

VFR AERONAUTICAL CHART SYMBOLS

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VFR FLYWAY PLANNING CHARTS

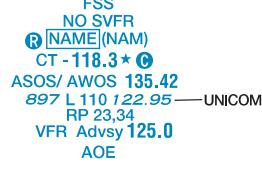
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GENERAL INFORMATION

Symbols shown are for World Aeronautical Charts (WACs), Sectional Aeronautical Charts (Sectionals), Terminal Area Charts (TACs), VFR Flyway Planning Charts and Helicopter Route Charts. When a symbol is different on any VFR chart series, it will be annotated as such (e.g. WAC or Not shown on WAC).

VFR AERONAUTICAL CHARTS - Aeronautical Information

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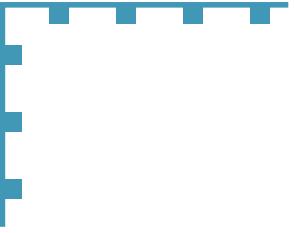
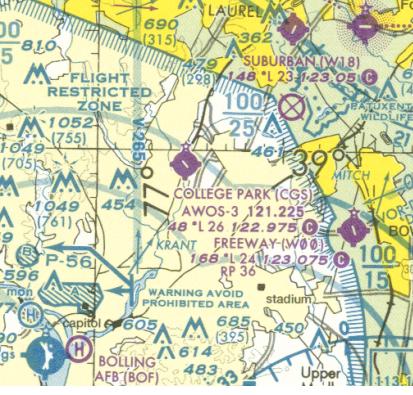
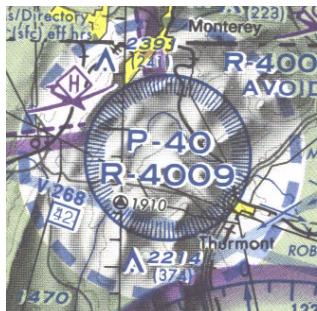
AIRPORTS		AIRPORTS	
LANDPLANE: CIVIL Airports having control towers (CT) are shown in blue, all others are shown in magenta. All recognizable runways, including some which may be closed, are shown for visual identification purposes. Refueling and repair facilities for normal traffic. Runway patterns will be depicted at airports with at least one hard surface runway 1500' or greater in length.	           	LANDPLANE: EMERGENCY No facilities or Complete information is not available. Add appropriate note as required: "(CLOSED)"	           
SEAPLANE: CIVIL		SEAPLANE: EMERGENCY No facilities or complete information is not available.	  WAC
LANDPLANE: CIVIL-MILITARY		HELIPORT (Selected)	  WAC
		ULTRALIGHT FLIGHT PARK (Selected)	 Not shown on WAC
LANDPLANE: MILITARY Refueling and repair facilities not indicated.		AIRPORT DATA GROUPING (Pvt) - Non-public use having emergency or landmark value.	    WAC
			<p> FSS - Flight Service Station on field NO SVFR - Airports where fixed wing special visual flight rules operations are prohibited (shown above airport name) F.A.R. 91  - Indicates F.A.R. 93 Special Air Traffic Rules and Airport Traffic Patterns R - Airport Surveillance Radar (not shown on WAC) (NAM) - Location Identifier CT - 118.3 - Control Tower (CT) - primary frequency ★ - Star indicates operation part-time. See tower frequencies tabulation for hours of operation C - Indicates Common Traffic Advisory Frequencies (CTAF) (not shown on WAC) ATIS 123.8 - Automatic Terminal Information Service ASOS/ AWOS 135.42 - Automated Surface Weather Observing Systems (shown where full-time ATIS is not available). Some ASOS/AWOS facilities may not be located at airports. (not shown on WAC) 897 - Elevation in feet L - Lighting in operation Sunset to Sunrise ★L - Lighting limitations exist; refer to Airport/Facility Directory. 110 - Length of longest runway in hundreds of feet; usable length may be less. UNICOM - Aeronautical advisory station ("U" only on WAC) RP 23,34 - Runways with Right Traffic Patterns (public use) (not shown on WAC) RP* - Special conditions exist - see A/FD VFR Advsy 125.0 - VFR Advisory Service shown where full-time ATIS not available and frequency is other than primary CT frequency. AOE - Airport of Entry </p> <p>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.</p>

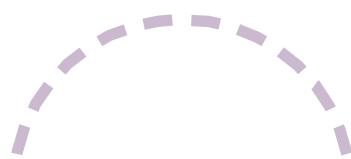
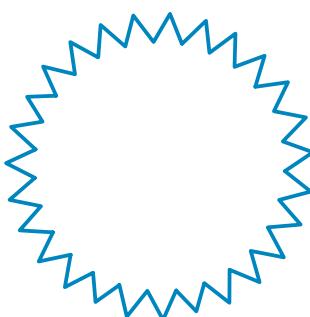
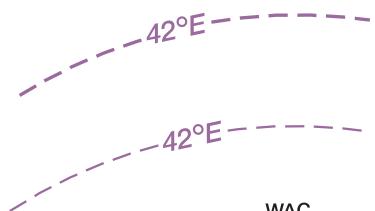
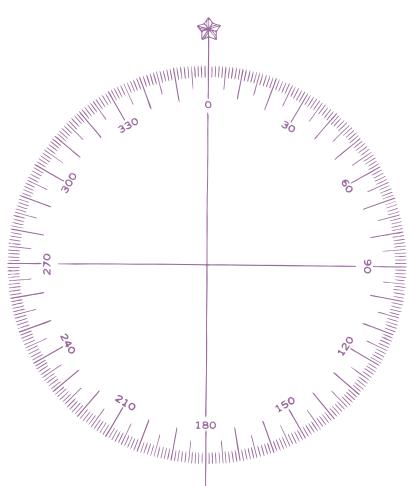
RADIO AIDS TO NAVIGATION		RADIO AIDS TO NAVIGATION	
VHF OMNI-DIRECTIONAL RADIO (VOR) RANGE	<p>Compass Rose oriented to slave variation.</p> <p>Open circle symbol shown when NAVAID located on airport. Type of NAVAID shown in top of box.</p>	ILS COMPONENTS	<p>Localizer</p> <p>LCZR or LOCALIZER 109.5 I-BED</p> <p>Locator Beacon</p> <p>LOM or LOM 388 DT = =</p> <p>ILS - DME</p> <p>SALT LAKE CITY DME ANT (I-BNT) Ch 52 (111.5)</p>
VOR	<p>Operates less than continuous or On-Request Transcribed Weather Broadcast (TWEB)</p> <p>OAKDALE *116.8 OAK T</p> <p>Underline indicates no voice on this frequency</p>	BROADCAST STATIONS (BS)	<p>On request by the proper authority or when a VFR Check-point.</p> <p>KFTM BS KFTM 1400</p>
VORTAC	<p>NDB Frequency Name ASOS/AWOS</p> <p>PONTIAC 379 110.0 Ch 47 PTK A</p> <p>Frequency Channel Identifier Morse Code</p> <p>Hazardous Inflight Weather Advisory Service (HIWAS)</p>	FLIGHT SERVICE STATION (FSS)	<p>Heavy line box indicates Flight Service Station (FSS). Frequencies 121.5, 122.2, 243.0 and 255.4 (Canada - 121.5, 126.7 and 243.0) are normally available at all FSS's and are not shown above boxes. All other frequencies are shown. For Local Airport Advisory use FSS frequency 123.6. R - Receive only</p> <p>PONTIAC PTK</p> <p>No NAVAID of the same name as FSS</p> <p>or</p> <p>122.1R IDAHO FALLS 109.0 Ch 27 IDA</p> <p>FSS oper 0500-2300 Boise FSS other times.</p> <p>NAVAID same name as FSS but not an RCO</p> <p>Frequencies above thin line box are remoted to NAVAID site. Other frequencies at FSS providing voice communication may be available determined by altitude and terrain. Consult Airport / Facility Directory for complete information.</p> <p>Thin line box without frequencies and controlling FSS name indicates no FSS frequency available.</p> <p>123.6 OLYMPIA RCO McCHORD</p>
VOR-DME	<p>SALEM * 114.3 Ch 90 SVM H</p>	REMOTE COMMUNICATIONS OUTLET (RCO)	<p>122.35 ST PAUL 108.6 STP</p> <p>MINNEAPOLIS</p> <p>122.35 HUMPHREY 275 HPY</p> <p>MILES CITY</p> <p>FSS providing voice communication</p>
NON-DIRECTIONAL RADIOBEACON (NDB)	<p>WAC</p> <p>HUMPHREY 275 HPY</p> <p>Underline indicates no voice on this frequency</p>		
NDB-DME	<p>WAC</p> <p>GAMBELL 369 GAM DME Ch 92 (114.5)</p>		

