



VFR Charts and Publications

NEXT



Visual Flight Rules (VFR) navigation is accomplished by matching what is seen outside the cockpit with the features found on a chart.

[LEARN MORE](#)

Pilots must be able to interpret the symbols and landscape markings on the chart and correlate them with the real world in order to keep track of their position over the ground.

VFR pilots use several charts and publications to assist them in flight. By becoming familiar with these, you can be of greater assistance to the VFR pilot flying through your airspace.

Each chart or publication serves a different purpose and the VFR pilot must know how to use them all. You also need to have a thorough knowledge of these publications so you can communicate knowledgeably with the pilot.



Purpose

BACK

NEXT

This lesson will introduce you to the Sectional Aeronautical Chart, the VFR Terminal Area Chart, the World Aeronautical Chart, and the Airport/Facility Directory.



Objectives

BACK

NEXT

In this lesson, you will identify the purpose, contents, and specific items and information (e.g., NAVAIDs, airport elevation, etc.) of:

1. Sectional Aeronautical Charts
2. VFR Terminal Area Charts
3. World Aeronautical Charts
4. Airport/Facility Directory

You will meet the objectives in accordance with the following references:

- Aeronautical Information Manual (AIM)
- FAA Order JO 7110.65, Air Traffic Control
- Chart/Directory Legends





General Disclaimer

BACK

NEXT

All graphics in this lesson are for illustration/training purposes only and may not reflect current procedures.

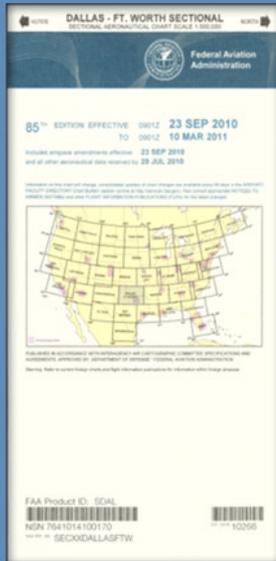




Sectional Aeronautical Charts

BACK

NEXT



Description

Sectional Aeronautical Charts are designed to be used by slow and medium speed aircraft flying on Visual Flight Rules (VFR).

- Published every 6 months
- Used primarily for pilotage (navigation by use of visual landmarks)

NOTE: The layout and location of some data contained in the lesson may vary slightly from the legend on the charts used in class.

JO 7110.65, Pilot/Controller Glossary; AIM, Chap. 9; Sectional Chart Legend



Sectional Aeronautical Charts

BACK

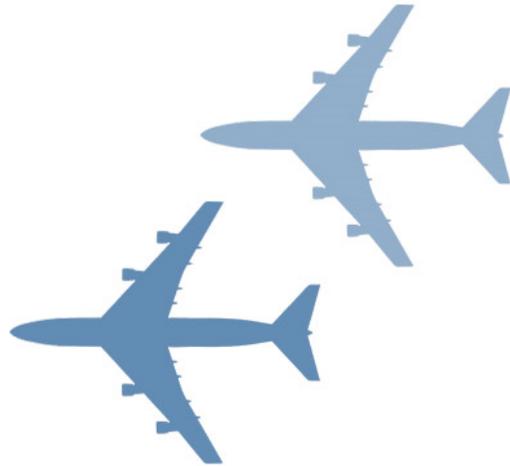
NEXT

Layout of Charts

The geographical area is divided, normally with the north half on one side and the south half on the other.

- Some overlap exists to aid the pilot in planning and following a route of flight.

Pilots generally orient charts either with north at the top, or with the chart turned so that the aircraft's heading is at the top.





Sectional Aeronautical Charts

BACK

NEXT

Types of Information Presented

Topographical and aeronautical information is depicted on the charts, including:

- A selection of VFR checkpoints (artificially constructed as well as natural features)
- Radio aids to navigation such as:
 - VHF Omnidirectional Range (VORs)
 - VHF Omnidirectional Range/Collocated with TACAN (VORTACs)
 - VHF Omnidirectional Range/Distance Measuring Equipment (VOR-DMEs)
 - Non-Directional Beacons (NDBs)
- Low altitude federal airways
- Airport diagrams showing runway alignment and related data
- Types of controlled airspace, including Class B, C, and D areas
- MOAs, Restricted, Prohibited, Alert, and Warning Areas
- Obstructions and elevation information
- Communication frequencies

NOTE: This listing is just a sampling of information found on the Sectional Aeronautical Chart.





Sectional Aeronautical Charts

BACK

NEXT



Publication Information

The following dates are shown along with the current edition number:

- **Effective date upon which the map can be used for navigation**
- **Cut-off date by which all data received was included**
- **Date when current chart becomes obsolete**



Sectional Aeronautical Charts

BACK

NEXT



Geographical Area Presentation

Map of the U.S. shows the area covered by each sectional chart:

- Individual chart titles are listed within each coverage area.
- Shaded region indicates area covered by this chart

Each chart is named after a major population center located within the chart's boundaries.

Map scale is 1:500,000 [1 inch = 6.86 Nautical Miles (NM)]



Sectional Aeronautical Charts

BACK

NEXT

ATTENTION

THIS CHART CONTAINS MAXIMUM ELEVATION FIGURES (MEF). The Maximum Elevation Figures shown in quadrangles bounded by ticked lines of latitude and longitude are represented in THOUSANDS and HUNDREDS of feet above mean sea level. The MEF is based on information available concerning the highest known feature in each quadrangle, including terrain and obstructions (trees, towers, antennas, etc.).

Example: 12,500 feet..... **12⁵**

Maximum Elevation Figure (MEF)

MEF is shown in each quadrangle on the chart bounded by lines of latitude and longitude.

- This section indicates the elevation of the highest known feature (either terrain or obstructions) to be found within that section of the chart.
- The large number represents thousands of feet, and the small number represents hundreds of feet above Mean Sea Level (MSL).
- Elevation is rounded up to the next higher 100 feet for safety reasons, except in areas of rapidly rising terrain, where an additional 250 feet may be added.

FEDERAL AVIATION ADMINISTRATION AIR TRAFFIC BASICS | Lesson 17: VFR Charts and Publications

ALL LESSONS FRAME: 11

Sectional Aeronautical Charts

BACK NEXT

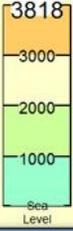
CONTOUR INTERVAL 500 feet
500

HIGHEST TERRAIN elevation is 3818 feet
located at 34°52'N - 101°59'W

Spot Elevation ----- . 4254

Approximate Elevation ----- x 3200

Doubtful locations are indicated by omission
of the point locator (dot or "x")



Highest Terrain and Contour Information

Height of the highest terrain elevation on the chart and its location in latitude and longitude are depicted.

Basic terrain contour lines are generally spaced at 500-foot intervals.

- Gently sloping terrain may have intermediate contours at 250-foot intervals, while relatively featureless terrain may even display auxiliary contours at intervals ranging from 50 to 150 feet.
- Widely spaced contours represent gentle slopes, while closely spaced contours represent steep slopes.

[LEARN MORE](#)

Changes in elevation are indicated by changes in color or tint for easy recognition.

- Colors change every 1,000 feet.



Sectional Aeronautical Charts

BACK NEXT

HLNOS ← NORTH →

DALLAS - FT.WORTH LEGEND

Airports having **Control Towers** are shown in **Blue**, all others in **Magenta**. Consult Airport/Facility Directory (A/FD) for details involving airport lighting, navigation aids, and services. For additional symbol information refer to the Chart User's Guide.

