCS J154 ALPOE RAMMS-STAR or YANKI J114 SNY LANDR-STAR or Aircraft filed BIL or east, MBW RAMMS-STAR
Ft Lauderdale or Ft Lauderdale Executive	CEW DEFUN Q104 PIE SWAGS (RNAV)-STAR Aircraft through ZHU airspace remain south ZME and ZTL airspace or SZW HEVFN Q104 PIE SWAGS (RNAV)-STAR
Houston Bush	CRP, CVE, LLO, LUKIY, SAT or Aircraft south and east of LLA, LLA or MISLE Q40 AEX or Aircraft north and east of SJI, SJI or Aircraft east of PXV, PXV Q31 DHART SWB or Aircraft north and west of PXV, PROWL Q33 DHART SWB
Houston Hobby	CRP, ELLVR, SAT, SWB or Aircraft south and east of GIRLY, GIRLY or Aircraft north and east of SJI, SJI or BESOM Q38 ROKIT ROKIT-STAR or Aircraft east of PXV, PXV Q29 HARES SWB or Aircraft north and west of PXV, PROWL Q33 DHART SWB
Jacksonville	GADAY ZOOSS TAY Aircraft through ZHU airspace remain south of ZME and ZTL airspace or ZOOSS TAY

John Wayne–Orange County	HEC, PGS, BLD or Aircraft south of TBC from ZAB airspace, HIPPI
Kansas City Terminal Area	LMN BRAYMER–STAR or PWE ROBINSON–STAR or EMP JHAWK–STAR
Las Vegas	DILCO, LIDAT, IGM or Aircraft over PGA or north of PGA KSINO or Aircraft south of PGA PGS LYNSY
Los Angeles Terminal Area	Aircraft North of TBC, HEC, PGS or Aircraft South of TBC from ZAB airspace, HIPPI, MESSI
Miami Terminal Area	CEW DEFUN Q104 CYY DEEDS (RNAV)–STAR Aircraft through ZHU airspace remain south ZME and ZTL airspace or SZW HEVVN Q104 CYY DEEDS (RNAV)–STAR
Minneapolis Terminal Area	Aircraft from north, west, south, FAR GOPHER–STAR or RWF SKETR–STAR or ALO KASPR–STAR or BRD GOPHER–STAR or BAE EAU CLAIRE–STAR or FOD TWOLF–STAR
Memphis Terminal Area	ARG, BWG, FSM, PXV, LIT, RZC, SQS, VUZ, BNA, GQO, ELD
Naples, FL	CEW DEFUN Q104 PLYER PIKKR (RNAV)–STAR Aircraft through ZHU AIRSPACE remain south of ZME and ZTL airspace or SZW HEVVN Q104 PLYER PIKKR (RNAV)–STAR
Nashville	CCT, GHM, GUITR, TINGS, VOLLS
New Orleans Terminal Area	BLUEZ, GPT, LCH, MCB, TBD, FATSO
Oakland	ILA or KATTS PAMMY or Aircraft over or south of a line ILC J16 DVC REANA KATTS PAMMY or Aircraft from north of ILC, JOPER PAMMY or KATTS PAMMY or Aircraft over or south of ILC, REANA KATTS PAMMY
Orlando Terminal Area	GADAY Q108 CLAWZ LEESE–STAR Aircraft through ZHU airspace remain south of ZME/ZTL airspace or OTK LEESE–STAR

Palm Beach, FL	CEW DEFUN Q112 INPIN GULLO (RNAV)–STAR Aircraft through ZHU airspace remain south of ZME and ZTL airspace or SZW INPIN GULLO (RNAV)–STAR
Phoenix	CORKR DRK or Aircraft from ZDV airspace, GUP or Aircraft from ZAB airspace, ZUN, MOHAK, SSO or VYLLA TUS
Phoenix Satellites	FLG, SSO, MOHAK or VYLLA, TUS
Portland, OR Terminal Area	ARNIT BONVL–STAR or LARNO BONVL–STAR or MOXEE MOXEE–STAR
St. Louis Terminal Area	SGF TRAKE–STAR or BUM TRAKE–STAR or ANX TRAKE–STAR or LMN IRK RIVRS–STAR or RBS VANDALIA–STAR
Salt Lake City Terminal Area	JNC J12 HELPR SPANE–STAR or EKR MTU SPANE–STAR or BCE DTA–TCH or MLF DTA–TCH or BVL BONNEVILLE–STAR or BYI BEARR–STAR or PIH BEARR–STAR or DBS BRIGHAM CITY–STAR or JAC BRIGHAM CITY–STAR or BPI BRIGHAM CITY–STAR or OCS BRIGHAM CITY–STAR
San Diego Terminal Area	EED, LAX, GBN
Santa Ana	HEC, PGS, BLD, HIPPI
San Antonio Terminal Area	IDU, CSI, JCT, LLO, CRP, LRD or West of a north–south line at LFK, BLEWE or East of a north–south line at LFK, IDU

San Francisco	FMG GOLDEN GATE-STAR or MVA MODESTO-STAR or ENI GOLDEN GATE-STAR or OAL MODESTO-STAR or South of a line ILC to DVC, REANA KATTS OAL MODESTO-STAR
San Jose	FMG HYP EL NIDO-STAR or OAL HYP EL NIDO-STAR or ENI GOLDEN GATE-STAR or South of a line ILC to DVC, REANA KATTS KICHI CANDA EL NIDO-STAR
Seattle Terminal Area	Aircraft From northeast, southeast, south, TEMPL GLASR-STAR or SUNED CHINS-STAR or BTG OLYMPIA-STAR
Southwest Florida Airports RSW and FMY	CEW DEFUN Q104 SWABE JOSFF-STAR Aircraft through ZHU airspace remain south of ZME and ZTL airspace or SZW HEVVN Q104 SWABE JOSFF-STAR
Tampa Terminal Area	CEW DEFUN Q104 HEVVN DARBS-STAR Aircraft through ZHU airspace remain south of ZME and ZTL airspace or SZW DARBS-STAR
Tucson	DRK PXR or MOHAK GBN

VISUAL FLIGHT RULES (VFR) WAYPOINTS

VFR Waypoint names consist of five letters beginning with "VP". Stand-alone VFR Waypoints are portrayed on VFR Charts using the same four-point star symbol currently used for Instrument Flight Rules (IFR) Waypoints.

VFR Waypoints collocated with Visual Checkpoints (Visual Reporting Points) are portrayed with a Visual Check Point flag. The VFR Waypoint name is shown in parentheses adjacent to the Visual Check Point name.

VFR Waypoint names are not intended to be pronounceable and shall not be used in ATC communications.

CAUTION: GPS accuracy necessitates extra vigilance for other aircraft when navigating near any fix retrieved from a GPS database.

BALTIMORE–WASHINGTON TERMINAL AREA CHART/FLYWAY CHART

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPONX	_____	N39°06.65' /W076°55.92'
VPOOP	_____	N38°56.32' /W076°36.90'

BOSTON HELICOPTER CHART

VPBAY	_____	N42°16.17' /W070°49.48'
VPBLT	_____	N42°19.67' /W070°53.40'
VPCGS	_____	N42°22.08' /W071°03.13'
VPEVS	_____	N42°23.52' /W071°04.10'
VPFEN	_____	N42°12.58' /W071°08.88'
VPFRE	_____	N42°25.03' /W071°12.32'
VPGVL	_____	N42°21.88' /W070°52.18'
VPHAM	_____	N42°30.13' /W071°07.15'
VPPIK	_____	N42°20.37' /W071°15.93'
VPQUA	_____	N42°12.10' /W071°04.78'
VPQUB	_____	N42°12.60' /W070°59.83'
VPSPF	_____	N42°24.20' /W071°09.47'
VPTOB	_____	N42°31.42' /W070°59.82'
VPWAN	_____	N42°36.88' /W071°19.45'

BOSTON TERMINAL AREA CHART/FLYWAY CHART

VPCOH	Cohasset	N42°13.58' /W070°48.94'
VPCUT	Cuttyhunk Harbor	N41°25.50' /W070°55.03'
VPFRA	Framingham Shopping Center	N42°18.16' /W071°23.65'
VPHOL	Woods Hole	N41°31.06' /W070°40.60'
VPHUL	Hull	N42°18.20' /W070°55.30'
VPLPT	Nantucket Great Point	N41°23.41' /W070°02.78'
VPNED	Needham Towers	N42°18.51' /W071°14.64'
VPPEA	Peabody Shopping Center	N42°32.52' /W070°56.69'
VPROC	Rockingham Race Track	N42°46.29' /W071°13.57'
VPSCI	Scituate	N42°11.89' /W070°43.69'
VPTPT	Nantucket Third Point	N41°18.51' /W070°03.37'
VPTUC	Tuckernuck	N41°18.31' /W070°15.43'
VPWAK	Wakefield	N42°30.72' /W071°05.24'
VPWAN	Wang Towers	N42°36.88' /W071°19.45'

CHARLOTTE SECTIONAL CHART

VPATO	_____	N34°37.37' /W076°31.47'
VPAVA	_____	N34°57.00' /W077°16.50'
VPBFE	_____	N32°16.38' /W080°47.50'
VPBRA	_____	N36°13.75' /W076°08.08'
VPGCE	_____	N36°03.90' /W076°36.42'
VPGHI	_____	N35°15.30' /W075°31.25'
VPGIO	_____	N35°32.50' /W076°37.33'
VPKJU	_____	N35°26.58' /W076°10.22'
VPLMN	_____	N34°55.43' /W077°46.42'
VPMAB	_____	N34°42.20' /W077°03.50'
VPNPO	ISLE OF PALMS	N32°47.78' /W079°46.45'
VPOKY	_____	N35°06.53' /W075°59.17'
VPREP	_____	N32°33.98' /W080°21.82'
VPRRS	_____	N33°25.45' /W079°07.60'
VPUMO	_____	N35°35.63' /W075°28.08'
VPWZO	_____	N36°00.87' /W075°40.07'
VPZIE	_____	N32°01.62' /W080°53.42'

CHICAGO SECTIONAL CHART

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPCOH	_____	N31°49.35' /W081°51.07'

DENVER TERMINAL AREA CHART/FLYWAY CHART

VPBEN	_____	N39°44.28' /W104°26.00'
VPFTG	_____	N39°44.35' /W104°32.75'

HOUSTON TERMINAL AREA CHART/FLYWAY CHART

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPBWY	_____	N29°46.25' /W095°09.24'
VPDTN	_____	N29°46.59' /W095°22.01'
VPGLA	_____	N30°08.32' /W095°06.62'
VPGLB	_____	N30°07.80' /W094°55.70'
VPKTY	_____	N29°47.05' /W095°44.92'
VPPLN	_____	N30°08.80' /W095°50.42'
VPRSN	_____	N29°30.00' /W095°41.00'
VPSND	_____	N29°23.13' /W095°28.86'
VPSNT	_____	N29°49.29' /W094°53.94'
VPTNE	_____	N29°47.48' /W095°03.34'
VPTNW	_____	N29°47.06' /W095°33.81'
VPTRK	_____	N29°24.06' /W095°10.44'

JACKSONVILLE SECTIONAL CHART

VPAFI	_____	N31°49.35' /W081°51.07'
VPAFY	_____	N30°07.00' /W081°21.33'
VPBEC	_____	N29°46.25' /W081°15.10'
VPCJA	_____	N29°30.00' /W081°06.00'
VPCKY	_____	N28°46.50' /W082°34.00'
VPCNY	_____	N28°30.00' /W080°45.00'
VPDAD	DADE CITY	N28°22.57' /W082°11.25'
VPDAR	_____	N31°22.38' /W081°24.13'
VPDFI	_____	N29°00.17' /W081°20.85'
VPDUT	_____	N27°37.70' /W082°09.10'
VPEAR	CLEARWATER BEACH	N27°58.67' /W082°49.83'
VPEGV	_____	N29°39.97' /W081°24.87'
VPPFU	_____	N28°57.08' /W081°00.33'
VPGPE	ST PETE BEACH	N27°43.50' /W082°44.67'
VPHAA	_____	N30°04.02' /W083°40.02'
VPHUC	_____	N28°19.87' /W082°43.77'
VPIWA	MIDWAY	N31°48.33' /W081°25.85'
VPJMY	_____	N29°26.92' /W081°18.27'
VPKER	LAKE PARKER	N28°04.00' /W081°56.00'
VPLEV	_____	N28°48.00' /W080°52.00'
VPLJA	_____	N29°00.00' /W080°51.00'
VPMAI	_____	N30°50.02' /W084°56.63'
VPTLH	_____	N30°32.70' /W083°52.22'
VPXZY	_____	N29°35.00' /W083°10.00'
VPYIW	_____	N30°42.28' /W081°27.25'
VPZIE	_____	N32°01.62' /W080°53.42'

KANSAS CITY SECTIONAL CHART

VPAGO	_____	N37°50.33' /W090°29.03'
VPBEK	_____	N37°15.07' /W092°30.67'
VPDEN	_____	N37°46.75' /W092°19.20'
VPENE	_____	N37°44.75' /W091°55.78'
VPESS	_____	N36°59.48' /W091°00.88'
VPFME	_____	N37°41.00' /W092°38.33'
VPGXY	_____	N37°15.50' /W091°40.17'
VPMBE	_____	N37°11.08' /W090°27.92'
VPMKE	_____	N37°24.47' /W092°40.00'
VPROV	_____	N38°01.72' /W091°12.81'
VPUTT	_____	N37°52.05' /W092°01.20'
VPWOC	_____	N37°18.03' /W092°18.63'

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPWRO	_____	N37°39.12' / W091°45.68'
VPXIZ	_____	N37°26.60' / W092°05.42'

KANSAS CITY TERMINAL AREA CHART/FLYWAY CHART

VPATN	ATCHISON	N39°33.62' / W095°07.65'
VPBGS	BLUE SPRINGS	N39°01.82' / W094°16.32'
VPBSP	BONNER SPRINGS	N39°03.78' / W094°53.10'
VPCHB	CHOUTEAU BRIDGE	N39°08.77' / W094°32.03'
VPDSO	DE SOTO	N38°58.68' / W094°58.48'
VPESG	EXCELSIOR SPRINGS	N39°20.68' / W094°13.77'
VPGTB	GARRETSBURG	N39°40.92' / W094°41.45'
VPLAT	LATHROP WATER TANK	N39°32.87' / W094°20.00'
VPLEN	LENEXA	N38°57.77' / W094°43.68'
VPLVL	LONGVIEW LAKE	N38°54.63' / W094°28.28'
VPMCL	MC LOUTH	N39°11.65' / W095°12.50'
VPNHA	NASHUA	N39°17.83' / W094°34.80'
VPSCX	SPORTS COMPLEX	N39°03.00' / W094°29.02'
VPSKR	SUGAR CREEK REFINERY	N39°07.00' / W094°27.02'
VPSPK	SWOPE PARK	N39°00.47' / W094°31.93'
VPTSK	TWIN STACKS	N39°09.05' / W094°38.22'
VPWOF	WORLDS OF FUN	N39°10.42' / W094°29.12'

LOS ANGELES HELICOPTER CHART

VPANA	_____	N33°44.43' / W117°50.03'
VPART	MAGNOLIA	N33°51.45' / W117°58.92'
VPAUT	HWY 91 & 55	N33°50.63' / W117°49.57'
VPBOB	_____	N33°59.60' / W117°21.45'
VPCAR	_____	N33°49.90' / W118°17.23'
VPCNG	CONEJO GRADE US HWY 101	N34°12.54' / W118°59.61'
VPCOR	_____	N33°52.90' / W117°32.95'
VPCRX	_____	N34°01.40' / W117°44.88'
VPCSU	CSU CHANNEL ISLANDS	N34°09.76' / W119°02.53'
VPDOW	_____	N33°56.47' / W118°05.80'
VEPEL	_____	N34°00.98' / W118°10.35'
VPETY	_____	N33°38.70' / W117°44.12'
VPCFB	_____	N34°02.03' / W118°01.63'
VPFPL	OXNARD FINANCIAL PLAZA	N34°13.71' / W119°10.39'
VPGOL	_____	N34°09.33' / W118°17.37'
VPIMP	_____	N33°55.85' / W118°16.85'
VPKAT	_____	N33°48.23' / W117°54.22'
VPKEL	_____	N34°03.92' / W117°48.40'
VPLAC	_____	N34°03.75' / W118°14.93'
VPLLU	_____	N34°03.85' / W117°17.82'
VPLQM	QUEEN MARY	N33°45.17' / W118°11.37'
VPLRT	SANTA ANITA RACE TRACK	N34°08.45' / W118°02.65'
VPLVT	VINCENT THOMAS BRIDGE	N33°44.97' / W118°16.32'
VPMDR	_____	N33°59.27' / W118°23.97'
VPNEW	NEWHALL PASS	N34°20.18' / W118°30.72'
VPNUY	_____	N34°09.63' / W118°28.18'
VPPCH	_____	N33°28.07' / W117°40.32'
VPPKC	_____	N34°03.32' / W118°12.83'
VPPOR	_____	N34°00.10' / W117°50.12'
VPRRT	_____	N33°59.37' / W118°16.83'
VPSEP	_____	N34°05.80' / W118°28.63'
VPSFR	_____	N34°17.45' / W118°28.07'
VPSTC	SATICOY BRIDGE	N34°16.62' / W119°08.34'
VPSTK	_____	N34°13.97' / W118°24.60'

LOS ANGELES SECTIONAL CHART

VPCNG	CONEJO GRADE US HWY 101	N34°12.54' / W118°59.61'
VPCSU	CSU CHANNEL ISLANDS	N34°09.76' / W119°02.53'
VPFPL	OXNARD FINANCIAL PLAZA	N34°13.71' / W119°10.39'
VPSTC	SATICOY BRIDGE	N34°16.62' / W119°08.34'

LOS ANGELES TERMINAL AREA CHART/FLYWAY CHART

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPCNG	CONEJO GRADE US HWY 101	N34°12.54'/W118°59.61'
VPCSU	CSU CHANNEL ISLANDS	N34°09.76'/W119°02.53'
VPGTY	GETTY CENTER	N34°04.84'/W118°28.66'
VPLBP	BANNING PASS	N33°56.05'/W116°59.63'
VPLCC	CHAFFEY COLLEGE	N34°08.87'/W117°34.33'
VPLCP	CAJON PASS	N34°18.07'/W117°27.68'
VPLDL	DISNEYLAND	N33°48.72'/W117°55.13'
VPLDP	DANA POINT	N33°27.62'/W117°42.87'
VPLDS	DODGER STADIUM	N34°04.42'/W118°14.42'
VPLFX	91/605 INTERCHANGE	N33°52.38'/W118°06.08'
VPLGP	GRIFFITH PARK OBSERVATORY	N34°07.10'/W118°18.02'
VPLHF	HARBOR/405 INTERCHANGE	N33°51.42'/W118°17.10'
VPLHP	HUNTINGTON PIER	N33°39.32'/W118°00.25'
VPLKH	KING HARBOR	N33°50.75'/W118°23.88'
VPLLC	L.A. COLISEUM	N34°00.83'/W118°17.27'
VPLLM	LAKE MATHEWS	N33°50.58'/W117°26.85'
VPLMM	MAGIC MOUNTAIN	N34°26.20'/W118°36.28'
VPLMS	MILE SQUARE PARK	N33°43.40'/W117°56.77'
VPLPD	PRADO DAM	N33°53.40'/W117°38.48'
VPLPP	PACIFIC PALISADES	N34°02.13'/W118°32.15'
VPLQM	QUEEN MARY	N33°45.17'/W118°11.37'
VPLRB	ROSE BOWL	N34°09.67'/W118°10.05'
VPLRT	SANTA ANITA RACE TRACK	N34°08.45'/W118°02.65'
VPLSA	SANTA ANA CANYON	N33°52.03'/W117°42.68'
VPLSB	SANTA FE FLOOD BASIN	N34°07.72'/W117°57.30'
VPLSC	STATE COLLEGE	N33°52.97'/W117°53.13'
VPLSF	SAN FERNANDO RESERVOIR	N34°17.87'/W118°29.00'
VPLSP	SIGNAL PEAK	N33°36.33'/W117°48.63'
VPLSR	HAWTHORNE & 405 FREEWAY	N33°53.07'/W118°21.13'
VPLSS	SANTA SUSANA PASS	N34°16.00'/W118°38.43'
VPLTW	TUJUNGA WASH & FOOTHILL	N34°16.40'/W118°20.30'
VPLVT	VINCENT THOMAS BRIDGE	N33°44.97'/W118°16.32'
VPLWT	WATER TANK	N34°10.82'/W118°46.27'
VPNEW	NEWHALL PASS	N34°20.18'/W118°30.72'
VPSTC	SATICOY BRIDGE	N34°16.62'/W119°08.34'

MIAMI SECTIONAL CHART

VPCLE	_____	N27°57.00'/W080°46.75'
VPCTE	_____	N26°27.07'/W082°00.88'
VPDAD	_____	N26°09.28'/W081°20.70'
VPDUT	_____	N28°22.57'/W082°11.25'
VPDZE	_____	N27°37.70'/W082°09.10'
VPEAR	_____	N27°19.00'/W080°44.17'
VPEDY	CLEARWATER BEACH	N27°58.67'/W082°49.83'
VPFAH	ANDYTOWN TOLLGATE	N26°08.78'/W080°28.00'
VPGPE	_____	N26°25.40'/W081°29.67'
VPHRO	ST PETE BEACH	N27°43.50'/W082°44.67'
VPHUC	_____	N27°05.97'/W082°12.20'
VPIBR	_____	N28°19.87'/W082°43.77'
VPKER	_____	N27°12.47'/W081°40.22'
VPKOE	LAKE PARKER	N28°04.00'/W081°56.00'
VPLY	_____	N24°40.08'/W081°20.55'
VPOBA	_____	N24°49.07'/W080°49.17'
VPRBI	PUMPING STATION	N26°28.30'/W080°26.75'
VPRNL	_____	N25°50.67'/W080°55.18'
VPWMO	RANGER STATION	N25°22.92'/W080°36.58'
	_____	N27°03.00'/W080°35.00'

MIAMI TERMINAL AREA CHART/FLYWAY CHART

VPEDY	ANDYTOWN TOLLGATE	N26°08.78'/W080°28.00'
VPOBA	PUMPING STATION	N26°28.30'/W080°26.75'
VPRBI	_____	N25°50.67'/W080°55.18'
VPRNL	RANGER STATION	N25°22.92'/W080°36.58'

NEW ORLEANS SECTIONAL CHART

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPGPT	_____	N30°25.95'/W089°05.62'
VPLIP	PHILLIPS INLET	N30°16.23'/W085°59.25'
VPMAI	_____	N30°50.02'/W084°56.63'
VPMOB	_____	N30°23.00'/W088°31.72'
VPRAM	_____	N30°18.95'/W089°35.88'
VPRER	_____	N30°13.87'/W085°20.67'
VPRIV	_____	N30°54.85'/W087°57.82'
VPSAW	_____	N30°49.65'/W089°07.42'
VPTHR	_____	N30°19.93'/W087°08.50'

NEW YORK HELICOPTER CHART

VPJAY	_____	N40°59.00'/W073°07.00'
VPLYD	_____	N40°57.37'/W073°29.59'
VPROK	_____	N40°52.70'/W073°44.24'

PHOENIX TERMINAL AREA CHART/FLYWAY CHART

VPALL	ALLENVILLE	N33°20.97'/W112°35.20'
VPAQU	AQUEDUCT PUMPING STATION	N33°40.05'/W112°41.38'
VPARM	ARROWHEAD MALL	N33°38.52'/W112°13.48'
VPAWG	AHWATUKEE GOLF COURSE	N33°19.98'/W111°59.08'
VPAZM	ARIZONA MILLS	N33°23.43'/W111°57.88'
VPBAR	BARTLETT DAM	N33°49.10'/W111°37.92'
VPCCC	COUNTRY CLUB & CANAL	N33°30.73'/W111°50.37'
VPCNL	CANAL	N33°33.23'/W111°46.89'
VFRFB	FIREBIRD LAKE	N33°16.35'/W111°58.10'
VPFTN	FOUNTAIN HILLS	N33°36.12'/W111°42.72'
VGLGX	GILA CROSSING	N33°16.55'/W112°10.08'
VPGPP	GLENDALE POWER PLANT	N33°33.27'/W112°13.00'
VPMAR	MARICOPA	N33°03.42'/W112°02.88'
VPMHS	MESQUITE HIGH SCHOOL	N33°20.53'/W111°49.58'
VPNRV	NEW RIVER	N33°55.08'/W112°08.45'
VPNTT	NORTH TEST TRACK	N33°03.50'/W111°55.83'
VPPIR	PIR	N33°22.52'/W112°18.90'
VPQTR	QUINTERO GOLF COURSE	N33°49.53'/W112°23.58'
VPRVC	RIO VERDE COMMUNITY	N33°44.37'/W111°39.62'
VPSMC	SOUTH MOUNTAIN COLLEGE	N33°23.02'/W112°02.12'
VPSQP	SQUAW PEAK	N33°32.83'/W112°01.27'
VPSSS	SUPERSTITION SPRINGS MALL	N33°23.50'/W111°41.37'
VPSTN	SANTAN MOUNTAINS	N33°09.23'/W111°40.92'
VPSTT	SOUTH TEST TRACK	N32°56.25'/W111°59.67'
VPZZZ	_____	N33°20.18'/W111°26.53'

ST LOUIS TERMINAL AREA CHART/FLYWAY CHART

VPAGN	TV ANTENNA	N38°32.08'/W090°22.42'
VPBPE	_____	N38°23.80'/W090°20.38'
VPCJY	HOLIDAY SHORES	N38°55.00'/W089°56.00'
VPCOJ	WINFIELD DAM	N39°00.28'/W090°41.23'
VPDFA	JEFFERSON BARRACKS BRIDGE	N38°29.18'/W090°16.47'
VPEAZ	BUSCH STADIUM	N38°37.43'/W090°11.55'
VPEAZ	WATER TANKS	N38°45.30'/W090°34.87'
VPEGR	GAS TANKS	N38°35.80'/W090°19.32'
VPEOX	ST PETERS	N38°47.17'/W090°39.25'
VPFAI	HOWELL ISLAND	N38°40.00'/W090°43.00'
VPPFY	_____	N38°55.37'/W090°17.30'
VPGPF	_____	N38°35.60'/W090°26.92'
VPGVI	_____	N38°32.30'/W090°27.80'
VPHRQ	CHAIN OF ROCKS BRIDGE	N38°45.88'/W090°10.42'
VPIBO	WATERLOO	N38°20.00'/W090°09.00'
VPJMU	HORSESHOE LAKE	N38°41.00'/W090°05.00'
VPKNY	PACIFIC	N38°29.00'/W090°44.00'
VPLES	ST CHARLES	N38°47.00'/W090°30.00'
VPLIW	SIX FLAGS	N38°30.67'/W090°40.47'

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPLXU	GATEWAY ARCH	N38°37.50'/W090°11.00'
VPNSY	WOOD RIVER REFINERIES	N38°50.00'/W090°05.00'
VPNZY	WENTZVILLE	N38°48.83'/W090°50.98'
VPRAZ	JERSEYVILLE	N39°07.00'/W090°20.00'
VPRMO	FOREST PARK	N38°38.00'/W090°17.00'
VPWKO	COLUMBIA	N38°27.00'/W090°12.00'
VPXXI	MILLSTADT	N38°27.50'/W090°05.68'
VPYID	MOSENTHEIN ISLAND	N38°43.00'/W090°12.25'

SALT LAKE CITY HELICOPTER CHART

VPAIR	SALTAIR	N40°44.85'/W112°11.22'
VPBEE	SOUTH INTERCHANGE	N40°38.18'/W111°54.23'
VPBRN	BARN	N40°54.28'/W112°10.15'
VPCAP	STATE CAPITOL	N40°46.67'/W111°53.25'
VPOCHS	_____	N40°42.28'/W112°05.92'
VPCOP	BINGHAM COPPER MINE	N40°31.38'/W112°09.00'
VPCWY	CAUSEWAY	N41°05.37'/W112°07.17'
VP CYN	PARLEYS CANYON	N40°42.67'/W111°48.10'
VPFPC	FREE PORT CENTER	N41°05.92'/W112°02.27'
VPFPK	FRANCIS PEAK	N41°01.98'/W111°50.30'
VPGFS	GARFIELD STACK	N40°43.28'/W112°11.62'
VPHVE	SPAGHETTI BOWL	N40°43.50'/W111°54.22'
VPJRT	JORDAN RIVER TEMPLE	N40°35.02'/W111°55.58'
VPKSL	KSL ANTENNA	N40°46.80'/W112°05.80'
VPLGN	LAGOON AMUSEMENT PARK	N40°59.08'/W111°53.57'
VPMDH	MCKAY DEE HOSPITAL	N41°11.50'/W111°57.08'
VPMMT	MICROWAVE TOWERS	N40°48.50'/W111°53.37'
VPMSH	_____	N41°01.67'/W112°02.47'
VPNSL	_____	N40°50.15'/W111°54.90'
VPNTP	_____	N41°03.57'/W112°14.23'
VPOGE	GRAIN ELEVATOR	N41°13.13'/W112°00.45'
VPOPS	POWER STATION	N41°20.38'/W112°02.78'
VPPEN	STATE PRISON	N40°29.88'/W111°53.62'
VPPPT	PROMONTORY POINT	N41°12.28'/W112°25.73'
VPPTM	POINT OF THE MOUNTAIN	N40°27.42'/W111°54.83'
VPPVO	PROVO CANYON	N40°18.77'/W111°39.45'
VPRWY	_____	N40°48.48'/W112°00.33'
VPSLC	I-15/I-80 INTERCHANGE	N40°45.83'/W111°54.85'
VP TIP	SOUTH TIP	N40°50.93'/W112°10.92'
VPWBR	WEBER CANYON	N41°08.17'/W111°54.83'
VPWBT	_____	N40°38.00'/W112°03.33'

SALT LAKE CITY TERMINAL AREA CHART/FLYWAY CHART

VPAIR	SALTAIR	N40°44.85'/W112°11.22'
VPBEE	SOUTH INTERCHANGE	N40°38.18'/W111°54.23'
VPBRN	BARN	N40°54.28'/W112°10.15'
VPCAP	STATE CAPITOL	N40°46.67'/W111°53.25'
VPOCHS	_____	N40°42.28'/W112°05.92'
VPCOP	BINGHAM COPPER MINE	N40°31.38'/W112°09.00'
VPCVI	CENTERVILLE INTERCHANGE	N40°55.30'/W111°53.43'
VPCWY	CAUSEWAY	N41°05.37'/W112°07.17'
VP CYN	PARLEYS CANYON	N40°42.67'/W111°48.10'
VPFPC	FREE PORT CENTER	N41°05.92'/W112°02.27'
VPFPK	FRANCIS PEAK	N41°01.98'/W111°50.30'
VPGFS	GARFIELD STACK	N40°43.28'/W112°11.62'
VPHVE	SPAGHETTI BOWL	N40°43.50'/W111°54.22'
VPJRT	JORDAN RIVER TEMPLE	N40°35.02'/W111°55.58'
VPKSL	KSL ANTENNA	N40°46.80'/W112°05.80'
VPLGN	LAGOON AMUSEMENT PARK	N40°59.08'/W111°53.57'
VPMDH	MCKAY DEE HOSPITAL	N41°11.50'/W111°57.08'
VPMMT	MICROWAVE TOWERS	N40°48.50'/W111°53.37'
VPMSH	_____	N41°01.67'/W112°02.47'
VPNSL	_____	N40°50.15'/W111°54.90'
VPNTP	_____	N41°03.57'/W112°14.23'
VPOGE	GRAIN ELEVATOR	N41°13.13'/W112°00.45'

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPOPS	POWER STATION	N41°20.38'/W112°02.78'
VPPEN	STATE PRISON	N40°29.88'/W111°53.62'
VPPPT	PROMONTORY POINT	N41°12.28'/W112°25.73'
VPPTM	POINT OF THE MOUNTAIN	N40°27.42'/W111°54.83'
VPPVO	PROVO CANYON	N40°18.77'/W111°39.45'
VPRWY		N40°48.48'/W112°00.33'
VPSLC	I-15/I-80 INTERCHANGE	N40°45.83'/W111°54.85'
VPTIP	SOUTH TIP	N40°50.93'/W112°10.92'
VPUOU	U OF U EVENTS CENTER	N40°45.73'/W111°50.28'
VPWBR	WEBER CANYON	N41°08.17'/W111°54.83'
VPWBT		N40°38.00'/W112°03.33'
VPZOO	HOGLE ZOO	N40°45.00'/W111°48.95'

SAN DIEGO TERMINAL AREA CHART/FLYWAY CHART

VPLDP	DANA POINT	N33°27.62'/W117°42.87'
VPLSP	SIGNAL PEAK	N33°36.33'/W117°48.63'
VPOCN		N33°14.15'/W117°26.63'
VPSBC	BARONA CASINO	N32°56.25'/W116°52.60'
VPSBL		N33°05.18'/W117°18.55'
VPSBM	BLACK MOUNTAIN	N32°58.87'/W117°07.00'
VPSCF		N32°48.55'/W117°09.17'
VPSCM	COWLES MOUNTAIN	N32°48.72'/W117°01.97'
VPSCP	CRYSTAL PIER	N32°47.77'/W117°15.42'
VPSCR		N32°39.37'/W117°07.30'
VPSFB	IRON MOUNTAIN	N32°58.25'/W116°57.33'
VPSLJ	LAKE JENNINGS	N32°51.53'/W116°53.28'
VPSMB		N32°45.57'/W117°12.22'
VPSMP		N33°22.70'/W117°36.75'
VPSMS	MOUNT SOLEDAD	N32°50.40'/W117°15.10'
VPSMT	MORMON TEMPLE	N32°51.97'/W117°13.73'
VPSMV		N32°45.75'/W117°09.80'
VPSMW	MOUNT WOODSON	N33°00.52'/W116°58.23'
VPSOP	OTAY MESA PRISON	N32°35.82'/W116°55.28'
VPSOT	LOWER OTAY LAKE	N32°37.73'/W116°55.38'
VPSPL	SOUTH POINT LOMA	N32°39.90'/W117°14.55'
VPSPP	POWER PLANT	N33°08.25'/W117°20.23'
VPSQS	QUALCOMM STADIUM	N32°46.98'/W117°07.23'
VPSRT	DEL MAR RACE TRACK	N32°58.58'/W117°15.95'
VPSSM	SAN MIGUEL MOUNTAIN	N32°41.78'/W116°56.18'
VPSSV	SAN VICENTE ISLAND	N32°55.53'/W116°55.00'
VPSTP	TORREY PINES GOLF COURSE	N32°54.17'/W117°14.68'
VPSVA		N33°11.48'/W117°16.38'

SAN FRANCISCO SECTIONAL CHART

VPKBG	KINGSBURY GRADE	N38°58.75'/W119°53.20'
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SAN FRANCISCO TERMINAL AREA CHART/FLYWAY CHART

VPALT	ALTAMONT PASS	N37°44.35'/W121°35.42'
VPANT	ANTIOCH BRIDGE	N38°01.45'/W121°45.02'
VPBBR	BENICIA BRIDGE	N38°02.50'/W122°07.45'
VPCAL	CALAVERAS RESERVOIR	N37°28.16'/W121°48.93'
VPCBT	LAKE CHABOT	N37°43.68'/W122°06.94'
VPCOY	COYOTE HILLS	N37°32.50'/W122°05.06'
VPCQZ	CARQUINEZ BRIDGE	N38°03.66'/W122°13.52'
VPCRL		N37°11.00'/W121°41.06'
VPCRY	CRYSTAL SPRINGS CAUSEWAY	N37°30.56'/W122°21.10'
VPCSH	CAL STATE UNIVERSITY	N37°39.52'/W122°03.52'
VPDAM	DEL VALLE DAM	N37°36.91'/W121°44.78'
VPDLR		N37°07.00'/W121°47.06'
VPDUB	DUBLIN	N37°42.06'/W121°55.36'
VPEMB	EMBASSY SUITES	N37°26.05'/W121°53.83'
VPGGF	GOLDEN GATE FIELDS	N37°53.07'/W122°18.71'
VPGIL	GILROY	N37°01.37'/W121°33.99'
VPHHH	HAMILTON	N38°03.58'/W122°30.66'
VPKGO	KGO	N37°31.58'/W122°06.10'

WAYPOINT IDENT	COLLOCATED VFR CHECKPOINT	LOCATION
VPLEX	LEXINGTON RESERVOIR	N37°11.66'/W121°59.18'
VPMID	MID-SPAN SAN MATEO BRIDGE	N37°36.28'/W122°11.81'
VPMOR	MORMON TEMPLE	N37°48.46'/W122°11.95'
VPNUM	NUMMI PLANT	N37°29.56'/W121°56.58'
VPPAC	_____	N37°38.00'/W122°32.07'
VPPRU	PRUNEYARD	N37°17.33'/W121°56.01'
VPSAR	SARATOGA	N37°15.26'/W122°02.33'
VPSLA	SLAC/LINEAR ACCELERATOR	N37°24.75'/W122°14.35'
VPSTB	STINSON BEACH	N37°54.45'/W122°40.41'
VPSUN	SUNOL GOLF COURSE	N37°34.85'/W121°53.23'
VPUTC	U.T.C.	N37°13.93'/W121°41.35'
VPWAL	WALNUT CREEK	N37°53.78'/W122°04.30'
VPWAM	_____	N37°30.28'/W122°10.00'
VPWFR	CEMENT PLANT	N37°30.88'/W122°12.26'

TAMPA/ORLANDO TERMINAL AREA CHART/FLYWAY CHART

VPBOV	_____	N27°57.00'/W080°46.75'
VPCNY	_____	N28°30.00'/W080°45.00'
VPDAD	DADE CITY	N28°22.57'/W082°11.25'
VPDFI	_____	N29°00.17'/W081°20.85'
VPDUT	_____	N27°37.70'/W082°09.10'
VPEAR	CLEARWATER BEACH	N27°58.67'/W082°49.83'
VPFFU	_____	N28°57.08'/W081°00.33'
VPGPE	ST PETE BEACH	N27°43.50'/W082°44.67'
VPHUC	_____	N28°19.87'/W082°43.77'
VPKER	LAKE PARKER	N28°04.00'/W081°56.00'
VPLEV	_____	N28°48.00'/W080°52.00'
VPLJA	_____	N29°00.00'/W080°51.00'

WASHINGTON SECTIONAL CHART

VPBRA	_____	N36°13.75'/W076°08.08'
VPGCE	_____	N36°03.90'/W076°36.42'
VPWZO	_____	N36°00.87'/W075°40.07'

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VOR RECEIVER CHECK VOR RECEIVER CHECKPOINTS AND VOR TEST FACILITIES (VOT)

The use of VOR airborne and ground checkpoints is explained in Aeronautical Information Manual, Basic Flight Information and ATC Procedures.

NOTE: Under columns headed "Type of Checkpoint" & "Type of VOT Facility" G stands for ground. A/ stands for airborne followed by figures (2300) or (1000-3000) indicating the altitudes above mean sea level at which the check should be conducted. Facilities are listed in alphabetical order, in the state where the checkpoints or VOTs are located.

IOWA

VOR RECEIVER CHECKPOINTS

Facility Name (Arpt Name)	Freq/Ident	Type		Dist. from Fac. N.M.	Checkpoint Description
		Check Pt. Gnd.	Azimuth from Fac. Mag		
Burlington (Southeast Iowa Rgnl)	111.4/BRL	A/2500	288	9.6	Over intersection of Rwys 18-36 and 12-30.
Cedar Rapids (The Eastern Iowa)	114.1/CID	G	086	3.9	On runup pad Rwy 27.
	114.1/CID	G	087	2.6	On runup pad Rwy 09.
	114.1/CID	G	092	4	On runup pad Rwy 31.
Dubuque (Dubuque Rgnl)	115.8/DBQ	G	109	0.5	Apch end Rwy 31.
Fort Dodge (Fort Dodge Rgnl)	113.5/FOD	G	118	6.1	On W edge of terminal ramp.
Iowa City (Iowa City Municipal)	116.2/IOW	A/2000	019	8	Over rotg beacon.
Newton (Newton Muni)	112.5/TNU	A/2500	145	8	Over apch end Rwy 32.
Ottumwa (Ottumwa Industrial)	111.6/OTM	A/2500	303	7.3	Over intersection of Rwys 13-31 and 04-22.
Sheldon (Sheldon Muni)	108.6/DDL	A/2700	098	8.0	Over grain elevator in city of Sanborn.
Sioux City (Sioux Gateway/Col Bud Day fld)	116.5/SUX	G	313	4.5	On Twy F between Rwys 17 and 13 and Twy A. Air Ground OTS indef.
Spencer (Spencer Muni)	110.0/SPW	G	316	0.7	On painted circle on twy AER 12.
Waterloo (Waterloo Muni)	112.2/ALO	G	304	0.8	Twy B apch end Rwy 12.