RADIO AIDS TO NAVIGATION		AIRSPACE INFORMATION	
AIR FORCE STATION (AFS)	<p>122.0 AFS 123.6 POINT BARROW</p> <p>122.4 AFS 123.6 CAPE LEWISTON 206 LWS</p> <p>AFS at airport with NDB</p>	CLASS C AIRSPACE	<p>BURBANK CLASS C</p> <p>See NOTAMs/Directory for Class C eff hrs</p>
LONG RANGE RADAR STATION (LRRS)	<p>122.4 LRRS 122.55 BARTER ISLAND</p> <p>122.4 LRRS 123.6 CAPE LISBURNE 385 LUR</p> <p>LRRS at airport with NDB</p>	(Mode C see FAR 91.215 /AIM)	<p>BOISE CLASS C</p> <p>See NOTAMs/Directory for Class C eff hrs</p> <p>Outer limit only, segments not shown</p>
OFF AIRPORT AWOS/ASOS	<p>SANDBERG ASOS 120.625</p>		<p>WAC</p> <p>FOR FLIGHTS AT OR BELOW 6600 MSL SEE PHOENIX VFR SECTIONAL CHART</p> <p>WAC only</p>
AIRSPACE INFORMATION		<p>48 - Ceiling of Class C in hundreds of feet MSL</p> <p>30 - Floor of Class C in hundreds of feet MSL</p> <p>T - Ceiling is to but not including floor of Class B</p> <p>SFC - Surface</p> <p>CTC BURBANK APP WITHIN 20 NM ON 124.6 395.9</p> <p>Not shown on WAC</p>	
CLASS B AIRSPACE	<p>LAS 20 NM</p> <p>Navaid identifier and distance from facility (TAC Only).</p> <p>LAS 002°</p> <p>Navaid identifier and radial from facility (TAC Only).</p> <p>Outer limit only, segments not shown</p> <p>WAC</p> <p>FOR FLIGHTS AT AND BELOW 8000 MSL SEE KANSAS CITY VFR TERMINAL AREA CHART</p> <p>WAC only</p>	CLASS D AIRSPACE	<p>See NOTAMs/Directory for Class D eff hrs</p> <p>See NOTAMs/Directory for Class D/E (sfc) eff hrs</p> <p>(A minus in front of the figure is used to indicate "from surface to but not including...")</p> <p>ALTITUDE IN HUNDREDS OF FEET MSL</p> <p>Not shown on WAC</p>
	<p>80 - Ceiling of Class B in hundreds of feet MSL</p> <p>40 - Floor of Class B in hundreds of feet MSL</p> <p>CTC LAS VEGAS APP ON 121.1 OR 257.8</p> <p>TAC only</p>		

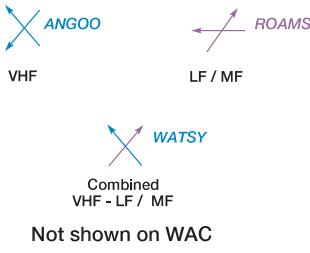
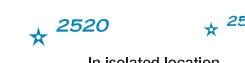
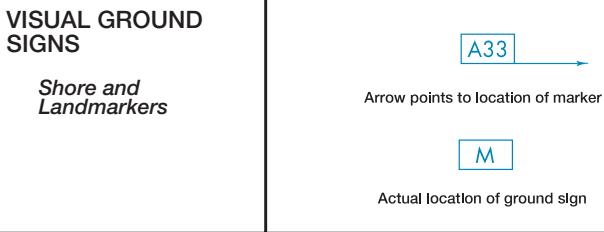
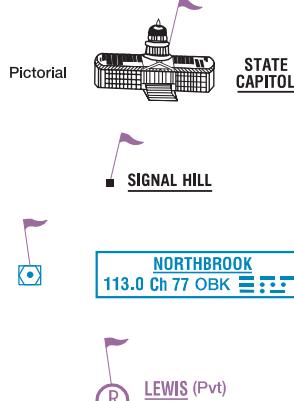
AIRSPACE INFORMATION		AIRSPACE INFORMATION	
CLASS E AIRSPACE <p>The limits of Class E airspace shall be shown by narrow vignettes or by the dashed magenta symbol. Individual units of designated airspace are not necessarily shown; instead, the aggregate lateral and vertical limits shall be defined by the following:</p> <p>Airspace beginning at the surface (sfc) designated around airports ...</p> <p>Airspace beginning at 700 feet AGL ...</p> <p>Airspace beginning at 1200 feet AGL or greater that abuts uncontrolled airspace (Class G) ...</p> <p>Differentiates floors of airspace greater than 700 feet above the surface...</p> <p>When the ceiling is less than 18,000 feet MSL, the value, pre-fixed by the word "ceiling," shall be shown along the limits.</p>	 <p>See NOTAMs/Directory for Class D/E (sfc) eff hrs</p>  <p>See NOTAMs/Directory for Class E (sfc) eff hrs</p>  <p>See NOTAMs/Directory for 700' Class E eff hrs</p>  <p>8000 AGL</p>  <p>11,500 MSL</p> <p>Not shown on WAC</p>	CANADIAN AIRSPACE <p>Individual units of designated Canadian airspace are not necessarily shown; instead, the aggregate lateral and vertical limits shall be portrayed as closely as possible to the comparable U.S. airspace.</p> <p>Appropriate notes as required may be shown.</p>	 <p>TCA Class C/D</p>  <p>TCA Class C/D</p> <p>Outer limit only, segments not shown</p> <p>WAC</p> <p>125 - Ceiling of TCA Class C/D in hundreds of feet MSL</p> <p>25 - Floor of TCA Class C/D in hundreds of feet MSL</p>
OFFSHORE CONTROL AREAS	 <p>ATLANTIC LOW CONTROL AREA</p> <p>Class G Airspace</p>  <p>9500 MSL ATLANTIC LOW CONTROL AREA</p>  <p>8000 MSL CONTROL AREA 114BL</p>  <p>ATLANTIC LOW CONTROL AREA</p>  <p>ATLANTIC LOW CONTROL AREA CONTROL AREA 114BL</p> <p>WAC</p>	AIRSPACE OUTSIDE OF U.S. <p>Other than Canada</p> <p>Appropriate notes as required may be shown.</p>	 <p>Class D CZ</p> <p>ALTITUDE IN HUNDREDS OF FEET MSL</p>  <p>Class E CZ</p> <p>Not shown on WAC</p>
AIRSPACE CLASSIFICATION (SEE CANADA FLIGHT SUPPLEMENT AND OPERATIONAL REQUIREMENTS (SEE DOD AREA PLANNING AP/1) MAY DIFFER BETWEEN CANADA AND UNITED STATES)		<p>NOTE: REFER TO CURRENT CANADIAN CHARTS AND FLIGHT INFORMATION PUBLICATIONS FOR INFORMATION WITHIN CANADIAN AIRSPACE</p>	
FLIGHT INFORMATION REGIONS (FIR) and /or (CTA)		<p>MONCTON FIR CZQM</p> <p>WINNIPEG FIR CZWG</p> <p>EDMONTON FIR CZEG</p> <p>OAKLAND OCEANIC CONTROL AREA</p>	
OCEANIC CONTROL AREAS (OCA)		<p>No FIR exists this side - No ticks</p>	