AIRPORTS		AIRPORT DATA	
	Other than hard-surfaced runways		Seaplane Base
	Hard-surfaced runways 1500 ft. to 8069 ft. in length		Box indicates FAR 93
	Hard-surfaced runways greater than 8069 ft. or some multiple runways less than 8069 ft.		FSS - Flight Service Station
	Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-DME, or VORTAC location.		NO SVFR - Fixed-wing special VFR flight is prohibited.
All recognizable hard-surfaced runways, including those closed, are shown for visual identification. Airports may be public or private.			CT - 118.3 - Control Tower (CT) - primary frequency
ADDITIONAL AIRPORT INFORMATION			* - Star indicates operation part-time. See tower frequencies tabulation for hours of operation.
	Private "(Pvt)" - Non-public use having emergency or landmark value		CTAF - Common Traffic Advisory Frequencies (CTAF)
	Military - Other than hard-surfaced; all military airports are identified by abbreviations AFB, NAS, AAF, etc. For complete airport information consult DoD FLIP.		ATIS 123.8 - Automatic Terminal Information Service
	Heliport Selected		ASOS/AWOS 135.42 - Automated Surface Weather Observing Systems (shown where full-time ATIS not available). Some ASOS/AWOS facilities may not be located at airports.
	Unverified		UNICOM - Aeronautical advisory station
	Abandoned - paved having landmark value, 3000 ft. or greater		VFR Advsy - VFR Advisory Service shown where full-time ATIS not available and frequency is other than primary CT frequency.
	Ultralight Flight Park Selected		285 - Elevation in feet
Services - fuel available and field tended during normal working hours depicted by use of ticks around basic airport symbol. (Normal working hours are Mon thru Fri 10:00 A.M. to 4:00 P.M. local time.) Consult A/FD for service availability at airports with hard-surfaced runways greater than 8069 ft.			L - Lighting in operation Sunset to Sunrise
	Rotating airport beacon in operation Sunset to Sunrise		*L - Lighting limitations exist; refer to Airport/Facility Directory.
			72 - Length of longest runway in hundreds of feet; usable length may be less.
		When information is lacking, the respective character is replaced by a dash. Lighting codes refer to runway edge lights and may not represent the longest runway or full length lighting.	

Chart Legend

LEARN MORE

The Chart Legend provides information on a variety of features, including:

- Airports and related data
- Symbols associated with radio NAVAIDs
- Communications information, including appropriate frequencies
- Airspace, obstruction, and topographic details



Sectional Aeronautical Charts

BACK

NEXT

Airport Information

Airports having Control Towers are shown in Blue, all others in Magenta. Consult Airport/Facility Directory (A/FD) for details involving airport lighting, navigation aids, and services. For additional symbol information refer to the Chart User's Guide.

- Other than hard-surfaced runways Seaplane Base
- Hard-surfaced runways 1500 ft. to 8069 ft. in length
- Hard-surfaced runways greater than 8069 ft. or some multiple runways less than 8069 ft.
- Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-DME, or VORTAC location

All recognizable hard-surfaced runways, including those closed, are shown for visual identification. Airports may be public or private.

- Private "(Pvt)" - Non-public use having emergency or landmark value.
- Military - Other than hard-surfaced. All military airports are identified by abbreviations AFB, NAS, AAF, etc. For complete airport information consult DOD FLIP.
- Heliport-Selected Public
- Unverified
- Abandoned - paved, having landmark value, 3000 ft. or greater
- Ultralight Flight Park Selected

Services - fuel available and field tended during normal working hours depicted by use of ticks around basic airport symbol. (Normal working hours are Mon thru Fri 10:00 A.M. to 4:00 P.M. local time). Consult A/FD for service availability at airports with hard-surfaced runways greater than 8069 ft.
 * Rotating airport beacon in operation Sunset to Sunrise.



Sectional Aeronautical Charts

BACK

NEXT

Airport Information

The Airport Information Section contains symbols for controlled and uncontrolled airports.

- Runway surface and orientation are depicted.
- Military and private airports, as well as heliports and seaplane bases, are shown.

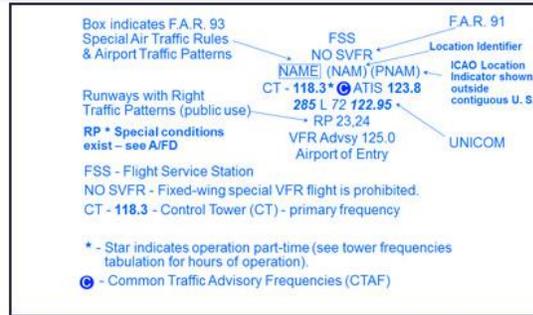
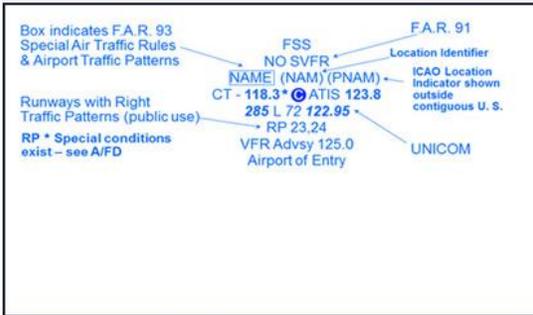
Due to map scale, runways greater than 8,069 feet would protrude from the circle, so the circle was eliminated for those airports.



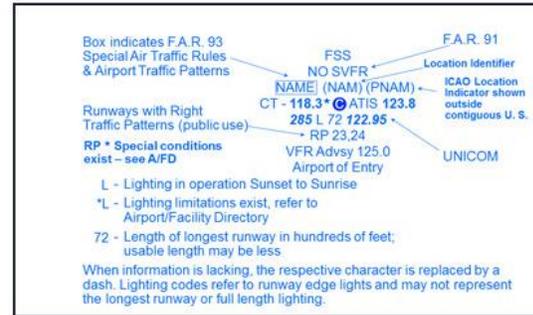
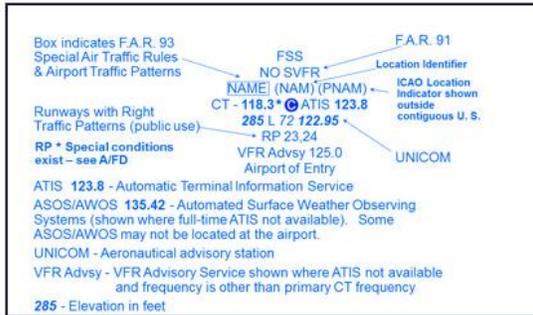


Sectional Aeronautical Charts

BACK NEXT



Airport Data





Sectional Aeronautical Charts

BACK

NEXT

Airport Data

Lists information related to a particular airport, including:

- Frequencies, longest runway length, elevation above sea level
- Tower, Automated Flight Service Station (AFSS), Unicom, Automated Surface Observation System (ASOS)/Automated Weather Observing System (AWOS), and Automatic Terminal Information Service (ATIS) frequencies, where applicable
- Pilot-controlled runway lighting and other related details





Sectional Aeronautical Charts

BACK

NEXT

A legend box with a yellow background and a black border. It lists five symbols and their corresponding facility types:

-  VHF OMNI RANGE (VOR)
-  VORTAC
-  VOR DME
-  Non-Directional Radiobeacon (NDB)
-  NDB-DME
-  Other facilities, i.e., FSS Outlets, RCO, etc.