VOR TEST FACILITIES (VOT)

Facility Name (Airport Name)	Freq.	Type VOT Facility	Remarks
Davenport Muni	111.8	G	
Des Moines Intl	109.2	G	

KANSAS

VOR RECEIVER CHECKPOINTS

Facility Name (Arpt Name)	Freq/Ident	Type		Dist. from Fac. N.M.	Checkpoint Description
		Check Pt. Gnd.	Azimuth from Fac. Mag		
Chanute (Chanute Martin Johnson)	109.2/CNU	A/2000	058	5.6	Over center of N/S rwy.
Emporia (Emporia Muni)	112.8/EMP	A/2700	320	9.0	Over intersection of Hwy 50 and I-35.
Fort Riley (Marshall AAF)	109.4/FRI	G	032	6.8	On parking ramp adjacent to radar antenna.

VOR RECEIVER CHECK

Facility Name (Arpt Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac. Mag	Dist. from Fac. N.M.	Checkpoint Description
Garden City (Garden City Rgnl)	113.3/GCK	G	359	1.0	Intersection of Twys A and D.
Goodland (Renner Fld/Goodland Muni)	115.1/GLD	G	201	1.2	On parking ramp in front of air terminal.
Hays	110.4/HYS	A/3000	071	12.2	Over grain elevator in Gorham.
Hill City (Hill City Muni)	113.7/HLC	A/4200	060	19.6	Over rotg bcn.
Hutchinson (Hutchinson Rgnl)	116.8/HUT	A/3500	033	5	Over apch end Rwy 04.
Manhattan	110.2/MHK	A/2500	054	3.9	Over water twr.
Manhattan (Manhattan Rgnl)	110.2/MHK	G	197	0.6	0.6 NM parallel twy at B intersection.
	110.2/MHK	G	201	0.9	Twy at Rwy 3 holdline.
Salina (Salina Muni)	117.1/SLN	G	180	7.8	On twy north of Twy E.
Topeka (Philip Billard Muni).....	117.8/TOP	G	215	5.6	East side of terminal ramp.
Wichita (Wichita Mid-Continent)	113.8/ICT	A/3500	216	7.1	Over grain elevator. SW corner of Garden Plains.

VOR TEST FACILITIES (VOT)

Facility Name (Airport Name)	Freq.	Type VOT Facility	Remarks
Topeka (Forbes Fld)	111.0	G	
Wichita (Wichita Mid-Continent)	114.0	G	

MINNESOTA

VOR RECEIVER CHECKPOINTS

Facility Name (Arpt Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac. Mag	Dist. from Fac. N.M.	Checkpoint Description
Albert Lea (Albert Lea Muni).....	109.8/AEL	G	140	.5	Apch end Rwy 34.
Alexandria (Chandler Fld)	112.8/AXN	A/2600	224	8.3	Over apch end Rwy 22.
Baudette (Baudette Intl)	111.6/BDE	A/2000	277	13.8	Over grain elevator Williams, MN.
Baudette (Baudette Intl)	111.6/BDE	G	310	.8	Rwy 12 runup pad.
Detroit Lakes (Detroit Lakes-Wething Fld) ..	111.2/DTL	A/3000	132	19	Over grain elevator in Perham Mn.
Duluth (Duluth Intl)	112.6/DLH	G	012	2.2	Intersection of Taxiways C and D near Rwy 03 thld.
Ely (Ely Muni)	109.6/ELO	A/2500	266	17.1	Over water tower in 'TOWER MN'.
Fergus Falls	110.4/FFM	A/2500	126	7.5	Over underpass intersection of 2 hwsy.
Flying Cloud	111.8/FCM	A/2000	278	6.0	Over Chaska water tower.
Gopher (Crystal)	117.3/GEP	A/1900	166	4.9	Over apch end Rwy 14L.
International Falls	111.0/INL	A/2200	135	11.0	Over highway bridge over railroad track.
International Falls (Falls Intl)	111.0/INL	G	113	0.6	On taxiway apch end Rwy 31.
Mankato (Mankato Rgnl).....	110.8/MKT	G	317	.9	Twy A4 AER 15.
Marshall	111.0/MML	A/2700	308	9.6	Over grain elevator at Minneota.
Montevideo (Montevideo-Chippewa Co).....	111.6/MVE	A/2000	105	11.1	Over grain elevator straddling train tracks.

VOR RECEIVER CHECK

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Facility Name (Arpt Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac. Mag	Dist. from Fac. N.M.	Checkpoint Description
Park Rapids (Park Rapids Muni)	110.6/PKD	G	322	.6	On twy AER 13.
Rochester (Rochester Intl)	112.0/RST	A/3000	024	8.8	Over intersection of Rwys 02-20 and 13-31.
Roseau	108.8/ROX	A/2400	178	6.5	Over microwave twr.
Saint Cloud (St Cloud Rgnl)	112.1/STC	G	291	0.5	Runup area AER 13.
Worthington	110.6/OTG	A/2800	050	5.6	Over grain elevator Brewster.

VOR TEST FACILITIES (VOT)

Facility Name (Airport Name)	Freq.	Type VOT Facility	Remarks
Minneapolis (Minneapolis St. Paul Intl/Wold Chamberlain)	111.0	G	Usable airborne 2500-4000' MSL within a 15 NM radius of VOT.
St Paul (St Paul Downtown Holman Fld)	114.4	G	

MISSOURI

VOR RECEIVER CHECKPOINTS

Facility Name (Arpt Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac. Mag	Dist. from Fac. N.M.	Checkpoint Description
Butler	115.9/BUM	A/1500	055	7.2	Grain elevator.
Cape Girardeau (Cape Girardeau Rgnl)	112.9/CGI	G	112	.6	On Twy C1 N of Twy C.
Forney (Waynesville Rgnl Arpt at Forney Field)	110.0/TBN	G	173	0.53	On N edge of Army ramp.
Kirkville	114.6/IRK	A/2500	131	8.2	Over water tank at La Plata.
Kirkville (Kirkville Rgnl)	114.6/IRK	G	132	3.4	On twy just W of terminal area.
Malden	111.2/MAW	A/1500	351	13.4	Over intersection of Rwys 18-36 and 04-22 of Dexter Muni Arpt.
Neosho (Joplin Muni)	117.3/EOS	A/2500	344	19	Over apch end Rwy 31.
Saint Joseph (Rosecrans Mem)	115.5/STJ	A/2500	167	10.7	Over apch end Rwy 17.
Springfield (Springfield-Branson Natl)	116.9/SGF	G	193	6.8	At E end of Twy B.
Sunshine (Lee C Fine Mem)	108.4/SHY	A/2500	353	9	Highway bridge over Osage River.

VOR RECEIVER CHECK VOR TEST FACILITIES (VOT)

Facility Name (Airport Name)	Freq.	Type VOT Facility	Remarks
Jefferson City (Jefferson City Mem)	112.0	G	
Kansas City (Downtown)	108.6	G	
St. Louis (Lambert–St Louis Intl)	111.0	G	
Spirit of St. Louis	112.2	G	

NEBRASKA

VOR RECEIVER CHECKPOINTS

Facility Name (Arpt Name)	Freq/Ident	Type	Azimuth	Dist.	Checkpoint Description
		Check Pt. Gnd.	from Fac. Mag	from Fac. N.M.	
Ainsworth	112.7/ANW	A/3600	090	13.0	Over grain elevator south edge at Long Pine.
Alliance	111.8/AIA	A/5000	310	12.1	Over grain elevator 1 NM SE of Berea.
Beatrice	110.6/BIE	A/2400	046	6.1	Over 260' AGL antenna.
Chadron (Chadron Muni)	113.4/CDR	A/4500	017	19	Over intersection of Rwy 20 and 29.
Columbus	112.2/OLU	A/2500	082	12.7	Over bridge/railroad tracks at center of Schuyler.
Columbus (Columbus Muni)	112.2/OLU	G	167	0.5	On twy at apch end Rwy 32.
Grand Island (Central Nebraska Rgnl)	112.0/GRI	G	177	1.5	On parallel twy at AER 35.
Hastings	108.8/HSI	A/3200	266	8.1	Bridge over railroad.
Kearney (Kearney Muni)	111.2/EAR	G	211	0.5	South end of main ramp.
		G	319	0.5	North end of main ramp.
Lincoln (Lincoln)	116.1/LNK	G	176	4.9	On runup ramp for Rwy 35.
Norfolk	109.6/OFK	A/2600	098	10.0	Bridge over river south at Stanton.
Norfolk (Karl Stefan Mem)	109.6/OFK	G	144	0.5	On runup pad for Rwy 31.
North Platte (North Platte Rgnl Airport Lee Bird Field)	117.4/LBF	G	013	5.5	On S edge of ramp 200' N of Twy B.
O'Neil	113.9/ONL	A/3000	119	13	Over triangle in road intersection.
Omaha (Eppley Airfield)	116.3/OVR	A/2500	310	10.2	Over apch end Rwy 32L.
Scottsbluff (William B. Heilig Fld)	112.6/BFF	G	240	5.1	On NE edge ramp opposite terminal bldg & W of twy to Rwy 30.
Searle (Searle Field)	110.2/SAE	A/4800	030	7.2	Over flood-ctl spillway SE end of Lake McConaughy.

VOR RECEIVER CHECK VOR TEST FACILITIES (VOT)

Facility Name (Airport Name)	Freq.	Type VOT Facility	Remarks
Omaha (Eppley Airfield)	109.0	G	

NORTH DAKOTA

VOR RECEIVER CHECKPOINTS

Facility Name (Arpt Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac. Mag	Dist. from Fac. N.M.	Checkpoint Description
Bismarck (Bismarck Muni)	116.5/BIS	G	262	3.0	On Twy C5.
Dickinson (Dickinson–Theodore Roosevelt Rgnl)	112.9/DIK	G	182	3.7	At int of E/W twy and N/S twy.
Fargo (Hector Intl)	116.2/FAR	A/2000	360	9.4	Over apch end Rwy 36.
Grand Forks (Grand Forks Intl)	114.3/GFK	G	157	1.0	On twy A5.
Jamestown (Jamestown Rgnl)	114.5/JMS	G	141	0.6	On twy strip adjacent to Rwy 31.
Minot	117.1/MOT	A/2800	091	6.5	Over railroad and highway overpass.

SOUTH DAKOTA

VOR RECEIVER CHECKPOINTS

Facility Name (Arpt Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac. Mag	Dist. from Fac. N.M.	Checkpoint Description
Brookings	108.8/BKX	A/3000	072	7.5	Over grain elevator.
Mitchell (Mitchell Muni)	109.2/MHE	A/2500	238	11.0	Over intersection of highways ½ NM south of town of Mt. Vernon.
Phillip	109.2/MHE	G	194	0.5	On main ramp.
Pierre (Pierre Rgnl)	108.4/PHP	A/3300	156	4.7	Over radio twr.
Pierre (Pierre Rgnl)	112.5/PIR	G	251	5.5	On twy in front of terminal building. VOR Checkpoint unusable.
Rapid City (Rapid City Rgnl)	112.3/RAP	G	320	4.5	On ramp in front of administration building adjacent to center twy.
Sioux Falls	115.0/FSD	A/2500	009	6.9	Over water twr in Baltic S.D.
Sioux Falls (Joe Foss Field)	115.0/FSD	G	143	4.3	At intersection of E/W twy and east ramp.
Watertown (Watertown Muni)	116.6/ATY	G	184	3.8	On SE corner of terminal ramp.
Winner	112.8/ISD	A/3100	204	8.6	Over blue water tank S edge of town.

The following tabulation lists all reported parachute jumping sites in the area of coverage of this directory. Unless otherwise indicated, all activities are conducted during daylight hours and under VFR conditions. The busiest periods of activity are normally on weekends and holidays, but jumps can be expected at anytime during the week at the locations listed. Jumps within restricted airspace are not listed.

All times are local and altitudes MSL unless otherwise specified.

Contact facility and frequency is listed at the end of the remarks, when available, in bold face type.

Refer to Federal Aviation Regulations Part 105 for required procedures relating to parachute jumping.

Organizations desiring listing of their jumping activities in this publication should contact the nearest FSS, tower or ARTCC.

Qualified parachute jumping sites will be depicted on the appropriate visual chart(s).

Note: (c) in this publication indicates that the parachute jump area is charted.

To qualify for charting, a jump area must meet the following criteria:

- (1) Been in operation for at least 1 year.
- (2) Operate year round (at least on weekends).
- (3) Log 4,000 or more jumps each year.

In addition, jump sites can be nominated by FAA Regions if special circumstances require charting.

LOCATION	DISTANCE AND RADIAL FROM NEAREST VOR/VORTAC	MAXIMUM ALTITUDE	REMARKS
IOWA			
(c) Boone Muni Arpt	37 NM; 293° Newton	15,000	6 NM radius. Continuous.
(c) Cherokee Co Rgnl	30 NM; 206° Spencer	12,500	5 NM radius. Summer continuous, winter weekends and holidays SR-SS
(c) Dallas Center, Husband Field	25 NM; 305° Des Moines	12,800	3 NM radius. Weekends and holidays
Davenport	13 NM; 258° Davenport	12,500	2 NM radius. Daily
Decorah Arpt	15 NM; 264° Waukon	7,000 AGL	Summer, Tue-Thu 1700-SS, Sat-Sun 1000-SS. Winter, 1000-SS Sat, Sun.
Fairfield Muni Arpt	16 NM; 079° Ottumwa	12,500	5 NM radius. Sat, Sun and holidays SR-SS.
Marion Arpt	14 NM; 047° Cedar Rapids	15,000 AGL	3 NM radius. Continuous.
(c) New Hampton Muni Arpt	32 NM; 359° Waterloo	15,000 AGL	1 NM radius. Daily.
(c) Northwood Muni Arpt	22 NM; 010° Mason City	11,500	5 NM radius. Apr-Oct, Sat-Sun SR-SS.
Perry Muni	33 NM; 310° Des Moines	12,500	3 NM radius. Weekends and holidays
Sioux City	13 NM; 285° Sioux City	10,000	0.5 NM radius. 0800-2000 daily
(c) Vinton Veterans Mem Airpark Arpt...	24 NM; 330° Cedar Rapids	15,000	5 NM radius. Continuous.
(c) Waterloo, Flyers Arpt	10 NM; 140° Waterloo	12,000	3 NM radius. Summer continuous, winter weekends and holidays SR-SS.
(c) Winterset-Madison Co Arpt	17 NM; 248° Des Moines	14,000	5 NM radius. SR-SS daily.
KANSAS			
Atchison, Amelia Earhart Arpt	26.2 NM; 199° St Joseph	12,500	5 NM radius. Continuous.
(c) Baldwin City, Vinland Valley Aerodrome Arpt	24 NM; 130° Topeka	13,000	5 NM radius. Sat-Sun Continuous.
(c) Derby, Cook Airfield Inc.	23 NM; 110° Wichita	13,500	5 NM radius. Daily.
(c) Junction City, Ft. Riley, Marshall AAF	6.3 NM; 034° Ft. Riley	10,000	1 NM radius. Daily SR-SS
(c) Kingman, Kingman Arpt-Clyde Cessna Fld	22 NM; 195° Hutchinson	15,000	1 NM radius. Fri, Sat, Sun and holidays, SR-SS.
(c) Lyons-Rice Co Muni Arpt	24.7 NM; 317° Hutchinson	14,000	5 NM radius. Continuous.
Osage Muni	26 NM; 030° Emporia	12,000	2 NM radius. Sat-Sun, SR-SS.
St Francis, Cheyenne County Muni	22.9 NM; 336° Goodland	16,000	3 NM radius Continuous.
Salina	20 NM; 247° Salina	2,700	0.3 NM radius. Occasional use
(c) Suppesville	18 NM; 200° Wichita	15,000	5 NM radius. Sat-Sun and holidays, SR-SS.
(c) Topeka, Mesa Verde Arpt	9 NM; 267° Topeka	13,000 AGL	2 NM radius weekdays 1600-SS weekdays SR-SS weekends and holidays.
(c) Wamego Muni Arpt	19.4 NM; 075° Manhattan	11,000	5 NM radius. Continuous.
Wichita, Maize Arpt	7 NM; 070° Wichita	11,500	1 NM radius. Continuous.
(c) Wichita, Sauerman Field	14NM; 253° Wichita	13,000	5 NM radius. Continuous.

PARACHUTE JUMPING AREAS

LOCATION	DISTANCE AND RADIAL FROM NEAREST VOR/VORTAC	MAXIMUM ALTITUDE	REMARKS
MINNESOTA			
Duluth	5 NM; 120° Duluth	10,000	Jun–Aug, Fridays 1800–2030
(c) Hutchinson Muni—Butler Fld Arpt ...	14 NM; 160° Darwin	13,000	5 NM radius. 0800–2359 daily.
Waseca Muni	11 NM; 223° Halfway	15,000	5 NM radius. Continuous.
MISSOURI			
(c) Butler Mem Arpt	7 NM; 074° Butler	13,000	5 NM radius. Sat–Mon 0500–2200.
(c) Charleston, Mississippi Co Arpt	25 NM; 150° Cape Girardeau	13,000	2 NM radius SR–SS weekends and holidays.
(c) Elton Hensley Mem Arpt	10 NM; 078° Columbia	12,000	5 NM radius. Daily 0700–1900.
(c) Kimberling Airways Arpt	22 NM; 323° Harrison	10,000	2 NM radius. SR–SS Mon–Sat.
(c) Lexington Muni Arpt	13 NM; 048° Napoleon	12,500 AGL	SR–SS Sat, Sun, holidays & weekday evenings.
(c) Mt Vernon Muni Arpt	31.5 NM; 235° Springfield	15,000	2 NM radius. Daily SR–SS. Springfield–Branson Natl Twr 124.95
Neosho	28.7 NM; 337° Neosho	10,000	
(c) Sullivan Rgnl Arpt	26 NM; 073° Vichy	15,000	5 NM radius. SR–SS weekends. Occasional ngt and weekdays.
NEBRASKA			
(c) Blair Muni Arpt	23 NM; 310° Omaha	14,000	2 NM radius. Sat–Sun SR–SS. Omaha App/Dep Con 120.1
(c) Crete Muni Arpt	22 NM; 195° Lincoln	14,500	2 NM radius. Continuous. Lincoln App/Dep Con 124.0 (1130–0600Z†) Mineapolis Center 128.75 (0600–1130Z†)
Mc Cook Rgnl Arpt	2 NM; 363° Mc Cook	10,500	2 NM radius Mon–Fri 1600–SS and Sat–Sun 0800–SS.
(c) Weeping Water, Browns Arpt	27 NM; 090° Lincoln	14,000	3 NM radius. Apr–Oct, SR–30 min after SS, daily; Oct–Apr, SR–30 min after SS, weekends and Federal holidays.
NORTH DAKOTA			
(c) West Fargo Muni Arpt	9 NM; 335° Fargo	13,500	3 NM radius. SR–SS Weekends. Occasional nights and weekdays.

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The purpose of this bulletin is to provide major changes in aeronautical information that have occurred since the last publication date of each Sectional Aeronautical, Terminal Area, and Helicopter Route Charts listed. The general policy is to include only those changes to controlled airspace and special use airspace that present a hazardous condition or impose a restriction on the pilot; major changes to airports and radio navigational facilities, thereby providing the VFR pilot with the essential data necessary to update and maintain the chart current. When the Aeronautical Chart is republished, the corrective tabulation will be removed from this Bulletin. Inasmuch as this Bulletin provides major changes only; pilots should consult the airport listing in this directory for all new information. Users of U.S. World Aeronautical Charts (WAC) and U.S. Gulf Coast VFR Aeronautical Charts should consult appropriate Sectional and Terminal Area Charts for revisions. NOTE: New data which have been added to this issue are shown below the rule line under the appropriate chart.

Military Training Routes (MTRs) are shown on Sectional Aeronautical Charts and VFR Terminal Area Charts. Only the route centerline, direction of flight and the route designator are shown —route widths and altitudes are not shown. Since these routes are subject to change every 56 days and the charts are reissued every 6 months, routes with a change in the alignment of the charted route centerline will be listed in this Aeronautical Chart Bulletin below. You are advised to contact the nearest FSS for route dimensions and current status for those routes affecting your flight.

BILLINGS SECTIONAL

75th Edition, March 13, 2008

Add obst 2245'MSL (294'AGL)UC, 47°18'35"N, 101°00'26"W. Change TURTLE LAKE MUNI arpt elev to 1910, 47°30'33"N, 100°54'57"W.

Delete HETTINGER NDB, 46°01'01"N, 102°38'56"W. Add obst 2578'MSL (340'AGL)UC, 48°19'08"N, 102°21'56"W. Add obst 3960'MSL (349'AGL)UC, 44°33'17"N, 103°58'40"W.

Military Training Routes

No Changes

CHEYENNE SECTIONAL

77th Edition, January 17, 2008

Add obst 6985'MSL (235'AGL)UC, 41°46'39"N, 108°50'00"W. Add obst 4945'MSL (215'AGL)UC, 44°16'04"N, 105°16'59"W. Add obst 4791'MSL (308'AGL)UC, 41°13'42"N, 103°19'07"W. Add obst 3677'MSL (350'AGL)UC, 41°52'49"N, 101°00'58"W. Revise WHEATLAND, WY. Class E: That airspace extending upward from 700 feet above the surface within a 9-mile radius of Phifer Airfield, WY and within 4 miles north and 4 miles south of the Phifer Airfield, WY 080° radial extending from the 9-mile radius to 12.90 miles east of the Phifer Airfield, WY.

Add obst 3960'MSL (349'AGL)UC, 44°33'17"N, 103°58'40"W. Add WALDEN, CO. Class E: That airspace extending upward from 700 feet above the surface within a 5-mile radius of Walden-Jackson County arpt, and within 4 miles each side of the 342° bearing from the arpt extending from the 5-mile radius to V-524 northwest of the arpt.

Military Training Routes

No Changes

CHICAGO SECTIONAL

75th Edition, October 25, 2007

Add obst 1234' MSL (349' AGL) UC, 40°25'34"N, 85°22'10"W. Add obst 1080' MSL (212' AGL), 41°19'25"N, 85°06'42"W. Add obst 1070' MSL (220' AGL) UC, 42°00'36"N, 85°27'51"W. Add obst 1147' MSL (470' AGL) UC, 41°36'33"N, 89°40'18"W. Add obst 1068' MSL (308' AGL) UC, 40°01'56"N, 91°09'42"W. Add obst 1131' MSL (300' AGL) UC, 40°55'05"N, 92°25'46"W. Add obst 1690' MSL (275' AGL) UC, 44°02'38"N, 90°37'42"W. Add obst 1575' MSL (300' AGL) UC, 43°03'41"N, 90°09'40"W. Add obst 1243' MSL (260' AGL) UC, 42°34'01"N, 92°10'11"W. Change MEF 1⁹ to 2⁹ in quadrant 44°00'-44°30"N, 90°30'-91°00"W. Delete CALEDONIA NDB, 43°35'12"N, 91°29'25"W. Add windmill farm. 1264' is highest MSL, 41°06'03"N, 89°40'06"W. Delete REDOFT arpt, 44°04'45"N, 87°58'32"W. Delete EDINGER arpt, 44°00'17"N, 88°52'15"W. Delete LAKE ZUMBRO arpt, 44°12'06"N, 92°29'01"W.

Add obst 1092' MSL (362' AGL) UC, 40°41'19"N, 87°03'37"W. Add obst 1442' MSL (270' AGL) UC, 42°59'37"N, 89°59'36"W. Add obst 1215' MSL (350' AGL) UC, 40°42'50"N, 85°03'37"W. Add obst 1219' MSL (310' AGL) UC, 42°04'43"N, 85°07'42"W. Add obst 1298' MSL (310' AGL) UC, 44°06'53"N, 89°49'39"W. Add obst 1203' MSL (299' AGL) UC, 40°26'54"N, 85°29'42"W. Add obst 1521' MSL (260' AGL) UC, 44°09'15"N, 92°55'11"W. Add obst 1358' MSL (290' AGL) UC, 42°26'37"N, 92°55'41"W. Change CTAF 123.0 to 123.05 at BARABOO WISCONSIN DELLS arpt, 43°31'19"N, 89°46'15"W. Add PRAIRIE DU SAC, WI Class E: That airspace extending upward from 700 feet above the surface within a 7-mile radius of Sauk-Prairie Airport, Prairie Du Sac, WI.

Delete SEEMAN arpt, 40°46'43"N, 88°39'58"W. Delete REES arpt, 41°12'16"N, 88°48'12"W. Delete MASON arpt, 40°05'38"N, 89°21'46"W. Delete ZEA MAYS arpt, 41°31'36"N, 89°25'05"W. Delete BRADBURY arpt, 40°45'08"N, 88°13'22"W. Delete DOERING arpt, 41°41'08"N, 89°54'09"W. Delete WARREN arpt, 41°38'52"N, 88°41'40"W. Delete ESSER arpt, 42°07'50"N, 88°30'10"W. Delete ALBRECHT arpt, 41°37'53"N, 89°24'18"W. Delete POYNER arpt, 42°28'14"N, 92°05'18"W. Delete THORP arpt, 40°13'00"N, 88°54'00"W. Change CTAF 122.9 to 122.7 at OCEANA arpt, 43°38'30"N, 86°19'46"W. Delete WABASH NDB, 40°45'49"N, 85°47'51"W. Add obst 1540' MSL (320' AGL) UC, 43°33'17"N, 91°11'31"W. Add obst 2828' MSL (1553' AGL) UC, 43°28'32"N, 92°42'30"W. Add obst 1528' MSL (389' AGL) UC, 43°37'32"N, 88°32'49"W. Add obst 1487' MSL (389' AGL) UC, 43°35'41"N, 88°33'30"W. Add obst 1205' MSL (208' AGL), 42°17'40"N, 85°43'32"W. Add obst 1466' MSL (349' AGL) UC, 43°18'56"N, 90°25'35"W. Add obst 1496' MSL (260' AGL) UC, 43°13'37"N, 92°25'32"W. Add obst 1302' MSL (260' AGL) UC, 42°24'21"N, 91°21'39"W. Add obst 882' MSL (250' AGL) UC, 40°25'32"N, 86°45'38"W. Add obst 1325' MSL (258' AGL) UC, 42°21'12"N, 90°48'29"W. Add obst 1067' MSL (437' AGL) UC, 42°15'14"N, 86°20'09"W. Add obst 1265' MSL (270' AGL) UC, 42°26'36"N, 89°55'22"W. Add obst 1568' MSL (309' AGL) UC, 43°08'16"N, 91°44'08"W. Change MEF 2⁹ to 3⁹ in quadrant 43°00'-43°30"N, 92°30'-93°00"W.

Add obst 1259' MSL (259' AGL) UC, 43°12'42"N, 91°09'10"W. Add obst 1117' MSL (389' AGL) UC, 41°16'19"N, 88°41'37"W. Add obst 1533' MSL (308' AGL) UC, 44°10'50"N, 92°45'57"W. Add obst 1232' MSL (259' AGL) UC, 41°48'22"N, 92°26'55"W. Add obst 1221' MSL (309' AGL) UC, 41°34'39"N, 92°20'55"W. Add obst 973' MSL (260' AGL) UC, 41°39'35"N, 86°23'29"W. Add obst 1089' MSL (259' AGL) UC, 41°31'24"N, 92°03'35"W. Add obst 821' MSL (238' AGL) UC, 40°09'48"N, 89°43'52"W. Delete WILLIS arpt, 42°01'50"N, 88°42'06"W. Delete DONNELSON arpt, 40°37'15"N, 91°32'30"W. Delete HAGI arpt, 41°06'36"N, 88°47'44"W. Delete MICHIGAN CITY NDB, 41°42'26"N, 86°48'59"W. Revise BLACK RIVER FALLS, WI Class E: That airspace extending upward from 700 feet above the surface within a 6.4-mile radius of the Black River Falls Area Airport and within 2.7 miles each side of the 253° bearing from the Black River Falls Area Airport, extending from the 6.4-mile radius to 7.4 miles southwest of the airport; and within 3.85 miles each side of the 260° bearing from the Black River Falls Area Airport extending from the 6.4-mile radius to 8.8 miles southwest of the airport.

Military Training Routes

No Changes

GREEN BAY SECTIONAL

76th Edition, June 5, 2008

No major changes.

Military Training Routes

No Changes

KANSAS CITY SECTIONAL
80th Edition, June 5, 2008

No major changes.

Military Training Routes

No Changes

KANSAS CITY TERMINAL AREA CHART
67th Edition, June 5, 2008

No major changes.

Military Training Routes

No Changes

MEMPHIS SECTIONAL
80th Edition, April 10, 2008

Change obst from 1180'MSL (270'AGL) to 1307'MSL (450'AGL), 34°45'09"N, 94°38'07"W. Add obst 1509'MSL (349'AGL)UC, 36°05'32"N, 92°15'47"W. Add obst 659'MSL (454'AGL), 35°13'41"N, 91°29'19"W. Add obst 854'MSL (454'AGL)UC, 34°24'33"N, 88°32'24"W. Add obst 638'MSL (410'AGL)UC, 32°07'08"N, 88°12'56"W. Add obst 425'MSL (351'AGL)UC, 32°05'27"N, 91°41'18"W. Add obst 615'MSL (334'AGL)UC, 32°27'12"N, 90°25'03"W. Add obst 406'MSL (311'AGL)UC, 32°35'31"N, 91°00'42"W. Add obst 550'MSL (311'AGL)UC, 32°04'43"N, 90°33'08"W. Add obst 622'MSL (311'AGL)UC, 32°03'37"N, 90°27'15"W. STILWELL/CHEROKEE NATION arpt abandoned, 35°45'25"N, 094°38'59"W. Delete BAKER arpt, 33°06'30"N, 091°15'00"W. TWIN CITIES arpt abandoned, 35°25'02"N, 094°19'35"W. Delete REED-JOSEPH arpt, 33°20'52"N, 093°43'53"W. Delete BARRET arpt, 35°22'30"N, 089°46'00"W. BOBWHITE HILL arpt, 34°57'59"N, 092°17'57"W. STILWELL arpt, 35°50'15"N, 094°37'30"W.

Add WINONA, MS Class E: That airspace extending upward from 700 feet above the surface of the Earth within a 6.9-mile radius of Winona-Montgomery County Airport.

Military Training Routes

No changes

MINNEAPOLIS—ST. PAUL TERMINAL AREA CHART
69th Edition, January 17, 2008

Add obst 1344'MSL (257'AGL)UC, 44°27'49"N, 92°35'18"W. Add obst 1360'MSL (232'AGL)UC, 44°22'57"N, 92°37'15"W.

Change MINNEAPOLIS Class B freq from 125.0(S) to 134.7(S).

Military Training Routes

No Changes

OMAHA SECTIONAL
77th Edition, February 14, 2008

Add obst 1537'MSL (407'AGL)UC, 40°26'13"N, 95°28'38"W. Add obst 2828'MSL (1553'AGL)UC, 43°28'32"N, 92°42'30"W. Add obst 1359'MSL (295'AGL)UC, 44°29'43"N, 95°24'50"W. Add obst 1570'MSL (320'AGL)UC, 42°56'56"N, 97°09'33"W. Add obst 1286'MSL (260'AGL)UC, 41°11'50"N, 93°35'40"W. Add obst 1468'MSL (295'AGL)UC, 44°34'07"N, 95°59'34"W. Add obst 1658'MSL (305'AGL)UC, 43°07'47"N, 97°43'02"W. Add obst 2940'MSL (308'AGL)UC, 41°07'58"N, 99°45'46"W. Add obst 1444'MSL (308'AGL)UC, 40°08'25"N, 95°56'38"W. Add obst 1607'MSL (349'AGL)UC, 40°51'46"N, 94°11'45"W. Add obst 1527'MSL (310'AGL)UC, 42°43'52"N, 94°27'54"W. Change obst from 1540'MSL (280'AGL) to 1607'MSL (315'AGL)UC, 41°05'53"N, 95°45'37"W. Add obst 1410'MSL (290'AGL)UC, 42°51'53"N, 94°12'50"W. Add obst 1991'MSL (308'AGL)UC, 42°52'48"N, 98°42'31"W. Add obst 1514'MSL (310'AGL)UC, 43°06'00"N, 93°48'50"W. Add obst 1698'MSL (310'AGL)UC, 43°21'11"N, 95°58'38"W. Add obst 3279'MSL (410'AGL)UC, 42°18'04"N, 100°32'14"W. Add obst 2253'MSL (309'AGL)UC, 40°21'05"N, 98°26'51"W. Add obst 2510'MSL (260'AGL)UC, 40°26'17"N, 99°09'36"W. Add obst 2767'MSL (410'AGL)UC, 41°18'33"N, 99°23'55"W. Change MEF 2⁹ to 3⁰ in quadrant 43°00'- 43°30"N, 92°30'- 93°00'W.

Add obst 1449'MSL (310'AGL)UC, 40°10'25"N, 95°53'38"W. Add windmill farm. 1512' is highest MSL, 40°05'39"N, 94°29'48"W. Add obst 1661'MSL (320'AGL)UC, 41°49'19"N, 96°27'53"W. Add obst 2035'MSL (349'AGL)UC, 41°36'32"N, 97°28'59"W. Add obst 2426'MSL (310'AGL)UC, 43°54'24"N, 100°24'29"W. Add obst 1533'MSL (308'AGL)UC, 44°10'50"N, 92°45'57"W. Delete WILBER arpt, 40°28'30"N, 96°59'16"W. Change MINNEAPOLIS Class B freq from 125.0 (S) to 134.7 (S).

Military Training Routes

IR 504 Revised

ST. LOUIS SECTIONAL 77th Edition, December 20, 2007

Delete NEEDMORE NDB, 36°32'11"N, 86°55'03"W. Add obst 983'MSL (315'AGL)UC, 38°32'23"N, 85°40'08"W. Add obst 1090'MSL (216'AGL)UC, 38°44'04"N, 84°22'04"W. Add obst 864'MSL (302'AGL)UC, 36°25'43"N, 87°45'50"W. Change obst from 1229'MSL (298'AGL) to 1280'MSL (348'AGL), 37°10'35"N, 85°55'25"W. Add obst 1139'MSL (255'AGL), 36°56'30"N, 84°43'29"W. Add obst 796'MSL (349'AGL)UC, 39°30'23"N, 90°58'52"W. Add obst 972'MSL (349'AGL)UC, 39°03'31"N, 89°18'50"W. Add obst 1421'MSL (256'AGL)UC, 36°45'21"N, 85°03'36"W. Add obst 664' MSL (325' AGL) UC, 37°16'40"N, 89°11'33"W. Add obst 1368' MSL (335' AGL), 36°46'35"N, 85°14'42"W. Change CTAF freq. 122.8 to 123.0 at MADISON MUNI arpt., 38°45'35"N, 85°27'52"W.

Delete KAMM arpt, 39°46'23"N, 88°26'55"W. Delete MASON arpt, 40°05'38"N, 89°21'46"W. Delete MUMFORD arpt, 39°56'52"N, 86°43'58"W. Delete THORP arpt, 40°13'00"N, 88°54'00"W. Delete XENIA NDB, 39°42'54"N, 83°55'47"W. Add obst 1480'MSL (260'AGL)UC, 37°17'53"N, 84°24'31"W. Add obst 1201'MSL (585'AGL)UC, 39°03'30"N, 89°24'16"W. Add obst 749'MSL (209'AGL)UC, 38°37'41"N, 89°54'04"W. Add obst 1255'MSL (255'AGL)UC, 36°47'29"N, 85°41'06"W. Add obst 1156'MSL (260'AGL)UC, 38°00'01"N, 83°53'11"W. Add obst 1155'MSL (292'AGL)UC, 38°15'54"N, 86°01'05"W. Add obst 1556'MSL (256'AGL)UC, 36°46'45"N, 84°56'34"W. Add obst 1127'MSL (349'AGL)UC, 38°29'29"N, 85°58'16"W. Change MEF 1³ to 1⁴ in quadrant 39°00'-39°30"N, 89°00'-89°30"W. Add RP 9R,27R to TAYLORVILLE arpt, 39°31'57"N, 89°19'50"W.

Delete SNOW arpt, 39°44'59"N, 88°58'46"W. Delete PITTSFIELD NDB, 39°38'25"N, 90°46'58"W. Delete ELK SPRING NDB, 36°51'22"N, 84°51'10"W. Delete NALLY DUNSTON NDB, 35°59'42"N, 89°24'20"W. Revise DANVILLE, KY Class E That airspace extending upward from 700 feet above the surface of the Earth within a 7-mile radius of Stuart Powell Field Airport and within 2 miles each side of the 122° bearing from the airport extending from the 7-mile radius to 11.8 miles southeast of the airport. Revise INDIANAPOLIS, IN Class E That airspace extending upward from 700 feet above the surface within a 7.9 mile radius on the Indianapolis International Airport; and within a 7 mile radius of the Greenwood Municipal Airport; and within a 6.3 mile radius of Eagle Creek Airpark, and within 2.6 miles each side of the Brickyard VORTAC 257° radial, extending from the 6.3 mile radius of the Eagle Creek Airpark and the 7.9 mile radius of the Indianapolis International Airport to 7 miles west of the VORTAC; and within a 6 mile radius of the Point in Space coordinates 39°42'12"N, 86°06'28"W, serving Indianapolis Downtown Heliport; and within a 6.4 mile radius of Hendricks County-Gordon Graham Field Airport. Add obst 1063'MSL (255'AGL)UC, 37°04'25"N, 85°42'47"W. Add obst 1166'MSL (300'AGL)UC, 37°55'20"N, 84°00'29"W. Add obst 1366'MSL (285'AGL)UC, 39°56'46"N, 84°37'54"W. Add obst 821'MSL (238'AGL)UC, 40°09'48"N, 89°43'52"W. Add obst 1496'MSL (310'AGL)UC, 36°56'11"N, 84°31'24"W. Add obst 1523'MSL (315'AGL)UC, 37°46'55"N, 84°00'02"W. Add obst 703'MSL (304'AGL)UC, 38°20'50"N, 87°40'27"W. Add obst 1232'MSL (300'AGL)UC, 37°52'49"N, 84°03'48"W. Add RP 36 to LEE BOTTOM arpt, 38°37'53"N, 85°26'36"W.

Military Training Routes

No changes

ST. LOUIS TERMINAL AREA CHART 69th Edition, December 20, 2007

Add obst 749'MSL (209'AGL)UC, 38°37'41"N, 89°54'04"W.

Military Training Routes

No Changes

TWIN CITIES SECTIONAL

75th Edition, January 17, 2008

Add obst 1767' MSL (320' AGL) UC, 47°37'41"N, 95°01'36"W. Add obst 1711' MSL (320' AGL) UC, 47°39'56"N, 94°39'06"W. Add obst 1533' MSL (250' AGL) UC, 44°52'31"N, 98°29'47"W.

Delete WEBSTER-ENEBOE arpt, 45°25'30"N, 96°52'01"W. Add LONG PRAIRIE, MN Class E: That airspace extending upward from 700 feet above the surface within a 6.3 mile radius off Todd Field. This Class E airspace is effective during specific dates and times established in advance by Notice to Airmen. The effective data and time will thereafter be continuously published in the Airport/Facility Directory. Add obst 1672' MSL (320' AGL) UC, 47°44'48"N, 95°00'45"W. Add obst 1359' MSL (295' AGL) UC, 44°29'43"N, 95°24'50"W. Add obst 1947' MSL (340' AGL) UC, 47°44'42"N, 99°55'46"W. Add obst 1464' MSL (310' AGL) UC, 48°46'12"N, 94°57'41"W. Add obst 1468' MSL (295' AGL) UC, 44°34'07"N, 95°59'33"W. Add obst 1472' MSL (310' AGL) UC, 47°31'21"N, 96°15'39"W. Add obst 1770' MSL (304' AGL) UC, 47°31'52"N, 95°17'32"W. Add windmill farm. 2067' is highest MSL, 48°35'01"N, 98°16'35"W. Add obst 2559' MSL (396' AGL) UC, 45°56'58"N, 98°57'56"W.

Delete ROLLA NDB, 48°52'53"N, 99°36'54"W. Delete BOHN arpt, 48°43'56"N, 97°53'22"W. Delete PANGERL arpt, 45°42'03"N, 93°22'18"W. Add windmill farm 2070' UC is highest MSL, 48°36'44"N, 98°16'21"W. Add obst 1955' MSL (263' AGL) UC, 44°38'26"N, 96°22'48"W. Add obst 1412' MSL (350' AGL) UC, 44°38'38"N, 95°26'59"W. Add obst 2080' MSL (299' AGL) UC, 45°04'09"N, 97°19'46"W. Change MINNEAPOLIS Class B freq from 125.0(S) to 134.7(S).