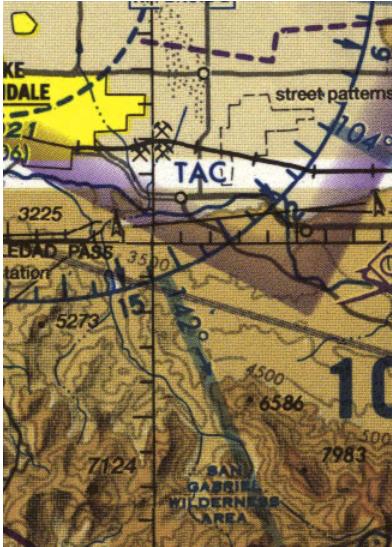
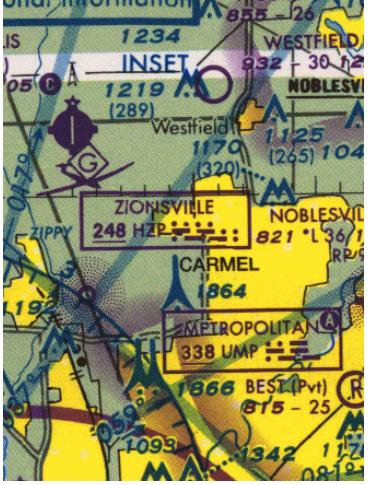
AIRSPACE INFORMATION		AIRSPACE INFORMATION	
LOW ALTITUDE AIRWAYS VOR and LF / MF (CLASS E AIRSPACE)	<p><i>Low altitude Federal Airways are indicated by centerline.</i></p> <p><i>Only the controlled airspace effective below 18,000 feet MSL is shown.</i></p>	SPECIAL USE AIRSPACE <p><i>Only the airspace effective below 18,000 feet MSL are shown.</i></p> <p><i>The type of area shall be spelled out in large areas if space permits.</i></p>	<p>PROHIBITED, RESTRICTED or WARNING AREA</p>
MISCELLANEOUS AIR ROUTES		<p>ALERT AREA</p>	<p>MILITARY OPERATIONS AREA (MOA)</p>
		MILITARY TRAINING ROUTES (MTR) <p>Not shown on WAC</p>	
		SPECIAL MILITARY ACTIVITY ROUTES (SMAR) <p><i>Boxed notes (as in text) shown adjacent to route.</i></p>	
			<p>40 —— Ceiling of SMAR in hundreds of feet MSL 05 AGL —— Floor of SMAR in hundreds of feet AGL</p> <p>Not shown on WAC</p>

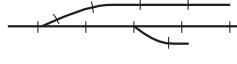
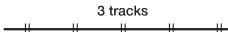
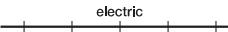
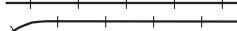
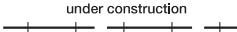
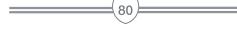
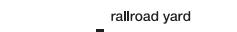
AIRSPACE INFORMATION		AIRSPACE INFORMATION	
SPECIAL AIR TRAFFIC RULES / AIRPORT PATTERNS (FAR 93)	 <p>Appropriate boxed note as required shown adjacent to area.</p>	SPECIAL AIRSPACE AREAS	 <p>Appropriate notes as required may be shown.</p>
SPACE OPERATIONS AREA (FAR 91.143)	 <p>DARKER TINT IS FAR 91.143 AREA Not shown on WAC</p>	SPECIAL FEDERAL AVIATION REGULATIONS (SFAR) AREAS	<p>Note. Delimiting line not shown when it coincides with International Boundary, projection lines or other linear features.</p> <p>SPECIAL FEDERAL AVIATION REGULATIONS (SFAR) 14 CFR Part 93, Subpart U and SFAR 50.2 - GRAND CANYON NATIONAL PARK SPECIAL FLIGHT RULES AREA. Special regulations apply to all aircraft operations below 18,000 feet MSL.</p>
MODE C (FAR 91.215)	 <p>MODE C 30 NM Appropriate notes as required may be shown.</p>	FLIGHT RESTRICTED ZONE RELATING TO NATIONAL SECURITY	<p>Example: Washington DC</p>  <p>Appropriate notes as required may be shown.</p> <p>Washington DC Metropolitan Area Air Defense Identification Zone/Flight Restricted Zone restrictions are in effect. Special regulations apply to all aircraft operations below Flight Level 180 in the Washington DC Metropolitan Area. Pilots should contact a local FSS for NOTAM information prior to flight in the Washington DC Metropolitan Area.</p>
MISCELLANEOUS AIRSPACE AREAS	 <p>Parachute Jumping Area with Frequency Glider Operating Area Ultralight Activity Hang Glider Activity Not shown on WAC</p>	AIR DEFENSE IDENTIFICATION ZONE (ADIZ)	<p>WASHINGTON DC METROPOLITAN ADIZ</p>  <p>Note. Delimiting line not shown when it coincides with International Boundary, projection lines or other linear features.</p>
SPECIAL CONSERVATION AREAS	 <p>National Park, Wildlife Refuge, Primitive and Wilderness Areas, etc. PAHRANAGAT NATIONAL WILDLIFE REFUGE Not shown on WAC</p>	TEMPORARY FLIGHT RESTRICTION (TFR) RELATING TO NATIONAL SECURITY	<p>Example: P-40/R-4009</p>  <p>Appropriate notes as required may be shown.</p> <p>CAUTION P-40 AND R-4009 EXPANDED BY TEMPORARY FLIGHT RESTRICTION. CONTACT AFSS FOR LATEST STATUS AND NOTAMS</p> <p>Not shown on WAC</p>

