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15 MAY 2025 to 12 JUN 2025

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT: FAA, Aeronautical Information Services 1305 East-West Highway SSMC 4, Room 4531 Silver Spring, MD 20910-3281 Telephone: 1-800-638-8972 https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/

For inquiries regarding military charts, please contact aerohelp@nga.mil

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For a list of approved FAA Print Providers, visit our website at: https://www.faa.gov/air_traffic/flight_info/aeronav/print_providers/

Frequently asked questions (FAQ) are answered on our website at: https://www.faa.gov/go/ais See the FAQs prior to contact via toll free number or email.

Request for the creation or revisions to Airport Diagrams should be in accordance with FAA Order 7910.4

GENERAL INFORMATION/INSTRUCTIONS

CHANGE NOTICE (CN) FOR THE UNITED STATES GOVERNMENT

TERMINAL PROCEDURES PUBLICATION

GENERAL:

15 MAY 2025

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12 JUN 2028

The United States Terminal Procedures are published in 25 Bound Volumes on a 56-day cycle. This CN is published at the mid 28-day point and contains revisions, additions and deletions to the last complete issue of the 24 volumes covering the conterminous U.S. There is no CN published for airports in the states of Alaska, Hawaii, or Pacific Islands.

OPERATIONAL USE OF THE CHANGE NOTICE:

During flight planning or in the case of an in-flight diversion, it is imperative that the pilot first consult this CN before making any decision as to which procedures are current at the airport of intended landing. If the airport of intended landing is not listed in the supplementary information or Index of Charts then the airport information in the basic 24 volumes has not changed.

INDEX OF TERMINAL PROCEDURES:

All civil airports which have revised, added or deleted procedures are listed alphabetically by city in the Index. In addition to the airport name, the Index includes the CN page number, the current procedure designation, the affected page and volume number in the last issue of the 24 conterminous US volumes and an indication whether the procedure is new, has been deleted, or replaces an existing procedure.

EFFECTIVE DATES:

All procedures in this CN are effective on the dates shown on the front cover unless indicated otherwise in the Index, i.e., if the procedure revision is effective on a date other than the CN publication date, this will be noted in the Index instructions by "Effective (date)". This will also be shown on the planview of the affected Chart(s).

CONSULT CURRENT NOTAMS.

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For a list of approved FAA Print Providers, visit our website at: https://www.faa.gov/air_traffic/flight_info/aeronav/print_providers/

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Request for the creation or revisions to Airport Diagrams should be in accordance with FAA Order 7910.4

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INOPERATIVE COMPONENTS OR VISUAL AIDS TABLE (For Civil Use Only)

Straight-in and Sidestep landing minimums published on instrument approach procedure charts are based on full operation of all components and visual aids (see exception below for ALSF 1 & 2) associated with the particular approach chart being used. Higher minimums are required with inoperative components or visual aids as indicated below. If more than one component is inoperative, each minimum is raised to the highest minimum required by any single component that is inoperative. ILS glideslope inoperative minimums are published on the instrument approach charts as localizer minimums. This table applies to approach categories A thru D and is to be used unless amended by notes on the approach chart. Such notes apply only to the particular approach category(ies) as stated. Category E inoperative notes will be specified when published on civil charts. The inoperative table does not apply to Circling minimums. See legend page for description of components indicated below.

Full Operation Exception: For ALSF 1 & 2 operated as SSALR, or when the sequenced flashing lights are inoperative, there is no effect on visibility for ILS lines of minima.

(1) ILS, PAR, LPV, GLS minima

Inoperative Component or Visual Aid	Increase Visibility
All ALS types (except ODALS)	1⁄4 mile

(2) ILS, LPV, GLS with visibility minima of RVR 1800[†]/2000*/2200*

Inoperative Component or Visual Aid	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	To RVR 4000† To RVR 4500*
TDZL or RCLS	To RVR 2400#
RVR	To ½ mile

#For ILS, LPV, GLS procedures with a 200 foot HAT, RVR 1800 authorized with use of FD or AP or HUD to DA. For ILS procedures with a 200 foot HAT with a restriction on autopilot usage, RVR 1800 authorized with use of FD or HUD to DA.