Radio Aids to Navigation

The Radio Aids to Navigation section depicts the symbols used for various NAVAIDs, including:

- VORs, VORTACs, and VOR-DMEs
- NDBs and NDB-DMEs
- AFSS communication outlets, etc.



Sectional Aeronautical Charts

BACK

NEXT

122.1R 122.6 123.6

OAKDALE

362 * ~~338.8~~ OAK

122.1R

CHICAGO CHI

122.1R

MIAMI

Underline indicates no voice on frequency.
 - Crosshatch indicates Shutdown status.
 * - Operates less than continuous or On-Request.
 A - ASOS/AWOS
 U - HIWAS
 T - TWEB
 FSS radio providing voice communication

Heavy line box indicates Flight Service Station (FSS). Frequencies 121.5, 122.2, 243.0 and 255.4 (Canada - 121.5, 128.7 and 243.0) are available at many FSSs and are not shown above boxes. All other frequencies are shown. Certain FSSs provide Airport Advisory Service, see A/FD.
 R - Receive only

Frequencies above thin line box are removed to NAVAID site. Other FSS frequencies providing voice communication may be available as determined by altitude and terrain. Consult Airport/Facility Directory for complete information.

Communication Boxes

Communication boxes list frequencies used for a variety of functions:

- AFSS and local airport advisory service
- Hazardous Inflight Weather Advisory Service (HIWAS) and Transcribed Weather Broadcasts (TWEBs)
 - If the frequency is underlined, the pilot cannot receive live transmissions from the AFSS, but can receive recorded broadcasts such as HIWAS and TWEBs.
- NAVAID information and related data



Sectional Aeronautical Charts

BACK

NEXT

Airspace Information

Boundaries of airspace classes are indicated by different colors, shadings, and lines. Vertical limits are shown, when appropriate, and are MSL unless noted.

Only the controlled and reserved airspace effective below 18,000 ft. MSL are shown on this chart. All times are local.

- Class B Airspace
- Class C Airspace (Mode C See F.A.R. 91.215/Aim).
- Class D Airspace
- 40** Ceiling of Class D Airspace in hundreds of feet. (A minus ceiling value indicates surface up to but not including that value).
- Class E Airspace
- Class E Airspace with floor 700 ft above surface.
- Class E Airspace with floor 1200 ft or greater above surface that abuts Class G Airspace.
- 2400 MSL**
4500 MSL Differentiates floors of Class E Airspace greater than 700 ft. above surface.
- Class E Airspace low altitude Federal Airways are indicated by center line.

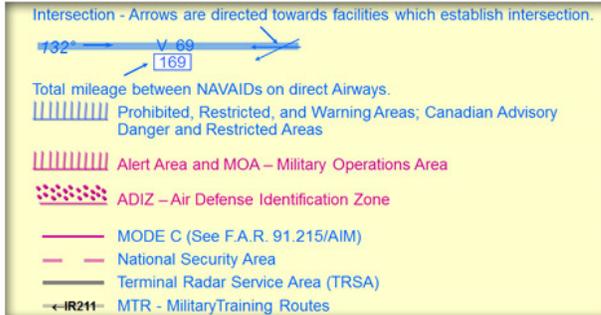
- Class B airspace - Solid blue
- Class C airspace - Solid magenta
- Class D airspace - Dashed blue
- Class E airspace (at surface) - Dashed magenta
- Class E airspace (at 700 feet AGL) - Solid magenta (feathered)
- Class E airspace (at 1200 feet AGL) - Solid blue (feathered)



Sectional Aeronautical Charts

BACK

NEXT



Airspace Information

Airway markings are depicted.

- Distance is depicted in nautical miles for low altitude federal airways on direct routes between NAVAIDs.

Special Use Airspace and Military Training Routes (MTRs) are depicted.

- Prohibited, Restricted, and Warning Areas - Hatched blue
- MOA and Alert Areas - Hatched magenta
- ADIZ – Air Defense Identification Zone
- Mode C area - Solid magenta
- National Security Area - Dashed magenta
- TRSA (Terminal Radar Service Area) - Solid gray
- MTR - Military Training Route gray with Route ID



Sectional Aeronautical Charts

BACK

NEXT

1000 ft. and higher AGL

Below 1000 ft. AGL

or Group Obstruction

or Obstruction with high-intensity lights
May operate part-time

2049 ← Elevation of the top above mean sea level

(1149) ← Height above ground

UC ← Under construction or reported: position and elevation unverified

NOTICE: Guy wires may extend outward from structures.

Obstructions

Different symbols are used for obstructions extending above and below 1,000 feet Above Ground Level (AGL).

- Special symbols are used for multiple and lighted obstructions.
- Altitudes above Mean Sea Level (MSL) and AGL are indicated.



Sectional Aeronautical Charts

BACK

NEXT

1°E Isogonic Line (2005 VALUE)

- Ultralight Activity
- Hang Glider Activity
- Glider Operations
- Parachute Jumping Area (See Airport/Facility Directory.)
- VPXYZ** VFR Waypoints (See Airport/Facility Directory for latitude/longitude)
- NAME** (VPXYZ) Marine Light

Miscellaneous

Lines of equal variation (isogonic lines) are indicated along with the degree of variation.

Markings show where ultralight aircraft, hang gliders, parachute jumping, and sailplanes are usually found.

- These markings assist pilots in avoiding these areas.

Prominent landmarks such as airports, large buildings, lakes, dams, cities, etc. are singled out as waypoints for VFR navigation.



Sectional Aeronautical Charts

BACK

NEXT

Roads Road Markers Railroad Bridges and Viaducts Power Transmission Lines Aerial Cable <ul style="list-style-type: none"> ▪ Landmark Feature - stadium, factory, school, golf course, etc. Outdoor Theater Lookout Tower 618 (Elevation Base of Tower) CG Coast Guard Station	Race Track <ul style="list-style-type: none"> • Tank - water, oil or gas ○ Oil Well ● Water Well ⊗ Mines and Quarry ⌒ Mountain Pass 11823 (Elevation of Pass) <p>(Pass symbol does not indicate a recommended route or direction of flight and pass elevation does not indicate a recommended clearance altitude. Hazardous flight conditions may exist within and near mountain passes.)</p>
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Topographic Information

Numerous natural and artificially constructed features are identified for use in visual navigation.

- Specific symbols and drawings are used for roads, railroads, bridges, power lines, etc.
- Icons identify outdoor theaters, race tracks, tanks, wells, mines, etc.
- Lakes and dams are particularly useful because of their uniqueness.



Sectional Aeronautical Charts

BACK

NEXT

Facility Frequencies

Communication frequencies for those facilities located within the boundaries of the chart are listed on the reverse side of the Sectional Chart Legend flap.

- Frequencies are divided into two sections for easier identification:
 - Control Tower frequencies
 - Class B, C, Terminal Radar Service Area (TRSA) and Radar Approach Frequencies





Sectional Aeronautical Charts

BACK

NEXT

CONTROL TOWER FREQUENCIES ON DALLAS-FT. WORTH SECTIONAL CHART

Airports with control towers are indicated on this chart by the letters CT followed by the primary VHF local control frequency (ies). Information for each tower is listed in the table below. Operational hours are local time. The primary VHF and UHF local control frequencies are listed. An asterisk (*) indicates the part-time tower frequency is remotored to a collocated full-time FSS for use as Local Airport Advisory (LAA) during hours the tower is closed. The primary VHF and UHF ground control frequencies are listed.