Military Training Routes

No Changes

WICHITA SECTIONAL

80th Edition, January 17, 2008

Delete HEWETTS arpt, 40°10'15"N, 99°49'01"W. Delete HOYT arpt, 40°06'30"N, 100°48'52"W. Add SPRINGFIELD, CO Class E: That airspace extending upward from 700 feet above the surface within a 7.0-mile radius of Springfield Municipal Airport; that airspace extending upward from 1,200 feet above the surface beginning at TOBE VORTAC, thence north along V-169 to lat. 38°34'00" N., thence to lat. 38°34'00" N., long. 102°00'00" W., thence to lat. 36°30'00" N., long. 102°00'00" W., thence west on lat. 36°30'00" N. to V-81, thence northwest along V-81 to point of beginning.

Delete JEROME arpt, 36°21'05"N, 97°17'03"W. Add obst 5028' MSL (389' AGL) UC, 37°40'26"N, 102°48'09"W. Add obst 1670' MSL (310' AGL) UC, 36°23'20"N, 98°18'01"W. Add obst 1767' MSL (310' AGL) UC, 38°46'38"N, 97°51'40"W. Add obst 1692' MSL (320' AGL) UC, 37°41'35"N, 96°49'22"W. Add obst 1833' MSL (360' AGL) UC, 39°21'50"N, 97°39'30"W. Add obst 2043' MSL (270' AGL) UC, 38°40'11"N, 98°17'53"W.

Change VANCE ATCT freq from 253.725 to 259.1, 36°20'21"N, 97°54'59"W. Delete BALDOCK arpt, 39°14'59"N, 97°39'01"W. Delete ROESNER arpt, 38°48'40"N, 97°25'53"W. Delete HAMILTON arpt, 37°33'38"N, 97°14'01"W. Delete WRIGHT INTL arpt, 39°24'29"N, 102°01'16"W. Delete KIOWA arpt, 37°00'55"N, 98°29'45"W. Delete CHURCHILL arpt, 39°46'22"N, 99°21'36"W. Add obst 1592' MSL (270' AGL) UC, 39°00'46"N, 97°58'45"W. Add windmill farm. 3899' UC is highest MSL, 36°01'35"N, 101°54'00"W. Add windmill farm. 5171' UC is highest MSL, 37°39'20"N, 102°54'50"W. Add obst 2799' MSL (335' AGL) UC, 36°29'34"N, 99°52'53"W. Add obst 1554' MSL (300' AGL) UC, 36°54'46"N, 98°24'48"W. Add obst 2117' MSL (335' AGL) UC, 36°51'24"N, 99°21'16"W. Add obst 1575' MSL (260' AGL) UC, 37°32'59"N, 97°08'38"W. Add obst 1714' MSL (353' AGL) UC, 39°21'34"N, 96°52'20"W.

Military Training Routes

IR-146 Revised

CG-20 WORLD AERONAUTICAL CHART

37th Edition, July 5, 2007

Change FLYING BAR H arpt elev to 1375, 37°10'30"N, 93°07'44"W. Change KINSLEY MUNI arpt lighting code to L and runway length to 33, 37°54'32"N, 99°24'11"W.

SUPPLEMENTAL COMMUNICATION REFERENCE

Contained within this tabulation, and listed alphabetically by airport name, are all private-use airports charted on the U.S. IFR Enroute Low and High Altitude charts in the United States, having terminal approach and departure control facilities. Additionally, listed by country, are all Canadian and Mexican airports that appear on the U.S. IFR Enroute charts with approach and departure control services. All frequencies transmit and receive unless otherwise noted. Radials defining sectors are outbound from the facility.

UNITED STATES

FACILITY NAME	CHART & PANEL
Frankfort, IL (LL40) Chicago App/Dep Con 133.1 285.6	L-28H
Glasgow Industrial, MT (07MT) Salt Lake Center App/Dep Con 126.85 305.2	H-1E, 2F, L-13D
USAF Academy Bullseye Aux Airstrip, CO (CO90) ASOS 118.325	L-10F
West Kentucky Airpark, KY (5KY3) Memphis Center App/Dep Con 133.65 292.15	L-16I
William P Gwinn, FL (06FA) Gwinn Tower 120.4 314.6 (Mon-Fri 1200-2100Z \ddagger) Gnd Con 121.65 314.6	H-8I, L-23C

CANADA

FACILITY NAME	CHART & PANEL
Abbotsford, BC (CYXX) ATIS 119.8 (1500-0700Z \ddagger) Victoria Trml App/Dep Con 132.7 290.8 Tower 119.4 (Inner) 121.0 (Outer) 295.0 (1500-0700Z \ddagger) Gnd Con 121.8 MF 119.4 295.0 (0700-1500Z \ddagger)	H-1B, L-12F
Amos/Magny, QC (CYEY) Montreal Center App/Dep Con 125.9	H-11B
Atikokan Muni, ON (CYIB) MF 122.3 (5 NM to 4500')	L-14I
Barrie-Orillia (Lake Simcoe Rgnl), ON (CNB9) AWOS 122.55 (Pvt) Toronto Center App/Dep Con 124.025	H-11B, L-31D
Bar River, ON (CPF2) Toronto Center App/Dep Con 132.65	L-31C
Bathurst, NB (CZBF) Moncton Center App/Dep Con 134.25	L-32J
Boundary Bay, BC (CZBB) ATIS 125.5 (1500-0700Z \ddagger) Vancouver App/Dep Con 132.3 363.8 Tower 118.1 (Inner) 127.6 (Outer) (1500-0700Z \ddagger) Gnd Con 124.3 MF 118.1 (0700-1500Z \ddagger 3 NM to 1500')	H-1B, L-1E
Brampton, ON (CNC3) Toronto Trml App/Dep Con 119.3 253.1	L-31D
Brandon Muni, MB (CYBR) Winnipeg Center App/Dep Con 132.25 285.4 MF 122.1 248.3 (5 NM to 4000')	H-2H
Brantford, ON (CYFD) Toronto Trml App/Dep Con 128.27	L-31D
Brockville-Thousand Islands Rgnl Tackaberry, ON (CNL3) Montreal Center App/Dep Con 134.675 231.95	L-32G
Bromont, QC (CZBM) Montreal Center App/Dep Con 132.35 MF 122.15 (5 NM to 3400')	L-32G
Burlington Airpark, ON (CZBA) Toronto Center App/Dep Con 119.3 253.1	L-31D
Castlegar, BC (CYCG) Vancouver Center App/Dep Con 134.2 227.3 MF 122.1 (5 NM to 6500')	H-1C
Centralia/James T. Fld Muni, ON (CYCE) Toronto Center App/Dep Con 135.30	H-10G, 11B, L-31D
Charlottetown, PE (CYYG) Moncton Center App/Dep Con 135.65 384.8 MF 118.0 (5 NM to 3200')	H-11E, L-32J
Chatham-Kent, ON (CNZ3) Cleveland Center App/Dep Con 132.25	H-10G, L-30G

FACILITY NAME	CHART & PANEL
Collingwood, ON (CNY3) Toronto Center App/Dep Con 124.02	H-11B, L-31D
Cornwall Rgnl, ON (CYCC) Boston Center App/Dep Con 135.25 377.1	L-32G
Cranbrook/Canadian Rockies Intl, BC (CYXC) Vancouver Center App/Dep Con 133.6 MF 122.3 (5 NM to 6100')	H-1C
Debert, NS (CCQ3) Halifax Trml App/Dep Con 119.2	H-11E, L-32J
Digby, NS (CYID) Moncton Center App/Dep Con 123.9	L-32J
Downsview, ON (CYZD) Toronto Center App Con 133.4 358.1 Toronto Center Dep Con 133.4 363.8 MF 126.2 (3 NM to 1900')	H-11B, L-31E
Drummondville, QC (CSC3) Montreal Center App/Dep Con 132.35	L-32H
Earlton (Timiskaming Rgnl), ON (CYXR) MF 122.0 (5 NM to 3800')	H-11B
Elliot Lake Muni, ON (CYEL) Toronto Center App/Dep Con 135.4 260.9	L-31C
Fort Frances Muni, ON (CYAG) Minneapolis Center App/Dep Con 120.9	L-14H
Fredericton Intl, NB (CYFC) ATIS 127.55 Moncton Center App/Dep Con 124.3 135.5 270.8 Cinc Del 121.7 (Ltd hrs) MF 119.0 (5 NM to 3500')	H-11E, L-32I
Goderich, ON (CYGD) Toronto Center App/Dep 135.3 266.3	H-11B, L-31D
Greenwood, NS (CYZX) ATIS 128.85 244.3 (1100-0000Z‡) App/Dep Con 120.6 335.9 Tower 119.5 126.2 236.6 324.3 Gnd Con 133.75 289.4 Cinc Del 128.05 283.9	H-11E, L-32J
Grimsby Air Park, ON (CNZ8) Toronto Trml App/Dep Con 128.27 268.75 Tower 125.0 308.475	L-31E
Halifax/Shearwater, NS (CYAW) ATIS 129.175 (Ltd hrs) App/Dep Con 119.2 225.2 Tower 119.0 126.2 340.2 360.2 (Ltd hrs) Gnd Con 121.7 250.1	H-11E, L-32J
Halifax/Stanfield Intl, NS (CYHZ) ATIS 121.0 229.1 Moncton Center App/Dep Con 118.7 119.2 128.55 135.3 225.2 363.8 Tower 118.4 236.6 Gnd Con 121.9 275.8 Cinc Del 123.95 Apron Advisory 122.125	H-11E, L-32J
Hamilton, ON (CYHM) ATIS 128.1 Toronto Trml App/Dep Con 128.27 268.75 Tower 119.7 125.0 308.475 Gnd Con 121.6 398.125	H-10H, 11B, L-11B
Kingston, ON (CYGK) Montreal Center App/Dep Con 135.05 398.4 (0400-1115Z‡) MF 122.5 (1115-0400Z‡ 5 NM to 3300')	H-11C, L-31E, 32F
Kitchener/Waterloo, ON (CYKF) ATIS 125.1 (1200-0400Z‡) Toronto Trml App/Dep Con 128.275 268.75 Waterloo Tower 126.0 118.55 (1200-0400Z‡) Gnd Con 121.8 MF 126.0 (0400-1200Z‡ 5 NM to 4000')	H-11B, L-31D
Lachute, QC (CSE4) Montreal Center App/Dep Con 124.65 268.3	L-32G
La Tuque, QC (CYLQ) Montreal Center App/Dep Con 134.5	H-11C
Langley, BC (CYNJ) ATIS 124.5 (1600-0230Z, DT 1500-0400Z) Victoria Trml 132.7 290.8 Tower 119.0 (1600-0230Z, DT 1500-0400Z) Gnd Con 121.9 MF 119.0 (0230-1600Z, DT 0400-1500Z 3 NM to 1900')	L-1E

FACILITY NAME	CHART & PANEL
Leamington, ON (CLM2) Cleveland Center App/Dep Con 132.45	L-30F
Lethbridge, AB (CYQL) ATIS 124.4 (1300-0545Z‡) Edmonton Center App/Dep Con 132.75 265.2 MF 121.0 (5 NM to 6000')	H-1D
Lindsay, ON (CNF4) Toronto Center App/Dep 134.25	L-31E, L-32F
Liverpool/South Shore Rgnl, NS (CYAU) Moncton Center App/Dep Con 123.9	L-32J
London, ON (CYXU) ATIS 127.8 (1120-0345Z‡) Toronto Center App/Dep 135.3 135.625 266.3 Tower 119.4 236.6 (1120-0345Z‡) Gnd Con 121.9 360.2 MF 119.4 (0345-1120Z‡ 5 NM to 3000')	H-10G, 11B, L-30G, 31D
Manitowaning/Manitoulin East Muni, ON (CYEM) Toronto Center App/Dep 135.4 260.9	L-31C
Maniwaki, QC (CYMW) Montreal Center App/Dep Con 126.57	L-32G
Mascouche, QC (CSK3) MF 122.35 (5 NM to 2500'. No gnd station. Excluding the portion S of the N shore of Riviere des Milles-Illes 1 NM around Lac Agile Mascouche arpt.)	L-32G
Medicine Hat, AB (CYXH) AWOS 124.875 (0345-1245Z‡) MF 122.2 (1245-0345Z‡ 5 NM to 5400')	H-1D
Midland/Huronina, ON (CYEE) Toronto Center App/Dep 124.025	L-31D
Miramichi, NB (CYCH) Moncton Center App/Dep Con 123.7	H-11E, L-32J
Moncton/Greater Moncton Intl, NB (CYQM) ATIS 128.65 App/Dep 124.4 384.8 Tower 120.8 236.6 Gnd Con 121.8 275.8 Apron Advisory 122.075	H-11E, L-32J
Mont-Laurier, QC (CSD4) Montreal Center App/Dep Con 126.57	L-32G
Montreal Intl (Mirabel), QC (CYMX) ATIS 125.7 Montreal App/Dep Con 124.65 268.3 Mirabel Tower 119.1 282.4 Gnd Con 121.8 246.6 Cinc Del 121.8 VFR Advisory 134.15	H-11C, 12K, L-32G
Montreal/Pierre Elliott Trudeau Intl, QC (CYUL) ATIS 133.7 Montreal Trml App Con 118.9 124.65 126.9 132.85 268.3 Tower 119.9 267.1 Gnd Con 121.9 275.8 Cinc Del 125.6 Apron 122.075 Montreal Trml Dep Con 118.9 268.3 (SE-S-SW) 124.65 268.3 (W-NW-NE) VFR Advisory 134.15	H-11C, 12K, L-32G
Montreal/St-Hubert, QC (CYHU) ATIS 124.9 (Apr-Oct 1045-0500Z‡, Nov-Mar 1045-0400Z) AWOS 124.9 Montreal Center App/Dep Con 125.15 268.3 St. Hubert Tower 118.4 352.5 (Apr-Oct 1045-0500Z‡, Nov-Mar 1045-0400Z) Gnd Con 126.4 283.4 MF 118.4 (Apr-Oct 0500-1045Z‡, Nov-Mar 0400-1045Z 5 NM shape irregular to 2500') VFR Advisory 134.15	H-11C, L-32G
Mountain View, ON (CPZ3) Trenton Mil Advisory 268.0	H-11C, L-31E, 32F
Muskoka, ON (CYQA) AWOS 124.575 MF 122.3 (5 NM to 3900')	H-11B, L-31D
Nanaimo, BC (CYCD) Victoria Trml App/Dep 113.95 120.8 252.3 MF 122.1 (5 NM to 2500')	H-1B, L-1E
North Bay, ON (CYYB) ATIS 124.9 228.2 (1130-0300Z‡) Toronto Center App/Dep 121.225 127.25 233.4 356.3 MF 118.3 (1130-0330Z‡ 7 NM to 5000')	H-11B, L31D

FACILITY NAME	CHART & PANEL
Oshawa, ON (CYOO) ATIS 125.675 (1130-0330Z‡) Toronto Trml App Con 133.4 358.1 Tower 120.1 (1130-0330Z‡) Gnd Con 118.4 Toronto Trml Dep Con 133.4 363.8 MF 120.1 (0330-1130Z‡ 5 NM to 3000')	L-31E
Ottawa/Carp, ON (CYRP) ATIS 121.15 Ottawa Trml App/Dep Con 128.175 252.5	L-31E, 32F
Ottawa/Gatineau, QC (CYND) Ottawa Trml App/Dep Con 127.7 128.175 252.5 MF 122.3 (5 NM shape irregular to 2500') VFR Advisory Ottawa Trml 127.7	H-11C, L-32G
Ottawa/MacDonald-Cartier Intl, ON (CYOW) ATIS 121.15 265.6 Ottawa App Con 135.15 247.0 Tower 118.8 120.1 236.6 341.3 Gnd Con 121.9 275.8 Clnc Del 119.4 283.5 Ottawa Dep Con 128.175 252.5	L-11C
Owen Sound/Billy Bishop Rgnl, ON (CYOS) Toronto Center App/Dep 132.575 290.6	L-31D
Pelee Island, ON (CYPT) Cleveland Center App/Dep Con 126.35 360.0	L-30F
Pembroke, ON (CYTA) Montreal Center App/Dep Con 135.2 278.5 Petawawa Advisory 126.4 250.1 (Mon-Fri 1300-2130Z‡, OT PPR)	H-11C, L-31E, 32F
Penticton, BC (CYF) Vancouver Center App/Dep Con 133.5 351.3 MF 118.5 (5 NM to 4100')	H-1B
Peterborough, ON (CYPQ) AWOS 126.925 Toronto Center App/Dep 134.25	H-11B, L-31E, 32F
Pincher Creek, AB (CZPC) Edmonton Center App/Dep Con 132.75 265.2	H-1D
Pitt Meadows, BC (CYPK) ATIS 125.0 (1500-0700Z‡) Vancouver Center App Con 128.6 352.7 (Outer) Pitt Tower 126.3 (1500-0700Z‡) Gnd Con 123.8 Vancouver Center Dep Con 132.3 363.8 (South) MF 126.3 (0700-1500Z‡) (3NM to 1900')	L-1E
Quebec/Jean Lesage Intl, QC (CYQB) ATIS 134.6 Montreal Center App/Dep Con 124.0 127.85 135.025 270.9 322.8 (185.65 Quebec Twr VFR acft at or below 3000') Tower 118.65 236.6 Gnd Con 121.9 250.0	H-11D, L-32H
Riviere Du Loup, QC (CYRI) Montreal Center App/Dep Con 125.1 299.6	H-11D
Rouyn Noranda, QC (CYUY) Montreal Center App/Dep Con 125.9 MF 122.2 (5 NM to 4000')	H-11B
Saint John, NB (CYSJ) Moncton Center App/Dep Con 124.3 135.5 270.8 MF 118.5 (5 NM to 3400')	H-11E, L-32J
Sarnia (Chris Hadfield), ON (CZYR) Toronto Center 134.375 254.9	H-10G, 11B, L-30F
Sault Ste Marie, ON (CYAM) ATIS 133.05 (1300-0100Z‡) Toronto Center App/Dep Con 132.65 344.5 Tower 118.8 236.6 (1300-0100Z‡) Gnd Con 121.7 395.2 MF 118.8 236.6 (0100-1300Z‡ 5 NM irregular shape to 3000')	H-2K, L-31B
Sherbrooke, QC (CYAM) AWOS 126.25 Montreal Center App/Dep Con 132.55 226.0 MF 123.5 (Ltd hrs 5 NM to 3800')	H-11D, L-32H
South Renfrew Muni, ON (CNP3) Montreal Center App/Dep 124.275	L-31E, 32F

FACILITY NAME	CHART & PANEL
Southport, MB (CYPG) ATIS 120.85 (Mon–Fri 1400–2300Z† except holidays) Tower 126.2 384.2 (Mon–Fri 1400–2300Z† except holidays) Gnd Con 121.7 275.8	H–2H
Springwater Barrie Airpark, ON (CNA3) Toronto Center App/Dep Con 124.025	L–31D
St. Catharines/Niagara District, ON (CYSN) ATIS 128.525 (1215–0200Z†) Toronto Trml App/Dep Con 133.4 253.1 MF 123.25 (1215–0200Z† 5 NM to 3300')	H–10H, 11B, L–31E
St. Frederic, QC (CSZ4) Montreal Center App/Dep Con 135.025 270.9	L–32H
St. Georges, QC (CYSG) Montreal Center App/Dep Con 132.35 MF 122.15 (5 NM 3900' ASL)	H–32H, L–11D
St. Jean, QC (CYJN) Montreal Center App/Dep Con 125.15 268.3 Tower 118.2 356.8 (Apr–Oct 1230–0230Z† Nov–Mar 1300–0200Z†) Gnd Con 121.7	L–32G
Sudbury, ON (CYSB) ATIS 127.4 (1200–0400Z†) Toronto Center App/Dep Con 135.5 285.7 Tower 125.5 233.8 (1200–0400Z†) Gnd Con 121.8 MF 125.5 (0400–1200Z† 7 NM to 4000')	H–31B, 10G, L–31D
Summerside, PE (CYSU) AWOS 122.55 (Pvt) Moncton Center App/Dep Con 124.4 384.8	H–11E, L–32J
Thunder Bay, ON (CYQT) ATIS 128.8 285.3 (1100–0400Z†) Winnipeg Center App/Dep Con 132.125 387.4 (0400–1100Z†) Tower 118.1 236.6 (1100–0400Z†) Gnd Con 121.9 275.8 App/Dep 119.2 363.8 MF 118.1 236.6 (0400–1100Z† 5 NM to 4000')	H–2J, L–14J
Timmins, ON (CYTS) ATIS 124.95 (1000–0500Z†) Toronto Center App/Dep Con 128.3 226.3 MF 122.3 (5 NM to 4000')	H–11B
Toronto/Buttontville Muni, ON (CYKZ) ATIS 127.1 (1100–0400Z†) Toronto Center App Con 133.4 358.1 Toronto Center Dep Con 133.4 363.8 Tower 124.8 119.9 (1100–0400Z†) Gnd Con 121.8 MF 124.8 (0400–1100Z† No gnd station. 5 NM to below 2500')	L–31E
Toronto/City Centre, ON (CYTZ) ATIS 133.6 (1145–0400Z†) App Con 133.4 358.1 Dep Con 133.4 363.8 Tower 118.2 119.2 226.5 (1145–0400Z†) Gnd Con 121.7	L–31E
Toronto/Lester B Pearson Intl, ON (CYYZ) ATIS 120.825 App Con 124.475 125.4 132.8 358.1 Dep Con 127.575 128.8 363.8 Tower 118.35 118.7 236.6 Gnd Con 118.0 119.1 121.65 121.9 275.8 Cinc Del 121.3 (1200–0400Z†) VFR Advisory 119.3 133.4 253.1	H–11B, L–31D
Trenton, ON (CYTR) ATIS 135.45 257.7 App/Dep Con 128.4 324.3 Tower 128.7 236.6 Gnd Con 121.9 275.8 Cinc Del 124.35 286.4	H–11C, L–31E, 32F
Trois-Rivieres, QC (CYRQ) Montreal Center App/Dep Con 128.225 229.2 MF 123.0 (5 NM to 3200')	H–11C, L–32H
Val-D'or, QC (CYVO) Montreal Center App/Dep Con 125.9 308.3 MF 118.5 (1030–0325Z† 5 NM to 4000')	H–11B
Vancouver Intl, BC (CYVR) ATIS 124.6 124.75 App Con 128.6 128.17 352.7 (Outer) 133.1 134.225 352.7 (Inner) Dep Con 126.125 (north) 132.3 (south) 363.8 Tower 118.7 (south) 119.55 (north) VFR 124.0 125.65 226.5 236.6 Gnd Con 121.7 (south) 127.15 (north) 275.8 Cinc Del 121.4	H–1B, L–1E

FACILITY NAME	CHART & PANEL
Victoria Intl, BC (CYYJ) ATIS 118.4 (1400-0800Z‡ App Con 125.95 308.4 Dep Con 133.85 308.4 Tower 119.1 (Outer) 119.7 (Inner) 239.6 Gnd Con 121.9 361.4 (1400-0800Z‡ OT ctc Kamloops 119.7) Cinc Del 126.4 (1400-0800Z‡)	H-1B, L-1E
Victoriaville, QC (CSR3) Montreal Center App Con 132.35	L-32H
Waterville/Kings Co Muni, NS (CCW3) Greenwood Trml App/Dep Con 120.6 335.9 Greenwood Tower 119.5 324.3	L-32J
Warton, ON (CYVW) Toronto Center App/Dep Con 132.575 290.6 MF 122.2 (5 NM to 3700')	H-11B, L-31D
Windsor, ON (CYQG) ATIS 134.5 (1145-0330Z‡) Detroit App/Dep Con 126.85 127.5 134.3 348.3 363.2 Tower 124.7 236.6 (1130-0330Z‡) Gnd Con 121.7 MF 124.7 (0330-1130Z‡ 6 NM irregular shape to below 3000') VFR Advisory Detroit App Con 134.3	H-10G, L-8J
Yarmouth, NS (CYQI) Moncton Center App/Dep Con 123.9 368.5 MF 123.0 (5 NM to 3100')	H-11E, L-32I

MEXICO

FACILITY NAME	CHART & PANEL
Abraham Gonzalez Intl (MMCS) Juarez App Con 119.9 Juarez Tower 118.9	H-4K, L-6F
Del Norte Intl (MMAN) ATIS 127.55 (1300-0300Z‡) Monterrey App 119.75 121.4 Tower 118.6	H-7B, L-20G
Durango Intl (MMDO) ATIS 132.1 Tower 118.1 Durango Info 122.3	H-7A
General Abelardo L Rodriguez Intl (MMTJ) ATIS 127.9 Tijuana App Con 119.5 120.3 Tijuana Tower 118.1 Cinc Del 122.35 Tijuana Info 132.1	H-4H, L-4H
General Lucio Blanco Intl (MMRX) Reynosa App Con 118.8 Reynosa Tower 118.8	H-7B, L-20H
General Mariano Escobedo Intl (MMMY) ATIS 127.7 Monterrey App Con 119.75 120.4 Monterrey Tower 118.1 Gnd Con 121.9	H-7B, L-20G
General R Fierro Villalobos Intl (MMCU) ATIS 127.9 Chihuahua App Con 121.0 Chihuahua Tower 118.4	L-6I
General Rodolfo Sanchez Taboada Intl (MMML) ATIS 127.6 Mexicali App Con 118.2 Mexicali Tower 118.2 Mexicali Info 123.9 122.3	H-4H, L-4J, 5A
General Servando Canales (MMMA) Matamoros App Con 118.0 Matamoros Tower 118.0	H-7C, L-21A
Plan De Guadalupe Intl (MMIO) Saltillo App Con 127.4 Saltillo Tower 118.4	H-7B
Quetzalcoatl Intl (MMNL) Nuevo Laredo App Con 118.3 Nuevo Laredo Tower 118.3	H-7B, L-20G
Torreon Intl (MMTC) App Con 119.5 Tower 118.5	H-7A









In support of the Federal Aviation Administration's Runway Incursion Program, selected towered airport diagrams have been published in the Airport Diagram section of the A/FD. Diagrams will be listed alphabetically by associated city and airport name. Airport diagrams, depicting runway and taxiway configurations, will assist both VFR and IFR pilots in ground taxi operations. The airport diagrams in this publication are the same as those published in the U.S. Terminal Procedures Publications. For additional airport diagram legend information see the U.S. Terminal Procedures Publication.

NOTE: Some text data published under the individual airport in the front portion of the A/FD may be more current than the data published on the Airport Diagrams. The airport diagrams are updated only when significant changes occur.

GENERAL INFORMATION

PILOT CONTROLLED AIRPORT LIGHTING SYSTEMS

Available pilot controlled lighting (PCL) systems are indicated as follows:

1. Approach lighting systems that bear a system identification are symbolized using negative symbology, e.g., , , .
 2. Approach lighting systems that do not bear a system identification are indicated with a negative "0" beside the name. A star (★) indicates non-standard PCL, consult the individual airport in the front portion of the A/FD, e.g., .
- To activate lights use frequency indicated in the communication section of the chart with a  or the appropriate lighting system identification e.g., UNICOM 122.8 , , .

<u>KEY MIKE</u>	<u>FUNCTION</u>
7 times within 5 seconds	Highest intensity available
5 times within 5 seconds	Medium or lower intensity (Lower REIL or REIL-off)
3 times within 5 seconds	Lowest intensity available (Lower REIL or REIL-off)

CHART CURRENCY INFORMATION

FAA procedure amendment number \leftarrow Amdt 11A 99365 \rightarrow Date of latest change
 \leftarrow Orig 00365 \rightarrow

The Chart Date identifies the Julian date the chart was added to the volume or last revised for any reason. The first two digits indicate the year, the last three digits indicate the day of the year (001 to 365/6) in which the latest addition or change was first published.

The Procedure Amendment Number precedes the Chart Date, and changes any time instrument information (e.g., DH, MDA, approach routing, etc.) changes. Procedure changes also cause the Chart Date to change.

MISCELLANEOUS

- ★ Indicates a non-continuously operating facility, see the individual airport in the front portion of the A/FD.
- # Indicates control tower temporarily closed UFN.

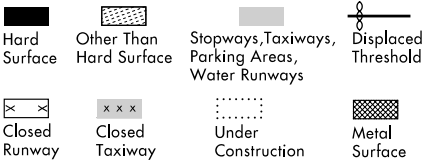
07018

LEGEND

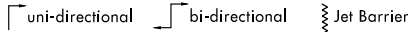
INSTRUMENT APPROACH PROCEDURES (CHARTS)

AIRPORT DIAGRAM

Runways

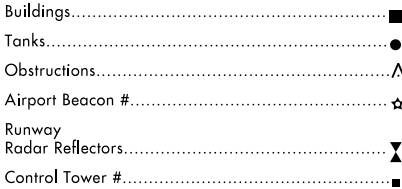


ARRESTING GEAR: Specific arresting gear systems; e.g., BAK12, MA-1A etc., shown on airport diagrams, not applicable to Civil Pilots. Military Pilots refer to appropriate DOD publications.



ARRESTING SYSTEM

REFERENCE FEATURES



When Control Tower and Rotating Beacon are co-located, Beacon symbol will be used and further identified as TWR.

Runway length depicted is the physical length of the runway (end-to-end, including displaced thresholds if any) but excluding areas designated as stopways. Where a displaced threshold is shown and/or part of the runway is otherwise not available for landing, an annotation is added to indicate the landing length of the runway; e.g., Rwy 13 ldg 5000'.

Runway Weight Bearing Capacity/or PCN Pavement Classification Number is shown as a codified expression. Refer to the appropriate Supplement/Directory for applicable codes e.g., RWY 14-32 S75, T185, ST175, TT325 PCN 80 F/D/X/U

Helicopter Alighting Areas
 Negative Symbols used to identify Copter Procedures landing point.....

Runway TDZ elevation.....TDZE 123
 ——— 0.3% DOWN

Runway Slope.....0.8% UP ———
 (shown when runway slope is greater than or equal to 0.3%)

NOTE:
 Runway Slope measured to midpoint on runways 8000 feet or longer.

U.S. Navy Optical Landing System (OLS) "OLS" location is shown because of its height of approximately 7 feet and proximity to edge of runway may create an obstruction for some types of aircraft.

Approach light symbols are shown in the Flight Information Handbook.

Airport diagram scales are variable.

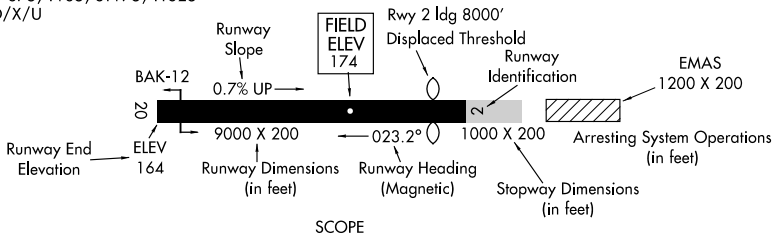
True/magnetic North orientation may vary from diagram to diagram

Coordinate values are shown in 1 or ½ minute increments. They are further broken down into 6 second ticks, within each 1 minute increments.

Positional accuracy within ±600 feet unless otherwise noted on the chart.

NOTE:

All new and revised airport diagrams are shown referenced to the World Geodetic System (WGS) (noted on appropriate diagram), and may not be compatible with local coordinates published in FLIP. (Foreign Only)



Airport diagrams are specifically designed to assist in the movement of ground traffic at locations with complex runway/taxiway configurations and provide information for updating Computer Based Navigation Systems (I.E., INS, GPS) aboard aircraft. Airport diagrams are not intended to be used for approach and landing or departure operations. For revisions to Airport Diagrams: Consult FAA Order 7910.4.

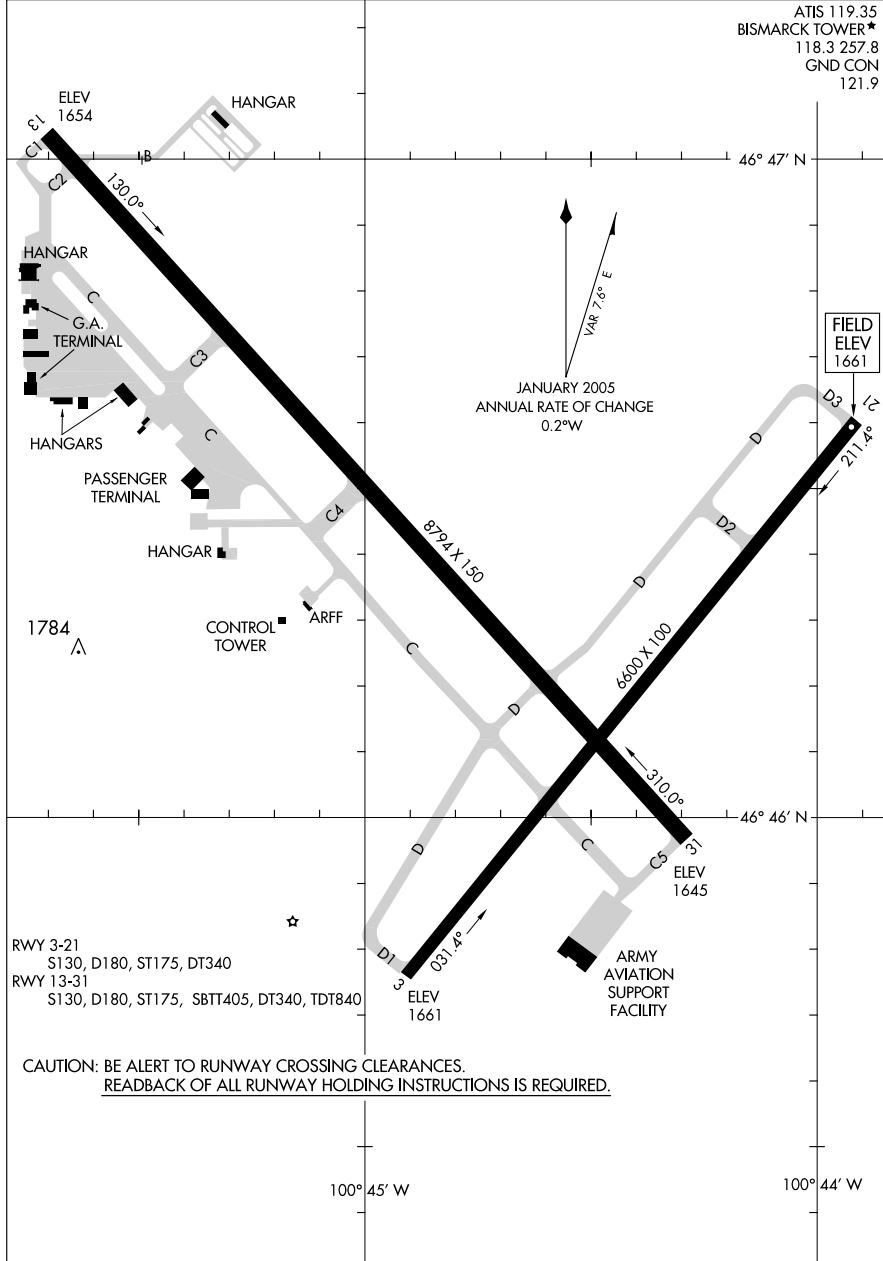
LEGEND

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AIRPORT DIAGRAM

AL-51 (FAA)

BISMARCK MUNI (BIS)
BISMARCK, NORTH DAKOTA



AIRPORT DIAGRAM

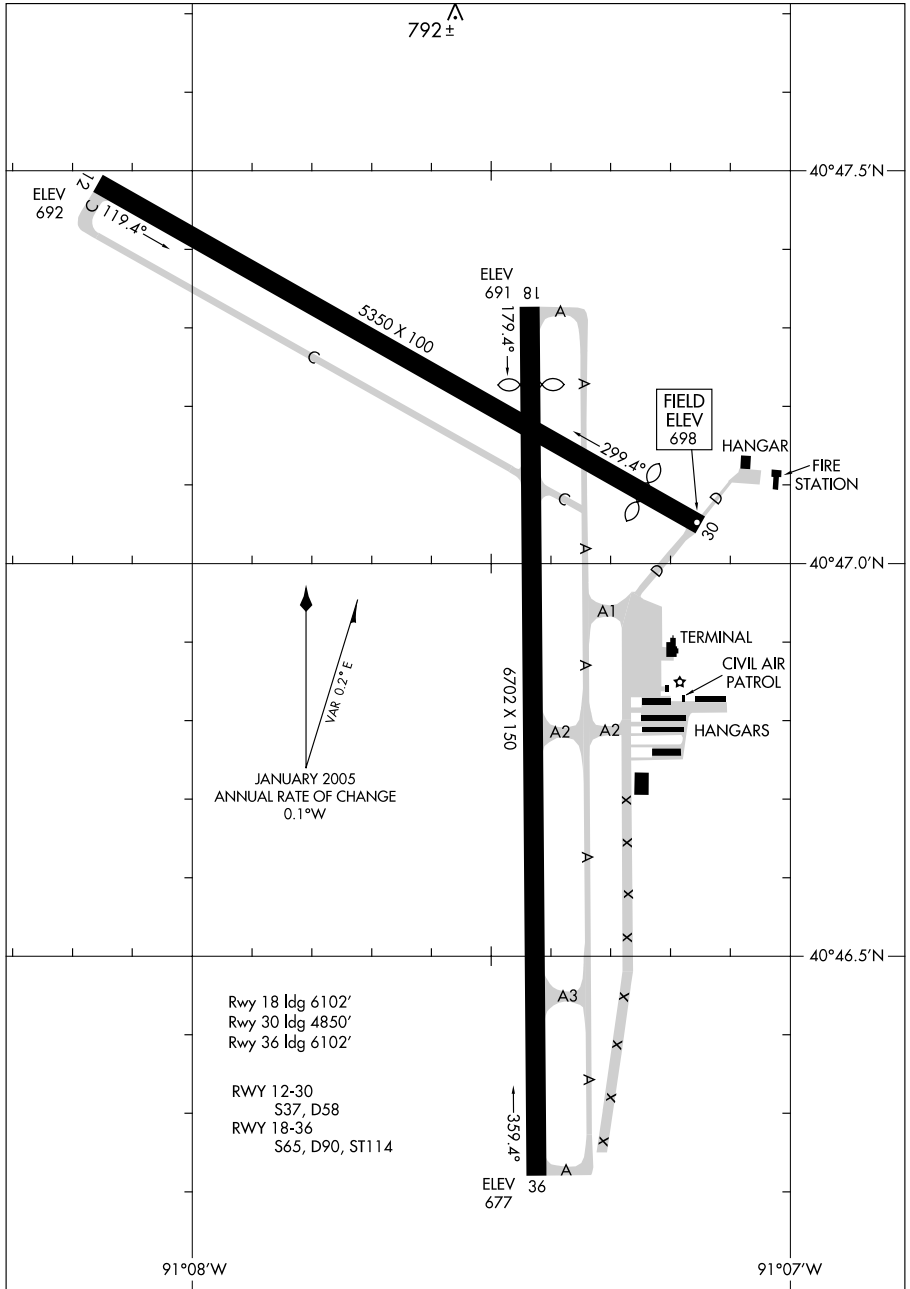
08045

BISMARCK, NORTH DAKOTA
BISMARCK MUNI (BIS)

07354

AIRPORT DIAGRAM

BURLINGTON/SOUTHEAST IOWA RGNL (BRL)
BURLINGTON, IOWA



AIRPORT DIAGRAM

07354

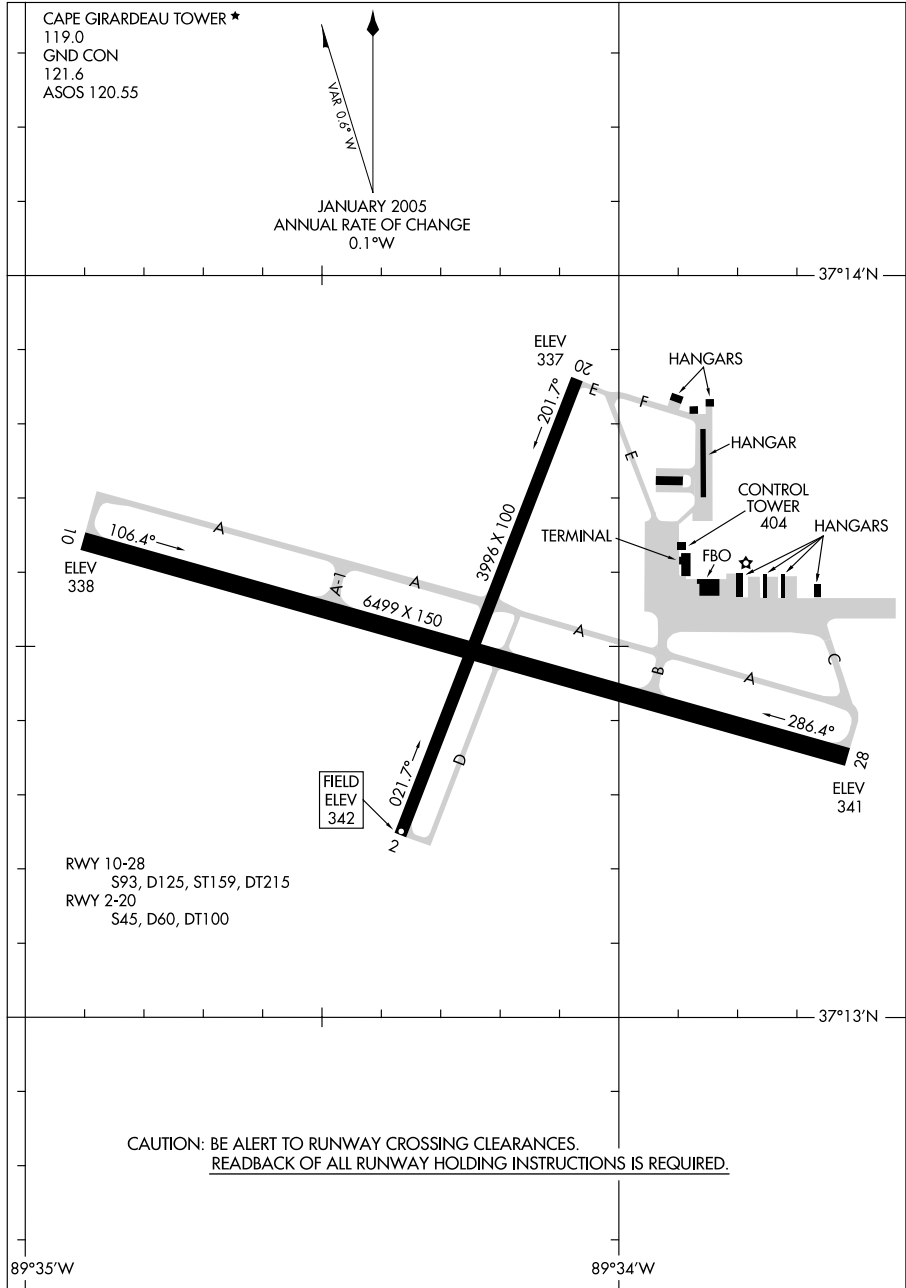
BURLINGTON, IOWA
BURLINGTON/SOUTHEAST IOWA RGNL (BRL)