(3) All Approach Types and all lines of minima other than (1) & (2) above

Inoperative Component or Visual Aid	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	½ mile
MALSF, MALS, SSALF, SSALS, SALSF, SALS	¼ mile

(4) Sidestep minima (CAT C-D)

Inoperative Component or Visual Aid to Sidestep Runway	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	½ mile

(5) All Approach Types, All lines of minima

Inoperative Component or Visual Aid	Increase Visibility
ODALS (CAT A-B)	¼ mile
ODALS (CAT C-D)	¹∕ ₈ mile

TERMS/LANDING MINIMA DATA 20142

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IFR LANDING MINIMA The United States Standard for Terminal Instrument Procedures (TERPS) is the approved criteria for formulating instrument approach procedures. Landing minima are established for six aircraft approach categories (ABCDE and COPTER). In the absence of COPTER MINIMA, helicopters may use the CAT A minimums of other procedures. LANDING MINIMA FORMAT In this example airport elevation is 1179, and runway touchdown zone elevation is 1152. Visibility Aircraft Approach Category DA (RVR 100's of feet) HAT Straight-in ILS CATEGORY All weather Δ В С **`**D minimums in to Runway 27 S-ILS 27 1352/24 200 (200-1/2) parentheses not 1440/50 applicable to Civil S-LOC 27 1440/24 288 (300-1/2) 288 (300-1) Pilots. Straight-in Military Pilots 1.540-1 1640-1 1640-11/2 1740-2 with Glide Slope CIRCLING refer to appro-361 (400-1) 461 (500-1) 461 (500-11/2) 561 (600-2) Inoperative or priate regulations. not used to MDA нàа Visibility in Statute Miles Runway 27 COPTER MINIMA ONLY CATEGORY COPTER H-176° 680-1/2 363 (400-1/2) No circling minimums are provided Copter Approach Direction Height of MDA/DA Above Landing Area (HAL)

NOTE: The W symbol indicates outages of the WAAS vertical guidance may occur daily at this location due to initial system limitations. WAAS NOTAMS for vertical outages are not provided for this approach. Use LNAV minima for flight planning at these locations, whether as a destination or alternate. For flight operations at these locations, when the WAAS avionics indicate that LNAV/VNAV or LPV service is available, then vertical guidance may be used to complete the approach using the displayed level of service. Should an outage occur during the procedure, reversion to LNAV minima may be required. As the WAAS coverage is expanded, the W will be removed.

RNAV minimums are dependent on navigation equipment capability, as stated in the applicable AFM, AFMS, or other FAA approved document. See AIM paragraph 5-4-5, AC 90-105 and AC 90-107 for detailed requirements for each line of minima.

COLD TEMPERATURE AIRPORTS

NOTE: A S-12°C symbol indicates a cold temperature altitude correction is required at this airport when reported temperature is at or below the published temperature. See the following Cold Temperature Error Table to make manual corrections. Advise ATC with altitude correction. Advising ATC with altitude corrections is not required in the final segment. See Aeronautical Information Manual (AIM), Chapter 7, for guidance and additional information. For a complete list, see the "Cold Temperature Airports" link under the Additional Resources heading at the bottom of the following page: http://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/

COLD TEMPERATURE ERROR TABLE

	HEIGHT ABOVE AIRPORT IN FEET														
		200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
8	+10	10	10	10	10	20	20	20	20	20	30	40	60	80	90
٩	0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
E	-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
<u>.</u>	-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
RTE	-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
õ	-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
E I	-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

AIRCRAFT APPROACH CATEGORIES

Aircraft approach category indicates a grouping of aircraft based on a speed of VREF, if specified, or if VREF not specified, 1.3 VSO at the maximum certificated landing weight. VREF, VSO, and the maximum certificated landing weight are those values as established for the aircraft by the certification authority of the country of registry. Helicopters are Category A aircraft. An aircraft shall fit in only one category. When necessary to operate the aircraft at an airspeed in excess of the maximum airspeed of its certified aircraft approach category, pilots should use the applicable higher category minima. For additional options and to ensure the aircraft remains within protected airspace, consult the AIM. See following category limits:

MANEUVERING TABLE

Approach Category	А	В	С	D	E		
Speed (Knots)	0-90	91-120	121-140	141-165	Abv 165		

TERMS/LANDING MINIMA DATA 20142

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CIRCLING APPROACH OBSTACLE PROTECTED AIRSPACE

The circling MDA provides vertical obstacle clearance during a circle-to-land maneuver. The circling MDA protected area extends from the threshold of each runway authorized for landing following a circle-to-land maneuver for a distance as shown in the tables below. The resultant arcs are then connected tangentially to define the protected area.