Automatic Terminal Information Service (ATIS) frequencies shown on the face of the chart are primary arrival VHF/UHF frequencies. All ATIS frequencies are listed in the table below. ATIS operational hours may differ from tower operational hours.

ASR and/or PAR indicate Radar Instrument Approach available.

"MON-FRI" indicates Monday through Friday.



Sectional Aeronautical Charts

BACK

NEXT

Control Tower Frequencies

CONTROL TOWER	OPERATES	TWR FREQ	GND CON	ATIS	ASR/PAR
ABILENE REGIONAL	CONTINUOUS	120.1 257.8	121.7 348.6	118.25	ASR
ADDISON	0600-2400 MAY 1-OCT 31 0600-2200 NOV 1-APR 30	126.0 239.0	121.6	133.4	
ALTUS AFB	0830-0230 MON-FRI CLSD FED HOL	119.65 255.6	121.85 275.8	273.5	ASR/PAR
ARDMORE	0700-2300 MON-FRI 0700-1700 SAT-SUN	118.5 257.7	121.8		
CLINTON-SHERMAN	0700-2100 MON-FRI EXC HOL	119.6 256.9	121.7 239.0		
DALLAS-FT WORTH INTL	CONTINUOUS	124.15 134.9 (W) 126.55 127.5 (E)	121.65 121.8 (E) 121.85 (W)	ARR 123.775 DEP 135.925	
NAS DALLAS/HENSLEY	0700-2300	126.2 336.4	143.6 382.8	278.0	ASR/PAR
DALLAS LOVE	CONTINUOUS	123.7 239.3	121.75 348.6	120.15	
DYESS AFB	0700-0100 MON-THU 0700-2100 FRI CLSD WKEND & HOL	133.0 294.7	119.35 275.8	385.7	ASR
FT WORTH NAS/JRB/ CARSWELL	0700-2300	120.95 269.325	126.4 254.325	273.575	ASR/PAR
FT WORTH ALLIANCE	CONTINUOUS	135.15 288.15	132.65 306.2	126.925	
FT WORTH MEACHAM INTL	CONTINUOUS	118.3 257.8	121.9	120.7	
FT WORTH SPINKS	0800-1800	124.625	119.475		

Airports with Control Towers are listed in alphabetical order. Control Tower information includes:

- Operating hours, Tower, Ground, and ATIS frequencies
- Whether the facility can provide either an Airport Surveillance Radar (ASR) or Precision Approach Radar (PAR) approach



Sectional Aeronautical Charts

BACK

NEXT

Class B, C, Terminal Radar Service Area (TRSA) and Radar Approach Frequencies

FACILITY	FREQUENCIES	SERVICE AVAILABILITY
DALLAS-FT WORTH CLASS B	118.1 306.95 (NORTHWEST) 135.975 379.9 (SOUTHWEST) 124.3 282.35 (NORTHEAST) 125.2 343.65 (SOUTHEAST)	CONTINUOUS
ABILENE CLASS C	125.0 338.3 (EAST) 127.2 282.3 (WEST)	CONTINUOUS
AMARILLO CLASS C	119.5 307.0 O/T 127.85 351.7 ZAB CTR	0600-2400 O/T Class E
LUBBOCK CLASS C	119.2 351.8 (EAST OF RWY 17R/35L) 119.9 335.6 (WEST OF RWY 17R/35L)	CONTINUOUS
OKLAHOMA CITY CLASS C	120.45 385.5 (081°-170°) 124.2 336.4 (001°-080°) 124.6 266.8 (171°-360°)	CONTINUOUS
TULSA CLASS C	119.1 351.8 (355°-174°) 124.0 338.3 (175°-354°)	CONTINUOUS
ALTUS TRSA	125.1 257.725 O/T 128.4 133.5 290.2 350.35 ZFW CNTR	0830-0230 MON-FRI EXC FED HOL
HENRY POST AAF	120.55 322.4 (S) 127.3 307.275 (N)	CONTINUOUS RADAR
SHEPPARD AFB/ FALLS RADAR	118.2 308.6 O/T 133.5 350.35 ZFW CNTR	0600-2300 WICHITA 0900-1700 SUN CLSD SAT

ZAB - Albuquerque, ZFW - Fort Worth
O/T - indicates Other Times

Class B, Class C, Terminal Radar Service Area (TRSA), and selected Radar Approach Control frequencies are listed by quadrant:

- Northwest, Southwest, etc., or defined by compass sectors (161° - 339°)

Hours of availability are listed for Class B, C, TRSA, and approach control facilities.



Sectional Aeronautical Charts

BACK NEXT

Special Use Airspace (SUA)

SPECIAL USE AIRSPACE ON DALLAS-FT. WORTH SECTIONAL CHART				
Unless otherwise noted altitudes are MSL and in feet; time is local. Contact nearest FSS for information. † Other time by NOTAM contact FSS			The word "TO" an altitude means "To and including." "MON-FRI" indicates "Monday thru Friday" FL - Flight Level NO A/G - No air to ground communications	
U.S. P-PROHIBITED, R-RESTRICTED, A-ALERT, W-WARNING, MOA-MILITARY OPERATIONS AREA				
NUMBER	ALTITUDE	TIME OF USE	CONTROLLING AGENCY**	FREQUENCIES
P-47	TO 4800	CONTINUOUS	NO A/G	
R-5601 A, B, C	TO 40,000	CONTINUOUS	ZFW CNTR	128.4 290.2 133.5 350.35
R-5601 D, F	500 AGL TO FL 400	SR-2200 MON-FRI†	ZFW CNTR	128.4 290.2 133.5 350.35
R-5601 E	500 AGL TO 6000	SR-2200 MON-FRI†	ZFW CNTR	128.4 290.2 133.5 350.35
A-561	TO 4000	SR-SS MON-FRI	NO A/G	
A-562 A	TO 10,000	SR TO 3 HRS AFTER SS MON-FRI	NO A/G	
A-636	TO 4000	1 HR BEFORE SR- 1 HR AFTER SS MON-FRI	NO A/G	

LEARN MORE

Information pertaining to Special Use Airspace (SUA) within the boundaries of the chart is listed on the reverse side of the Sectional Chart Legend flap.

- SUAs are divided into two sections for easier identification.



Sectional Aeronautical Charts

BACK

NEXT

Prohibited, Restricted, Alert, and Warning Areas

Prohibited, Restricted, Alert, and Warning Areas are listed in numerical order within each category of SUA.

SUA information includes the location, vertical limits, time of use, and the appropriate controlling agency for each SUA.