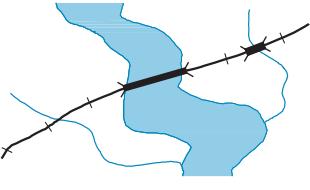
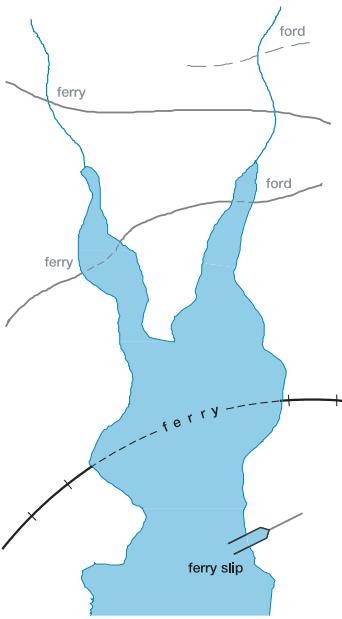
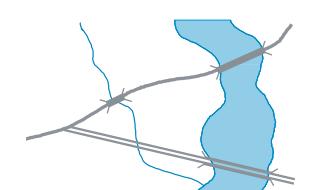
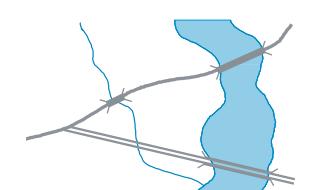
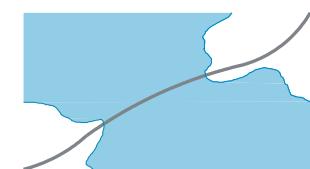
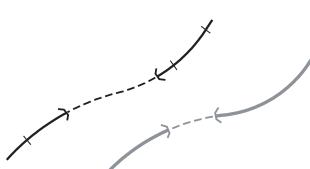
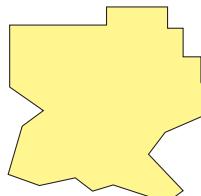
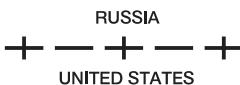
AIRSPACE INFORMATION		AIRSPACE INFORMATION	
NATIONAL SECURITY AREA	 <p>Appropriate notes as required may be shown.</p>	IFR ROUTES	<p>Appropriate notes as required may be shown.</p> <p>Arrival</p>  <p>Departure</p>  <p>TAC only</p>
HIGH ENERGY RADIATION AREAS	 <p>Appropriate notes as required may be shown.</p>	TRANSITION ROUTES	<p>Appropriate notes as required may be shown.</p> <p>Uni-directional</p>  <p>Bi-directional</p>  <p>TAC only</p>
NAVIGATIONAL AND PROCEDURAL INFORMATION		NAVIGATIONAL AND PROCEDURAL INFORMATION	
TERMINAL RADAR SERVICE AREA (TRSA)	<p>PALM SPRINGS TRSA</p>  <p>80 - Ceiling of TRSA in hundreds of feet MSL</p> <p>40 - Floor of TRSA in hundreds of feet MSL</p> <p>SEE TWR FREQ TAB</p> <p>Not shown on WAC</p>	ISOGENIC LINE & VALUE	<p>Isogonic lines and values shall be based on the five year epoch magnetic variation model.</p>  <p>WAC</p>
		LOCAL MAGNETIC NOTES	<p>Unreliability Notes</p> <p>Magnetic disturbance of as much as 78° exists at ground level and 10° or more at 3000 feet above ground level in this vicinity.</p>
		COMPASS ROSETTE	<p>Shown only in areas void of VOR roses.</p> <p>Compass rosette will be based on the five year epoch magnetic variation model.</p> 

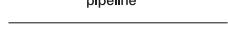
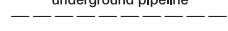
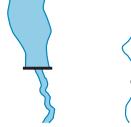
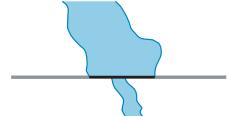
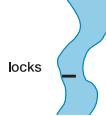
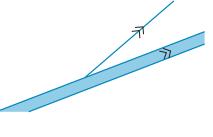
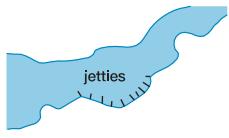
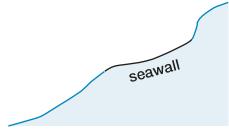
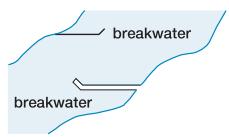
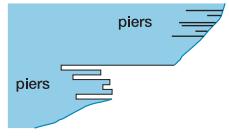
VFR AERONAUTICAL CHARTS - Aeronautical Information

NAVIGATIONAL AND PROCEDURAL INFORMATION		NAVIGATIONAL AND PROCEDURAL INFORMATION	
INTERSECTIONS <i>Named intersections used as reporting points. Arrows are directed toward facilities which establish intersection.</i>		MARINE LIGHTS With Characteristics of Light	
AERONAUTICAL LIGHTS	Rotating or Oscillating Located at Aerodrome     In isolated location on top of high structure WAC		<p>*Marine Lights are white unless otherwise noted. Alternating lights are red and white unless otherwise noted.</p>
AERONAUTICAL LIGHTS	Rotating Light with Flashing Code Identification Light   Rotating Light with Course Lights and Site Number    Flashing Light   WAC	VISUAL GROUND SIGNS <i>Shore and Landmarkers</i> 	Arrow points to location of marker Actual location of ground sign
		VFR CHECKPOINTS	
		VFR WAYPOINTS Stand-Alone Collocated with VFR Checkpoint	
			Not shown on WAC

NAVIGATIONAL AND PROCEDURAL INFORMATION			CHART LIMITS	
OBSTRUCTION	 1473 (394) bldg  628 UC  3368 (1529)	Less than 1000' AGL  1158 (553) stack  507 UC  2967 (1697)	OUTLINE ON SECTIONAL OF TERMINAL AREA CHART	 <p>LOS ANGELES TERMINAL AREA Pilots are encouraged to use the Los Angeles VFR Terminal Area Chart for flights at or below 10,000'</p>
GROUP OBSTRUCTION	 1062 (227)  4977 (1432)  2889 (1217)	Less than 1000' AGL  1524 (567)  3483 (1634)  4892 (1573)	WAC	Not shown on WAC
HIGH-INTENSITY OBSTRUCTION LIGHTS	 <i>High-intensity lights may operate part-time.</i>       	Less than 1000' AGL  1000' AGL and higher  Group Obstruction    	WAC	 <p>If inset chart is on a different chart: INDIANAPOLIS INSET See inset chart on the St. Louis Sectional for additional information</p>
WINDMILL FARMS	<p>When highest windmill is unverified, UC will be shown after MSL value.</p>  	CAUTION NUMEROUS WINDMILLS HIGHEST 3624' MSL UC CAUTION NUMEROUS WINDMILLS HIGHEST 3624' MSL	135	<p>If inset chart is on the same chart as outline: INDIANAPOLIS INSET See inset chart for additional detail</p>
WARNING AND CAUTION NOTES	<p>Used when specific area is not demarcated.</p> <p>WARNING Extensive fleet and air operations being conducted in offshore areas to approximately 100 miles seaward.</p> <p>CAUTION: Be prepared for loss of horizontal reference at low altitude over lake during hazy conditions and at night.</p>			<p>Not shown on WAC</p>