STANDARD CIRCLING APPROACH MANEUVERING RADIUS

Circling approach protected areas developed prior to late 2012 used the radius distances shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category. The approaches using standard circling approach areas can be identified by the absence of the 💽 symbol on the circling line of minima.

Circling MDA in fact MSI					
Circling MDA In feet MSL	CAT A	CAT B	CAT C	CAT D	CAT E
All Altitudes	1.3	1.5	1.7	2.3	4.5

C EXPANDED CIRCLING APPROACH MANEUVERING AIRSPACE RADIUS

Circling approach protected areas developed after late 2012 use the radius distance shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category, and the altitude of the circling MDA, which accounts for true airspeed increase with altitude. The approaches using expanded circling approach areas can be identified by the presence of the C symbol on the circling line of minima.

Circling MDA in fact MSI	Approach Category and Circling Radius (NM)							
Circling MDA In leer MSL	CAT A	CAT B	CAT C	CAT D	CAT E			
1000 or less	1.3	1.7	2.7	3.6	4.5			
1001-3000	1.3	1.8	2.8	3.7	4.6			
3001-5000	1.3	1.8	2.9	3.8	4.8			
5001-7000	1.3	1.9	3.0	4.0	5.0			
7001-9000	1.4	2.0	3.2	4.2	5.3			
9001 and above	1.4	2.1	3.3	4.4	5.5			

Comparable Values of RVR and Visibility

The following table shall be used for converting RVR to ground or flight visibility. For converting RVR values that fall between listed values, use the next higher RVR value; do not interpolate. For example, when converting 4800 RVR, use 5000 RVR with the resultant visibility of 1 mile

		,					
RVR (feet)	Visibility (SM)						
1600	1⁄4	2400	1/2	3500	5/8	5500	1
1800	1/2	2600	1/2	4000	3⁄4	6000	11/4
2000	1/2	3000	5/8	4500	7⁄8		
2200	1/2	3200	5/8	5000	1		

BADAR MINIMA

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	RWY	GP/TCH/RPI	CAT	MDA-VIS	HAA	CEIL-VIS	CAT	MDA-VIS	HAA	CEIL-VIS
PAR	10	2.5°/42/1000	ABCDE	195 /16	100	(100-¼)			Visib	lity
	28	2.5°/48/1068	ABCDE	187 /16	100	(100-¼)			/(RVR	100's of feet)
ASR	10		ABC	560 /40	463	(500-¾)	DE	560 /50	463	(500-1)
	28		AB	600 /50	513	(600-1)	CDE	600 /60	513	(600-1¼)
CIR	10		AB	560- 1¼	463	(500-1¼)	CDE	560- 1½	463	(500-1½)
	28		AB	600- 1¼	503	(600-1¼)	CDE	600- 1½	503	(600-1½)
		Visibility i	n Statute I	Miles 🖊			minimum	s in parenthes	es not o	of eldpoilage

Radar Minima:

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All minimums in parentheses not applicable to Civil Pilots. Military Pilots refer to appropriate regulations.

1. Minima shown are the lowest permitted by established criteria. Pilots should consult applicable directives for their category of aircraft

2. The circling MDA and weather minima to be used are those for the runway to which the final approach is flown- not the landing runway. In the above RADAR MINIMA example, a category C aircraft flying a radar approach to runway 10, circling to land on runway 28, must use an MDA of 560 feet with weather minima of 500-11/2.

NOTE: Military RADAR MINIMA may be shown with communications symbology that indicates emergency frequency monitoring capability by the radar facility as follows: (E) VHF and UHF emergency frequencies monitored

(V) VHF emergency frequency (121.5) monitored

(U) UHF emergency frequency (243.0) monitored Additionally, unmonitored frequencies which are available on request from the controlling agency may be annotated with an "x".