Sectional Aeronautical Charts

BACK

NEXT

Military Operations Areas (MOAs)

MOA NAME	ALTITUDE *	TIME OF USE†	CONTROLLING AGENCY	FREQUENCIES
BROWNWOOD 1 EAST, 1 WEST	7000	0700-2200	ZFW CNTR	127.45 290.3 135.37 354.05
BROWNWOOD 3	13,000	0700-2200	ZFW CNTR	127.45 290.3 135.37 354.05
HOLLIS	11,000	1 HR BEFORE SR- 1 HR AFTER SS MON-FRI	ZFW CNTR	128.4 290.2 133.5 350.35
LANCER	6200	0900-2400 MON-FRI	ZFW CNTR	132.6 269.05 133.7 350.2
RIVERS	8000	0900-2100 MON-FRI	ZFW CNTR	124.87 307.2 132.2 338.35
SHEPPARD 1,2	8000	1 HR BEFORE SR- 1 HR AFTER SS MON-FRI	ZFW CNTR	124.85 380.1 118.75 317.45
VANCE 1 A, 1 C	10,000	1 HR BEFORE SR- 1 HR AFTER SS MON-FRI	ZKC CNTR	126.95 379.2
VANCE 1 B	7000	1 HR BEFORE SR- 1 HR AFTER SS MON-FRI	ZKC CNTR	127.8 319.1
WASHITA	8000	1 HR BEFORE SR- 1 HR AFTER SS MON-FRI	ZFW CNTR	128.4 290.2
WESTOVER 1	9000	1 HR BEFORE SR- 1 HR AFTER SS MON-FRI	ZFW CNTR	133.5 350.35

*Altitudes indicate floor of MOA. All MOAs extend to but do not include FL180 unless otherwise indicated in tabulation or on chart.
†-other times by DoD NOTAM

Military Operations Areas (MOAs) are listed in alphabetical order.

LEARN MORE

MOA information includes:

- Lower vertical limit
- Time of use
- Appropriate controlling agency for each MOA



VFR Terminal Area Charts (TACS)

BACK NEXT

VFR TERMINAL AREA CHART
DALLAS - FT. WORTH
 SCALE 1:250,000

Lambert Conformal Conic Projection Standard Parallels 33° and 45°
 Horizontal Datum North American Datum of 1983 (World Geodetic System 1984)

63 RD EDITION March 18, 2004
 Includes airspace amendments effective February 19, 2004
 and all other aeronautical data received by January 22, 2004

Information on this chart will change; consolidated updates of chart changes are available every 56 days in the AIRPORT FACILITY DIRECTORY (AFD). Also consult appropriate NOTICES TO AIRMEN (NOTAMS) and other FLIGHT INFORMATION PUBLICATIONS (FLIPs) for the latest changes. This chart will become OBSOLETE FOR USE IN NAVIGATION upon publication of the next edition scheduled for SEPTEMBER 30, 2004

PUBLISHED IN ACCORDANCE WITH INTERAGENCY AIR CARTOGRAPHIC COMMITTEE
 SPECIFICATIONS AND AGREEMENTS, APPROVED BY:
 DEPARTMENT OF DEFENSE • FEDERAL AVIATION ADMINISTRATION

DALLAS-FT WORTH
CLASS B AIRSPACE
 See back of this chart for procedural information
 within the Dallas Ft Worth Class B Airspace

EXAMPLES OF CLASS B ALTITUDES

70 --- Ceiling in hundreds of feet MSL
30 --- Floor in hundreds of feet MSL

CONTROL TOWER FREQUENCIES ON DALLAS-FT. WORTH TERMINAL AREA CHART

Airports with control towers are indicated on the face of the chart by the letters CT followed by the primary VHF local control frequency (see). Information for each tower is listed in the table below. Operational hours are local time. The primary VHF and UHF local control frequencies are listed. An asterisk (*) indicates the primary tower frequency is restricted to a collected full-time FSS for use as Local Airport Advisory (LAA) during hours the tower is closed. The primary VHF and UHF ground control frequencies are listed. Automatic Terminal Information Service (ATIS) frequencies shown on the face of the chart are primary control VHF/UHF frequencies. All ATIS frequencies are listed in the table below. ATIS operational hours may differ from tower operational hours. ASR and/or PAR indicate Radar Instrument Approach available. *NCKNYE* indicates Monday through Friday.

CONTROL TOWER	OPERATES	YWR FREQ	IND CON	ATIS	ASR/PAR
ADDISON	0600-2400 HAY 1 - OCT 31 0600-2200 TW 1 - APR 30	126.0 229.9	121.6	133.4	
DALLAS EXECUTIVE	0600-2100	120.3 227.8	121.7	124.35	
DALLAS-FW	CONTINUOUS	124.15 124.9 (M) 126.55 127.3 (S)	121.43 121.8 (R) 122.82 (G)	AWR 123.725 DTF 124.925	
DALLAS LOVE	CONTINUOUS	122.7 238.3	121.75 248.8	120.15	
FT WORTH NAS/ARB/CAWORTH	0100-2300	120.95 209.325	124.4 224.725	273.219	ASR/TM4
FT WORTH ASSAULT	CONTINUOUS	120.15 208.13	120.45 204.3	124.925	
FT WORTH MEADOWS INTL	CONTINUOUS	118.3 257.8	121.9	120.7	
FT WORTH SPRING	0600-1800	124.425	119.475		
GRAND PRairie	0700-2100 GAUF	128.55	121.15		
HAZARD	0700-1600 WOPH8 01.7 800-5648-1951	118.63 363.425	121.7 335.8		
MC KINNEY	0600-2200	118.825	121.875		

CLASS B, CLASS C, TRSA, AND SELECTED RADAR APPROACH CONTROL FREQUENCIES

FACILITY	FREQUENCIES	SERVICE AVAILABILITY
DALLAS-FW-WORTH	118.1 204.95 (200R-1450T)	CONTINUOUS
CLASS B	124.15 229.9 (200R-1450T)	
	124.3 224.45 (200R-1450T)	

Description

VFR Terminal Area Charts (TACs) depict Class B airspace which provides for the control and separation of all aircraft operating within that airspace.

- Map scale is 1:250,000 (1 inch = 3.43NM).
 - Larger scale allows for much greater detail of topographical features as well as man-made and natural landmarks.
- Contains the greatest amount of detail of all the VFR navigation charts
- Used to help pilots navigate visually around busy terminal areas

JO 7110.65, Pilot/Controller Glossary; AIM, Chap. 9; TAC Legend



VFR Terminal Area Charts (TACS)

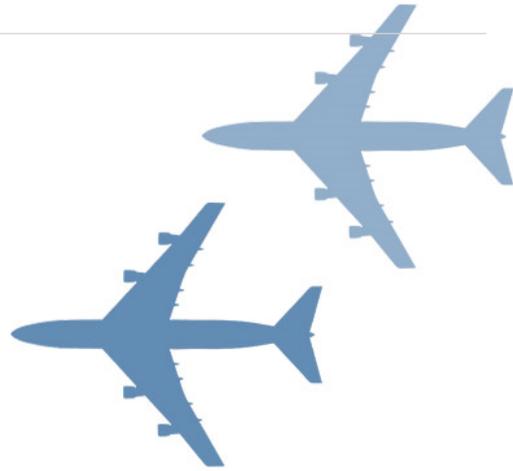
BACK

NEXT

Description

- Legend is similar to the Sectional Aeronautical Chart, which includes:
 - Airport data
 - Tower frequencies
 - Navigation and communication information
 - Airspace
 - Obstruction
 - Topographical depictions

JO 7110.65, Pilot/Controller Glossary; AIM, Chap. 9; TAC Legend





VFR Terminal Area Charts (TACS)

BACK

NEXT

CLASS B OPERATING RULES

FLIGHT PROCEDURES:

IFR FLIGHTS - Aircraft operating within the Dallas-Ft Worth Class B Airspace must be operated in accordance with ATC clearances and instructions.