08101

AIRPORT DIAGRAM

AL-943 (FAA)

CAPE GIRARDEAU RGNL (CGI)
CAPE GIRARDEAU, MISSOURI



AIRPORT DIAGRAM

08101

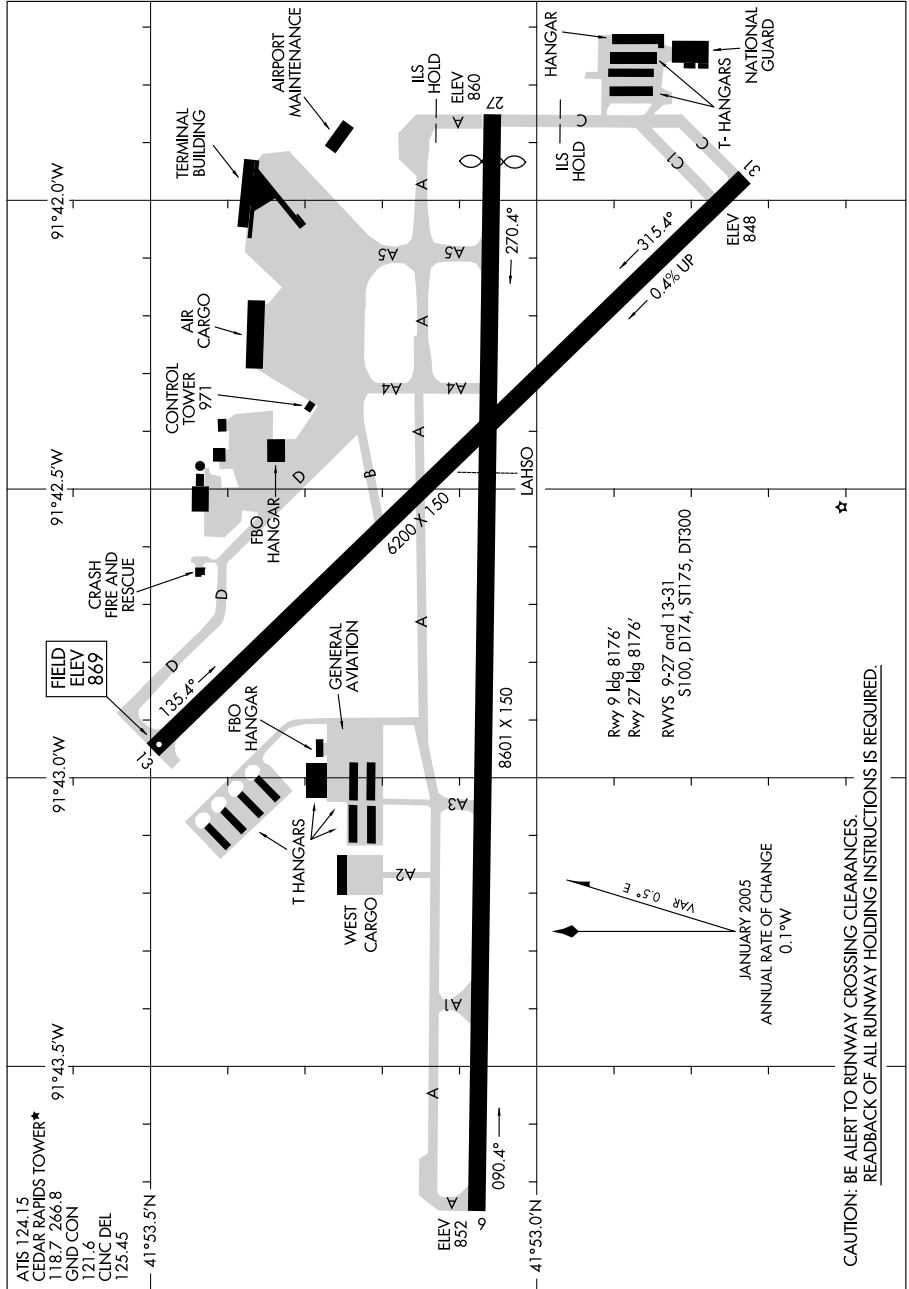
CAPE GIRARDEAU, MISSOURI
CAPE GIRARDEAU RGNL (CGI)

08157

AIRPORT DIAGRAM

AL-250 (FAA)

CEDAR RAPIDS/THE EASTERN IOWA (CID)
CEDAR RAPIDS, IOWA



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
REARBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AIRPORT DIAGRAM

CEDAR RAPIDS, IOWA
CEDAR RAPIDS/THE EASTERN IOWA (CID)

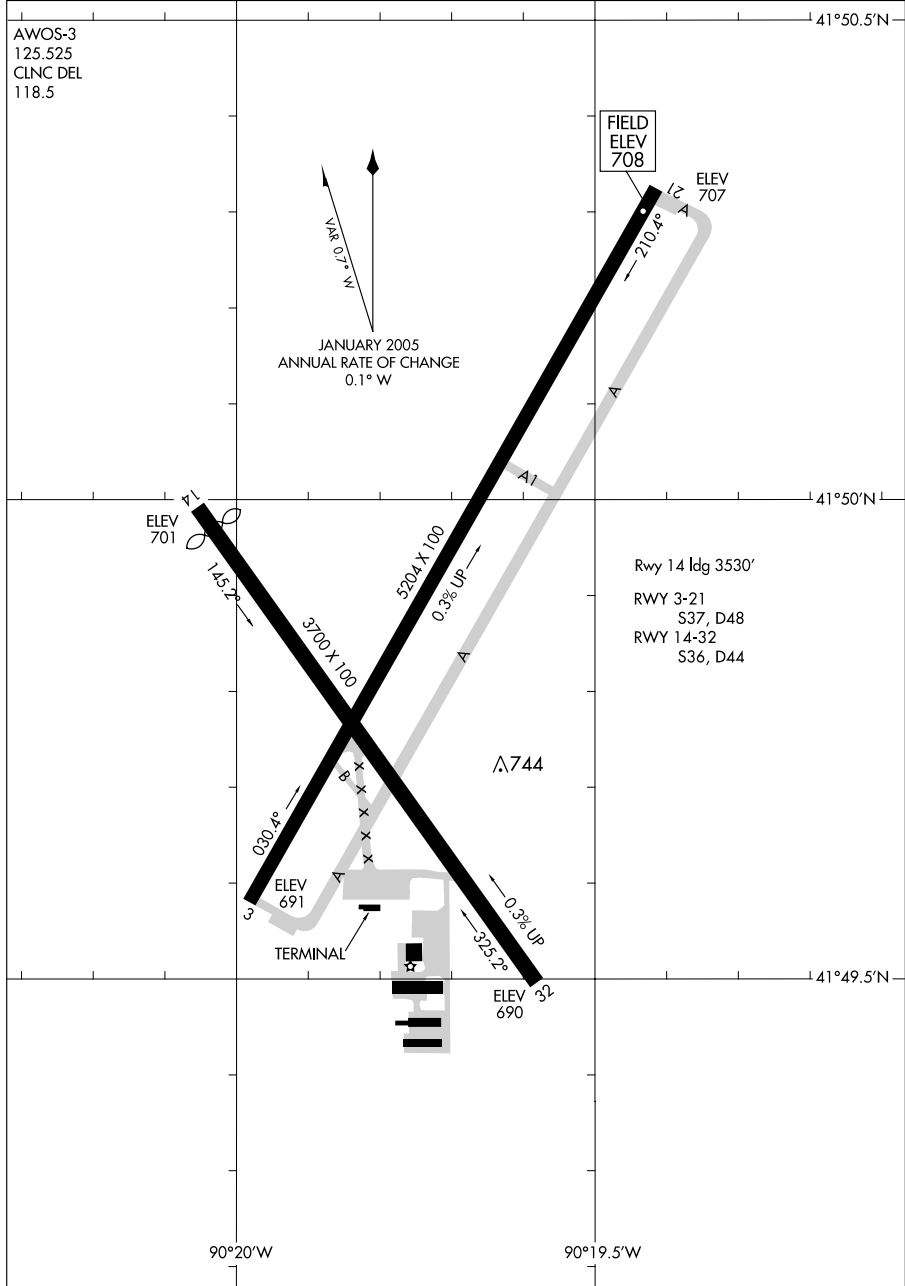
08157

08101

AIRPORT DIAGRAM

AL-972 (FAA)

CLINTON MUNI (CWI)
CLINTON, IOWA



AIRPORT DIAGRAM

08101

CLINTON, IOWA
CLINTON MUNI (CWI)

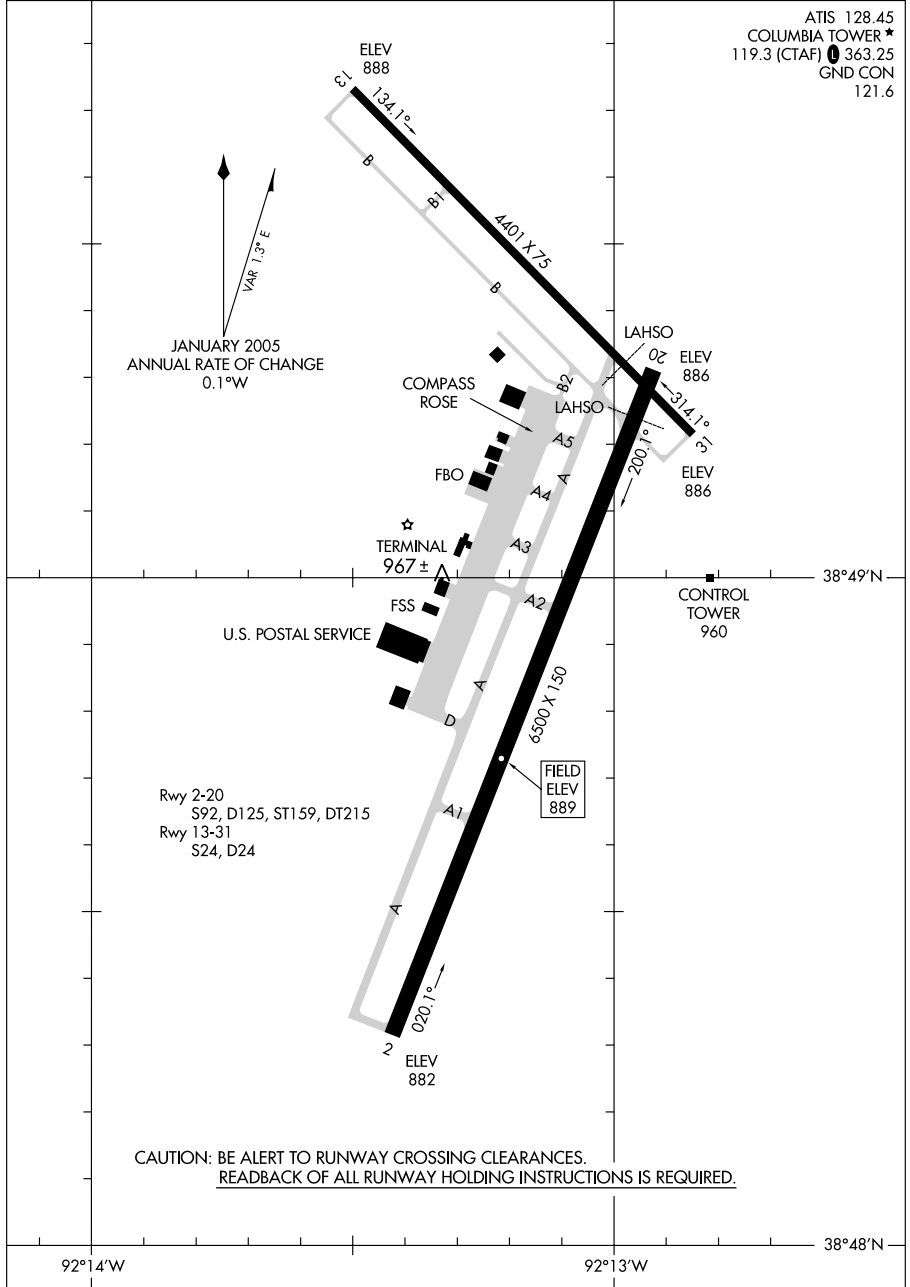
07298

AIRPORT DIAGRAM

AL-5595 (FAA)

COLUMBIA RGNL (COU)
COLUMBIA, MISSOURI

ATIS 128.45
COLUMBIA TOWER *
119.3 (CTAF) 363.25
GND CON
121.6



AIRPORT DIAGRAM

07298

COLUMBIA, MISSOURI
COLUMBIA RGNL (COU)

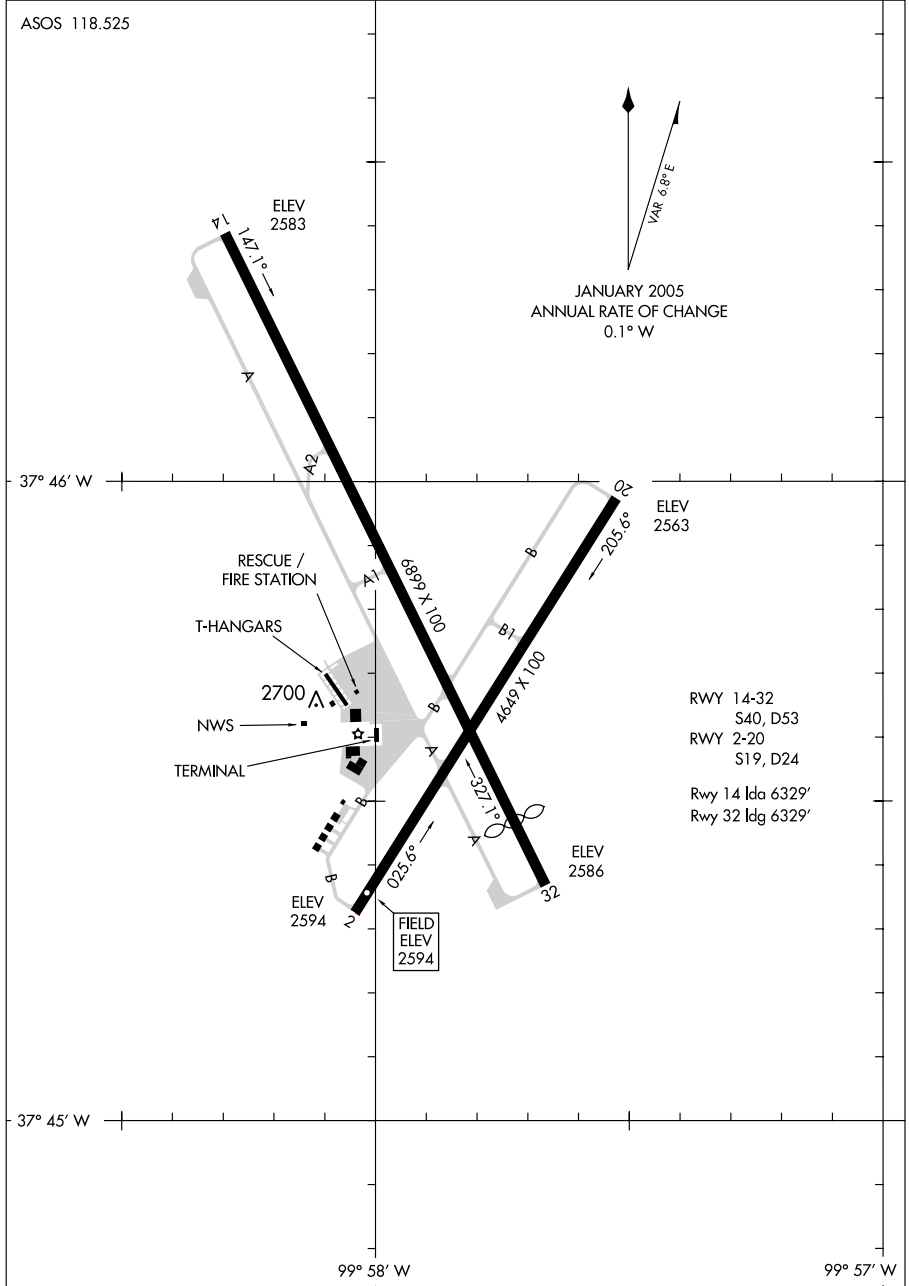
08157

AIRPORT DIAGRAM

AL-676 (FAA)

DODGE CITY RGNL (DDC)
DODGE CITY, KANSAS

ASOS 118.525



AIRPORT DIAGRAM

08157

DODGE CITY, KANSAS
DODGE CITY RGNL (DDC)

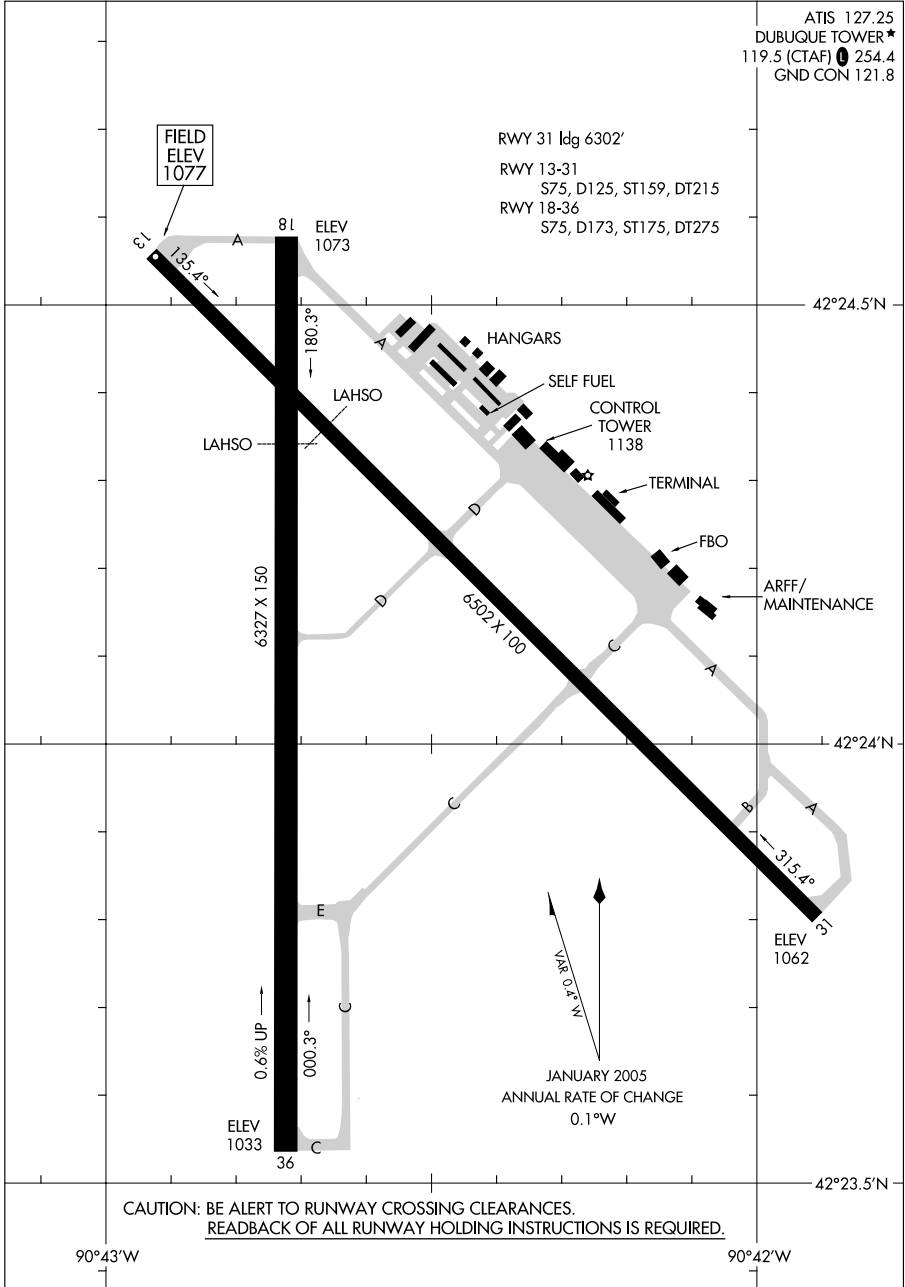
08045

AIRPORT DIAGRAM

AL-923 (FAA)

DUBUQUE RGNL (DBQ)

DUBUQUE, IOWA



AIRPORT DIAGRAM

08045

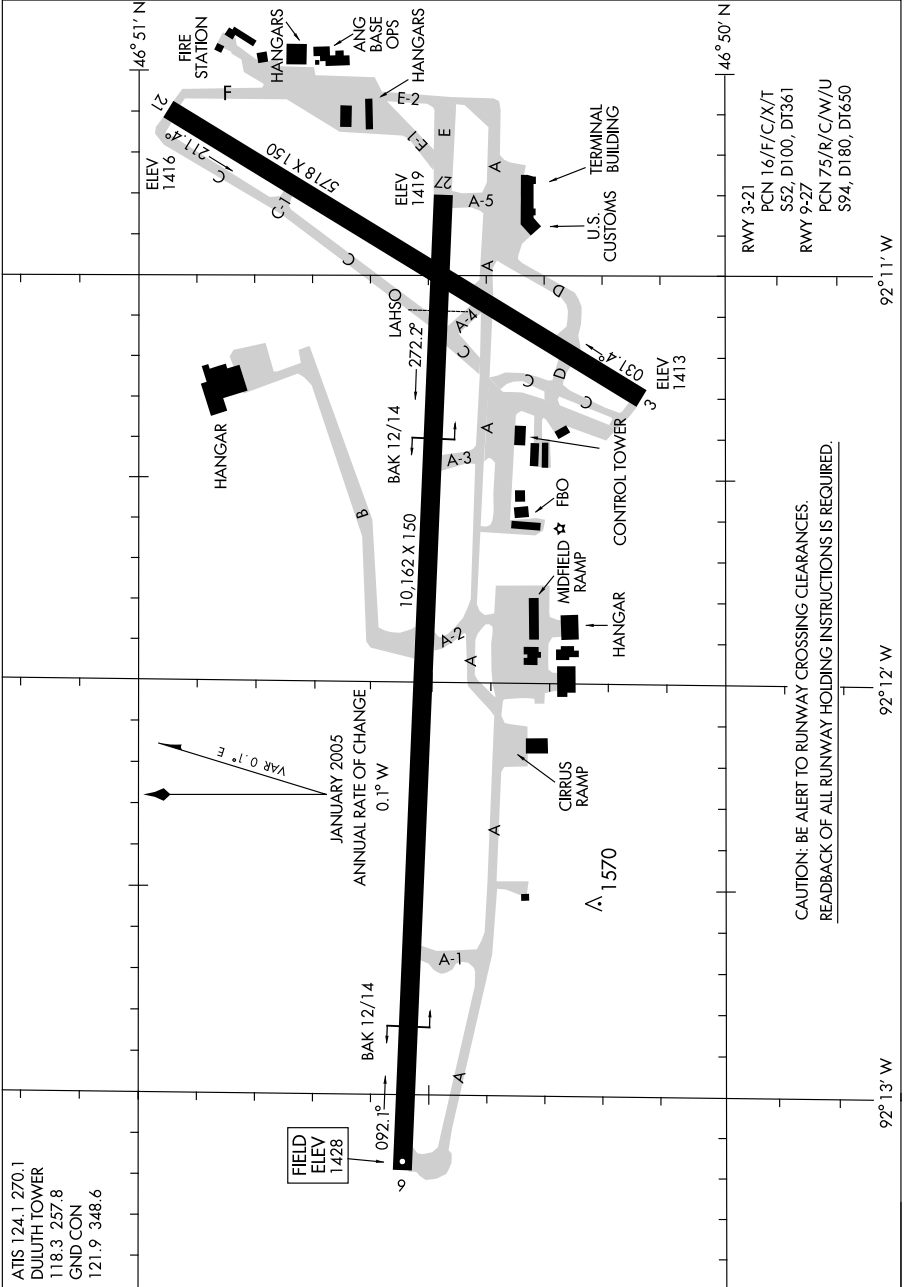
DUBUQUE, IOWA
DUBUQUE RGNL (DBQ)

08101

AIRPORT DIAGRAM

AL-125 (FAA)

DULUTH INTL (DLH)
DULUTH, MINNESOTA



ATIS 124.1 270.1
 DULUTH TOWER
 118.3 257.8
 GND CON
 121.9 348.6

FIELD
 ELEV
 1428

RWY 3-21
 PCN 16/F/C/X/T
 S52, D100, DT361
 RWY 9-27
 PCN 75/R/C/W/U
 S94, D180, DT650

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
 READBCK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AIRPORT DIAGRAM

08101

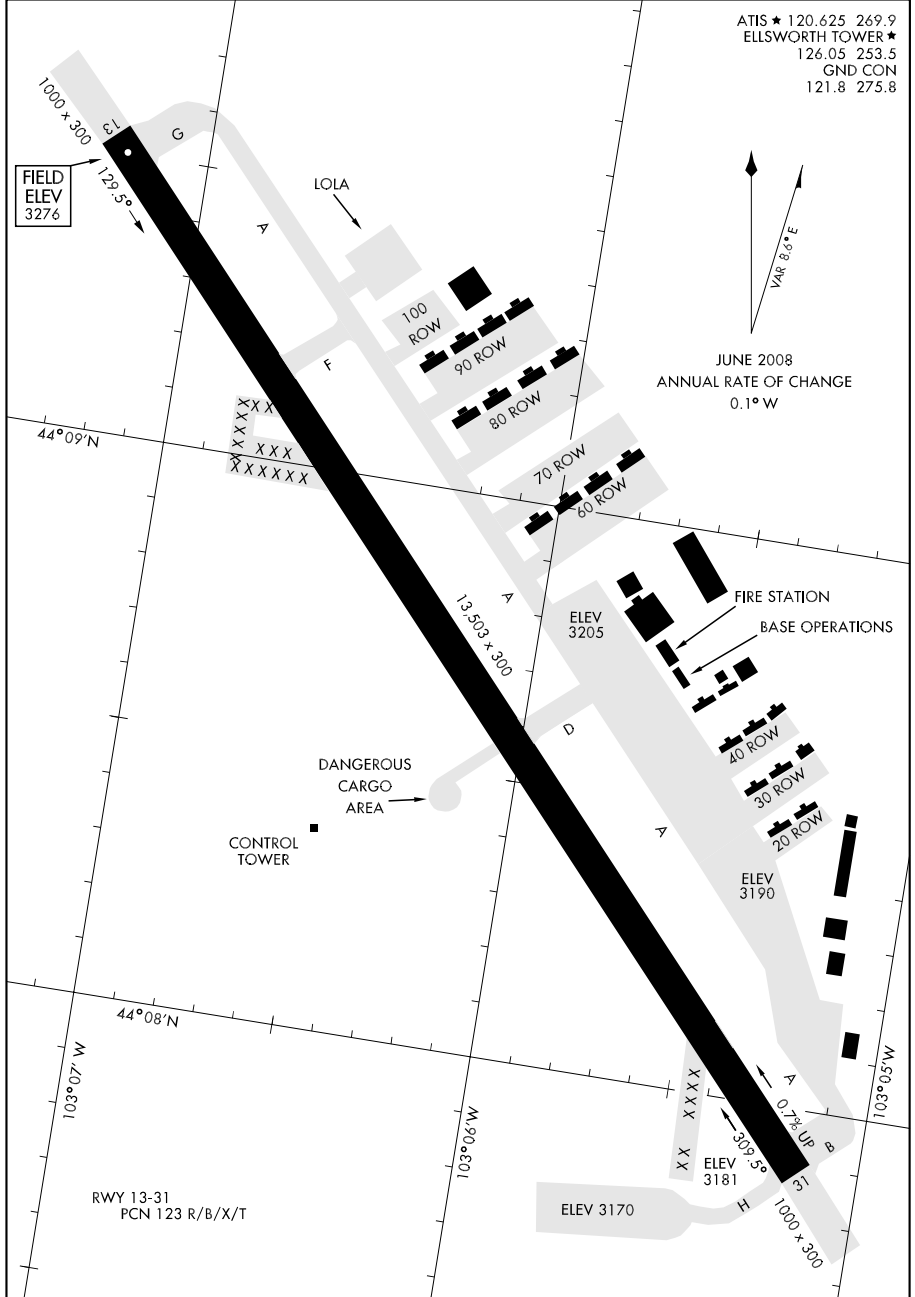
DULUTH, MINNESOTA
DULUTH INTL (DLH)

08157

AIRPORT DIAGRAM

AFD-343 [USAF]

ELLSWORTH AFB (KRCA)
RAPID CITY, SOUTH DAKOTA



AIRPORT DIAGRAM

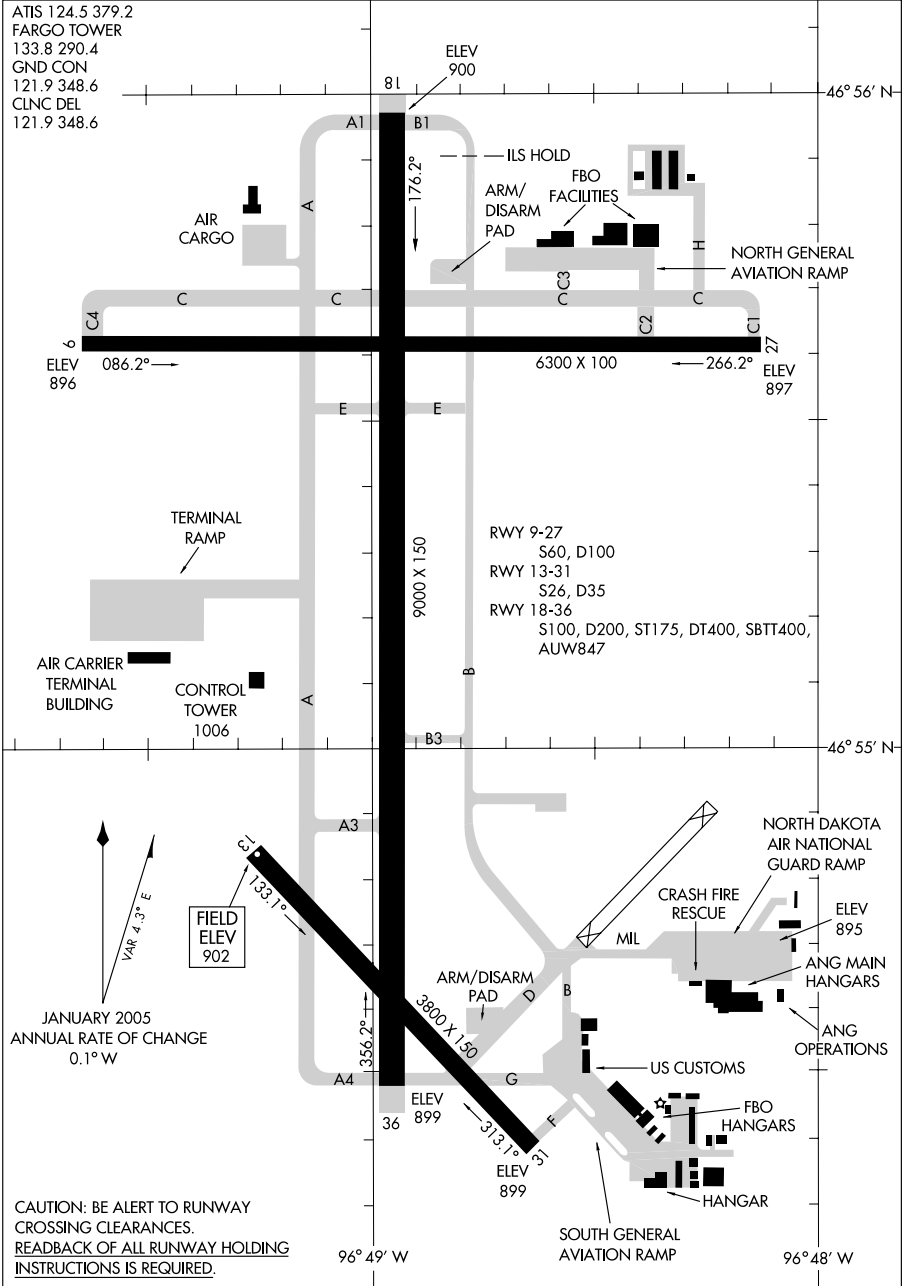
RAPID CITY, SOUTH DAKOTA
ELLSWORTH AFB (KRCA)

07298

AIRPORT DIAGRAM

AL-144 (FAA)

FARGO/HECTOR INTL (FAR)
FARGO, NORTH DAKOTA



AIRPORT DIAGRAM

07298

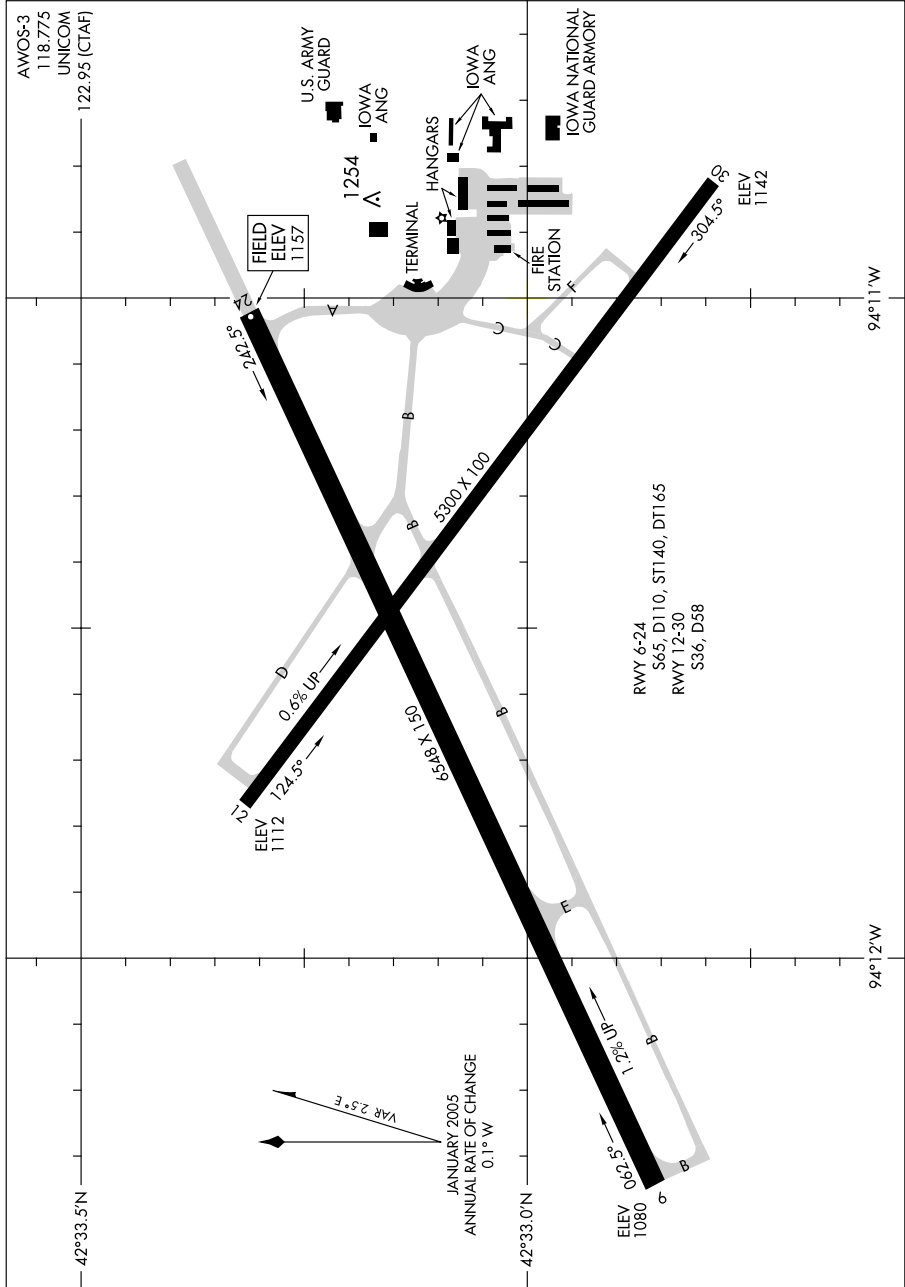
FARGO, NORTH DAKOTA
FARGO/HECTOR INTL (FAR)

07298

AIRPORT DIAGRAM

AL-976 (FAA)

FORT DODGE RGNL (FOD)
FORT DODGE, IOWA



AIRPORT DIAGRAM

07298

FORT DODGE, IOWA
FORT DODGE RGNL (FOD)

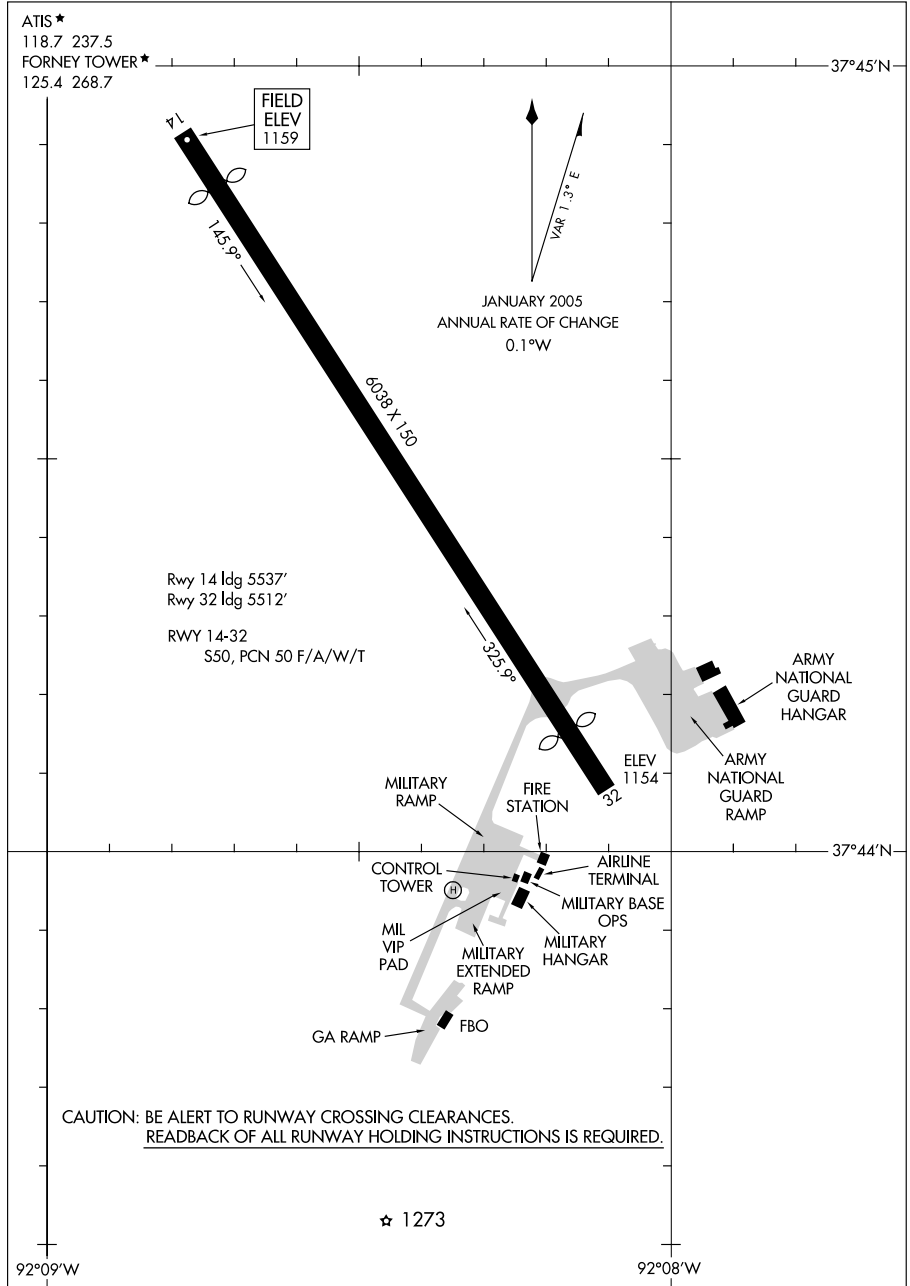
07298

FT. LEONARD WOOD/ WAYNESVILLE RGNL AIRPORT AT FORNEY FIELD (TBN)