A Alternate Minimums not standard. Civil users refer to tabulation. USA/USN/USAF pilots refer to appropriate regulations. A Alternate minimums are Not Authorized due to unmonitored facility or absence of weather reporting service.

🖤 Airport is published in the Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors)

tabulation. TERMS/LANDING MINIMA DATA 19339 5

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GENERAL INFORMATION

This publication is issued every 56 days and includes Standard Instrument Approach Procedures (SIAPS), Standard Instrument Departures (SIDs), Standard Terminal Arrivals (STARs), IFR Takeoff Minimums and (Obstacle) Departure Procedures (ODPs), IFR Alternate Minimums, and Radar Instrument Approach Minimums for use by civil and military aviation. The organization responsible for SIAPs, Radar Minimums, SIDs, STARs and graphic ODPs is identified in parentheses in the top margin of the procedure; e.g., (FAA), (FAA-O), (USA), (USAF), (USN). SIAPS with the (FAA) and (FAA-O) designation are regulated under 14 CFR, Part 97. SIAPs with the (FAA-O) designation have been developed by an authorized non-FAA service provider. See 14 CFR, Part 91.175 (a) and the AIM for further details. 14 CFR, Part 91.175 (g) and the Special Notices section of the Chart Supplement contain information on civil operations at military airports.

The FAA uses an internal numbering system on all charts in the TPP. This Approach and Landing (AL) number is located on the top center margin of the chart followed by the organization responsible for the procedure in parentheses, e.g., AL-18 (FAA), AL-11919 (FAA-O). Military procedures do not show AL number, but do show the appropriate authority for the procedure, e.g., (USAF).

CHART CURRENCY INFORMATION

Date of Latest Revision 09365

The Date of Latest Revision identifies the Julian date the chart was added or last revised for any reason. The first two digits indicate the year, the last three digits indicate the day of the year (001 to 365/6) in which the latest revision of any kind has been made to the chart.

FAA Procedure	Orig 31DEC09	Procedure Amendment
Amendment Number	- Amdt 2B 12MAR09 -	Effective Date

The FAA Procedure Amendment Number represents the most current amendment of a given procedure. The Procedure Amendment Effective Date represents the AIRAC cycle date on which the procedure amendment was incorporated into the chart. Updates to the amendment number & effective date represent procedural/criteria revisions to the charted procedure, e.g., course, fix, altitude, minima, etc. On Departure Procedures and Standard Terminal Arrivals, procedural revisions to the current chart are indicated by an upnumber to the procedure title with the procedure amendment effective date following. On Radar Minima, Takeoff Minimums and (Obstacle) Departure Procedures and Diverse Vector Areas, the FAA Procedure Amendment Number, Procedure Effective Date, and the Julian Date of Last Revision will be shown on the same line, e.g., AMDT 2 10DEC15 (15344).

MISCELLANEOUS

* Indicates a non-continuously operating facility, see Chart Supplement.

For Civil (FAA) instrument procedures, "RADAR REQUIRED" in the planview of the chart indicates that ATC radar must be available to assist the pilot when transitioning from the en route environment. "Radar required" in the pilot briefing portion of the chart indicates that ATC radar is required on portions of the procedure outside the final approach segment, including the missed approach. Some military procedures also have equipment requirements such as "Radar Required", but do not conform to the same charting application standards used by the FAA.

Distances are in nautical miles (except visibility in statute miles and Runway Visual Range in hundreds of feet). Runway dimensions are in feet. Elevations are in feet, Mean Sea Level (MSL). Ceilings are in feet above airport elevation. Radials/bearings/headings/courses are magnetic. Horizontal Datum: Unless otherwise noted on the chart, all coordinates are referenced to North American Datum 1983 (NAD 83), which for charting purposes is considered equivalent to World Geodetic System 1984 (WGS 84).

Terrain is scaled within the neat lines (planview boundaries) and does not accurately underlie not-to-scale distance depictions or symbols.

GENERAL INFO 24137

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STANDARD TERMINAL ARRIVALS AND DEPARTURE PROCEDURES

The use of the associated codified STAR/DP and transition identifiers are requested of users when filing flight plans online. It must be noted that when filing a STAR/DP with a transition, the first three coded characters of the STAR and the last three coded characters of the DP are replaced by the transition code. Examples: ACTON SIX ARRIVAL, file (AQN.AQN6); ACTON SIX ARRIVAL, EDNAS TRANSITION, file (EDNAS.AQN6). FREEHOLD THREE DEPARTURE, file (FREH3.RBV), FREEHOLD THREE DEPARTURE, ELWOOD CITY TRANSITION, file (FREH3.EWC).