VFR FLIGHTS -

1. Arriving aircraft should contact the appropriate approach control on specified frequencies and in relation to geographic fixes shown on the accompanying chart. Although arriving aircraft may be operating beneath the floor of the Class B Airspace on initial contact, communications should be established with approach control in relation to the points indicated for sequencing and spacing purposes.
2. Aircraft departing the primary airports are requested to advise clearance delivery prior to taxiing of their intended altitude and direction of flight to depart the Class B Airspace. Aircraft departing from other than the primary airports whose route of flight would penetrate the Class B Airspace should give this information to ATC on the appropriate frequencies.
3. Aircraft desiring to transit the Class B Airspace must obtain an ATC clearance to enter the Class B Airspace and will be handled on an ATC workload permitting basis.

ATC PROCEDURES:

All aircraft will be controlled and separated while operating within the Class B Airspace, except helicopters need not be separated from other helicopters. Although radar separation will be the primary standard used, approved visual and other nonradar procedures will be applied as required or deemed appropriate. Traffic information on observed but unidentified radar targets will be provided on a workload permitting basis to aircraft operating outside the Class B Airspace.

NOTE: Assignment of radar headings and/or altitudes is based on the provision that a pilot operating in accordance with visual flight rules is expected to advise ATC if compliance with an assigned route, radar heading or altitude will cause the pilot to violate such rules.

OPERATING RULES AND PILOT/EQUIPMENT REQUIREMENTS.

Regardless of weather conditions, an ATC authorization is required prior to operating within the Class B Airspace. Pilots should not request an authorization to operate within the Class B Airspace unless the requirements of FAR 91.215 and FAR 91.131 are met. Included among those requirements are:

1. Unless otherwise authorized by ATC, an operable two-way radio capable of communicating with ATC on appropriate frequencies for that Class B Airspace.
2. No person may take off or land a civil aircraft at the Dallas-Ft Worth International Airport unless the pilot in command holds at least a private pilot certificate.
3. No person may take off or land a civil aircraft at an airport within the Class B Airspace or operate a civil aircraft within the Class B Airspace unless:
 - a) The pilot in command holds at least a private pilot certificate, or
 - b) The aircraft is operated by a student pilot who has met the requirements of FAR 61.95
4. Unless otherwise authorized by ATC, each person operating a large turbine engine-powered aircraft to or from a primary airport shall operate at or above the designated floors while within the lateral limits of the Class B airspace.
5. An operable VOR or TACAN receiver for IFR operations.
6. A transponder with automatic altitude reporting equipment.

NOTE: ATC may, upon notification, immediately authorize a deviation from the altitude reporting equipment requirement or for a transponder failure; however, other request for deviations from the transponder equipment requirement must be submitted to the controlling ATC facility at least one hour before the proposed operation.



VFR Terminal Area Charts (TACS)

BACK

NEXT

The chart contains operating rules for flight in Class B airspace, including the following requirements for flight in accordance with FAR, Part 91:

- An operating two-way radio which is capable of communicating with ATC on the appropriate frequencies used
- Private pilot certificate, or instructor authorization if student pilot
- Appropriate navigation capabilities (if IFR)
- Transponder with Mode C altitude reporting capability





VFR Terminal Area Charts (TACS)

BACK

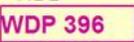
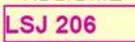
NEXT

DALLAS-FT WORTH
CHARTED VFR FLYWAY PLANNING CHART
Scale: 1:250,000
NOT TO BE USED FOR NAVIGATION
LEGEND

AIRPORTS

 Paved Runways NAME (NAM)	 Unpaved Runways NAME (NAM)
--	--

NAVIGATIONAL AIDS

 VOR  MAL 109.6	 VORTAC  GCY 113.4	 VOR/DME  FHM 114.2
 NDB  WDP 396	 NDB/DME  LSJ 206	

VFR Flyway Planning Chart Legend

Selected charts include a VFR Flyway Planning Chart on the reverse side.



VFR Terminal Area Charts (TACS)

BACK

NEXT

VFR FLYWAY PLANNING CHART LEGEND

AIRSPACE INFORMATION

- CLASS B AIRSPACE
- CLASS B SURFACE AREA

EXAMPLES OF CLASS B AIRSPACE ALTITUDES

- 70 ----- CEILING IN HUNDREDS OF FEET MSL
- 30 ----- FLOOR IN HUNDREDS OF FEET MSL
- MODE C (SEE F.A.R. 91.215/AIM)

- CLASS C AIRSPACE
MODE C (SEE F.A.R. 91.215/AIM.)
- CLASS C SURFACE AREA

- Class D Airspace
- Class E Airspace
- Ceiling of Class D Airspace in hundreds of feet. (A minus ceiling value indicates surface up to, but not including that value.)

Airports, navigational aids, and airspace boundaries are shown in great detail.

Class B and Class C surface areas are shaded for easy identification.

AIR TRAFFIC BASICS | Lesson 17: VFR Charts and Publications

ALL LESSONS FRAME: 37

VFR Terminal Area Charts (TACS)

BACK NEXT

SPECIAL USE AIRSPACE

Prohibited, Restricted, Warning and Alert Areas, Canadian Advisory and Restricted Areas Military Operations Areas (MOA)

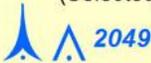
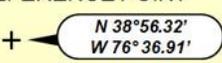
SUGGESTED VFR FLYWAY AND ALTITUDE

← 2600 6700 →

←←←←← IFR DEPARTURE ROUTES

→→→→→ IFR ARRIVAL ROUTES

OBSTRUCTIONS (Selected) NAVIGATION REFERENCE POINT MOUNTAIN TOP OR PEAK AND SPOT ELEVATION


VFR Flyway Planning Chart Legend

Shaded arrows depict suggested VFR routes in the vicinity of Class B airspace.

[LEARN MORE](#)

VFR routes:

- Avoid the major busy traffic flow areas
- Provide altitudes which generally aid aircraft in staying above or below Class B airspace

IFR departure and arrival routes are shown.

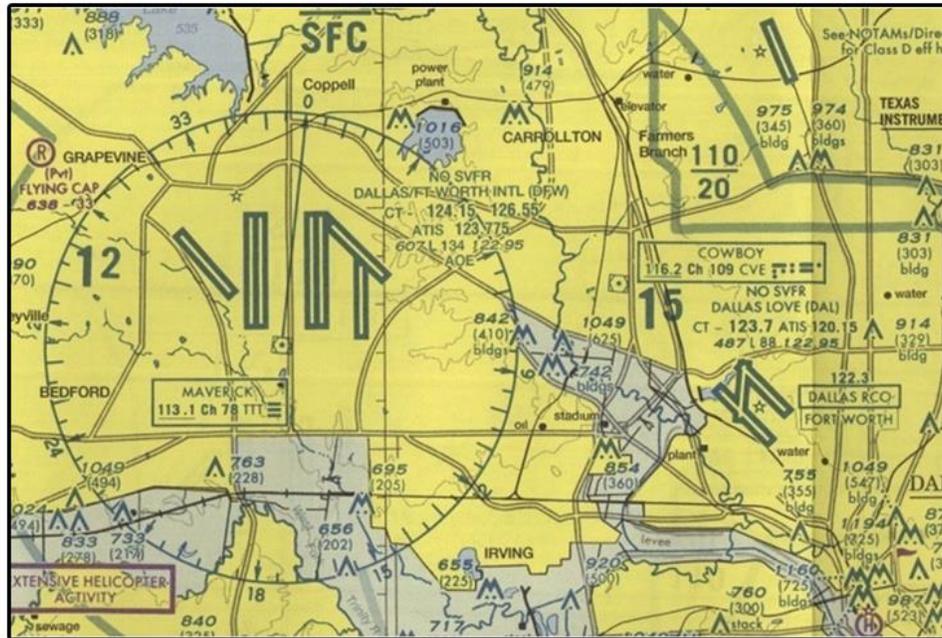
Obstructions, navigational reference points, and topographical features are emphasized.