AIRPORT DIAGRAM

AL-5093 (FAA)

FT. LEONARD WOOD, MISSOURI



AIRPORT DIAGRAM

FT. LEONARD WOOD, MISSOURI

07298

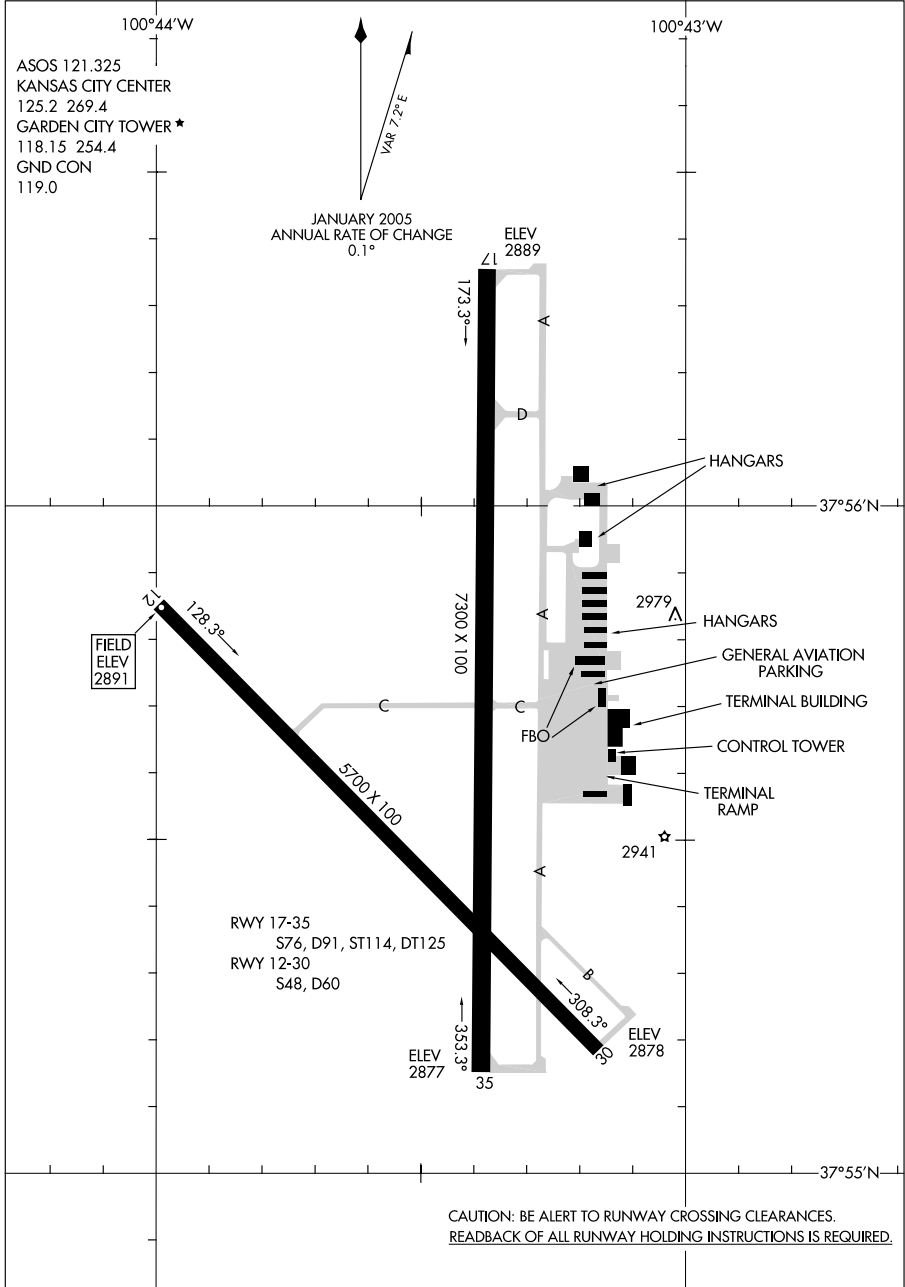
FT. LEONARD WOOD/ WAYNESVILLE RGNL AIRPORT AT FORNEY FIELD (TBN)

07298

AIRPORT DIAGRAM

GARDEN CITY RGNL (GCK)
GARDEN CITY, KANSAS

AL-491 (FAA)



AIRPORT DIAGRAM

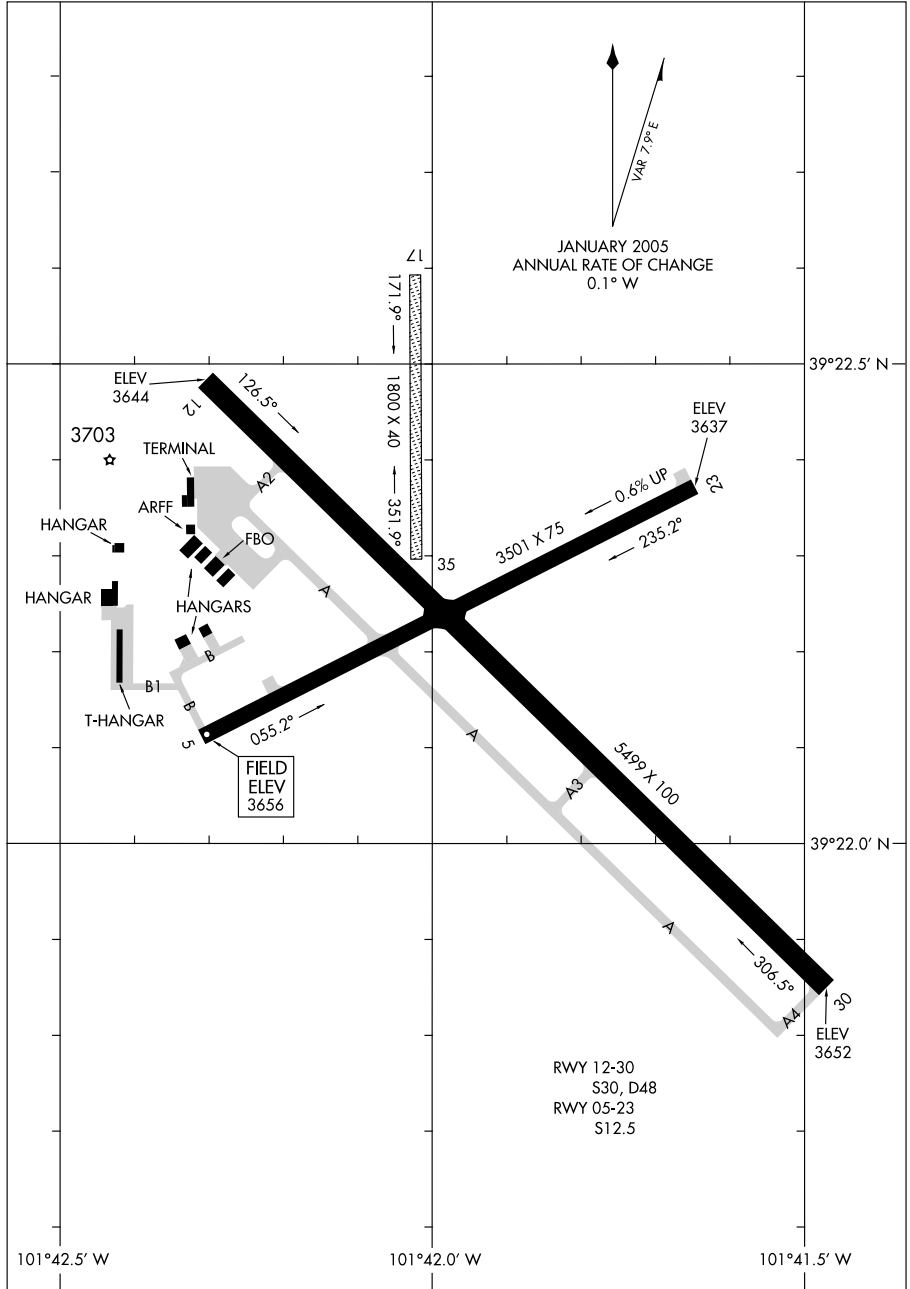
GARDEN CITY, KANSAS
GARDEN CITY RGNL (GCK)

07298

06271

AIRPORT DIAGRAM

GOODLAND/RENNER FIELD/GOODLAND MUNI (GLD)
AL-684 (FAA)
GOODLAND, KANSAS



AIRPORT DIAGRAM

06271

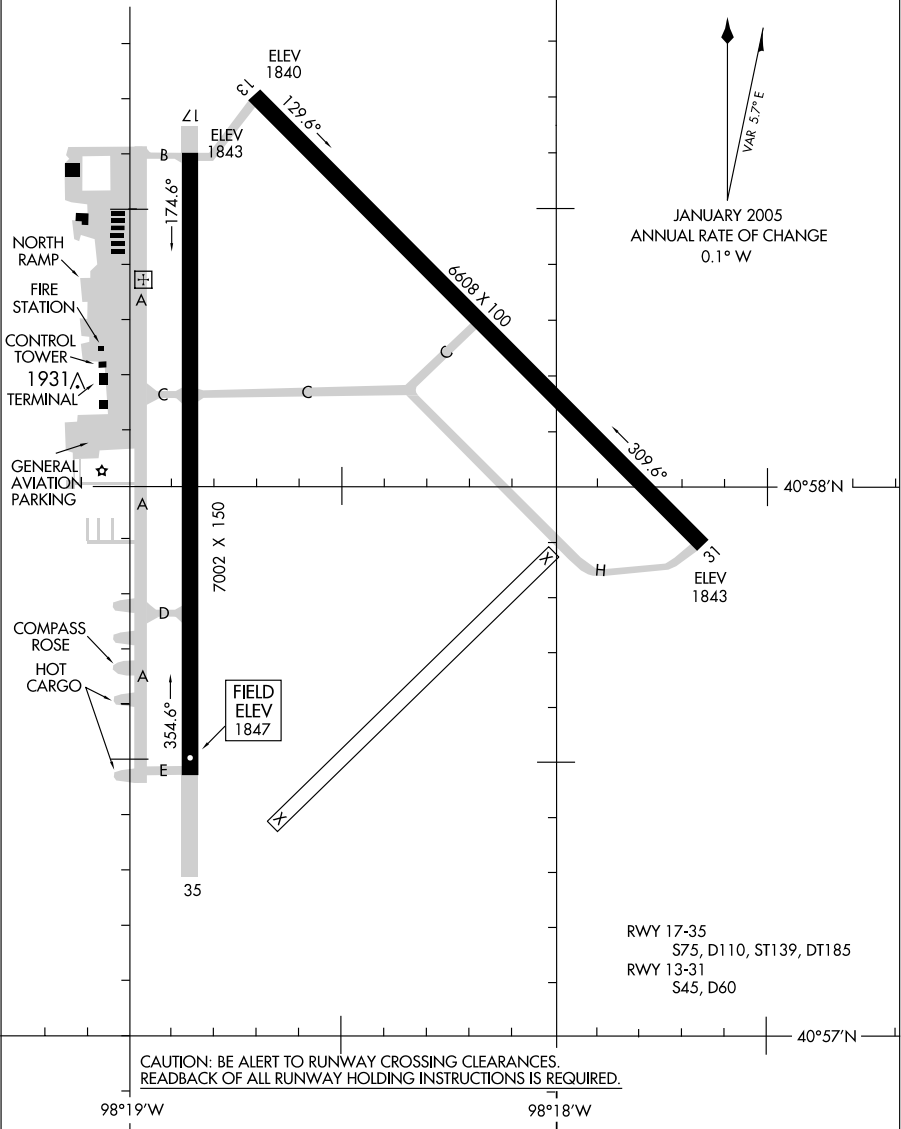
GOODLAND, KANSAS
GOODLAND/RENNER FIELD/GOODLAND MUNI (GLD)

07298

AIRPORT DIAGRAM

GRAND ISLAND/ CENTRAL NEBRASKA RGNL (GRI)
AL-173 (FAA) GRAND ISLAND, NEBRASKA

ATIS 127.4
 GRAND ISLAND TOWER ★
 118.2 388.2
 GND CON
 121.9 388.2
 CLNC DEL
 121.9
 126.05 (when tower closed)



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
 READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

RWY 17-35
 S75, D110, ST139, DT185
 RWY 13-31
 S45, D60

AIRPORT DIAGRAM

GRAND ISLAND, NEBRASKA
GRAND ISLAND/ CENTRAL NEBRASKA RGNL (GRI)

07298

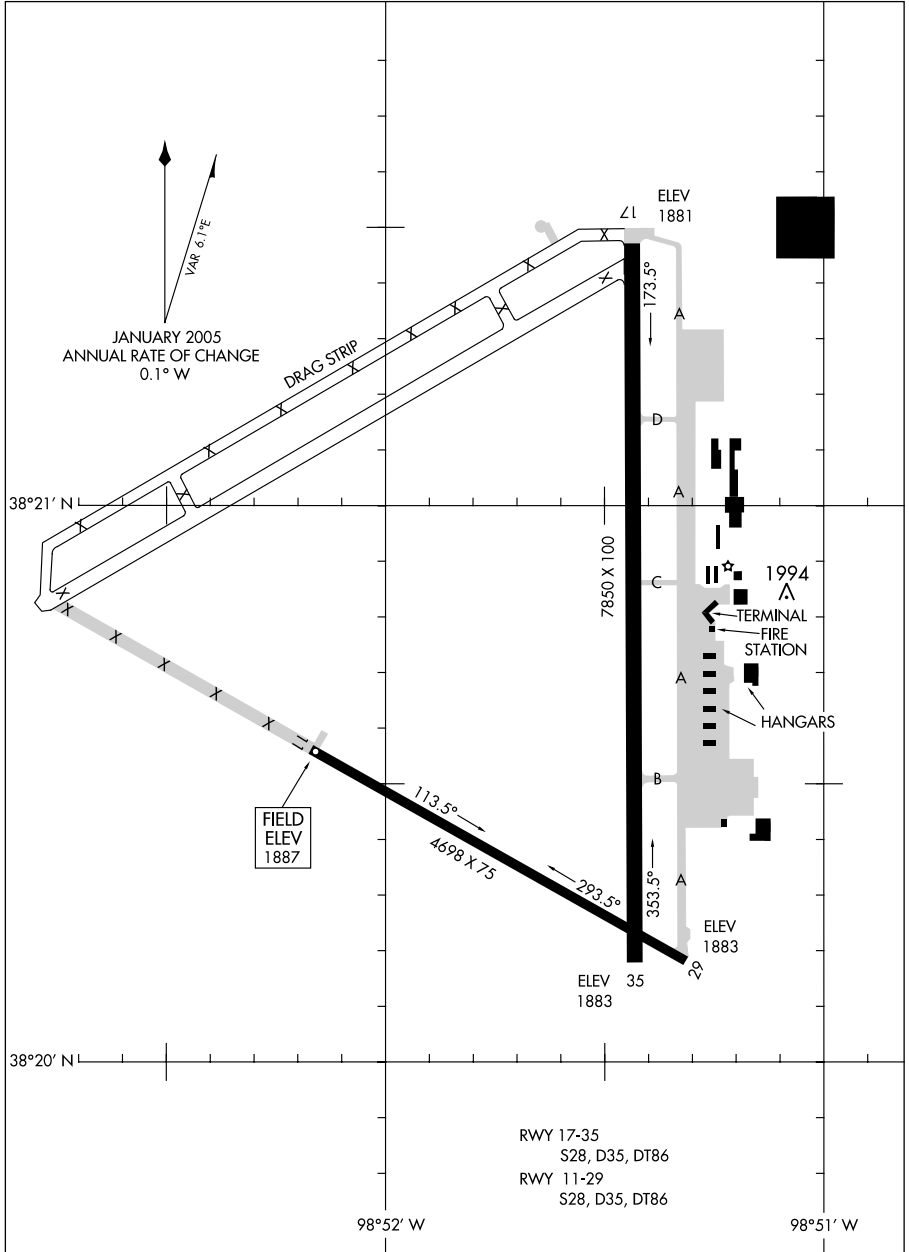
NC, 05 JUNE 2008 to 31 JULY 2008

06271

AIRPORT DIAGRAM

AL-175 (FAA)

GREAT BEND MUNI (GBD)
GREAT BEND, KANSAS



AIRPORT DIAGRAM

06271

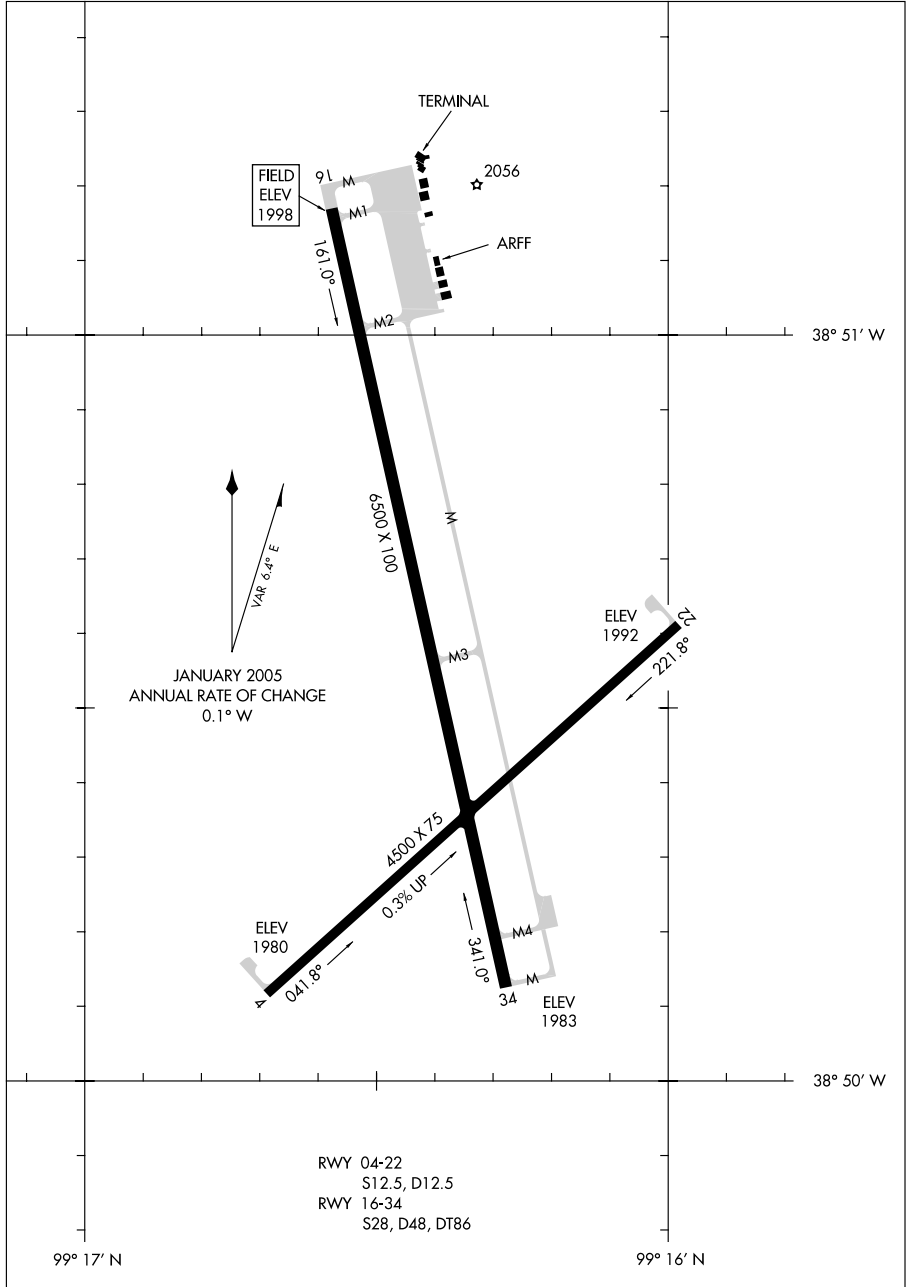
GREAT BEND, KANSAS
GREAT BEND MUNI (GBD)

07298

AIRPORT DIAGRAM

AL-5440 (FAA)

HAYS RGNL (HYS)
HAYS, KANSAS



AIRPORT DIAGRAM

07298

HAYS, KANSAS
HAYS RGNL (HYS)

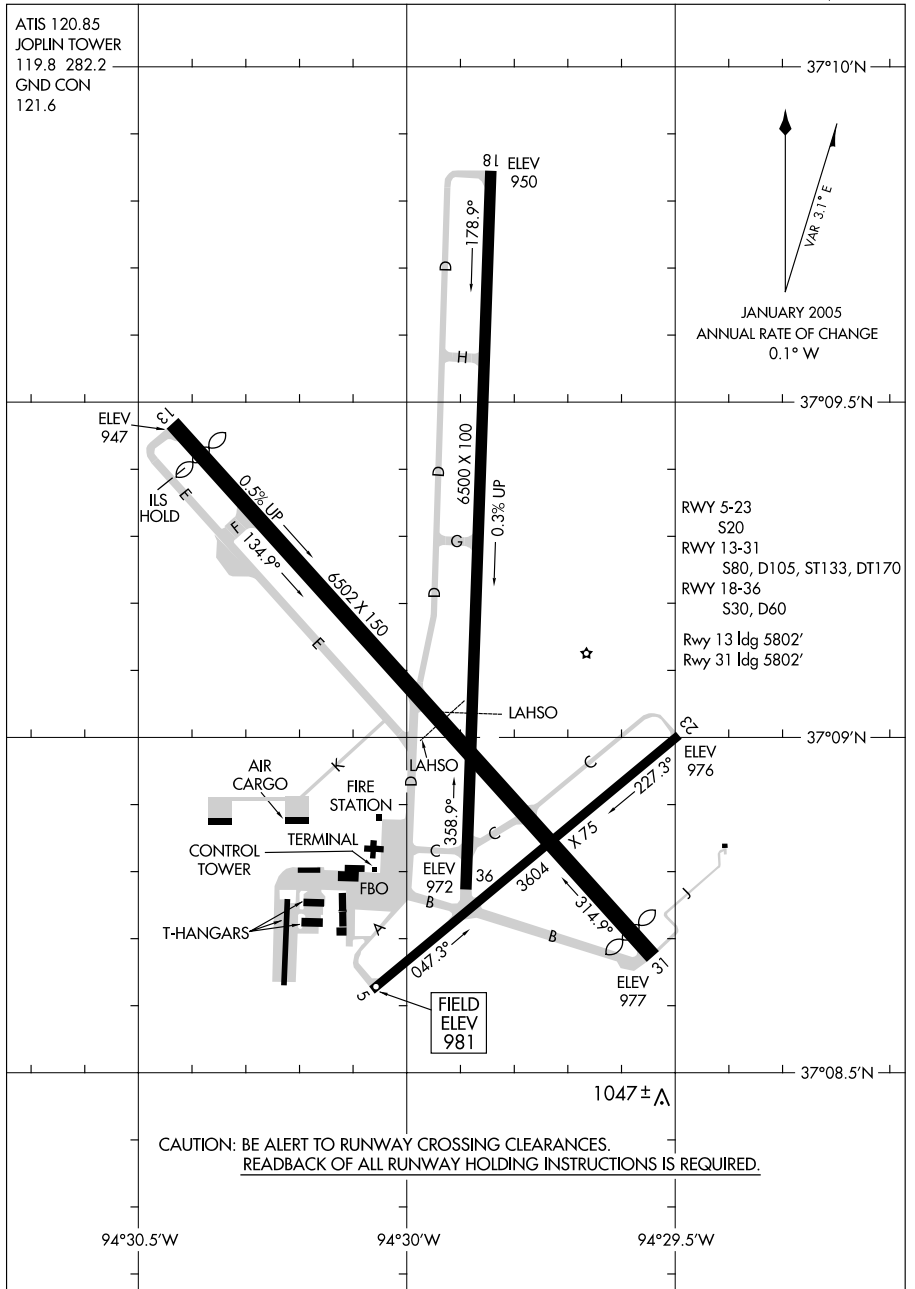
08101

AIRPORT DIAGRAM

AL-540 (FAA)

JOPLIN RGNL (JLN)

JOPLIN, MISSOURI



AIRPORT DIAGRAM

08101

JOPLIN, MISSOURI

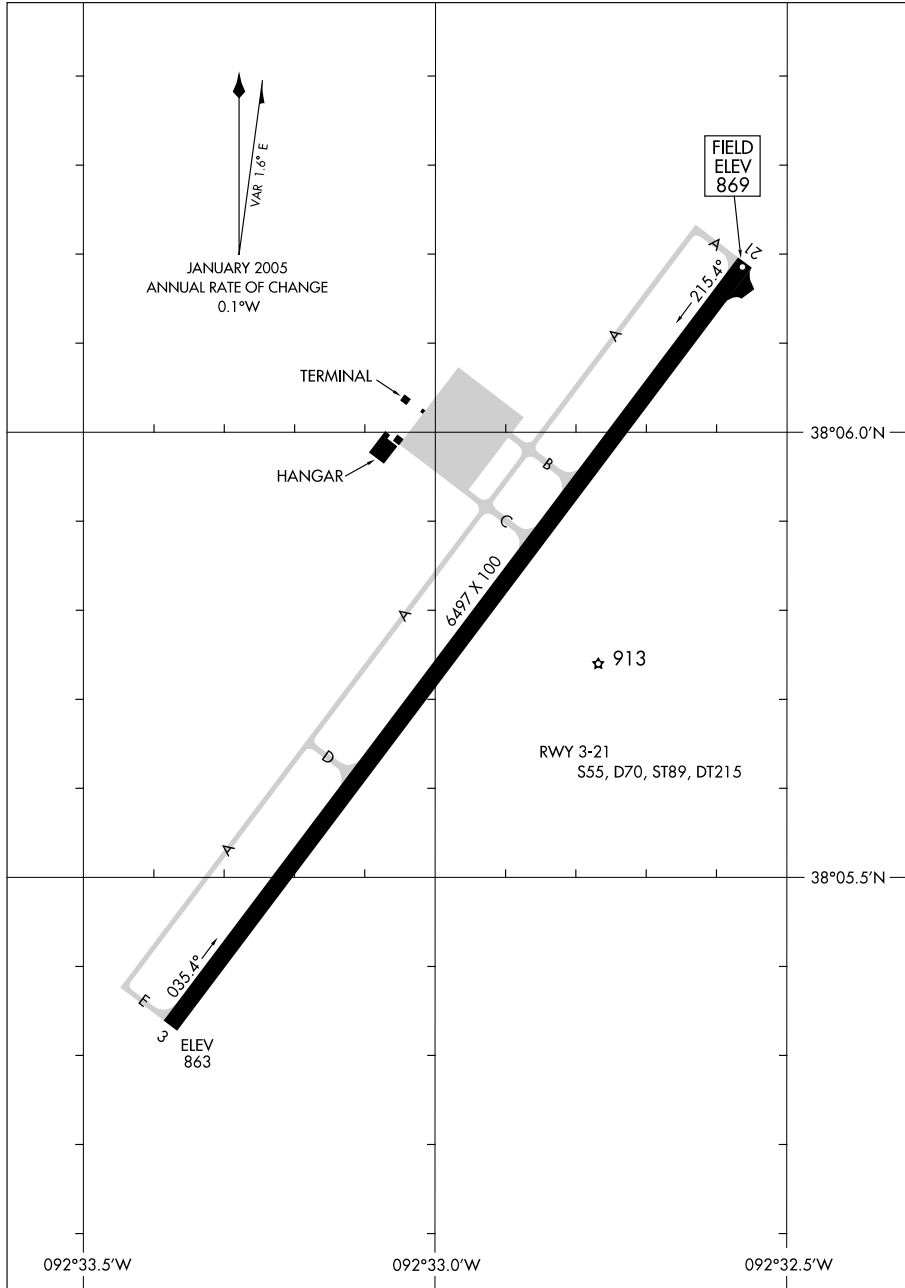
JOPLIN RGNL (JLN)

06215

AIRPORT DIAGRAM

AL-5765 (FAA)

KAISER/LEE C. FINE MEMORIAL (AIZ)
KAISER/LAKE OZARK, MISSOURI



AIRPORT DIAGRAM

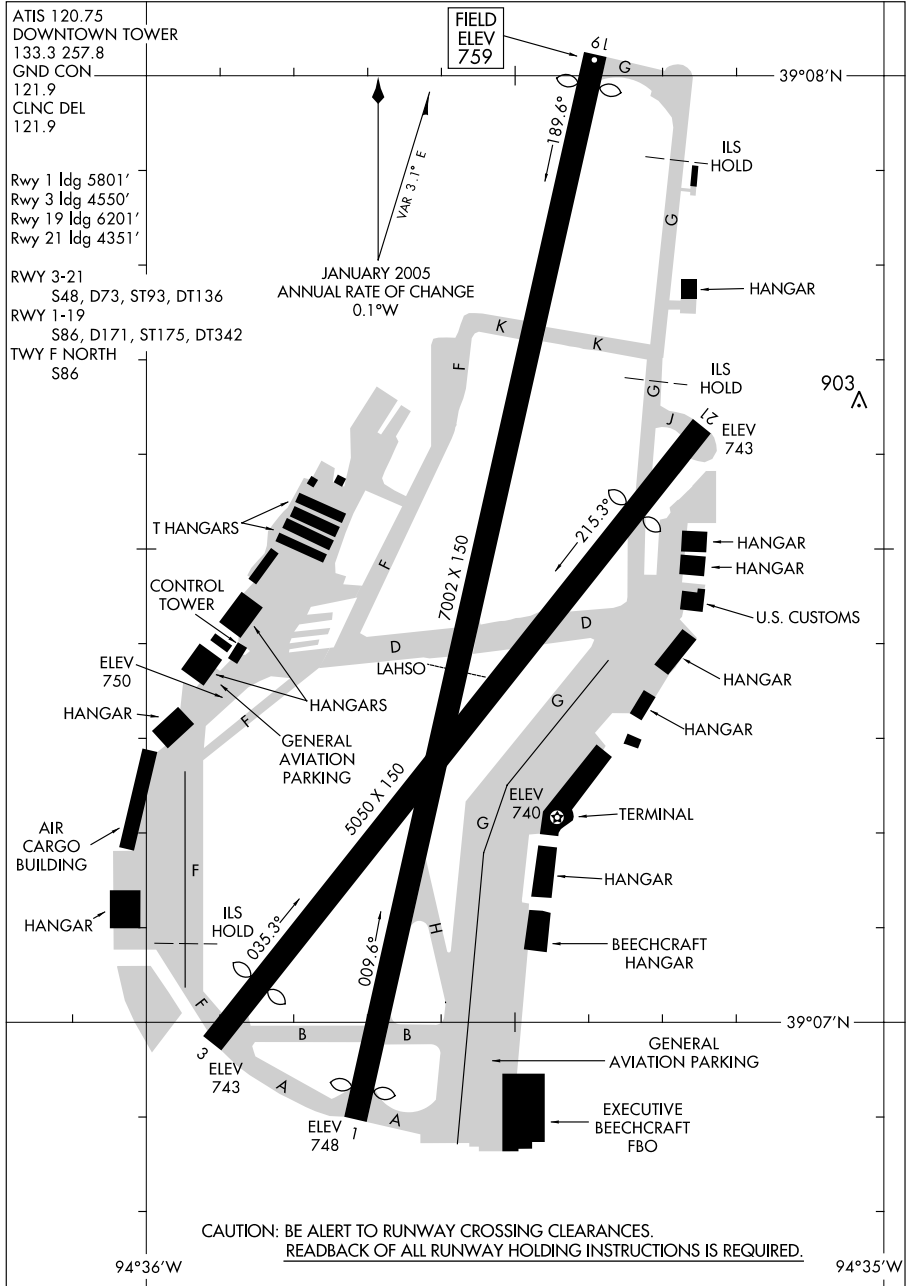
06215

KAISER/LAKE OZARK, MISSOURI
KAISER/LEE C. FINE MEMORIAL (AIZ)

08045

AIRPORT DIAGRAM

KANSAS CITY/CHARLES B. WHEELER DOWNTOWN (MKC)
AL-213 (FAA)
KANSAS CITY, MISSOURI



AIRPORT DIAGRAM

08045

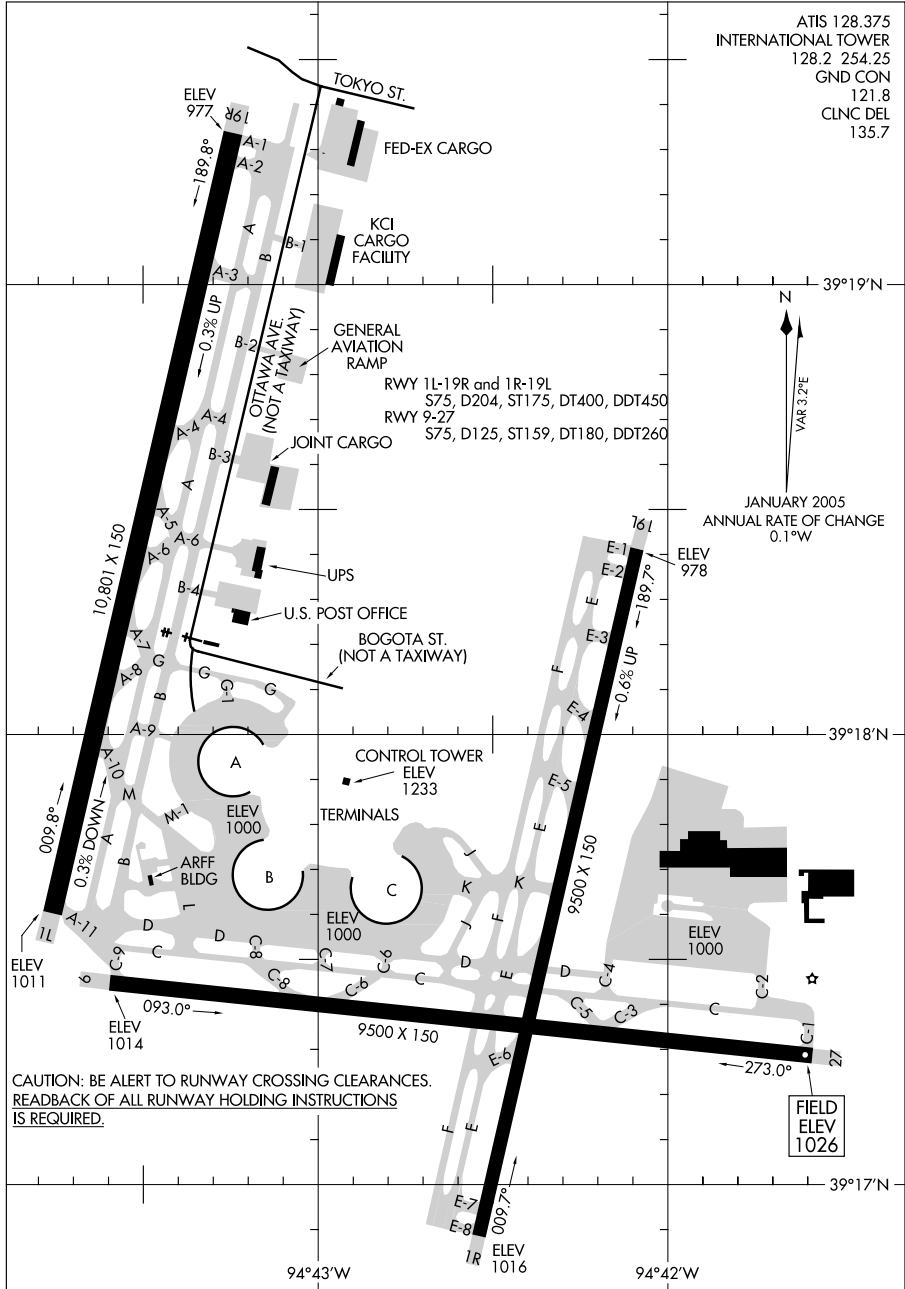
KANSAS CITY, MISSOURI
KANSAS CITY/CHARLES B. WHEELER DOWNTOWN (MKC)

08157

AIRPORT DIAGRAM

AL-780 (FAA)

KANSAS CITY INTL (MCI)
KANSAS CITY, MISSOURI



ATIS 128.375
 INTERNATIONAL TOWER
 128.2 254.25
 GND CON
 121.8
 CLNC DEL
 135.7

JANUARY 2005
 ANNUAL RATE OF CHANGE
 0.1°W

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
 READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS
 IS REQUIRED.

AIRPORT DIAGRAM

KANSAS CITY, MISSOURI
KANSAS CITY INTL (MCI)

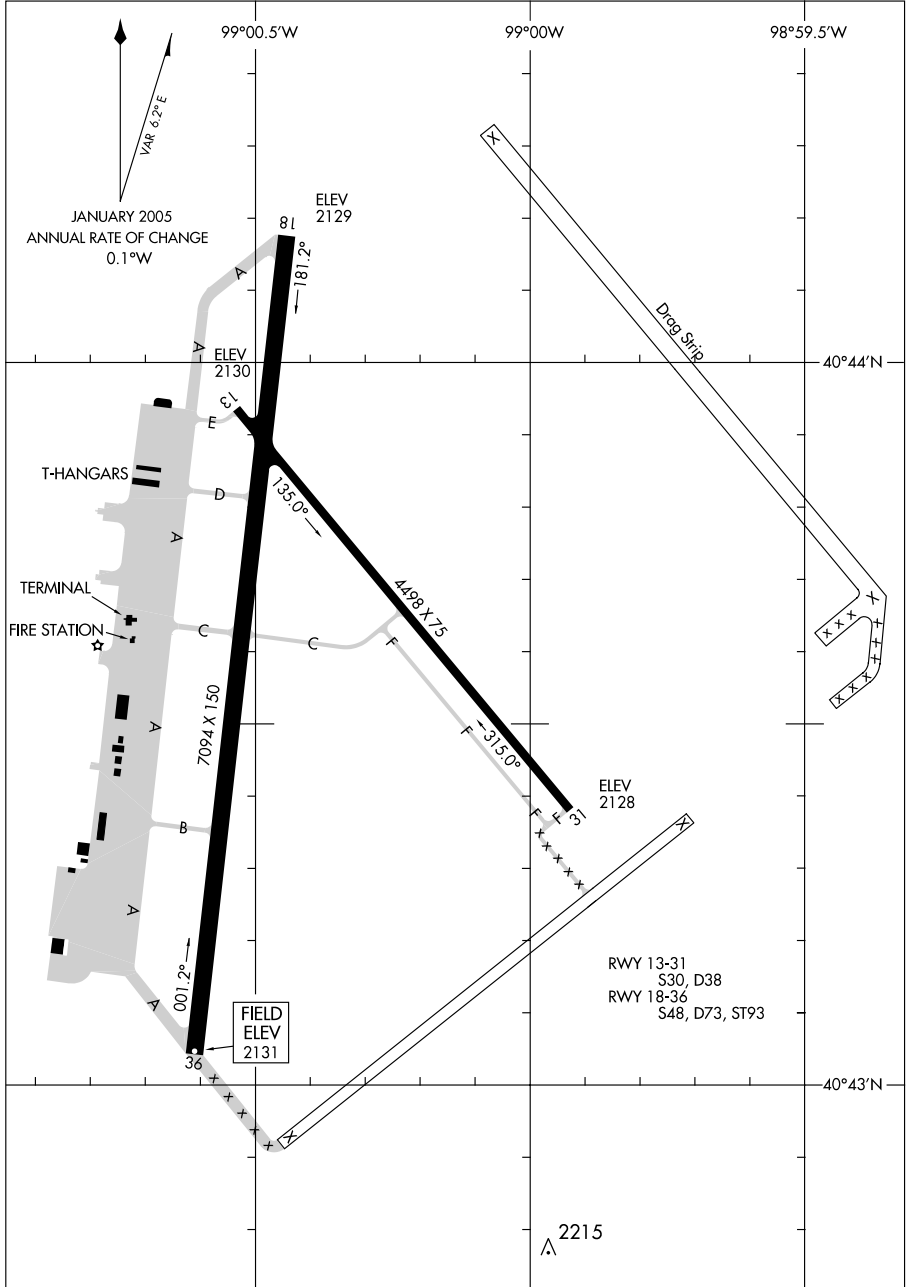
08157

07298

AIRPORT DIAGRAM

AL-541 (FAA)

KEARNEY RGNL (E.A.R.)
KEARNEY, NEBRASKA



AIRPORT DIAGRAM

40°44'N-99°00'W

KEARNEY, NEBRASKA
KEARNEY RGNL (E.A.R.)