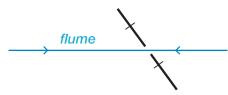
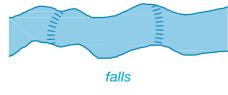
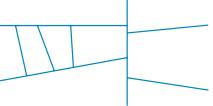
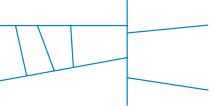
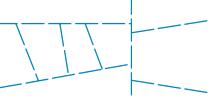
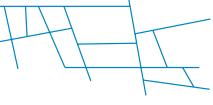
CULTURE		CULTURE	
RAILROADS <i>All gauges</i> Single Track	 	RAILROAD SIDINGS AND SHORT SPURS	
Double Track	 	ROADS	
More Than Two Tracks	 	Dual-Lane Divided Highway Category 1	 
Electric		Primary Category 2	 
RAILROADS IN JUXTAPOSITION		Secondary Category 2	
RAILROAD- NONOPERATING, ABANDONED, DESTROYED OR UNDER CONSTRUCTION	 	TRAILS Category 3 <i>Provides symbolization for dismantled railroad when combined with label "dismantled railroad."</i>	
RAILROAD YARDS		ROAD MARKERS	
Limiting Track To Scale		Interstate Route No.	
Location Only		U.S. Route No.	
RAILROAD STATIONS		Air Marked Identification Label	
		ROAD NAMES	
		LINCOLN HIGHWAY	
		LINCOLN HIGHWAY	
		WAC	
		ROADS UNDER CONSTRUCTION	
		under construction	

CULTURE		CULTURE	
BRIDGES AND VIADUCTS		FERRIES, FERRY SLIPS AND FORDS	
Railroad			
Road			
OVERPASSES AND UNDERPASSES		PROMINENT FENCES	
CAUSEWAYS		BOUNDARIES	
TUNNELS-ROAD AND RAILROAD		International	
POPULATED PLACES		State or Province	
Large Cities Category 1		Convention or Mandate Line	
Cities and Large Towns Category 2		Date Line	
POPULATED PLACES	 		
Towns and Villages Category 3			

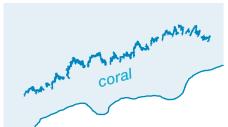
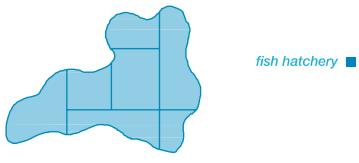
CULTURE		CULTURE	
TIME ZONES	 $PST = UTC - 8$ $MST = UTC - 7$ $CDT = UTC + 5$ UTC	Not shown on WAC	
MINES OR QUARRIES <i>Shaft Mines or Quarries</i>		☒	
POWER TRANSMISSION & TELECOMMUNICATION LINES	  WAC		
PIPELINES			
Underground			
DAMS			
DAM CARRYING ROAD			
PASSABLE LOCKS			
SMALL LOCKS			
WEIRS AND JETTIES			
SEAWALLS			
BREAKWATERS			
PIERS, WHARFS, QUAYS, ETC.			
MISCELLANEOUS CULTURAL FEATURES		<ul style="list-style-type: none"> ■ stadium ■ fort ■ cemetery 	
OUTDOOR THEATER			
WELLS			
Other Than Water			

CULTURE		HYDROGRAPHY	
RACE TRACKS		SHORELINES	
LOOKOUT TOWERS Air marked identification	 ④ 618 (Elevation Base of Tower)	Fluctuating	
LANDMARK AREAS		Unsurveyed Indefinite	
TANKS	<ul style="list-style-type: none"> • water • oil • gas 	Man-made	
COAST GUARD STATION		LAKES	 <i>Label as required</i> Perennial <i>When too numerous to show individual lakes, show representative pattern and descriptive note.</i> Non-Perennial <i>(dry, intermittent, etc.)</i> <i>Illustration includes small perennial lake</i>
AERIAL CABLEWAYS, CONVEYORS, ETC.	aerial cableway aerial cableway WAC	RESERVOIRS	 <i>Label when necessary for clarity</i>
HYDROGRAPHY			
OPEN WATER			
INLAND WATER			

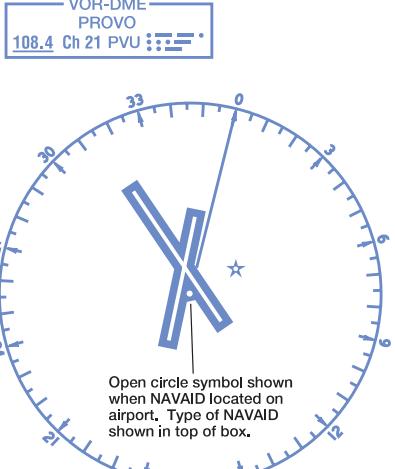
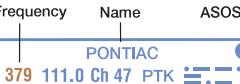
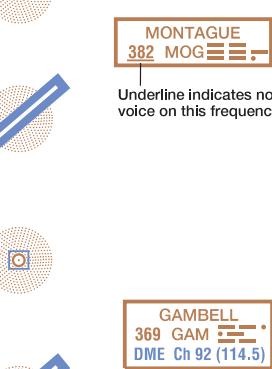
HYDROGRAPHY		HYDROGRAPHY	
STREAMS	Perennial		WET SAND AREAS <i>Within and adjacent to desert areas</i>
	Non-Perennial		AQUEDUCTS
	Fanned Out <i>Alluvial fan</i>		Abandoned or Under Construction
	Braided		Underground
	Disappearing		Suspended or Elevated
	Seasonally Fluctuating <i>with undefined limits</i>		Tunnels
	<i>with maximum bank limits, prominent and constant</i>		Kanats <i>Underground aqueduct with air vents</i>
	Sand Deposits In and Along Riverbeds		

HYDROGRAPHY		HYDROGRAPHY	
FLUMES, PENSTOCKS AND SIMILAR FEATURES			
	Elevated		
	Underground		
FALLS			
RAPIDS			
CANALS			
Abandoned or Under Construction	To Scale		
	Abandoned to Scale		
	Numerous		
SMALL CANALS AND DRAINAGE / IRRIGATION DITCHES	Perennial		
	Non-Perennial		
	Numerous		
Representative pattern and/or descriptive note.			
Numerous			

HYDROGRAPHY		HYDROGRAPHY	
SALT EVAPORATORS AND SALT PANS MAN EXPLOITED		LAND SUBJECT TO INUNDATION	
SWAMPS, MARSHES AND BOGS		SPRINGS, WELLS AND WATERHOLES	
HUMMOCKS AND RIDGES		GLACIERS	
MANGROVE AND NIPA		GLACIAL MORAINES	
PEAT BOGS		ICE CLIFFS	
TUNDRA	tundra	SNOWFIELDS, ICE FIELDS AND ICE CAPS	
CRANBERRY BOGS		ICE PEAKS	
RICE PADDIES		FORESHORE FLATS	