VFR Terminal Area Charts (TACS)

BACK

NEXT



VFR Terminal Area Chart Example



World Aeronautical Charts (WACs)

BACK

NEXT

Description

World Aeronautical Charts (WACs) are also designed to be used for visual navigation; however, due to the smaller scale, they are used mostly by moderate speed aircraft.

- Map scale is 1:1,000,000 (1 inch = 13.7NM)
- Smaller scale results in more geographical area covered by each chart, so fewer charts are needed
- Used primarily for pilotage, just like a Sectional Aeronautical Chart, but with the least amount of detail of all the VFR navigation charts
- Legend is similar to the Sectional Aeronautical Chart because they both use similar symbols in the chart legends
- Published every 12 months

JO 7110.65, Pilot/Controller Glossary; AIM, Chap. 9; WAC Legend

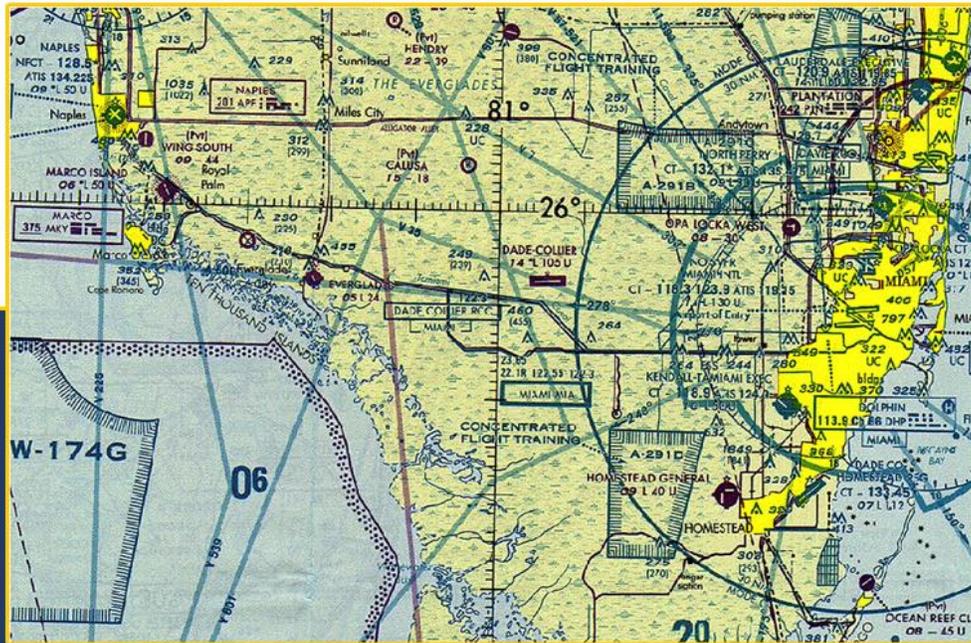
CH-25
WORLD AERONAUTICAL CHART
 SCALE 1:1,000,000
Lambert Conformal Conic Projection Standard parallels 25°20' and 30°40'
Horizontal Datum: North American Datum of 1983 (World Geodetic System 1984)
TH EDITION - December 25, 2003
34 Includes airspace amendments effective **December 25, 2003**
 and all other aeronautical data received by **October 30, 2003**
Consult appropriate NOTICES and Flight Information Publications for supplemental data and current information.
This chart will become **OBsolete** FOR USE IN NAVIGATION upon publication of the next edition scheduled for **DECEMBER 24, 2004**
 PUBLISHED IN ACCORDANCE WITH INTERAGENCY AIR CARTOGRAPHIC COMMITTEE SPECIFICATION AND AGREEMENTS, APPROVED BY:
 DEPARTMENT OF DEFENSE * FEDERAL AVIATION ADMINISTRATION



World Aeronautical Charts (WACs)

BACK

NEXT



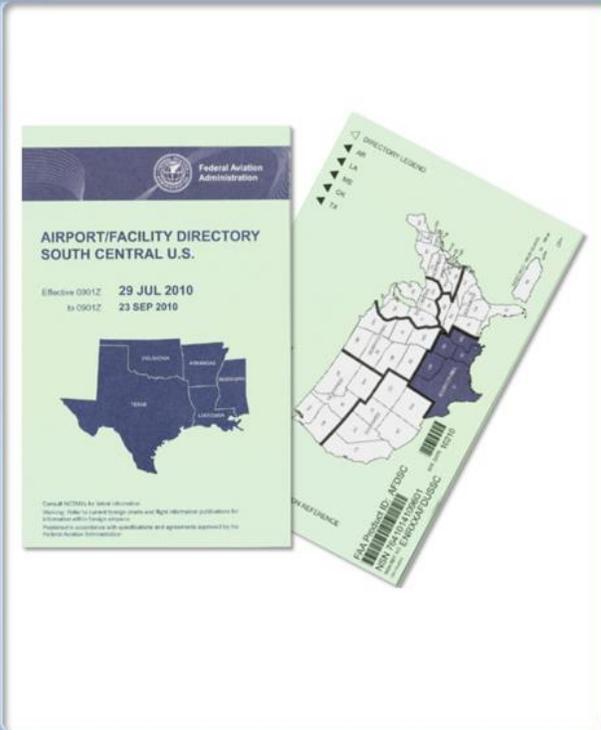
JO 7110.65, Pilot/Controller Glossary; AIM, Chap. 9; WAC Legend



Airport/Facility Directory (A/FD)

BACK

NEXT



Description

The Airport/Facility Directory (A/FD) is designed primarily as a pilot's operational manual, and includes much more detailed information about airports and navigational aids than can be found on any chart.

The A/FD is published every 56 days in seven volumes which cover the continental U.S., Puerto Rico, and the Virgin Islands.

- Each volume covers a different geographical region.

JO 7110.65, Pilot/Controller Glossary; AIM, Chap. 9; A/FD Legend



Airport/Facility Directory (A/FD)

BACK

NEXT

Contents

Includes airport information, services available, radio and NAVAID data, and ATC services.

- Airport locations are given in relation to the associated city, as well as in terms of latitude and longitude.
- Availability of fuel is listed by type.
- Individual runway information includes:
 - Length
 - Width
 - Surface texture
 - Lighting
 - Any applicable notes of caution
- Airport remarks address items peculiar to the individual airport, such as:
 - Hours of airport attendance
 - Special operations
 - Instructions for activating pilot-controlled runway lighting
- The symbol ‡ indicates that during periods of Daylight Savings Time, effective hours will be one hour earlier than shown.
- Frequencies and telephone numbers for obtaining weather information are included.
- Communications frequencies are listed including:
 - ATIS
 - Unicom
 - AFSS
 - Approach/Departure control
 - Tower
 - Ground
 - Clearance delivery, where applicable
- Class of airspace, data on NAVAIDs serving the airport, and other miscellaneous items which are helpful to a pilot can also be found.