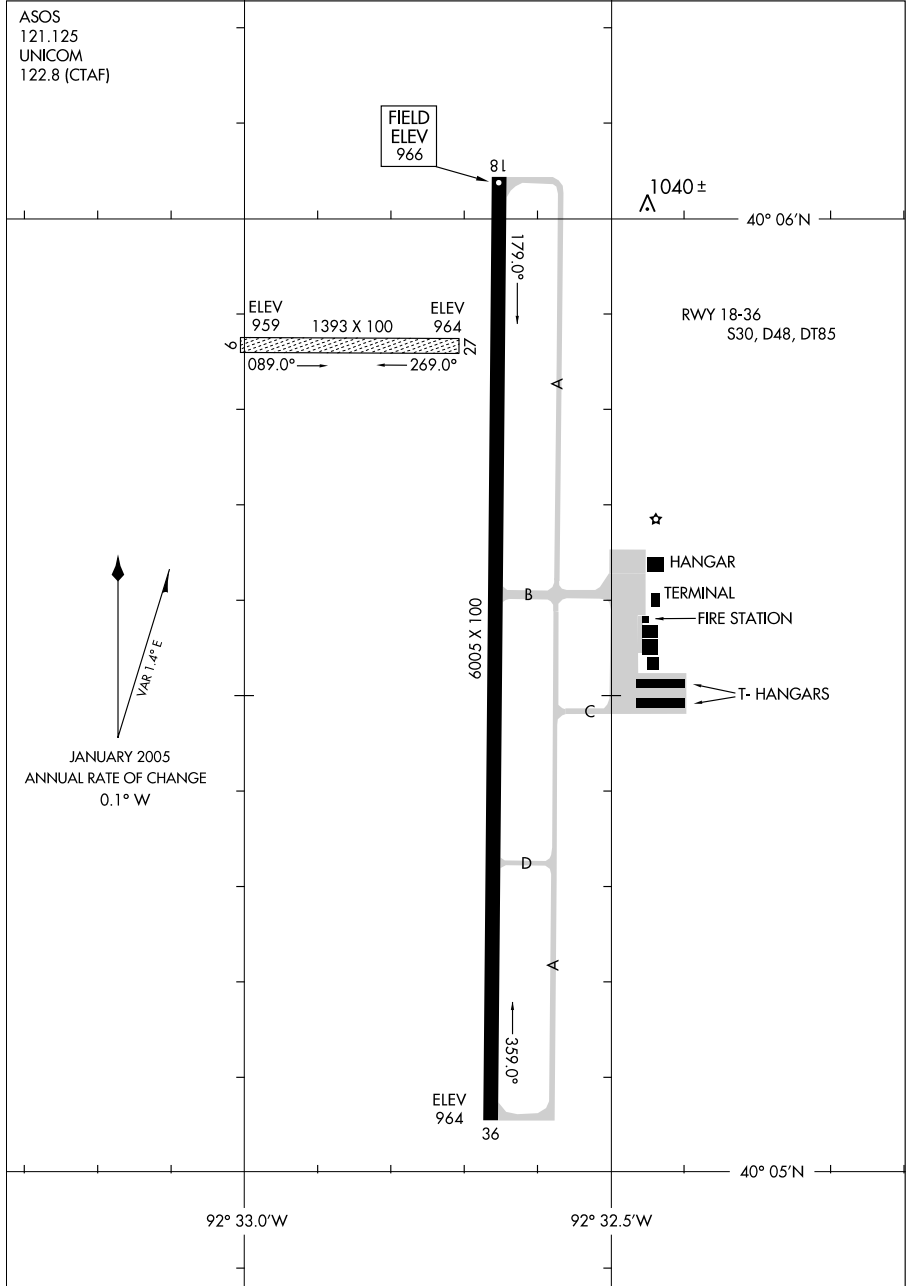
07298

07298

AIRPORT DIAGRAM

AL-217 (FAA)

KIRKSVILLE RGNL (IRK)
KIRKSVILLE, MISSOURI



AIRPORT DIAGRAM

07298

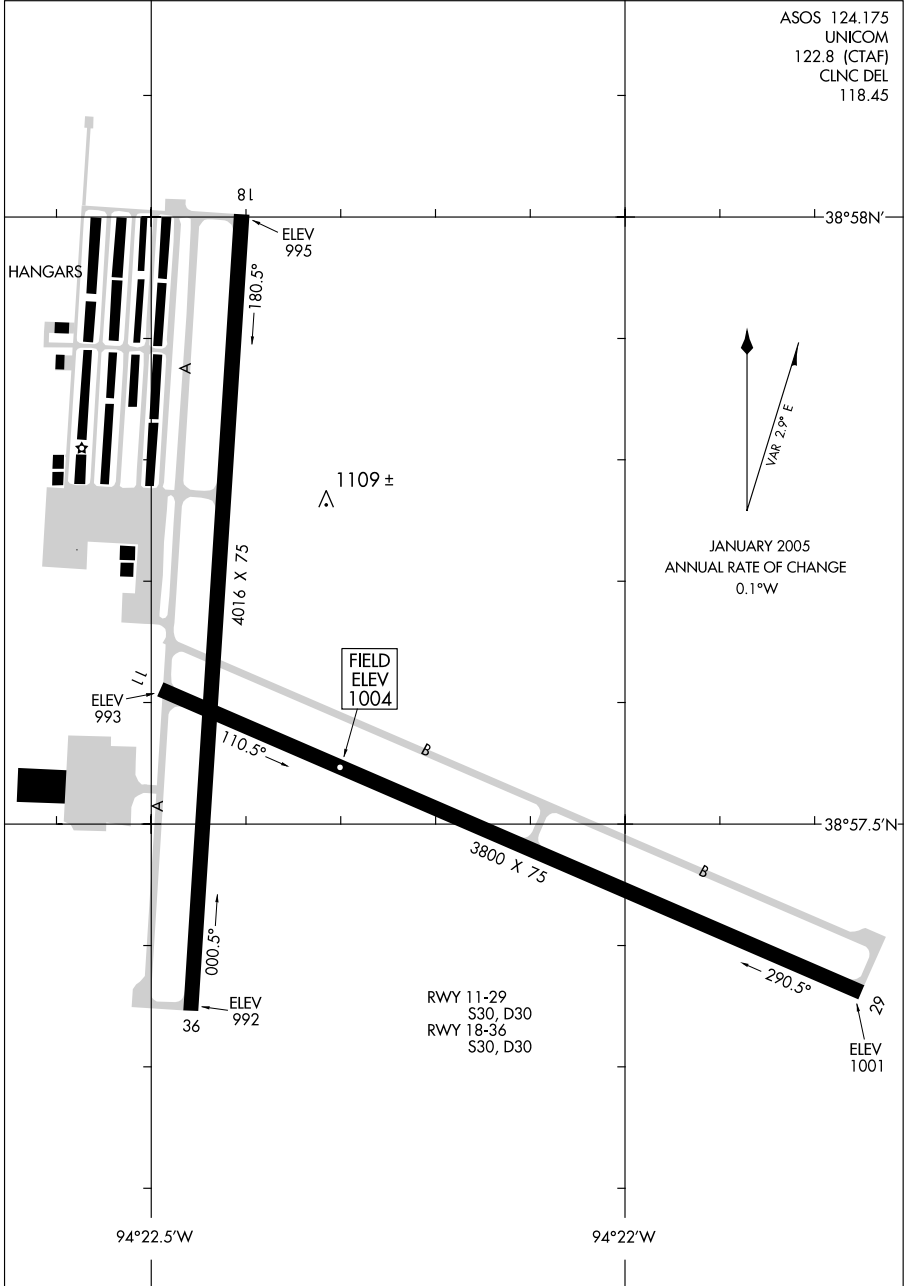
KIRKSVILLE, MISSOURI
KIRKSVILLE RGNL (IRK)

07074

AIRPORT DIAGRAM

AL-6104 (FAA)

LEE'S SUMMIT MUNI (LXT)
LEE'S SUMMIT, MISSOURI



AIRPORT DIAGRAM

07074

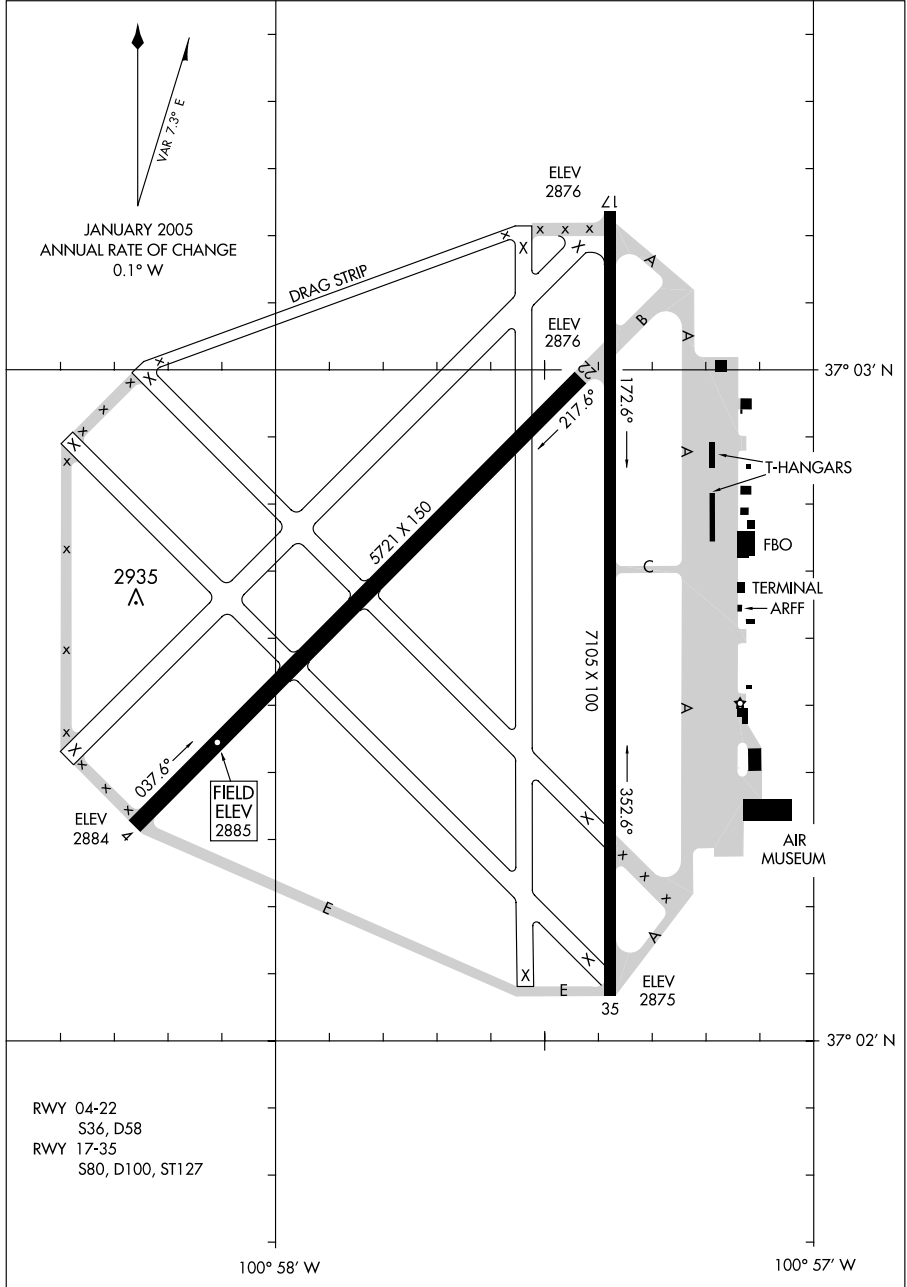
LEE'S SUMMIT, MISSOURI
LEE'S SUMMIT MUNI (LXT)

07354

AIRPORT DIAGRAM

AL-498 (FAA)

LIBERAL MID-AMERICA RGNL (L.B.L.)
LIBERAL, KANSAS



AIRPORT DIAGRAM

07354

LIBERAL, KANSAS
LIBERAL MID-AMERICA RGNL (L.B.L.)

08101

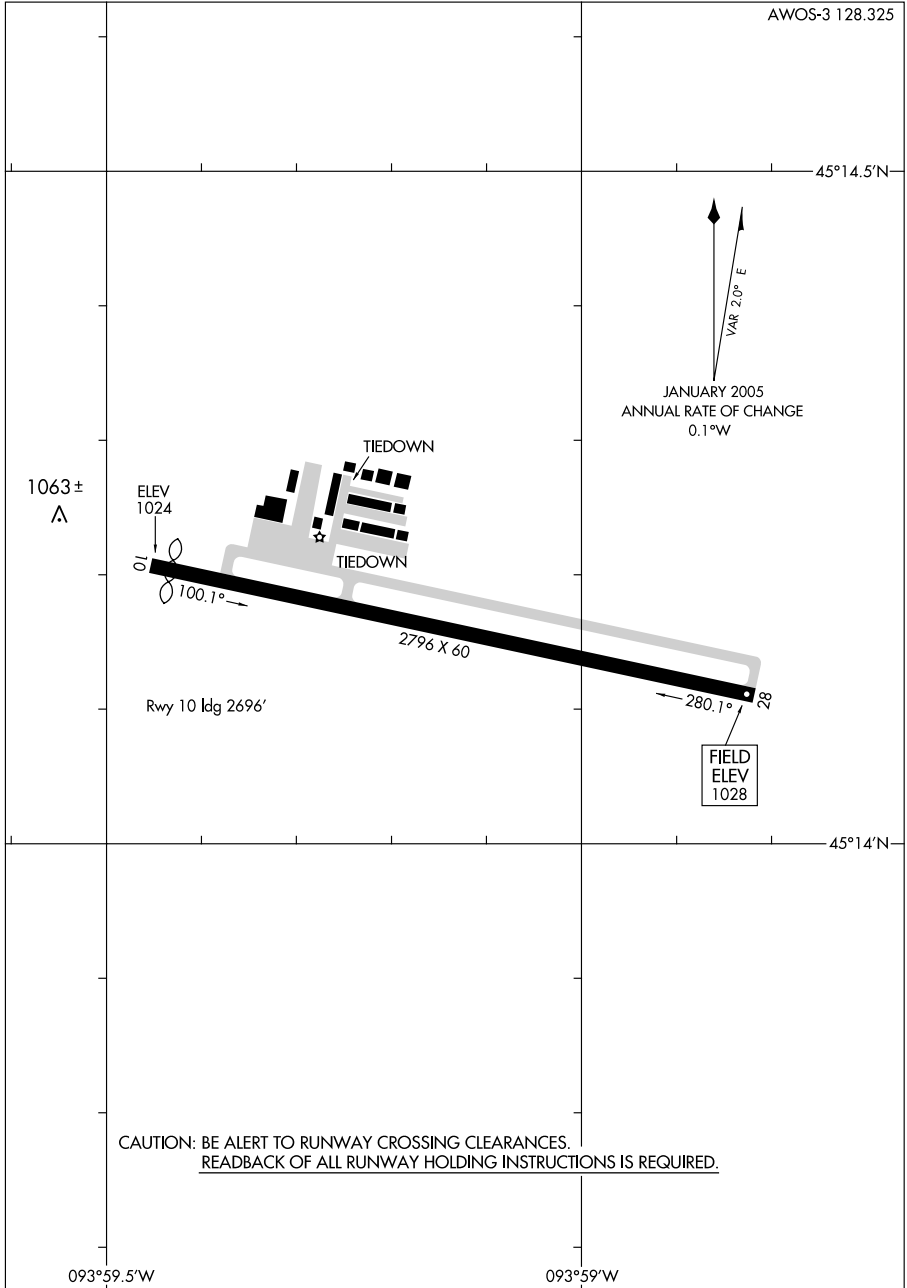
AIRPORT DIAGRAM

AL-6585 (FAA)

MAPLE LAKE MUNI (MGG)

MAPLE LAKE, MINNESOTA

AWOS-3 128.325



AIRPORT DIAGRAM

08101

MAPLE LAKE, MINNESOTA

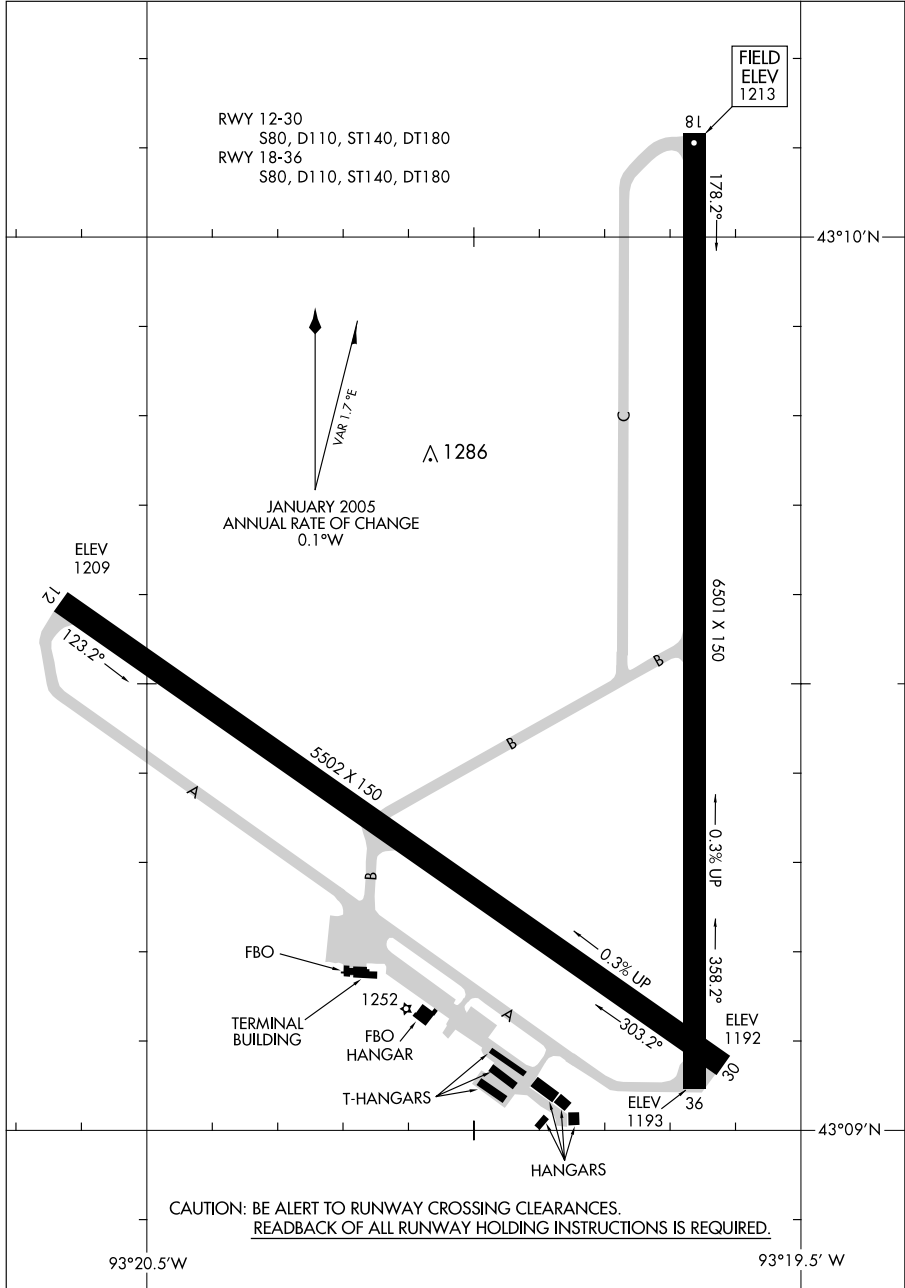
MAPLE LAKE MUNI (MGG)

06327

AIRPORT DIAGRAM

AL-667 (FAA)

MASON CITY MUNI (MCW)
MASON CITY, IOWA



AIRPORT DIAGRAM

43°09'N-93°20'W

MASON CITY, IOWA
MASON CITY MUNI (MCW)

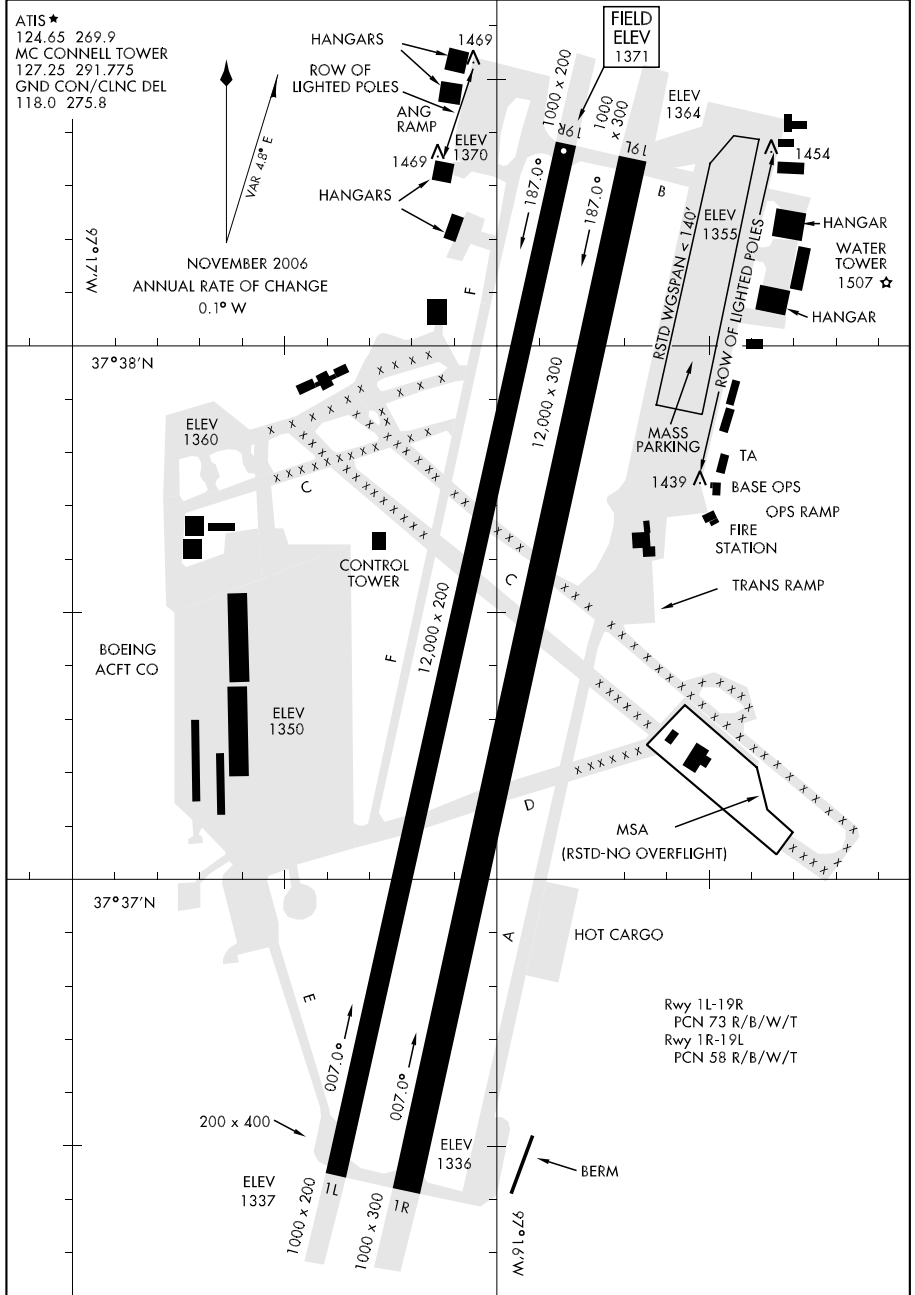
06327

06327

AIRPORT DIAGRAM

AFD-453 [USAF]

MC CONNELL AFB (KIAB)
WICHITA, KANSAS



AIRPORT DIAGRAM

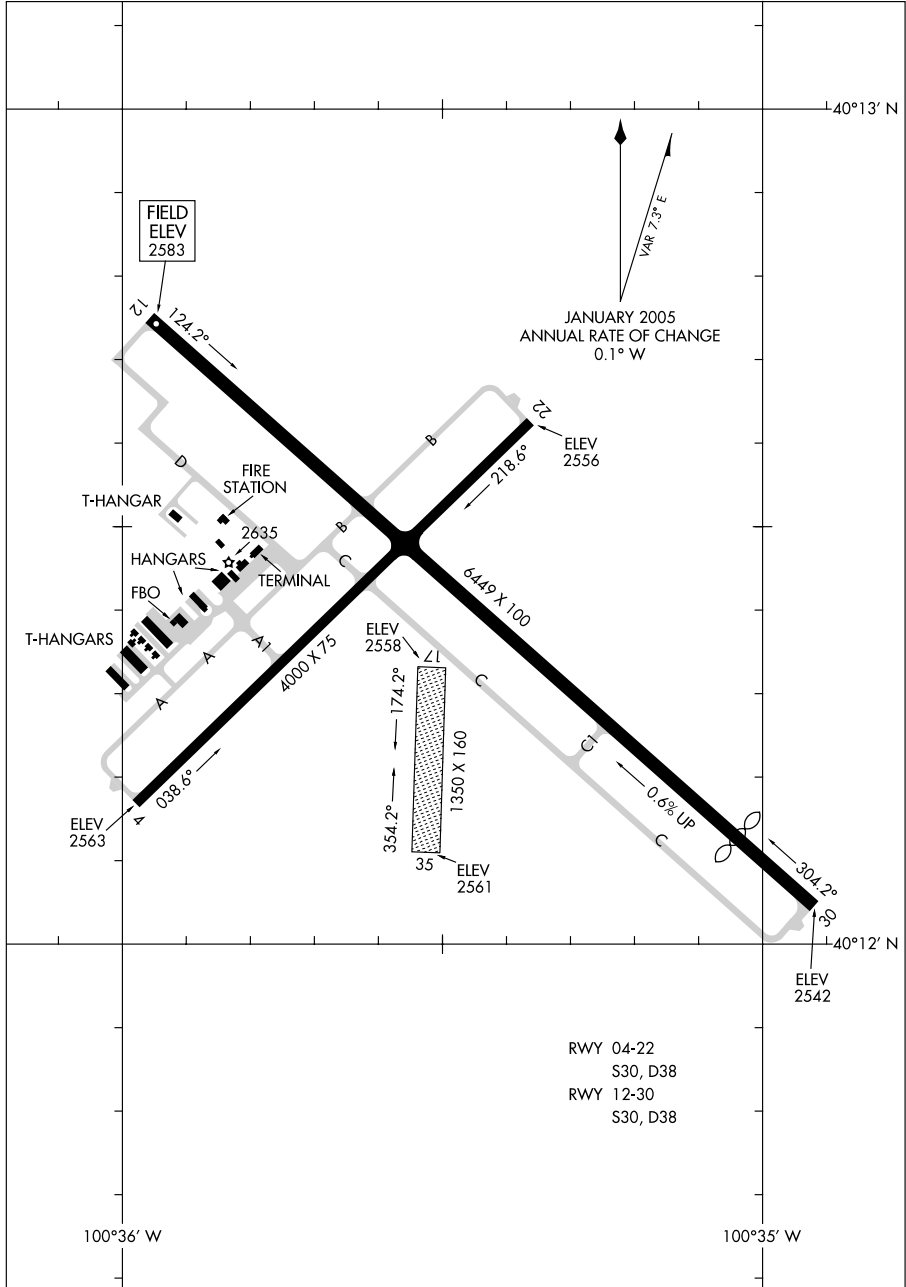
WICHITA, KANSAS
MC CONNELL AFB (KIAB)

07298

AIRPORT DIAGRAM

AL-5301 (FAA)

McCOOK RGNL (MCK)
McCOOK, NEBRASKA



AIRPORT DIAGRAM

07298

McCOOK, NEBRASKA
McCOOK RGNL (MCK)

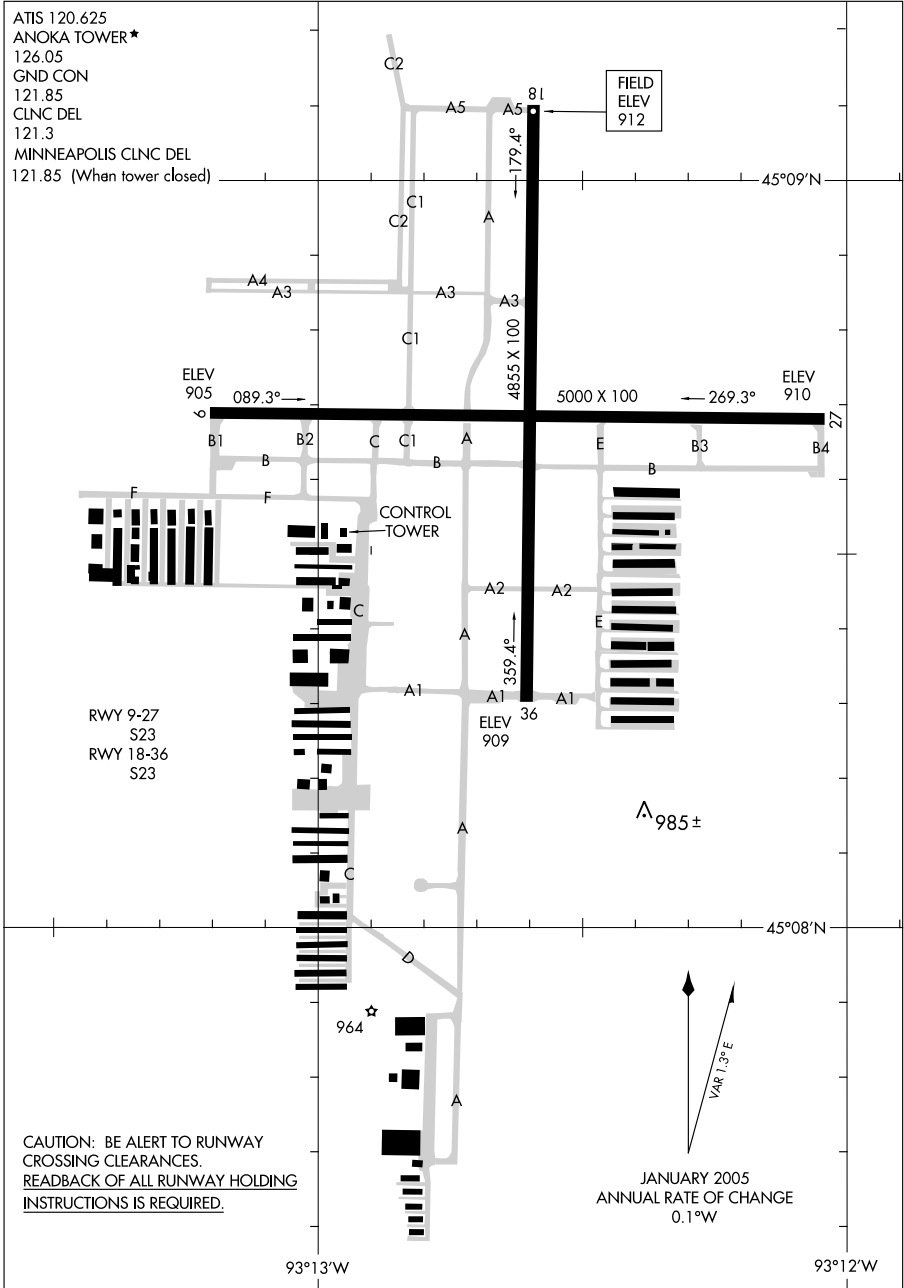
07186

MINNEAPOLIS/ ANOKA COUNTY- BLAINE AIRPORT (JANES FIELD) (A.N.E)

AIRPORT DIAGRAM

AL-5202 (FAA)

MINNEAPOLIS, MINNESOTA



AIRPORT DIAGRAM

MINNEAPOLIS, MINNESOTA

07186

MINNEAPOLIS/ ANOKA COUNTY- BLAINE AIRPORT (JANES FIELD) (A.N.E)

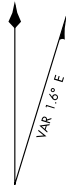
06271

AIRPORT DIAGRAM

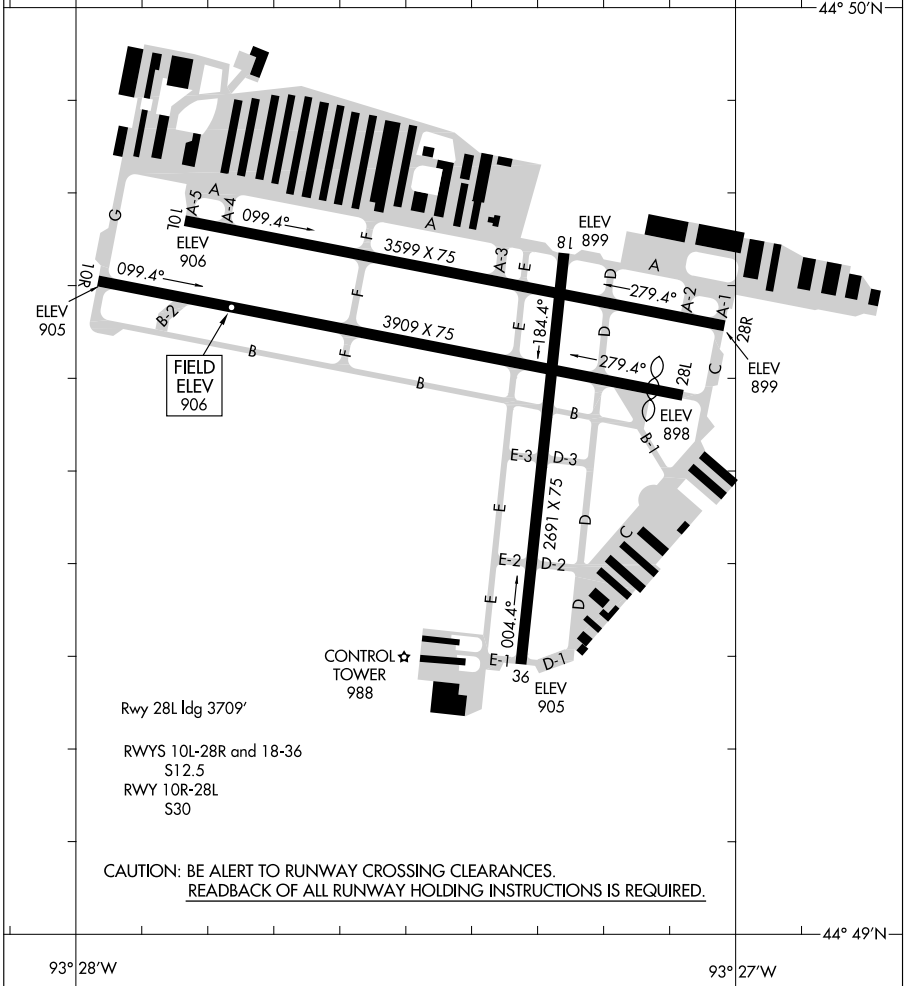
AL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (F^CM)
MINNEAPOLIS, MINNESOTA

ATIS 124.9
 FLYING CLOUD TOWER ★
 118.1
 GND CON
 121.7
 MINNEAPOLIS CLNC DEL
 121.7 (When Tower closed)



JANUARY 2005
 ANNUAL RATE OF CHANGE
 0.1° W



Rwy 28L Idg 3709'

RWYS 10L-28R and 18-36

S12.5

RWY 10R-28L
S30

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AIRPORT DIAGRAM

06271

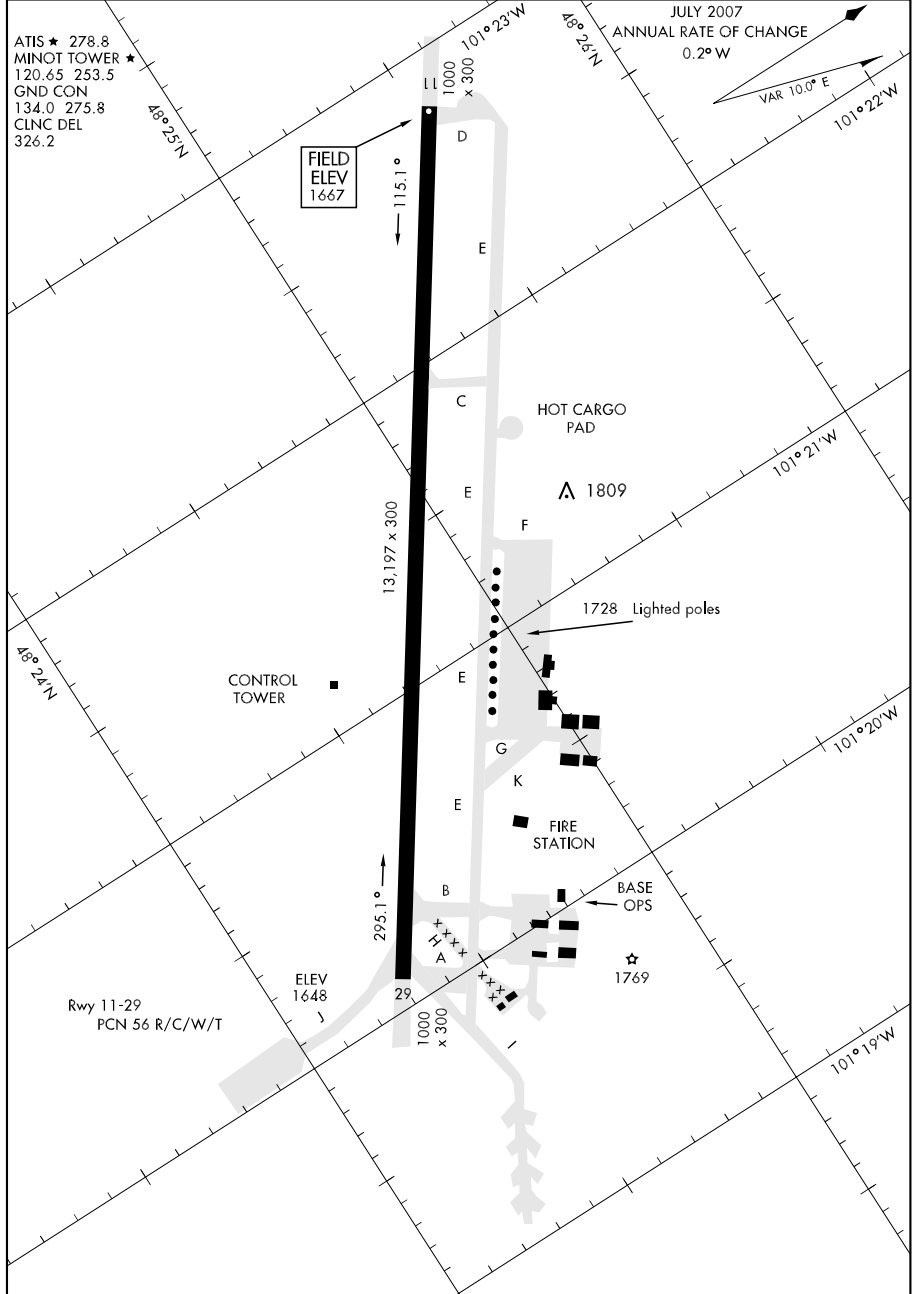
MINNEAPOLIS, MINNESOTA
MINNEAPOLIS/ FLYING CLOUD (F^CM)

07186

AIRPORT DIAGRAM

AFD-5013 [USAF]