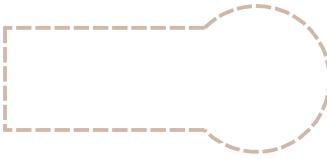
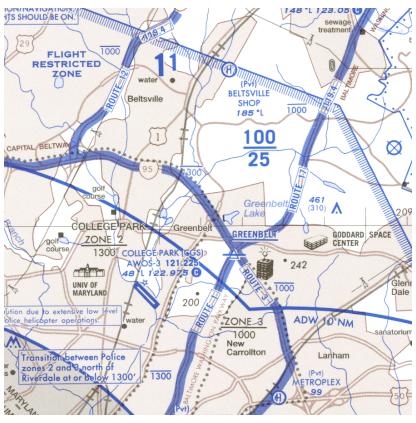
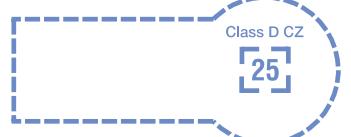
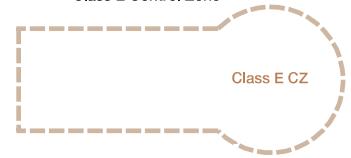
HYDROGRAPHY		RELIEF	
ROCKS-ISOLATED Bare or Awash	*	CONTOURS	
WRECKS Exposed	✓	Basic	
REEFS-ROCKY OR CORAL		Approximate	
MISCELLANEOUS UNDERWATER FEATURES NOT OTHERWISE SYMBOLIZED		Intermediate	
FISH PONDS AND HATCHERIES		Auxiliary	
ICE		Depression	
Permanent Polar Ice	  shelf ice	<i>Illustration includes mound within depression</i>	
Pack Ice	 APPROXIMATE MINIMUM LIMITS OF POLAR ICE FOR SEPTEMBER cliff	Values	

RELIEF		RELIEF	
SPOT ELEVATIONS	Position Accurate 	SAND OR GRAVEL AREAS	
	Position Accurate, Elevation Approximate 	SAND RIDGES	
Approximate location		SAND DUNES	
		SHADED RELIEF	
Highest in General Area		ROCK STRATA OUTCROP	 rock strata
		QUARRIES TO SCALE	 quarry
MOUNTAIN PASS		STRIP MINES, MINE DUMPS AND TAILINGS	 strip mine mine dump
HACHURING		CRATERS	
UNSURVEYED AREAS	 Label appropriately as required	ESCARPMENTS, BLUFFS, CLIFFS, DEPRESSIONS, ETC.	
UNCONTOURED AREAS	 Label appropriately as required	LEVEES AND ESKERS	
DISTORTED SURFACE AREAS			
LAVA FLOWS			

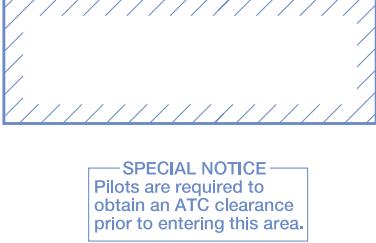
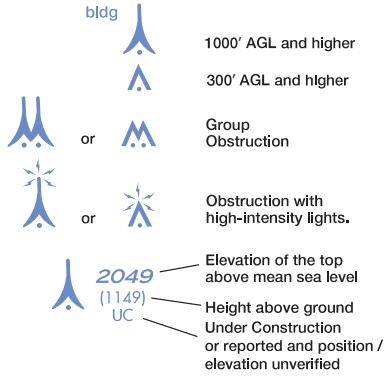
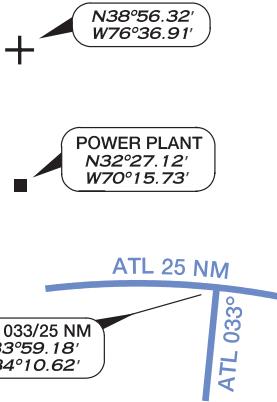
AIRPORTS		RADIO AIDS TO NAVIGATION	
LANDPLANE	<p>All recognizable runways, including some which may be closed, are shown for visual identification.</p>  Public Private	VHF OMNI-DIRECTIONAL RADIO (VOR) RANGE	 <p>Open circle symbol shown when NAVAID located on airport. Type of NAVAID shown in top of box.</p> <p>Compass Rose oriented to slave variation.</p>
HELIPORT	Heliports public and private Hospital Heliports Trauma Center Heliports located at major airports	VOR	<p>Operates less than continuous or On-Request</p> <p>Transcribed Weather Broadcast (TWEB)</p>  <p>Underline indicates no voice on this frequency.</p>
SEAPLANE		VORTAC	 <p>NDB Frequency Name ASOS/AWOS</p> <p>Frequency Channel Identifier Morse Code</p>
ULTRALIGHT FLIGHT PARK		VOR-DME	 <p>Hazardous Inflight Weather Advisory Service (HIWAS)</p>
AIRPORT DATA GROUPING	<p>Boxed airport name indicates airport for which a Special Traffic Rule has been established.</p> <p>(Pvt) - Non-public use having emergency or landmark value.</p>  <p>Rotating Beacon in operation Sunset to Sunrise</p> <p>FSS NO SVFR NAME (NAM) CT -119.1 ★ (119.8 HELI) ATIS 115.4 ASOS/ AWOS 135.42 03 L 122.95 AOE</p>	NON-DIRECTIONAL RADIOBEACON (NDB)	 <p>Underline indicates no voice on this frequency.</p>
	<p>FSS - Flight Service Station on field</p> <p>NO SVFR - Airspace where fixed wing special visual flight rules operations are prohibited (shown above airport name) F.A.R. 91.</p> <p>(NAME) - Indicates F.A.R. 93 Special Air Traffic Rules and Airport Traffic Identifier</p> <p>CT - 119.1 - Control Tower (CT) - primary frequency ★ - Star indicates operation part-time. See tower frequencies tabulation for hours of operation.</p> <p>ATIS 115.4 - Automatic Terminal Information Service</p> <p>ASOS / AWOS 135.42 - Automated Surface Weather Observing Systems (shown where full-time ATIS is not available). Some ASOS/AWOS facilities may not be located at airports.</p> <p>03 - Elevation in feet</p> <p>L - Lighting in operation Sunset to Sunrise</p> <p>*L - Lighting limitations exist, refer to Airport/Facility Directory.</p> <p>122.95 - UNICOM - Aeronautical advisory station</p> <p>(Unverified) - Indicates Common Traffic Advisory Frequencies (CTAF)</p> <p>AOE - Airport of Entry</p> <p>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. Dashes are not shown on heliports or helipads unless additional information follows the elevation (e.g. UNICOM, CTAF).</p>	NDB-DME	