States within the region covered are listed in alphabetical order, with cities and associated airports listed alphabetically by state.



Airport/Facility Directory (A/FD)

BACK

NEXT

Legend

①	②	③	④	⑤	⑥	⑦	⑧	
CITY NAME								
AIRPORT NAME (ALTERNATE NAME) (LTS) (KLTS) CIV/MIL 3 N UTC-6(-5DT) N34°41.93' W99°20.20' JACKSONVILLE								
200	B	S4	FUEL	100	OX	1	TPA—1000(800)	
⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	
RWY 18-36: H12004X200 (ASPH-CONC-GRVD)								
S-90, D-160, DT-300 PCN 80 R/B/W/T HIRL CL								
RWY 18: LDIN, MALS, TDZL, REIL, PAPI(P2R)—GA 3.0° TCH 36'								
Thid dspicd 300'. Trees, Rgt tfc. 0.3% up.								
RWY 36: ALSF1. 0.4% down.								
RWY 09-27: H6000X150 (ASPH) MIRL								
RWY 173-353: H3515X150 (ASPH-PFC) AUV PCN 59 F/A/W/T								
LAND AND HOLD SHORT OPERATIONS								
LANDING	HOLD	SHORT	POINT	DIST AVBL				
RWY 18	09-27			6500				
RWY 36	09-27			5400				
RUNWAY DECLARED DISTANCE INFORMATION								
RWY 18: TORA-12004 TODA-12704 ASDA-11704 LDA-11504								
RWY 36: TORA-12004 TODA-12004 ASDA-12004 LDA-11704								
⑳	ARRESTING GEAR/SYSTEM							
RWY 18 → HOOK E5 (65' OVRN) BAK-14 BAK-12B (1650')								
BAK-14 BAK-12 (B) (1087') HOOK E5 (74' OVRN) ← RWY 36								
㉑	MILITARY SERVICE: A-GEAR E-5 connected on dep end, disconnected on apch end. JASU 3(AM32A-60) 2(A/M32A-86)							
㉒	⑳	⑳					㉓	㉔
㉕	FUEL J8(Mil) (NC-100, A) FLUID W SP PRESAIR LOX ← ㉖							
㉗	㉘	OIL O-128 TRAN ALERT Avbl 1300-0200Z, svc limited weekends.					㉙	

The legend depicts a sample airport entry with all associated data and provides the decoded meaning for each item of information.



Airport/Facility Directory (A/FD)

BACK

NEXT

- 29 → **AIRPORT REMARKS:** Special Air Traffic Rules—Part 93, see Regulatory Notices. Attended 1200–0300Z†. Parachute Jumping. Deer Invof arpt. Heavy jumbo jet training surface to 9000'. Twy A clsd indef. Flight Notification Service (ADCUS) avbl.
- 30 → **MILITARY REMARKS:** ANG PPR/Official Business Only. Base OPS DSN 638–4390, C503–335–4222. Ctc Base OPS 15 minutes prior to ldg and after dep. Limited tran parking.
- 31 → **WEATHER DATA SOURCES:** AWOS–1 120.3 (202) 426–8000. LLWAS.
- 32 → **COMMUNICATIONS:** SFA ATIS 127.25 273.5 (202) 426–8003 UNICOM 122.95 PTD 372.2
 NAME FSS (ORL) on arpt. 123.65 122.65 122.2
 NAME RCO 112.2T 112.1R (NAME RADIO)
 ® NAME APP/DEP CON 128.35 257.725 (1200–0400Z†)
 TOWER 119.65 255.6 (1200–0400Z†) GND CON 121.7 GCO 135.075 (ORLANDO CLNC) CLNC DEL 125.55
 NAME COMD POST (GERONIMO) 311.0 321.4 6761 PMSV METRO 239.8 NAME OPS 257.5
- 33 → **AIRSPACE:** CLASS B See VFR Terminal Area Chart.
- 34 → **RADIO AIDS TO NAVIGATION:** NOTAM FILE ORL. VHF/DF ctc FSS.
 (H) VORTAC 112.2 MCO Chan 59 N28°32.55' W81°20.12' at fld. 1110/8E.
 (H) TACAN Chan 29 CBU (109.2) N28°32.65' W81°21.12' at fld. 1115/8E.
 HERNY NDB (LOM) 221 OR N28°37.40' W81°21.05' 177° 5.4 NM to fld.
 ILS/DME 108.5 I–ORL Chan 22 Rwy 18. Class IIE. LOM HERNY NDB.
 ASR/PAR (1200–0400Z†)
- 35 → **COMM/NAV/WEATHER REMARKS:** Emerg frequency 121.5 not avbl at twr.

DIRECTORY LEGEND

The screenshot shows the 'Airport/Facility Directory (A/FD)' interface. At the top, it says 'AIR TRAFFIC BASICS | Lesson 17: VFR Charts and Publications'. There are navigation buttons for 'ALL LESSONS', 'FRAME: 45', 'BACK', and 'NEXT'. The main title is 'Airport/Facility Directory (A/FD)'. Below this is a section titled 'Airport Listings'. The listing for 'OKLAHOMA CITY' is displayed in a white box with a blue border. The text includes: 'WILEY POST (PWA) 7 NW UTC-6(-5DT) N35°32.07' W97°38.83' 1300 B S4 FUEL 100LL, JETA OX 1, 2, 3, 4 TPA See Remarks NOTAM FILE PWA DALLAS-FT WORTH H-6H, L-15D IAP,AD'. It lists runways: 'RWY 17L-35R: H7199X150 (CONC) S-35, D-50, 2D-90 HIRL', 'RWY 17L: MALSR. PAPI (P4L)-GA 3.0° TCH 54'. Rgt tfc.', 'RWY 35R: PAPI (P4L)-GA 3.0° TCH 45'. Thld dsplcd 355'.', 'RWY 17R-35L: H5002X75 (ASPH-CONC) S-26 MIRL', 'RWY 17R: PAPI (P4L)-GA 3.0° TCH 25'. Rgt tfc.', 'RWY 35L: PAPI (V2L)-GA 3.0° TCH 31'.', 'RWY 13-31: H4214X100 (CONC) S-35, D-50, 2D-90 MIRL 6% up SE', 'RWY 13: Pole. Rgt tfc.'. The 'AIRPORT REMARKS' section contains detailed operational information. 'WEATHER DATA SOURCES' and 'COMMUNICATIONS' are also listed. A 'LEARN MORE' button is at the bottom of the listing box.

Most of the information in the directory is for pilot use only, but it contains some data that could be helpful to a controller when:

- Relaying airport information to a pilot upon request
- Recommending a suitable airport in the event of an emergency



Airport/Facility Directory (A/FD)

BACK

NEXT

Miscellaneous Information

Miscellaneous information follows the state and airport listings and includes such items as:

- Seaplane landing areas
- Special and Regulatory Notices
- Land and Hold Short Operations (LAHSO)
- FAA and NWS phone numbers
- TAF and METAR decoding keys
- ATC frequencies
- Flight Standards District Office (FSDO) addresses and phone numbers
- Preferred IFR routes and VOR checkpoints
- Parachute jumping areas and chart bulletins
- Airport Diagrams





Conclusion

BACK

Lesson Summary



This lesson covered:

- Sectional Aeronautical Charts
- VFR Terminal Area Charts (TACs)
- World Aeronautical Charts (WACs)
- IFR/VFR Planning Charts
- Airport/Facility Directory (A/FD)