MINOT AFB (KMIB)
MINOT, NORTH DAKOTA



AIRPORT DIAGRAM

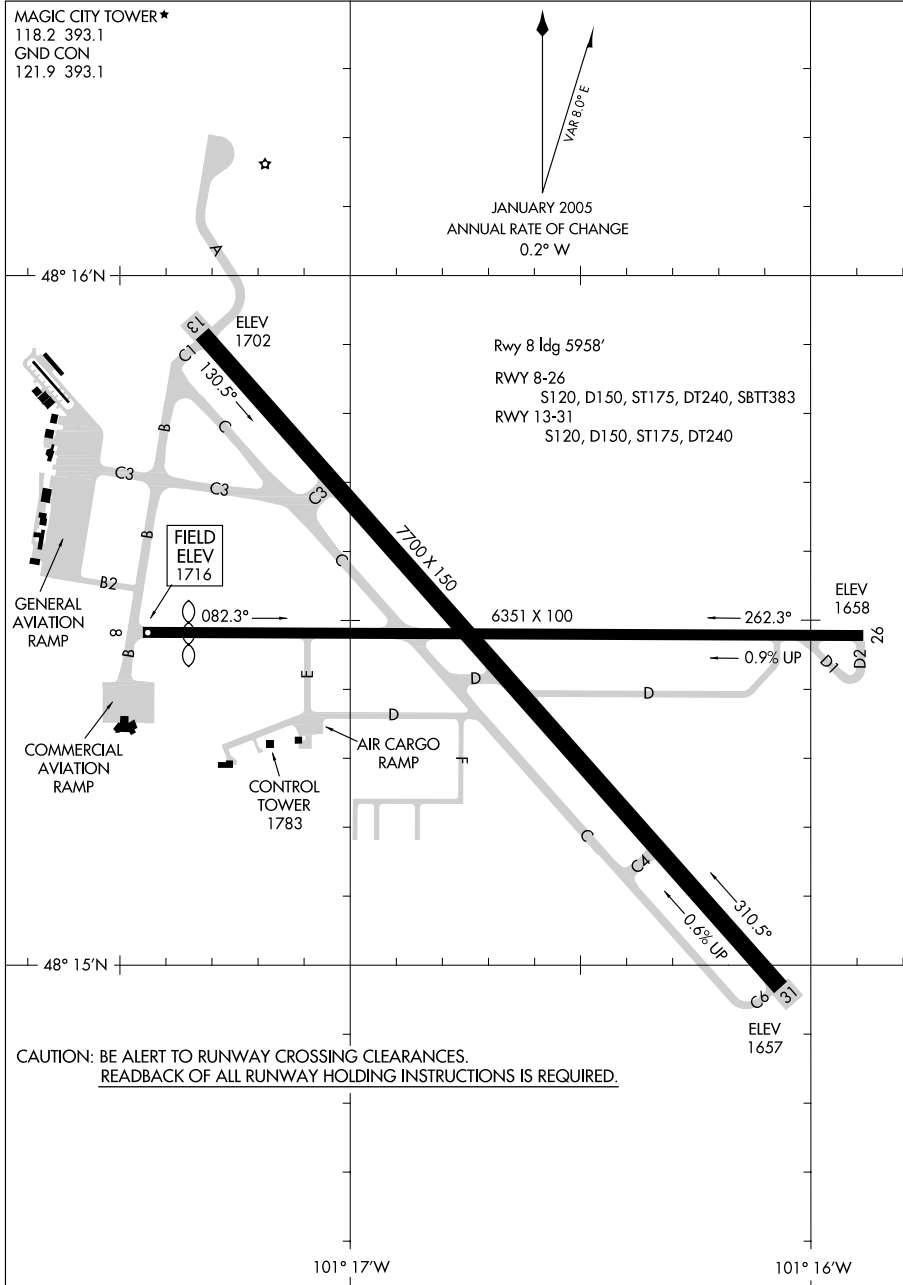
MINOT, NORTH DAKOTA
MINOT AFB (KMIB)

08101

AIRPORT DIAGRAM

AL-635 (FAA)

MINOT INTL (MOT)
MINOT, NORTH DAKOTA



AIRPORT DIAGRAM

08101

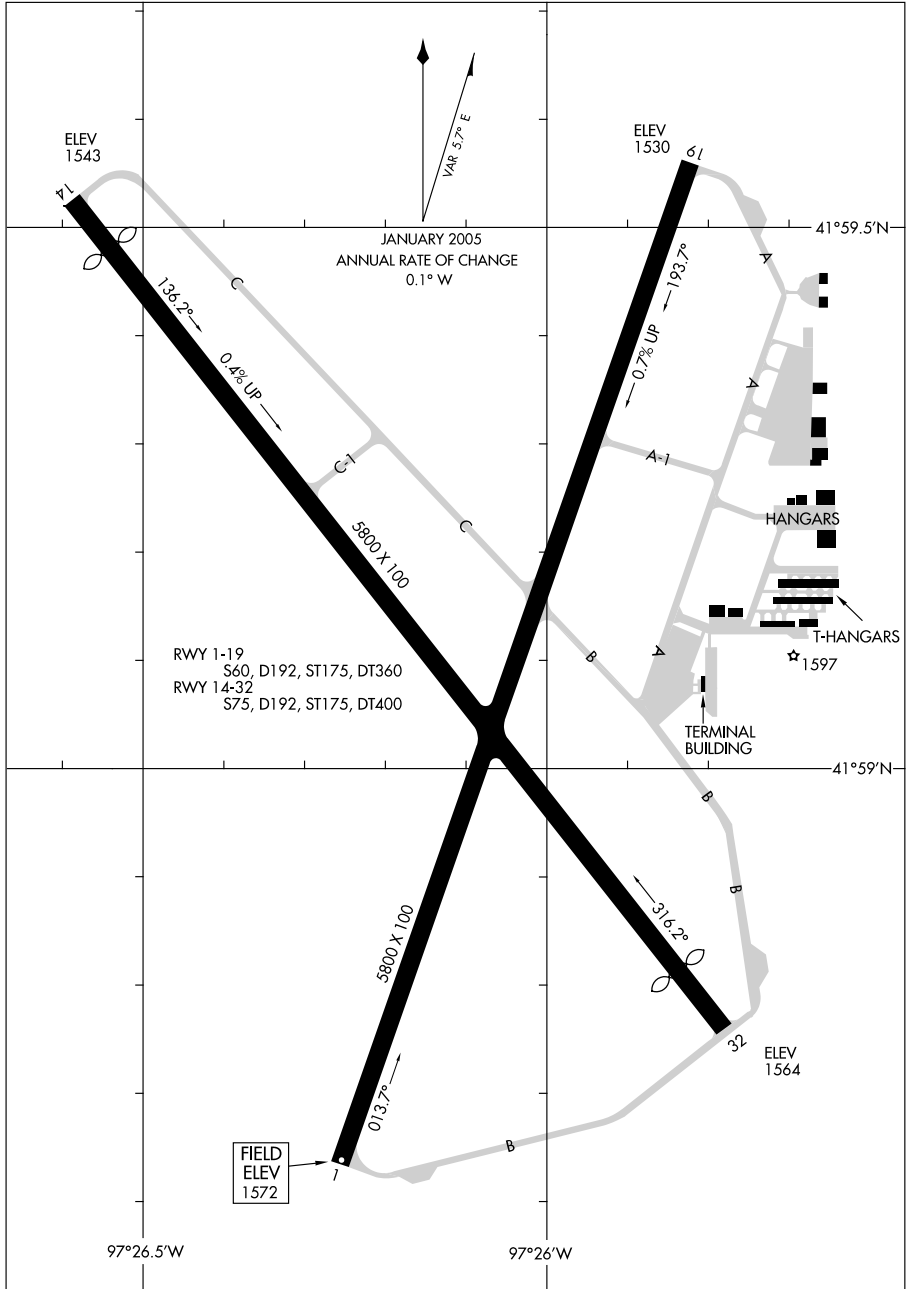
MINOT, NORTH DAKOTA
MINOT INTL (MOT)

06271

AIRPORT DIAGRAM

NORFOLK/KARL STEFAN MEMORIAL (OFK)
NORFOLK, NEBRASKA

AL-974 (FAA)



AIRPORT DIAGRAM

06271

41°59'N-97°26'W

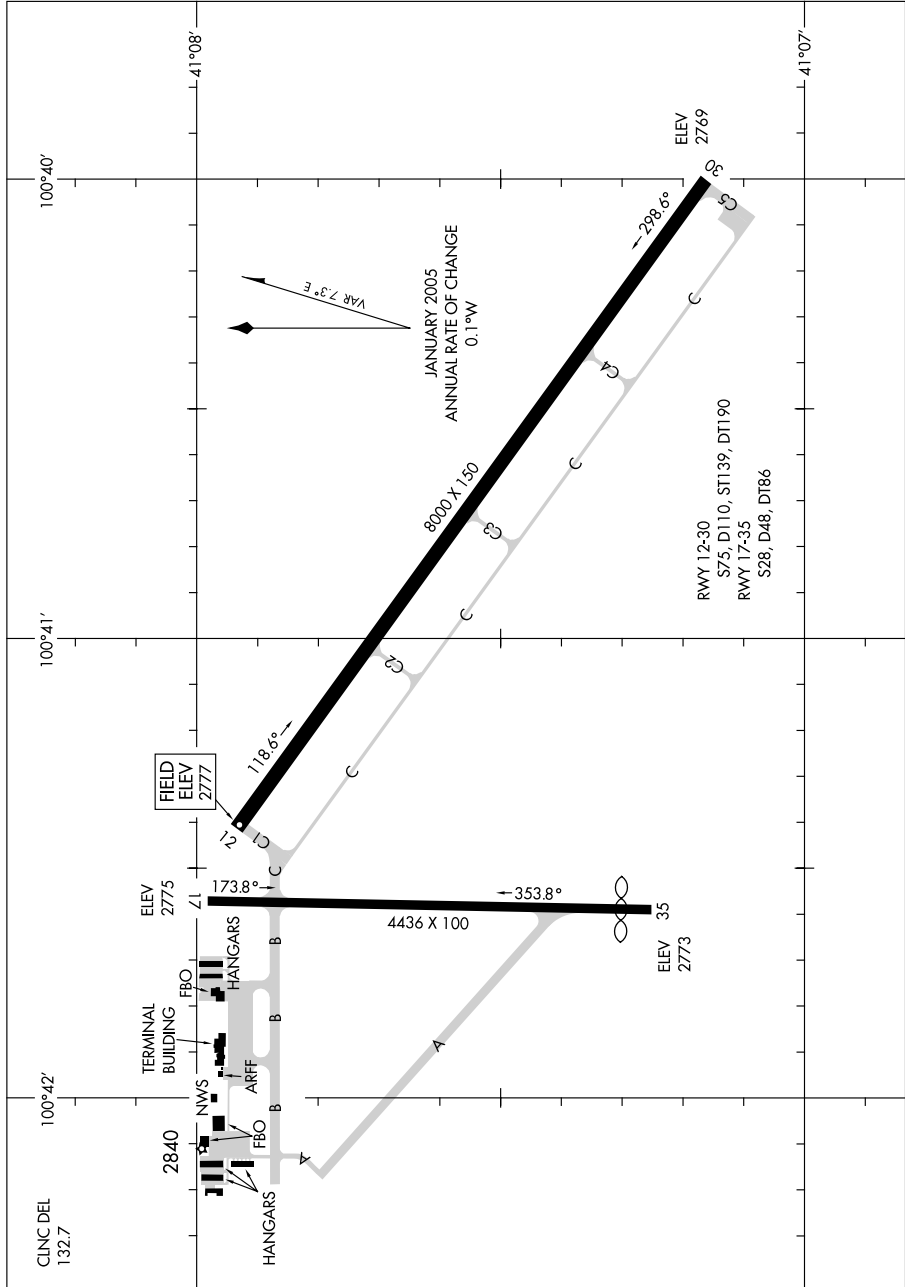
NORFOLK, NEBRASKA
NORFOLK/KARL STEFAN MEMORIAL (OFK)

07298

AIRPORT DIAGRAM

AL-292 (FAA)

NORTH PLATTE RGNL AIRPORT LEE BIRD FIELD (LBF)
NORTH PLATTE, NEBRASKA



AIRPORT DIAGRAM

07298

NORTH PLATTE, NEBRASKA
NORTH PLATTE RGNL AIRPORT LEE BIRD FIELD (LBF)

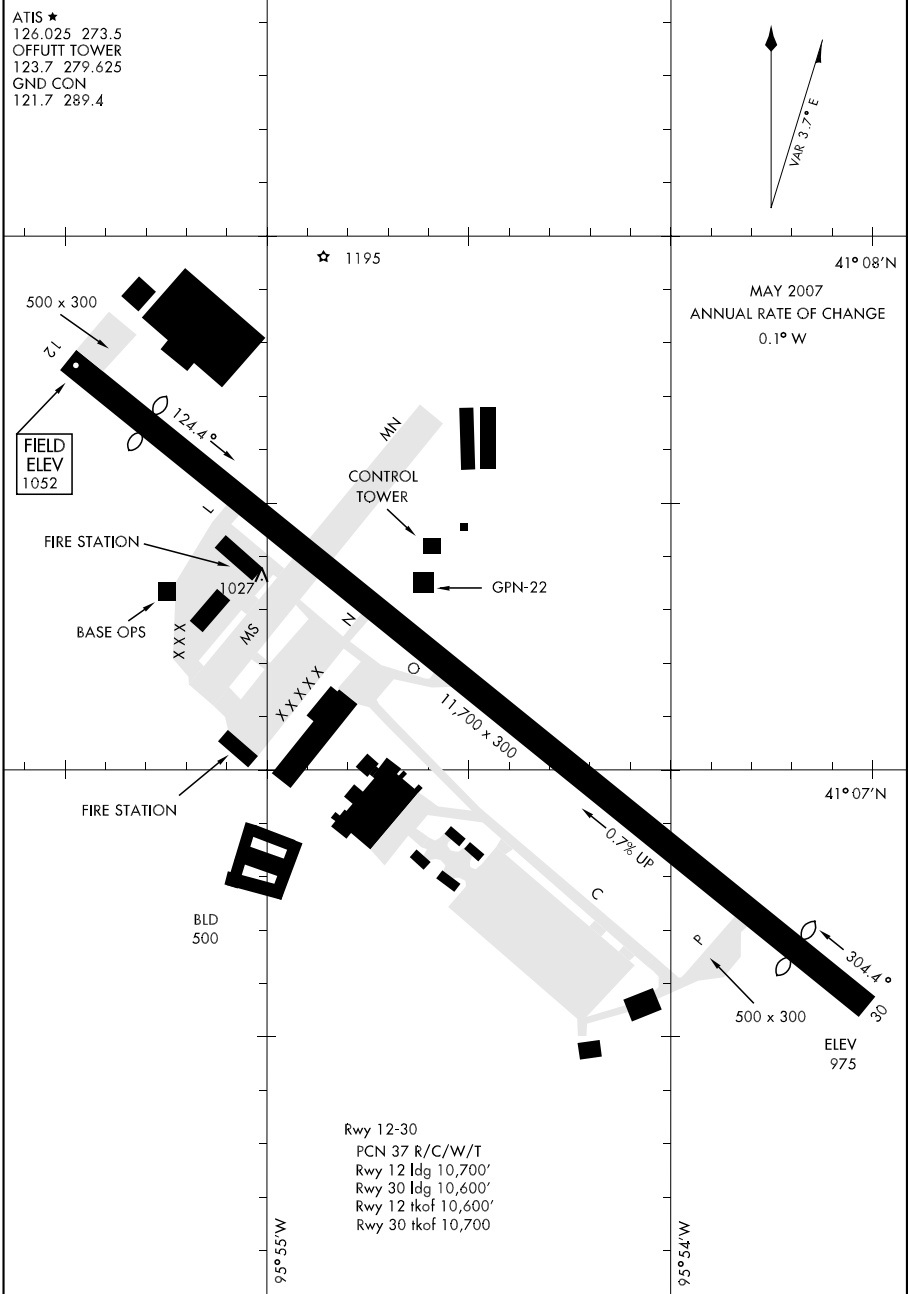
07130

AIRPORT DIAGRAM

AFD-544 [USAF]

OFFUTT AFB (KOFF)

OMAHA, NEBRASKA



AIRPORT DIAGRAM

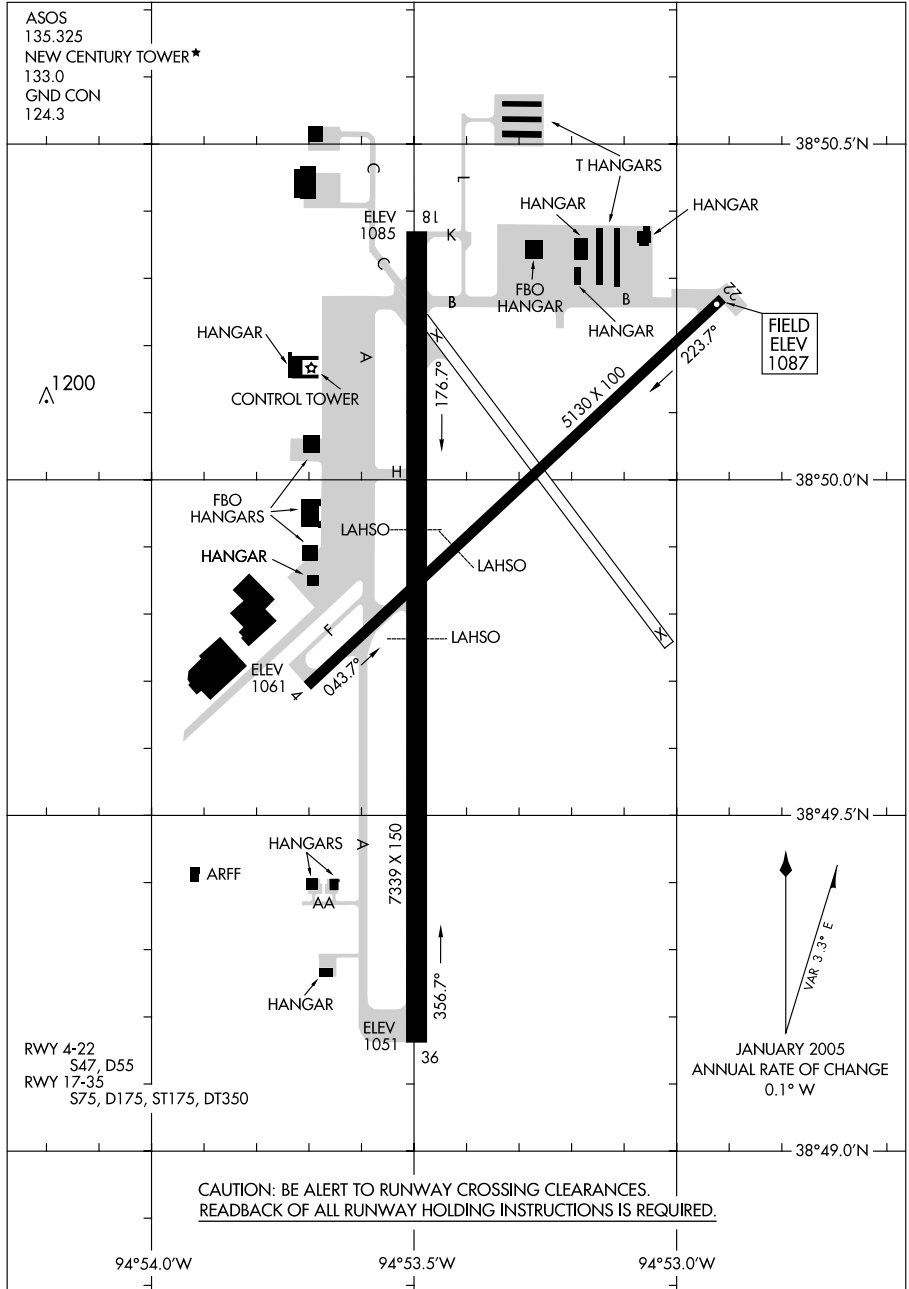
OMAHA, NEBRASKA
OFFUTT AFB (KOFF)

08157

AIRPORT DIAGRAM

AL-302 (FAA)

OLATHE/NEW CENTURY AIRCENTER (IXD)
OLATHE, KANSAS



AIRPORT DIAGRAM

OLATHE, KANSAS
OLATHE/NEW CENTURY AIRCENTER (IXD)

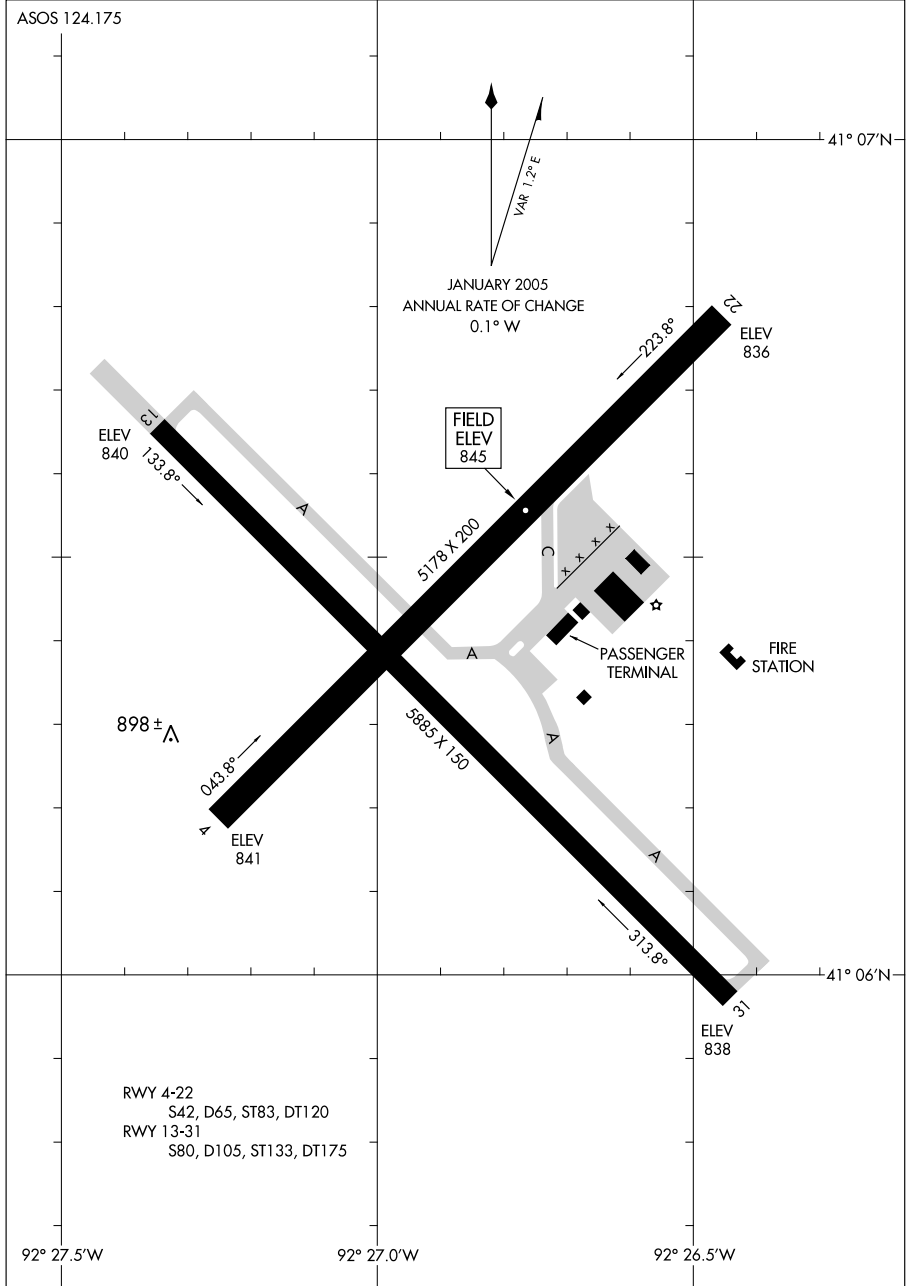
08157

06271

AIRPORT DIAGRAM

OTTUMWA INDUSTRIAL (OTM)
OTTUMWA, IOWA

AL-91.5 (FAA)



AIRPORT DIAGRAM

OTTUMWA, IOWA
OTTUMWA INDUSTRIAL (OTM)

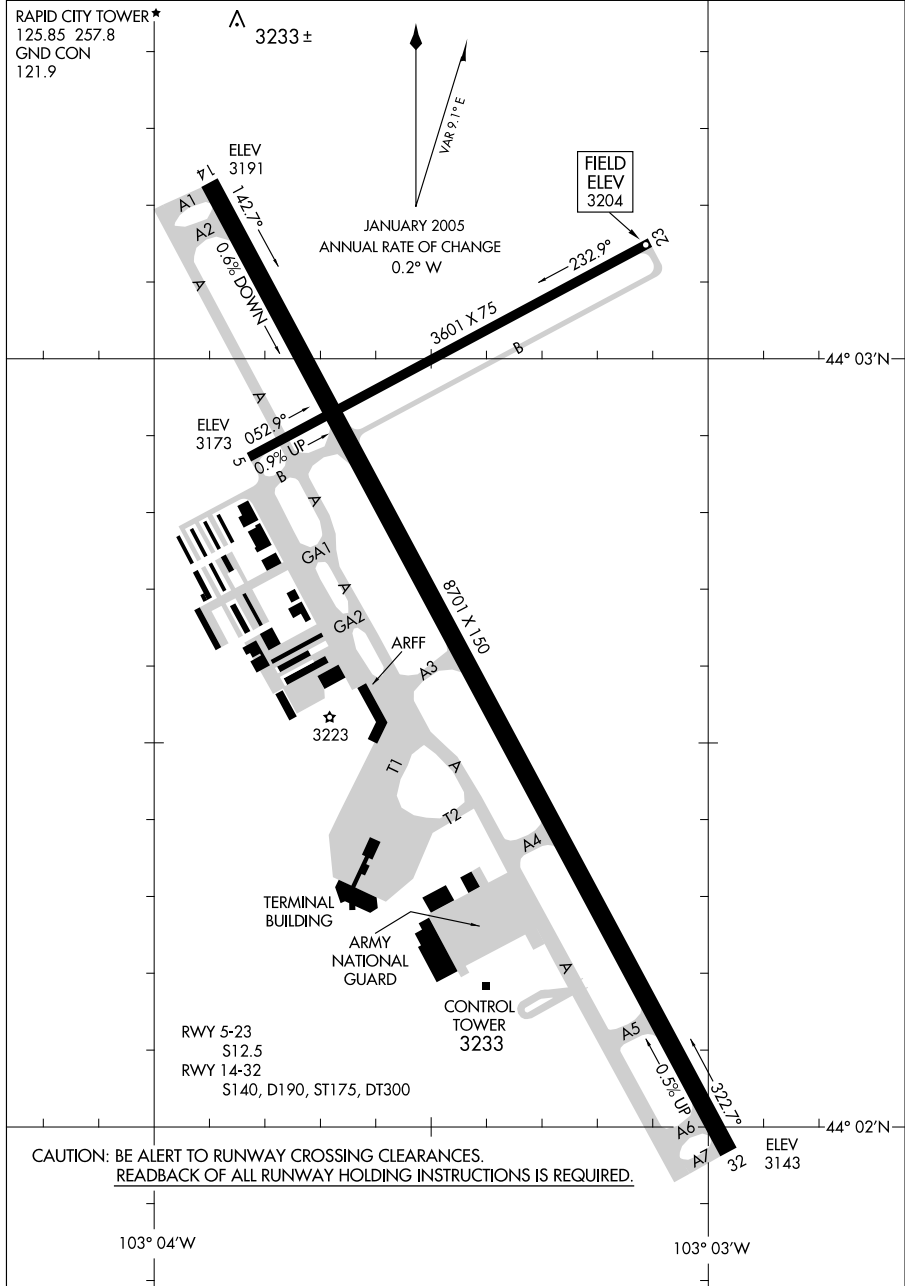
06271

RWY 4-22
S42, D65, ST83, DT120
RWY 13-31
S80, D105, ST133, DT175

08157

AIRPORT DIAGRAM

RAPID CITY RGNL (R.A.P)
RAPID CITY, SOUTH DAKOTA



AIRPORT DIAGRAM

RAPID CITY, SOUTH DAKOTA
RAPID CITY RGNL (R.A.P)

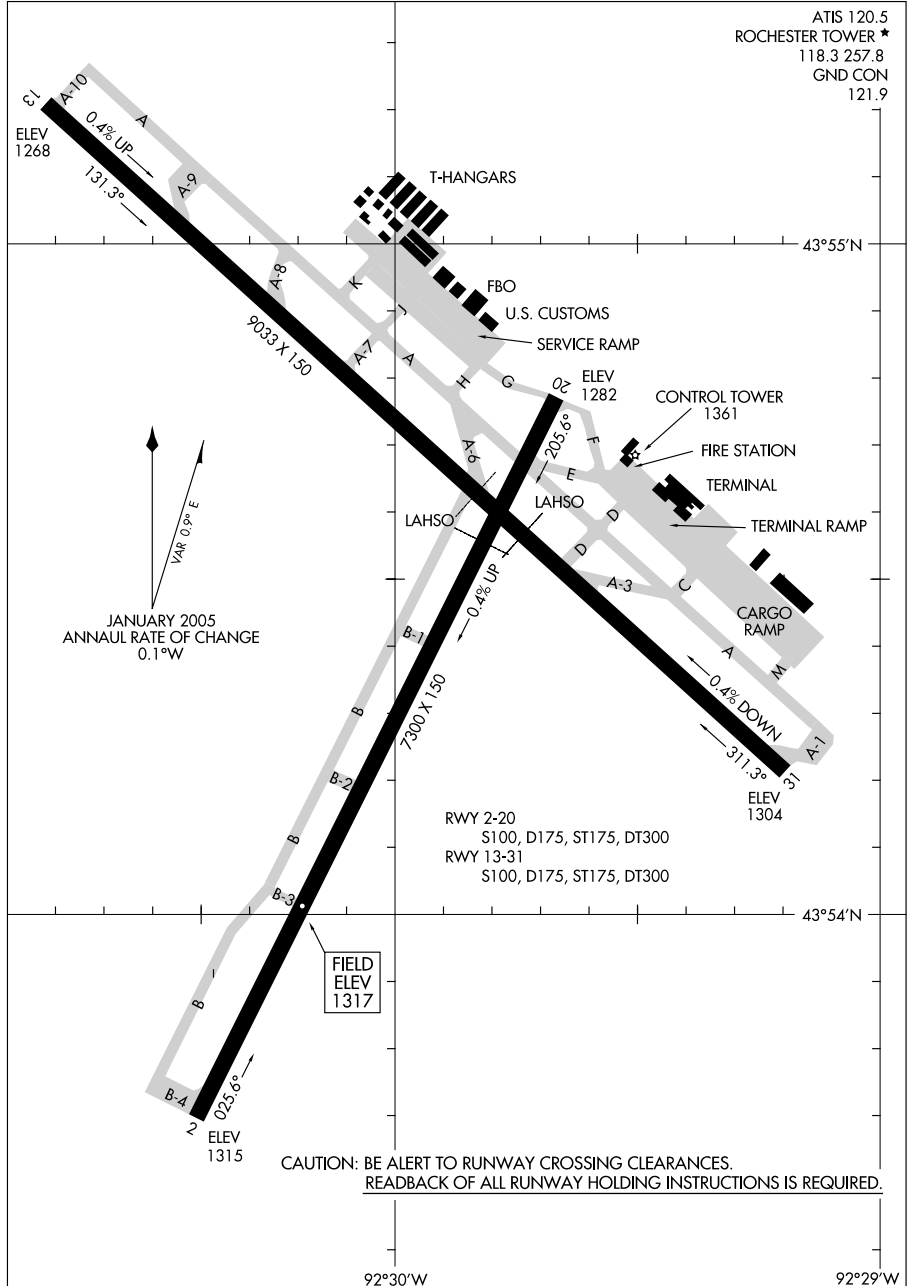
08157

08101

AIRPORT DIAGRAM

AL-5041 (FAA)

ROCHESTER INTL (RST)
ROCHESTER, MINNESOTA



AIRPORT DIAGRAM

ROCHESTER, MINNESOTA
ROCHESTER INTL (RST)

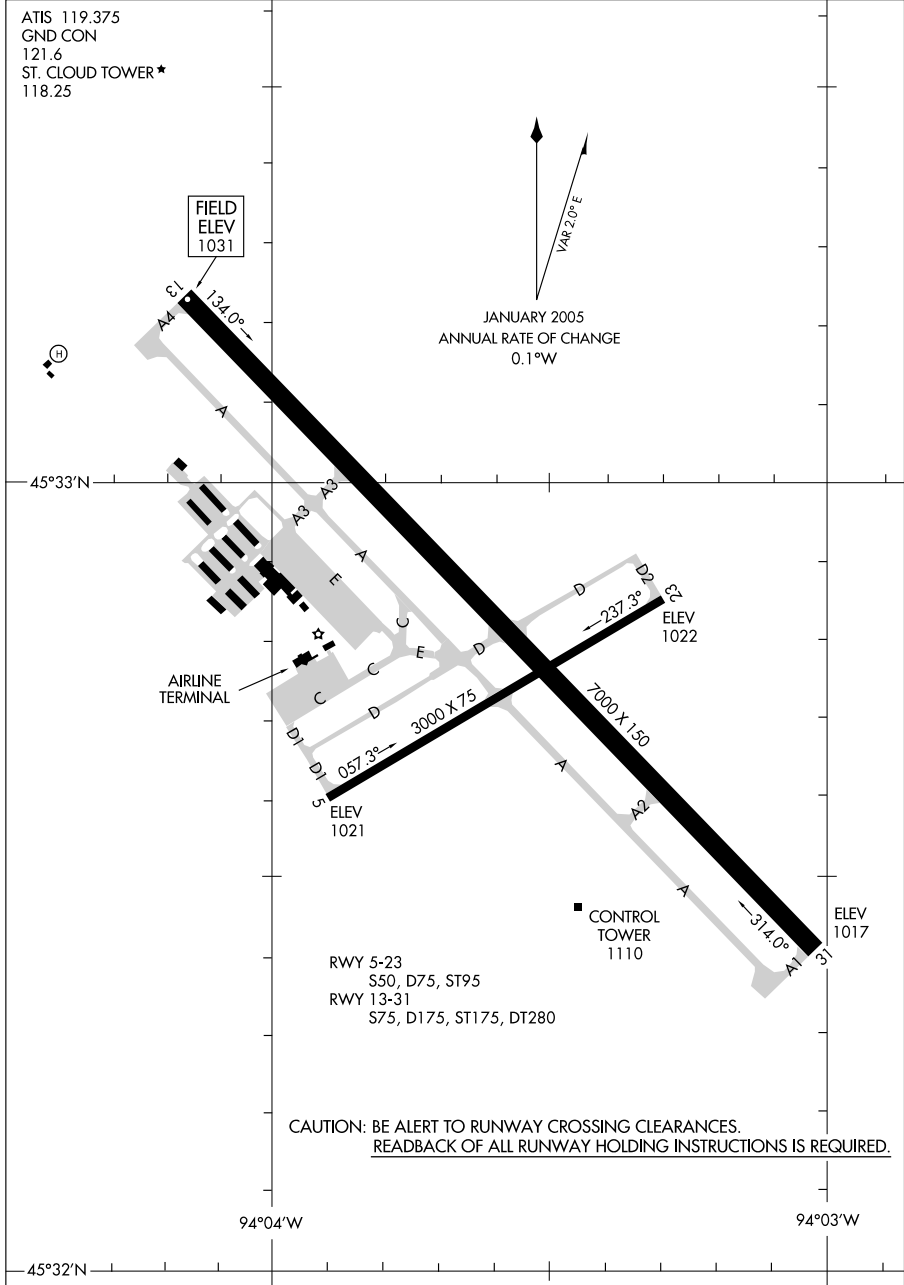
08101

07298

AIRPORT DIAGRAM

AL-5799 (FAA)

ST. CLOUD RGNL (STC)
ST. CLOUD, MINNESOTA



AIRPORT DIAGRAM

07298

ST. CLOUD, MINNESOTA
ST. CLOUD RGNL (STC)

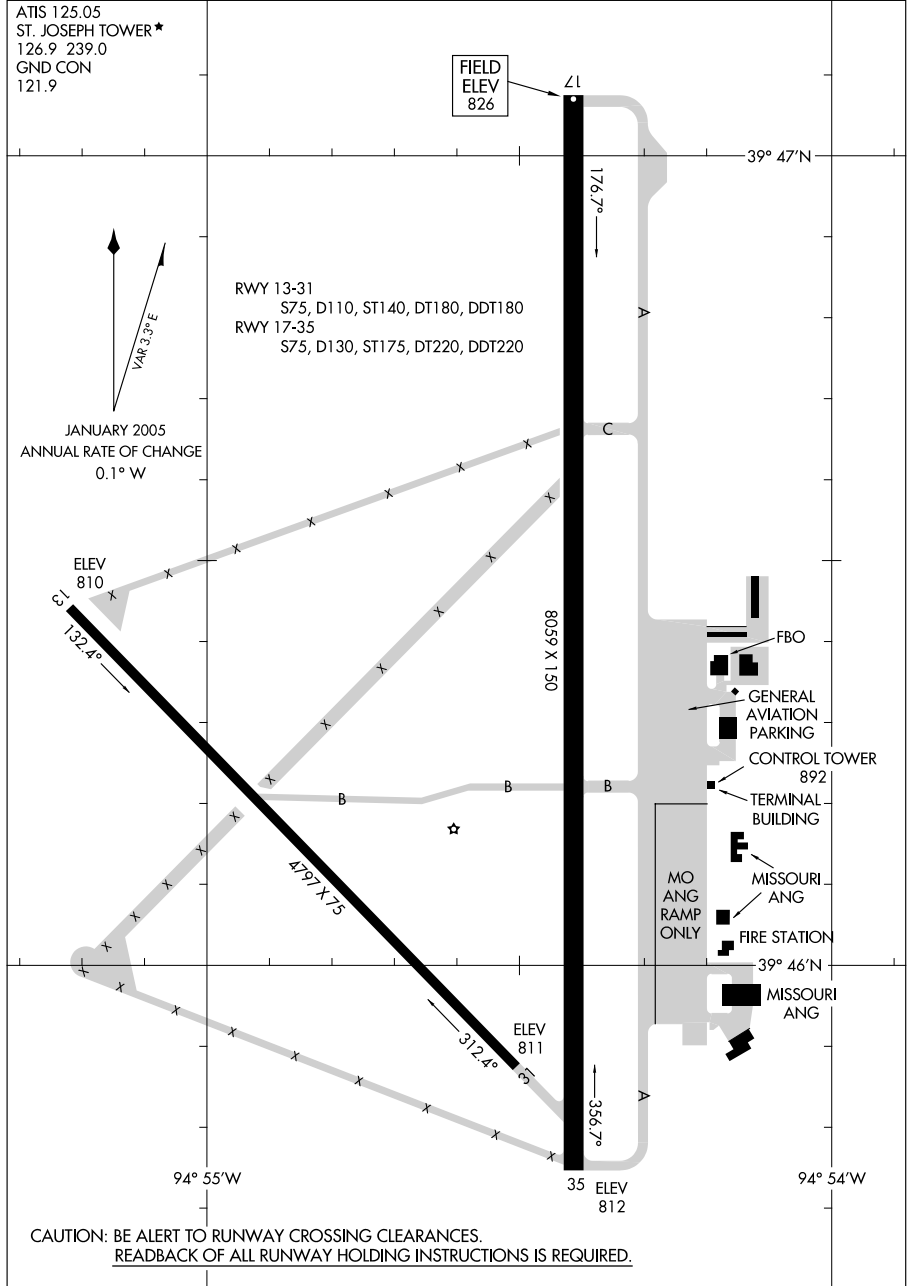
06215

AIRPORT DIAGRAM

AL-359 (FAA)

ST. JOSEPH/ROSECRANS MEMORIAL (STJ)