HELICOPTER ROUTE CHARTS - Aeronautical Information

RADIO AIDS TO NAVIGATION		AIRSPACE INFORMATION	
NAVAIDS USED TO DEFINE CLASS B AIRSPACE	ILS - DME ○ SALT LAKE CITY DME ANT (I-BNT) Ch 52 (111.5)	CLASS B AIRSPACE Appropriate notes as required may be shown. (Mode C see FAR 91.215/AIM) All mileages are nautical (NM) All radials are magnetic.	LAS VEGAS CLASS B LAS 20 NM LAS 031° NAVAID identifier and distance from facility. CLASS B SURFACE AREA
BROADCAST STATIONS (BS) On request by the proper authority or when a VFR Check-point.	○ KFTM BS KFTM 1400		
FLIGHT SERVICE STATION (FSS)	Heavy line box indicates Flight Service Station (FSS). Frequencies 121.5, 122.2, 243.0 and 255.4 (Canada - 121.5, 126.7 and 243.0) are normally available at all FSS's and are not shown above boxes. All other frequencies are shown. For Local Airport Advisory use FSS frequency 123.6. R - Receive only DENVER DEN No NAVAID of the same name as FSS or 122.1R 123.6 NORTHWAY 116.3 Ch 110 ORT ████ FSS oper 0600-2200 Rancho Murieta FSS other times. NAVAID same name as FSS but not an RCO		70 SFC - Ceiling of Class B in hundreds of feet MSL - Floor of Class B in hundreds of feet MSL CTC LAS VEGAS APP ON 121.1 OR 257.8
REMOTE COMMUNICATIONS OUTLET (RCO)	Frequencies above thin line box are remoted to NAVAID site. Other frequencies at FSS providing voice communication may be available determined by altitude and terrain. Consult Airport/Facility Directory for complete information. Thin line box without frequencies and controlling FSS name indicates no FSS frequencies available. 123.6 OLYMPIA RCO McCHORD 122.35 ST PAUL 108.6 STP ████ MINNEAPOLIS 122.35 GAMBELL 369 GAM ████ MILES CITY FSS providing voice communication	CLASS C AIRSPACE Appropriate notes as required may be shown. (Mode C see FAR 91.215/AIM) See NOTAMs/Directory for Class C eff hrs	BURBANK CLASS C CLASS C SURFACE AREA 70 30 T SFC - Ceiling of Class C in hundreds of feet MSL - Floor of Class C in hundreds of feet MSL - Ceiling is to but not including floor of Class B - Surface CTC BURBANK APP WITHIN 20 NM ON 124.6 395.9
		CLASS D AIRSPACE See NOTAMs/Directory for Class D eff hrs	31 See NOTAMs/Directory for Class D/E (sfc) eff hrs 20 (A minus in front of the figure is used to indicate "from surface to but not including...") ALTITUDES IN HUNDREDS OF FEET MSL

AIRSPACE INFORMATION		AIRSPACE INFORMATION									
CLASS E SURFACE (SFC) AIRSPACE	<p>See NOTAMs/Directory for Class E (sfc) eff hrs</p> 	CANADIAN AIRSPACE	<p>TCA Class C/D</p>  <p>80 - Ceiling of TCA Class C/D in hundreds of feet MSL</p> <p>40 - Floor of TCA Class C/D in hundreds of feet MSL</p>								
SPECIAL AIRSPACE AREAS FLIGHT RESTRICTED ZONE RELATING TO NATIONAL SECURITY Example: Washington DC	 <p>Washington DC Metropolitan Area Air Defense Identification Zone/Flight Restricted Zone restrictions are in effect.</p> <p>Special regulations apply to all aircraft operations below Flight Level 180 in the Washington DC Metropolitan Area. Pilots should contact a local FSS for NOTAM information prior to flight in the Washington DC Metropolitan Area.</p>	<p>Appropriate notes as required may be shown.</p>	<p>Class C or D Control Zone</p>  <p>ALTITUDE IN HUNDREDS OF FEET MSL</p> <p>Class E Control Zone</p>  <p>AIRSPACE CLASSIFICATION (SEE CANADA FLIGHT SUPPLEMENT) AND OPERATIONAL REQUIREMENTS (SEE DOD AREA PLANNING AP/1) MAY DIFFER BETWEEN CANADA AND UNITED STATES</p> <p>NOTE: REFER TO CURRENT CANADIAN CHARTS AND FLIGHT INFORMATION PUBLICATIONS FOR INFORMATION WITHIN CANADIAN AIRSPACE</p>								
AIR DEFENSE IDENTIFICATION ZONE (ADIZ)	<p>WASHINGTON DC METROPOLITAN ADIZ</p>  <p>Note. Delimiting line not shown when it coincides with International Boundary, projection lines or other linear features.</p>	HELICOPTER ROUTES	<p>Primary Route</p> <table border="1"> <thead> <tr> <th>Route Name</th> <th>Tower Frequency</th> <th>One-way Route</th> <th>Altitude Changeover Point</th> </tr> </thead> <tbody> <tr> <td>MARRIOT</td> <td>118.3</td> <td>→</td> <td></td> </tr> </tbody> </table> <p>Reporting or Holding Points BAHAI Name</p>  <p>Secondary Route</p> <p>Transition Route</p> <p>ZONE 8 1000 Police Zone</p> <p>Recommended Route Altitude</p> <p>500 Maximum</p> <p>500 Minimum</p> <p>500 Recommended</p>	Route Name	Tower Frequency	One-way Route	Altitude Changeover Point	MARRIOT	118.3	→	
Route Name	Tower Frequency	One-way Route	Altitude Changeover Point								
MARRIOT	118.3	→									

HELICOPTER ROUTE CHARTS - Aeronautical Information

AIRSPACE INFORMATION		NAVIGATIONAL AND PROCEDURAL INFORMATION	
SPECIAL USE AIRSPACE Only the airspace effective below 18,000 feet MSL is shown. The type of area shall be spelled out in large areas if space permits.	 <p>P-56 or R-6401 W-518 or A-631</p> <p>PROHIBITED, RESTRICTED, WARNING or ALERT AREA</p>  <p>FALCON 1 MOA</p> <p>MILITARY OPERATIONS AREA (MOA)</p>	VFR CHECKPOINTS	 <p>Pictorial</p>  <p>STACKS</p>  <p>122.2 FRANCIS PEAK RCO CEDAR CITY</p>  <p>(Pvt) LEWIS 420</p>
MILITARY TRAINING ROUTES (MTR)	VR269		
SPECIAL AIR TRAFFIC RULES / AIRPORT TRAFFIC AREAS (FAR PART 93) Appropriate boxed notes as required shown adjacent to area.	 <p>SPECIAL NOTICE Pilots are required to obtain an ATC clearance prior to entering this area.</p>	VFR WAYPOINTS	 <p>VPXYZ</p>  <p>NAME (VPXYZ)</p>
MODE C (FAR 91.215) Appropriate notes as required may be shown.	MODE C 30 NM	OBSTRUCTIONS	
MISCELLANEOUS AIRSPACE AREAS Parachute Jumping Area with Frequency Glider Operating Area Ultralight Activity Hang Glider Activity	 <p>122.9</p>   	MAXIMUM ELEVATION FIGURE (MEF) (see page 2 for explanation).	124
SPECIAL CONSERVATION AREAS National Park, Wildlife Refuge, Primitive and Wilderness Areas, etc.	 <p>HAVASU LAKE NATIONAL WILDLIFE REFUGE</p>	NAVIGATION DATA	 <p>N38°56.32' W76°36.91'</p> <p>POWER PLANT N32°27.12' W70°15.73'</p> <p>ATL 25 NM</p> <p>ATL 033°</p> <p>ATL 033°</p> <p>ATL 033°</p>
TERMINAL RADAR SERVICE AREA (TRSA) Appropriate notes as required may be shown.	 <p>PALM SPRINGS TRSA</p> <p>SEE TWR FREQ TAB</p> <p>80 40</p> <p>- Ceiling of TRSA in hundreds of feet MSL - Floor of TRSA in hundreds of feet MSL</p>		

NAVIGATIONAL AND PROCEDURAL INFORMATION		CULTURE	
WARNING AND CAUTION NOTES	<p>WARNING Extensive fleet and air operations being conducted in offshore areas to approximately 100 miles seaward.</p> <p>CAUTION: Be prepared for loss of horizontal reference at low altitude over lake during hazy conditions and at night.</p>	POWER TRANSMISSION LINES	
LOCAL MAGNETIC NOTES	Unreliability Notes Magnetic disturbance of as much as 78° exists at ground level and 10° or more at 3000 feet above ground level in this vicinity.	PROMINENT PICTORIALS	 TEMPLE
CULTURE		LANDMARKS	
RAILROADS	Single Track Double Track 	LANDMARKS	<ul style="list-style-type: none"> ■ Landmark Feature-stadium, factory, school, etc. ⛏ Mines or Quarries ⌚ Race Track 🎭 Outdoor Theater ● Tank-water, oil or gas
HYDROGRAPHY			
ROADS	Dual-Lane: Divided Highways Major Boulevards & Major Streets Primary 	SHORELINES	
BRIDGES		MAJOR LAKES AND RIVERS	
POPULATED PLACES	Built-up Areas 	RESERVOIRS	
RELIEF			
BOUNDARIES	International State and Provincial 	SPOT ELEVATIONS	Position Accurate

AIRPORTS		AIRSPACE INFORMATION	
LANDPLANE	<p>No distinction is made between airports with services and those without services. Runways may be exaggerated to clearly portray the pattern. Hard-surfaced runways which are closed but still exist are included in the charted pattern.</p> <p>FAR 91 - Fixed wing special VFR operations prohibited.</p> <p>(Pvt) - Non-public use having emergency or landmark value.</p> <p>NO SVFR RIVERSIDE (RAL)</p>	CLASS B AIRSPACE	<p>LAS VEGAS CLASS B</p> <p>CLASS B SURFACE AREA</p> <p>80 - Ceiling of Class B in hundreds of feet MSL 40 - Floor of Class B in hundreds of feet MSL</p>
RADIO AIDS TO NAVIGATION		CLASS C AIRSPACE	EL TORO CLASS C
VHF OMNI-DIRECTIONAL RADIO RANGE (VOR)			<p>CLASS C SURFACE AREA</p> <p>48 - Ceiling of Class C in hundreds of feet MSL 30 - Floor of Class C in hundreds of feet MSL</p>
VOR	<p>Identifier: MAL 109.6 Frequency: 109.6</p>		<p>T - Ceiling is to but not including floor of Class B SFC - Surface</p>
VORTAC	<p>GCY 113.4</p>		
VOR-DME	<p>FHM 114.2 Underline indicates no voice on this frequency</p>		
NON-DIRECTIONAL RADIOBEACON (NDB)	<p>WDP 396 Underline indicates no voice on this frequency</p>	CLASS D AIRSPACE	<p>40</p> <p>Class E (sfc)</p>
NDB-DME	<p>LSJ 206</p>		
NAVAIDS USED TO DEFINE CLASS B AIRSPACE	<p>SALT LAKE CITY DME ANTENNA (I-BNT) Ch 52 (111.5)</p>		<p>(A minus in front of the figure is used to indicate "from surface to but not including...")</p> <p>ALTITUDE IN HUNDREDS OF FEET MSL</p>

AIRSPACE INFORMATION		AIRSPACE INFORMATION	
CLASS E SURFACE (SFC) AIRSPACE		SUGGESTED VFR FLYWAY AND ALTITUDE	<p>Direction: 195° Mileage: 35 Radial/Bearing from or to NAVADA Altitude: 2600 Altitude Change: 6700 015°</p>
SPECIAL AIRSPACE AREAS		IFR ROUTES	<p>Appropriate notes as required may be shown.</p> <p>Arrival: 10,000 - 5000 ft MSL Departure: 4000 - 8000 ft MSL</p>
FLIGHT RESTRICTED ZONE RELATING TO NATIONAL SECURITY Example: Washington DC	<p>Appropriate notes as required may be shown.</p> <p>Washington DC Metropolitan Area Air Defense Identification Zone/Flight Restricted Zone restrictions are in effect. Special regulations apply to all aircraft operations below Flight Level 180 in the Washington DC Metropolitan Area. Pilots should contact a local FSS for NOTAM information prior to flight in the Washington DC Metropolitan Area.</p>	TRANSITION ROUTES	<p>VFR TRANSITION ROUTE ATC CLEARANCE REQUIRED SEE SHOWBOAT GRAPHIC ON SIDE PANEL</p> <p>Uni-directional: Bi-directional: </p>
AIR DEFENSE IDENTIFICATION ZONE (ADIZ)	WASHINGTON DC METROPOLITAN ADIZ 	SPECIAL USE AIRSPACE	<p>P-56 W-518 or or R-6401 A-631</p> <p>PROHIBITED, RESTRICTED ALERT or WARNING AREA</p> <p>FALCON 1 MOA</p> <p>MILITARY OPERATIONS AREA (MOA)</p>
TEMPORARY FLIGHT RESTRICTION (TFR) RELATING TO NATIONAL SECURITY Example: Appropriate notes as required may be shown.	<p>CAUTION P-40 AND R-4009 EXPANDED BY TEMPORARY FLIGHT RESTRICTION. CONTACT AFSS FOR LATEST STATUS AND NOTAMS.</p>	MILITARY TRAINING ROUTES (MTR)	

AIRSPACE INFORMATION		NAVIGATIONAL AND PROCEDURAL INFORMATION	
SPECIAL AIR TRAFFIC RULES / AIRPORT TRAFFIC AREAS (FAR Part 93) Appropriate boxed note as required shown adjacent to area.		VFR CHECKPOINTS	<u>LA PORTE</u> <u>STADIUM</u> <u>HARVEY (S43)</u> <u>NORTHBROOK</u>
MODE C (FAR 91.215) Appropriate notes as required may be shown.		VFR WAYPOINTS	VPXYZ NAME (VPXYZ)
TERMINAL RADAR SERVICE AREA (TRSA) PALM SPRINGS TRSA	 100 - Ceiling of TRSA in hundreds of feet MSL 90 - Floor of TRSA in hundreds of feet MSL	OBSTRUCTIONS	<p>Only those obstacles specified by the local ATC Facility shall be shown.</p> <p>Above Ground Level (AGL) heights are not shown.</p>
MISCELLANEOUS AIRSPACE AREAS Parachute Jumping Area Glider Operating Area Ultralight Activity Hang Glider Activity	 	NAVIGATIONAL DATA	

CULTURE		RELIEF	
RAILROADS Single and Multiple Tracks		Spot Elevations Position Accurate Mountain Peaks	
ROADS Dual-Lane Divided Highway			
Primary			
POPULATED PLACES Built-up Areas			
Towns			
BOUNDARIES International			
POWER TRANSMISSION LINES			
PROMINENT PICTORIALS			
LANDMARKS			
HYDROGRAPHY			
SHORELINES			
MAJOR LAKES AND RIVERS			
RESERVOIRS			