ST. JOSEPH, MISSOURI



AIRPORT DIAGRAM

06215

ST. JOSEPH, MISSOURI

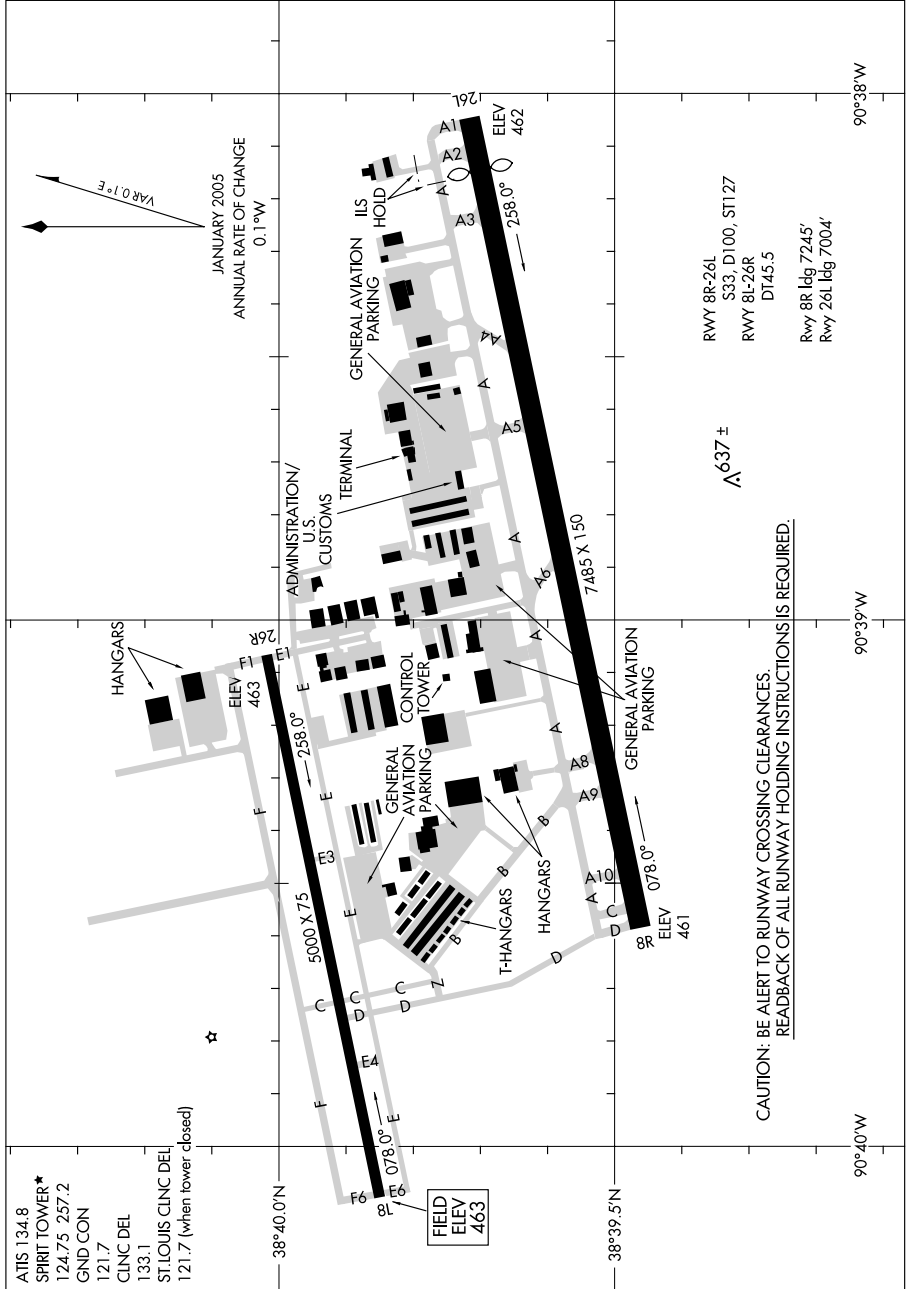
ST. JOSEPH/ROSECRANS MEMORIAL (STJ)

08157

AIRPORT DIAGRAM

AL-5400 (FAA)

ST. LOUIS/ SPIRIT OF ST. LOUIS (SUS)
ST. LOUIS, MISSOURI



ATIS 134.8
 SPIRIT TOWER *
 124.75 257.2
 GND CON
 121.7
 CLNC DEL
 133.1
 ST. LOUIS CLNC DEL
 121.7 (when tower closed)

AIRPORT DIAGRAM

08157

ST. LOUIS, MISSOURI
ST. LOUIS/ SPIRIT OF ST. LOUIS (SUS)

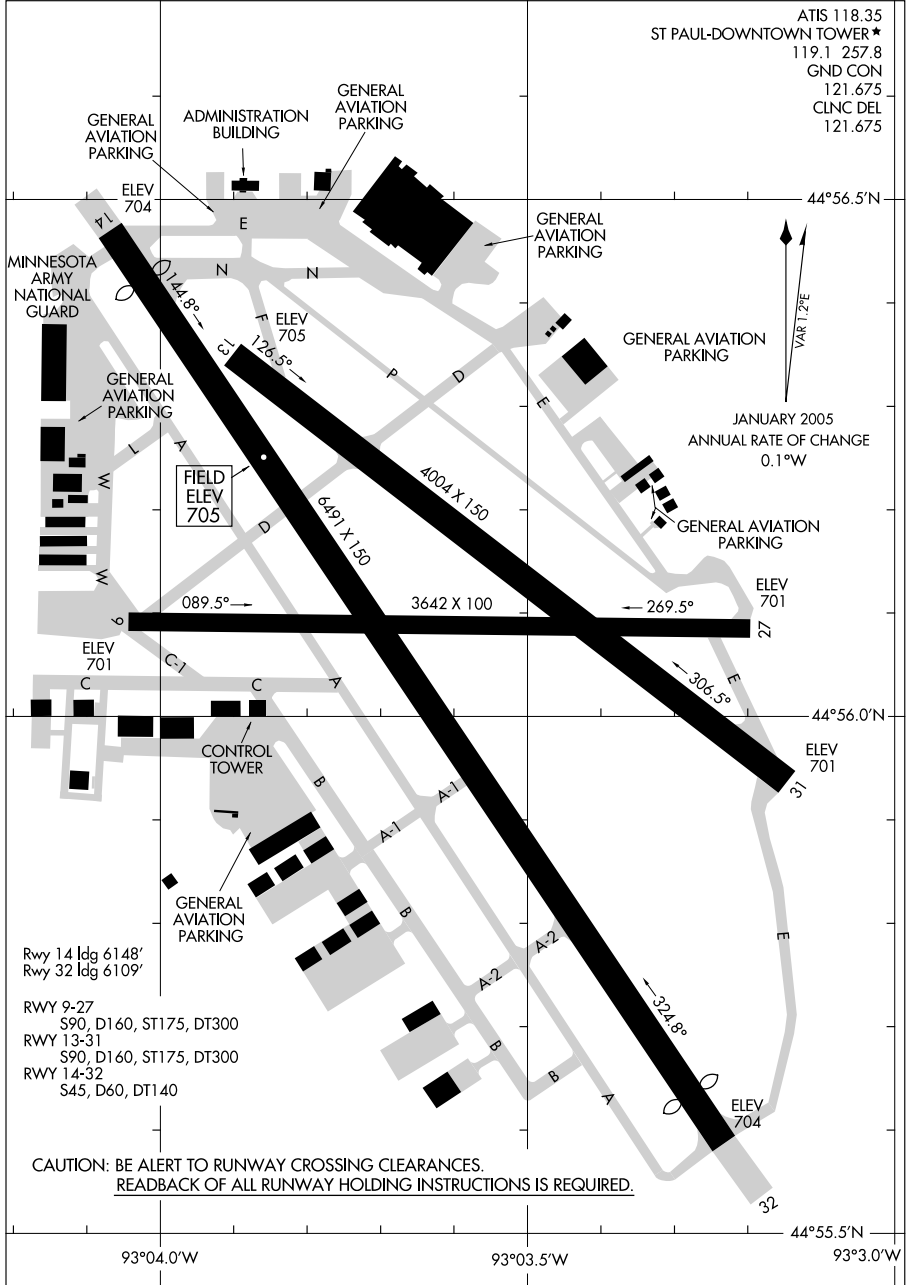
08045

AIRPORT DIAGRAM

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

AL-263 (FAA)

ST. PAUL, MINNESOTA



AIRPORT DIAGRAM

08045

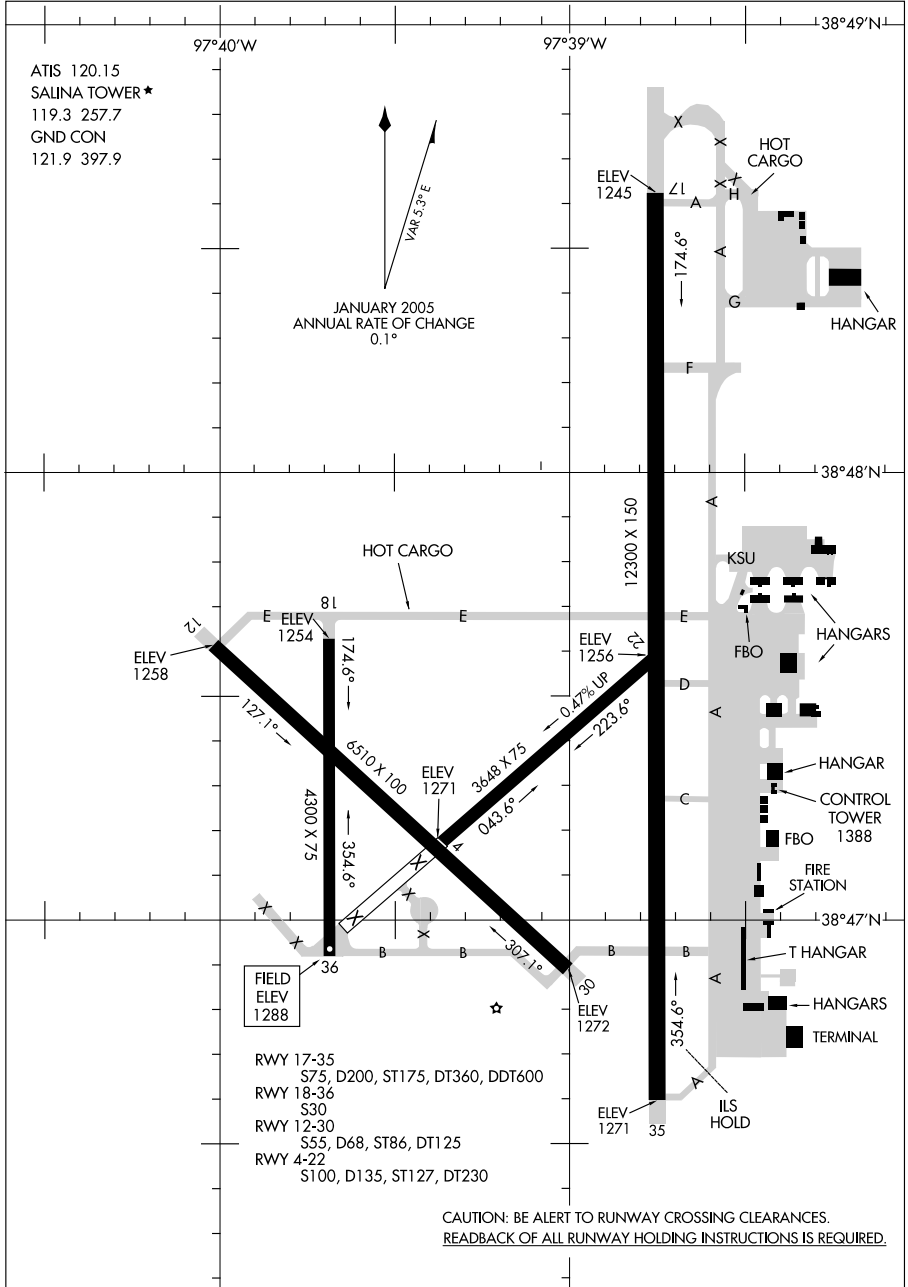
ST. PAUL, MINNESOTA
ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

06271

AIRPORT DIAGRAM

AL-362 (FAA)

SALINA MUNI (SLN)
SALINA, KANSAS



AIRPORT DIAGRAM

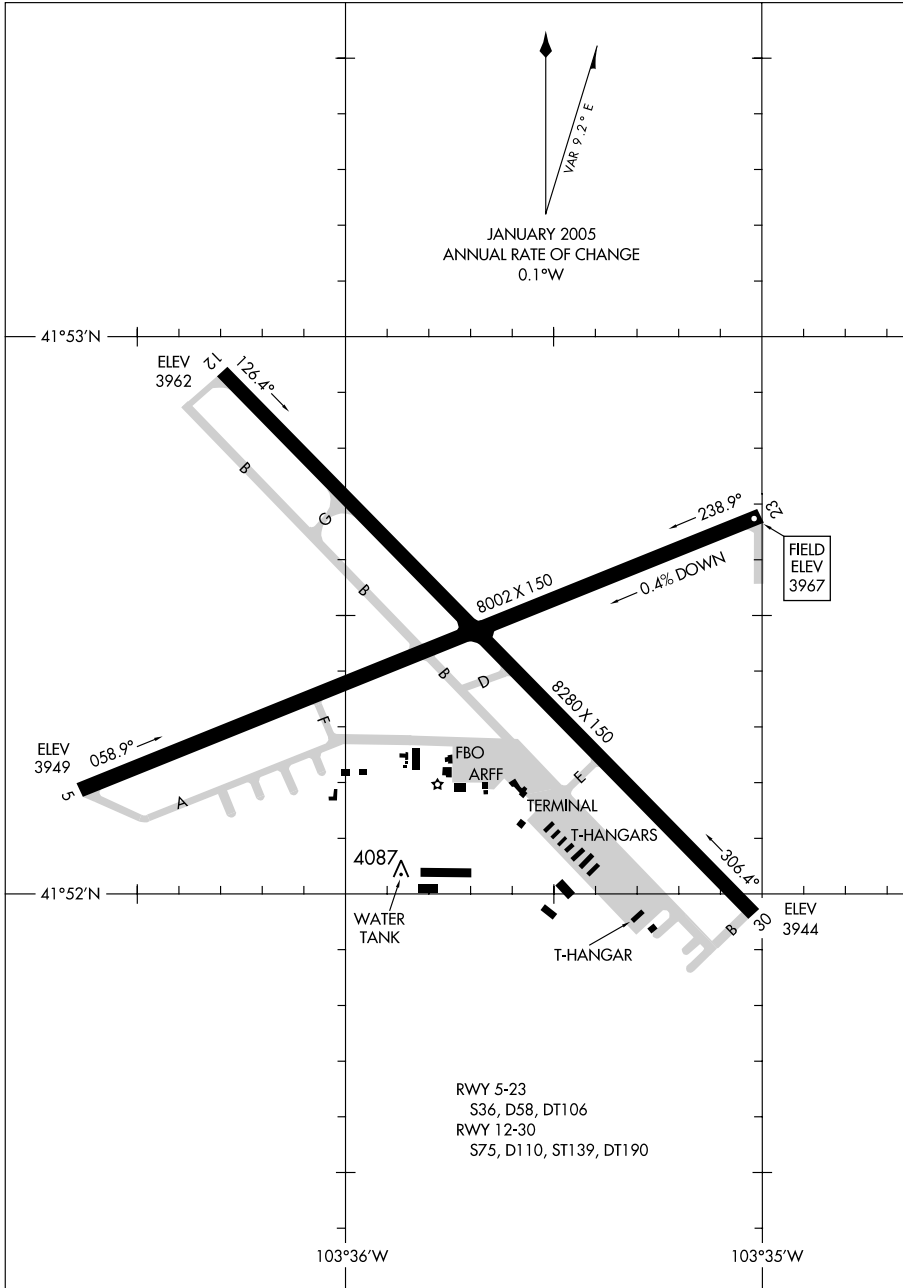
06271

SALINA, KANSAS
SALINA MUNI (SLN)

07298

AIRPORT DIAGRAM

WESTERN NEBRASKA RGNL/WILLIAM B. HEILIG FIELD (BFF)
SCOTTSBLUFF/ AL-383 (FAA) SCOTTSBLUFF, NEBRASKA



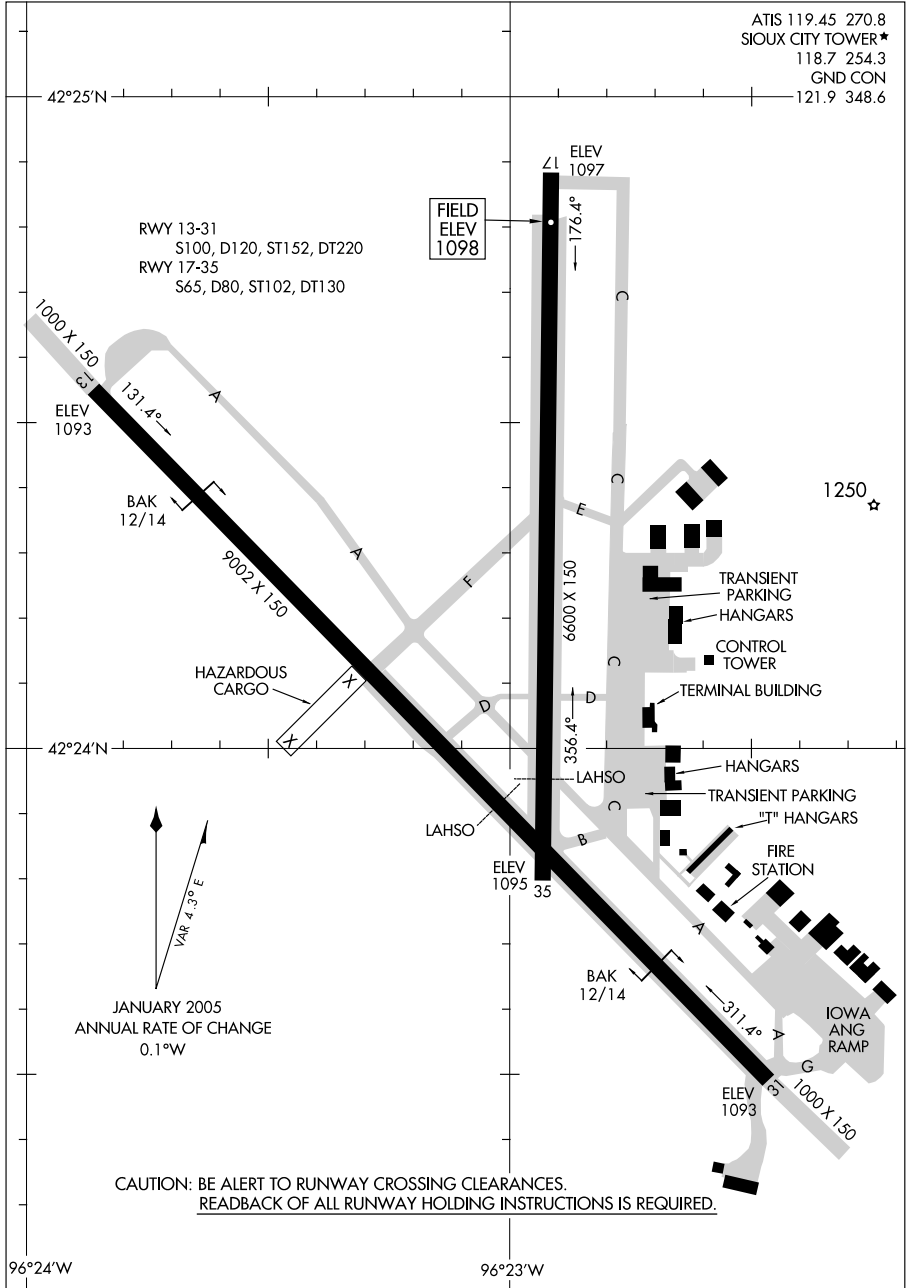
AIRPORT DIAGRAM
07298

SCOTTSBLUFF/
WESTERN NEBRASKA RGNL/WILLIAM B. HEILIG FIELD (BFF)
SCOTTSBLUFF, NEBRASKA

06327

AIRPORT DIAGRAM

SIOUX GATEWAY/COLONEL BUD DAY FIELD (SUXX)
AL-395 (FAA) SIOUX CITY, IOWA



AIRPORT DIAGRAM

06327

SIOUX CITY, IOWA
SIOUX GATEWAY/COLONEL BUD DAY FIELD (SUXX)

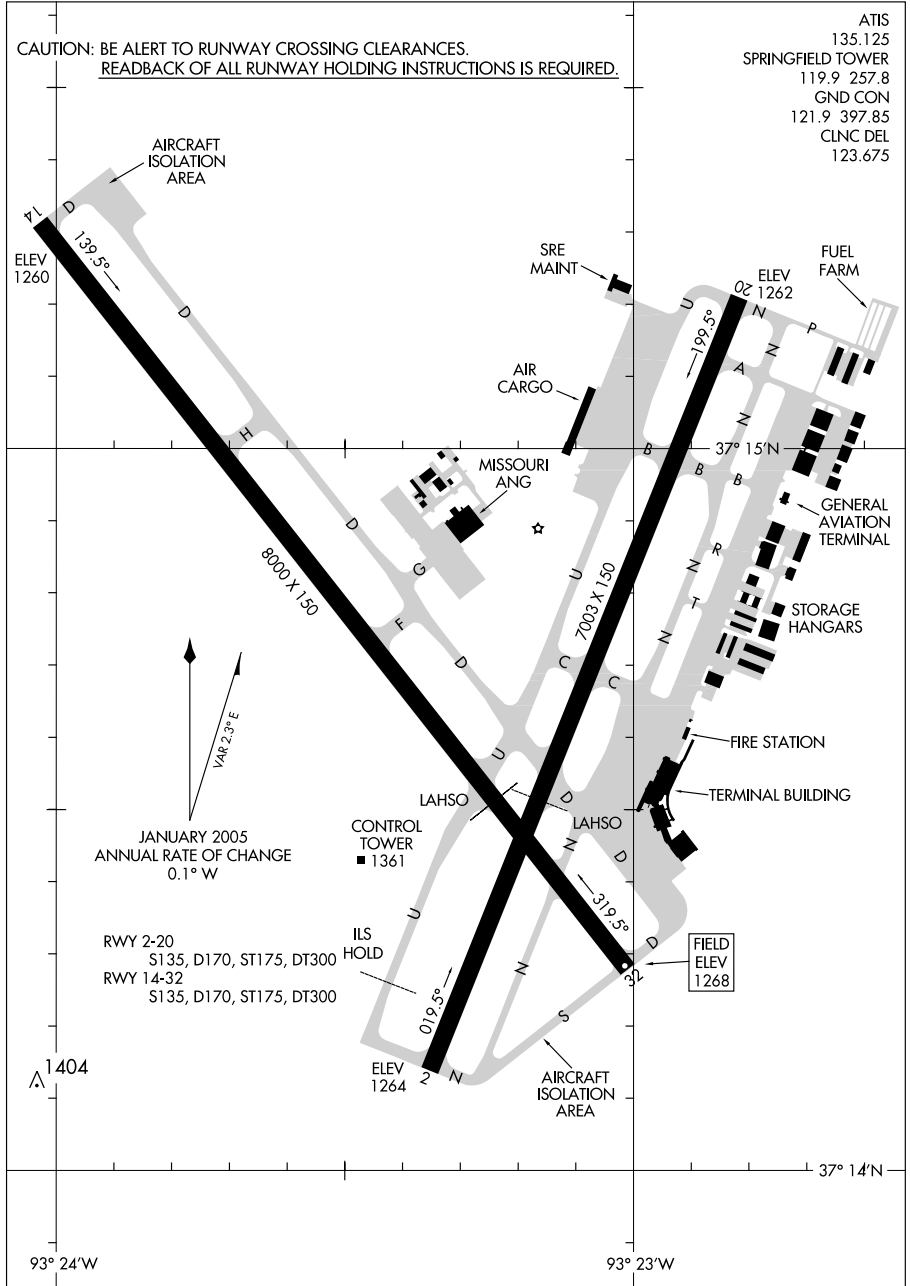
08157

AIRPORT DIAGRAM

AL-604 (FAA)

SPRINGFIELD-BRANSON NATIONAL (SGF)

SPRINGFIELD, MISSOURI



AIRPORT DIAGRAM

SPRINGFIELD, MISSOURI
SPRINGFIELD-BRANSON NATIONAL (SGF)

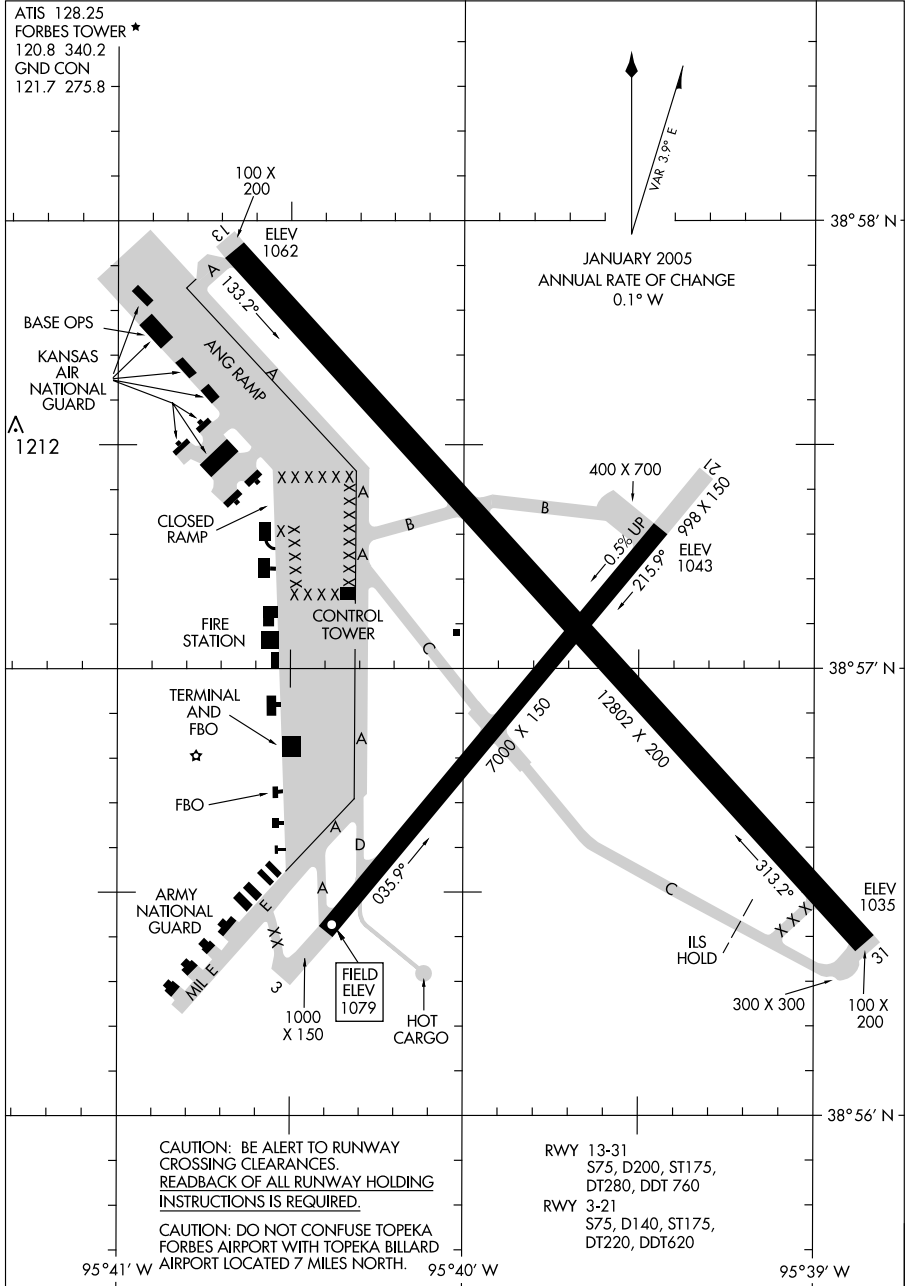
08157

08157

AIRPORT DIAGRAM

AL-424 (FAA)

TOPEKA/FORBES FIELD (F/OE)
TOPEKA, KANSAS



AIRPORT DIAGRAM

08157

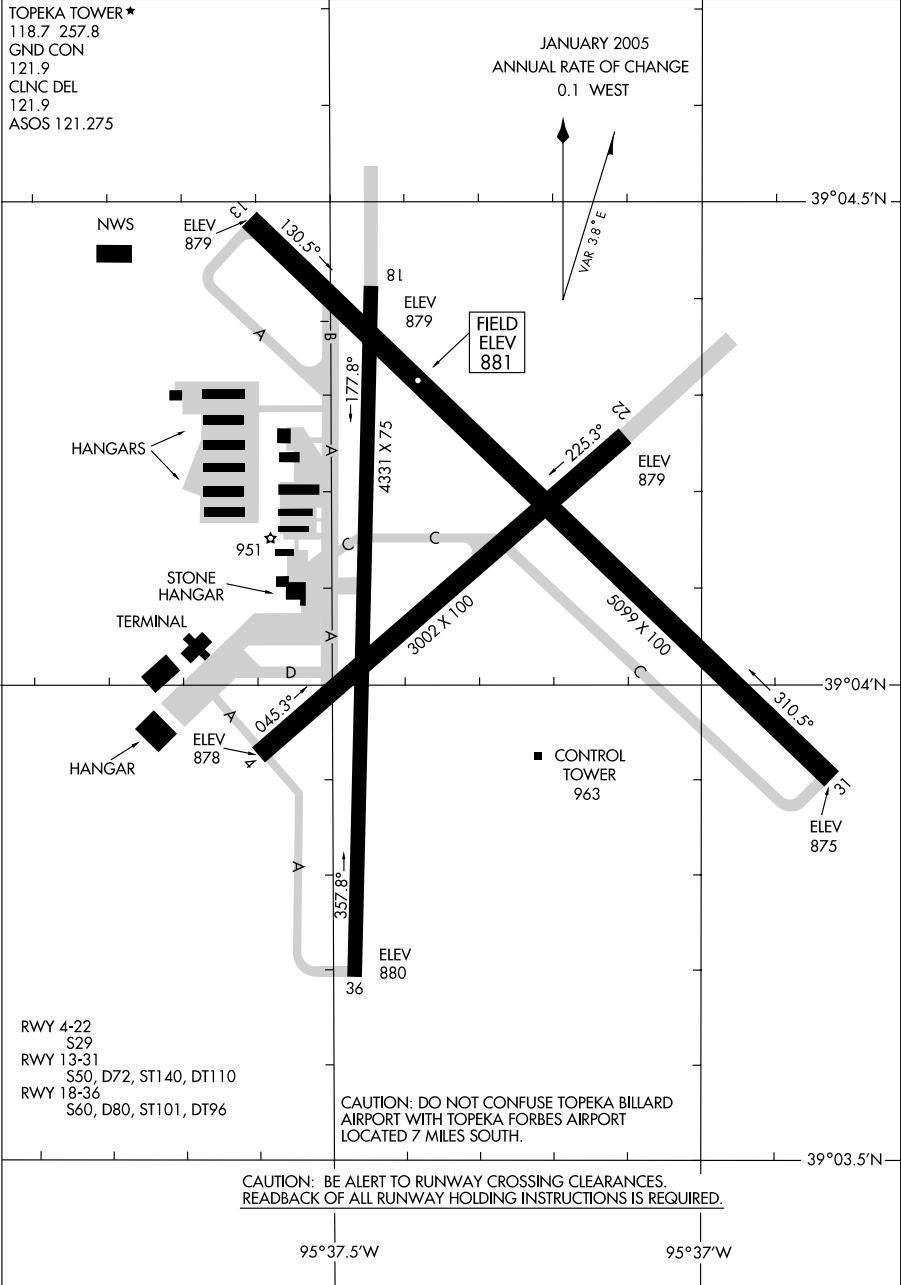
TOPEKA, KANSAS
TOPEKA/FORBES FIELD (F/OE)

08045

AIRPORT DIAGRAM

AL-620 (FAA)

TOPEKA/PHILIP BILLARD MUNI (TOP)
TOPEKA, KANSAS



AIRPORT DIAGRAM

38045

TOPEKA, KANSAS
TOPEKA/PHILIP BILLARD MUNI (TOP)

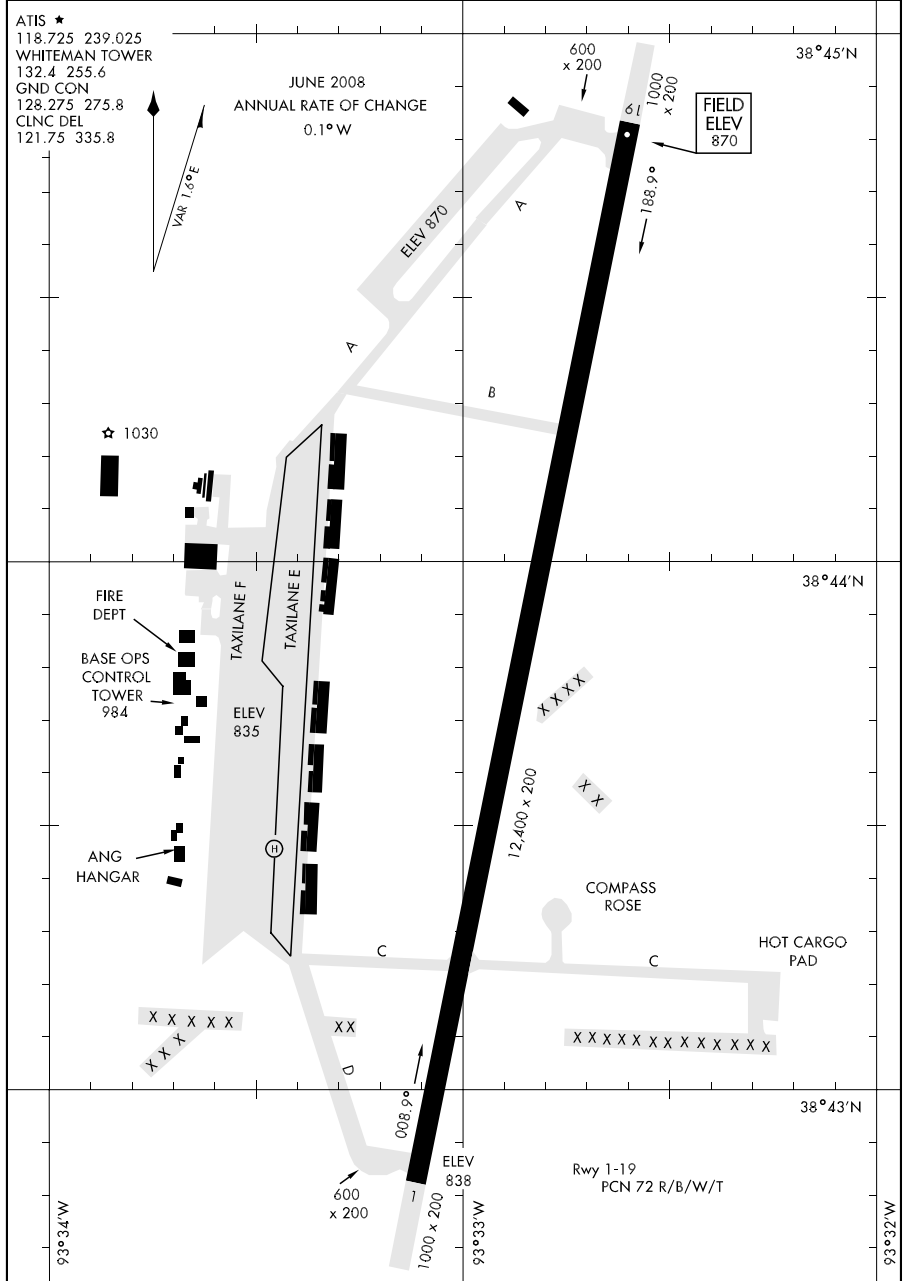
08157

AIRPORT DIAGRAM

AFD-496 [USAF]

WHITEMAN AFB (KSZL)

KNOB NOSTER, MISSOURI



AIRPORT DIAGRAM

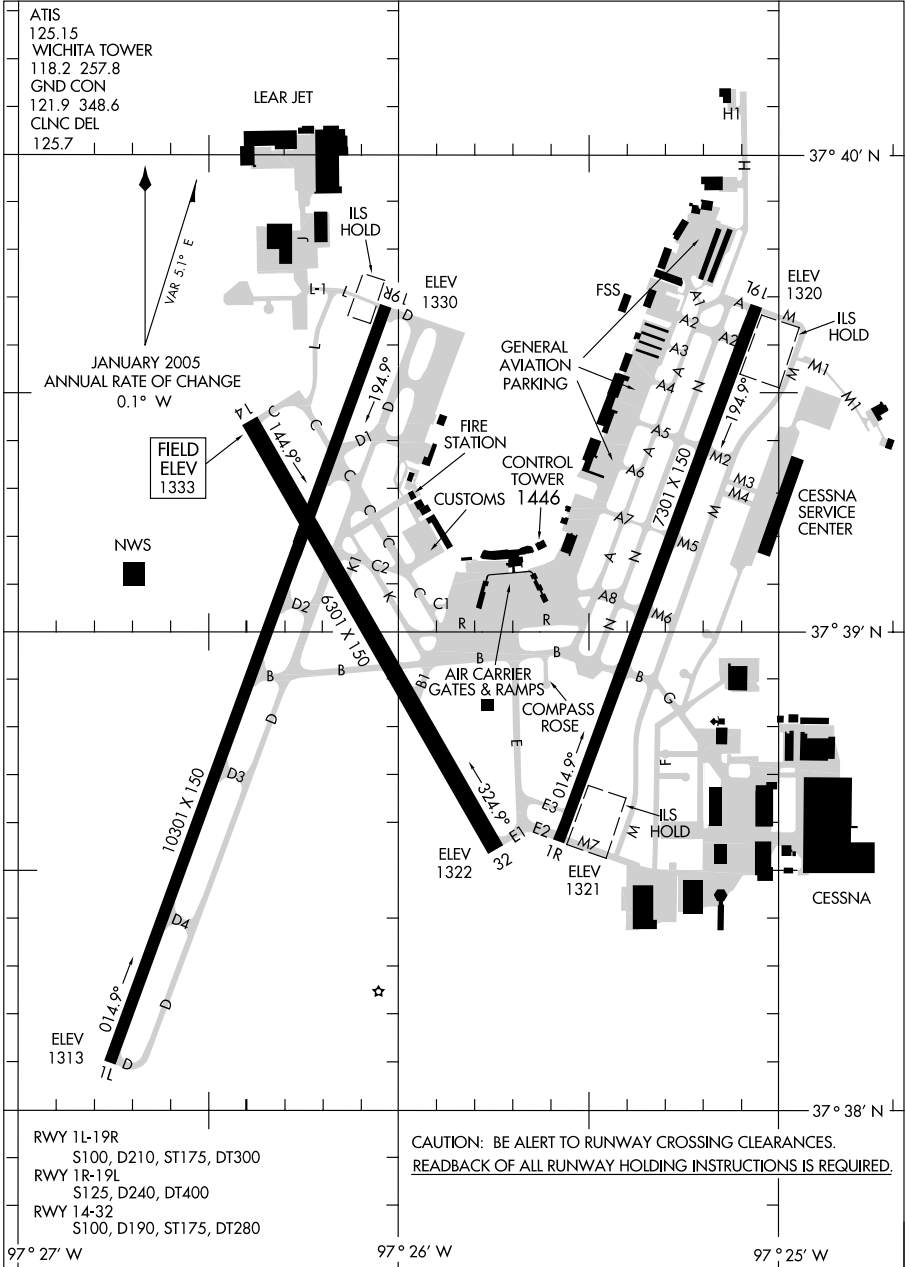
KNOB NOSTER, MISSOURI
WHITEMAN AFB (KSZL)

07298

AIRPORT DIAGRAM

AL-987 (FAA)

WICHITA MID-CONTINENT (ICT)
WICHITA, KANSAS

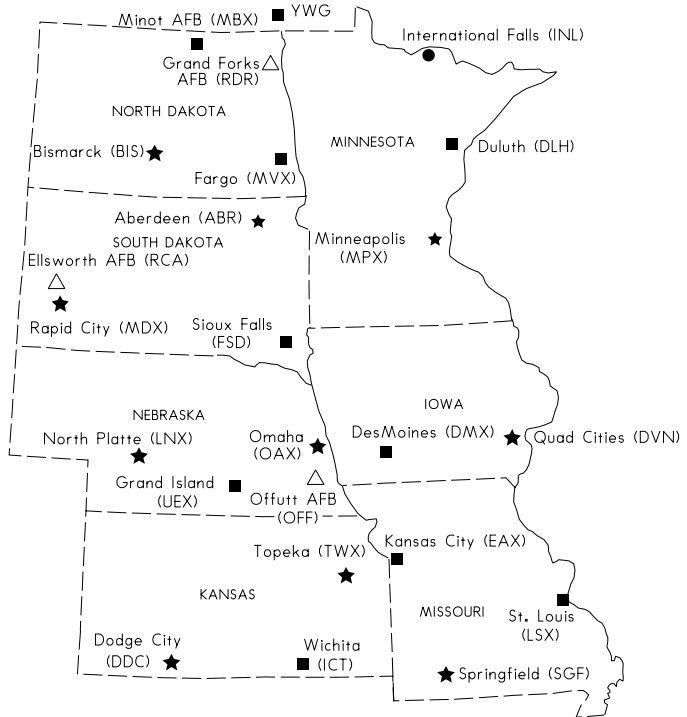


AIRPORT DIAGRAM

07298

WICHITA, KANSAS
WICHITA MID-CONTINENT (ICT)

NATIONAL WEATHER SERVICE (NWS)
 UPPER AIR OBSERVING STATIONS (UAOS)
 AND
 WEATHER RADAR NETWORK



LEGEND

- △ AVIATION WEATHER SERVICE (MILITARY)
- ▲ AIR TRAFFIC CONTROL RADAR
- ★ UPPER AIR OBSERVING STATION/RADAR
- RADAR ONLY
- UAOS-BALLOON RELEASES AROUND 1100 UTC AND 2300 UTC DAILY
- OTHER NWS UPPER AIR STATIONS-BALLOON RELEASE TIMES ARE FLEXIBLE BUT GENERALLY AROUND SUNRISE AND/OR EARLY AFTERNOON

NOTE: FOR RELEASES LATER THAN 1130 UTC AND 2300 UTC, AND FOR SPECIAL RELEASES AT OTHER THAN THE SCHEDULED HOURS, AN AERONAUTICAL INFORMATION MESSAGE WILL BE FILED.