PROCEDURE PBN/EQUIPMENT REQUIREMENTS

Users will begin to see Performance-Based Navigation (PBN) Requirements and Equipment Requirements on Instrument Approach Procedures (IAPs), RNAV STARs and RNAV DPs prominently displayed in separate, standardized notes boxes. For procedures with PBN elements, the PBN box will contain the procedure's navigation specification(s); and, if required: specific sensors or infrastructure needed for the navigation solution; any additional or advanced functional requirements; the minimum Required Navigation Performance (RNP) value and any amplifying remarks. Items listed in this PBN box are REQUIRED for the procedure's PBN elements. The Equipment Requirements box will list non-PBN requirements. On charts with both PBN elements and equipment requirements, the PBN requirements box will be listed first. The publication of these notes will continue incrementally until all charts have been amended to comply with the new standard.

IAP PBN/Equipment Requirements Notes Box



RNAV STAR and DP PBN/Equipment Requirements Notes Box

PBN Requirements Box ——	RNAV 1 - DME/DME/IRU or GPS
Equipment Requirements Box ——	RADAR required

PILOT CONTROLLED AIRPORT LIGHTING SYSTEMS

Reference the Chart Supplement for detailed information on pilot controlled lighting (PCL) systems.

Available airport lighting systems that are charted as notes, e.g. REIL, MIRL, are shown with a negative "O" symbol beside the name to indicate pilot controlled lighting.

To activate lights, use frequency indicated in the communications section of the chart with a 🚺

KEY MIKE 7 times within 5 seconds 5 times within 5 seconds 3 times within 5 seconds FUNCTION

Highest intensity available Medium or lower intensity (Lower REIL or REIL-off) Lowest intensity available (Lower REIL or REIL-off)

ABBREVIATIONS 25107

AAF AAUP ADF ADIZ
AFAUX AFB AFRC
AGL AFHP AFIS
AHP ALF ALS ALSF
ANGB. ANGS. Ant. AOB. APCH. APP CON. AR ARB. ARPT. ARR. ASSOS.
ASR ASSC
ATC ATCT ATIS
AUNICOM AWOS
Baro-VNAV
BC brg CAPT CAT CCW CDI CGAS Chan CIR CL CLNC DEL CNF CPDLC
CTAF
CW

Army Air Field
Attention All Users Page
Automatic Direction Finder
Air Defense Identification
Zone
Air Force Base
Armed Forces Reserve
Center/Air Force Reserve
Command
Above Ground Level
Air Force Heliport
Automatic Flight Information
Service
Auxiliary Landing Field
Approach Light System
Approach Light System with
Seguenced Fleehing Lighte
Sequenced Flashing Lights
Air National Guard Base
Air National Guard Station
Antenna
At or Polow
ALUI DEIUW
Autopilot System
Approach
Approach Control
Authorization Deguired
Authorization Required
Air Reserve Base
Airport
Arrival
Air Station
All Station
Automated Surface
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Observing System Airport Surveillance RADAR Airport Surveillance Surveillance Systems Air Traffic Control Airport Traffic Control Tower Automaticn Service Automaticn Service Automated UNICOM Automated Weather Observing System Barometric Vertical Navigation Back Course Bearing Captain Category Counterclockwise Course Deviation Indicator Coast Guard Air Station Channel Circling Centerline Lighting System Clearance Delivery Computer Navigation Fix Controller Pilot Data Link
Observing System Airport Surveillance RADAR Airport Surveillance Surveillance Systems Air Traffic Control Airport Traffic Control Tower Automatic Terminal Information Service Automated UNICOM Automated Weather Observing System Barometric Vertical Navigation Back Course Bearing Captain Category Counterclockwise Course Deviation Indicator Coast Guard Air Station Channel Circling Centerline Lighting System Clearance Delivery Computer Navigation Fix Controller Pilot Data Link Communicatione
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Observing System Airport Surveillance RADAR Airport Surveillance Surveillance Systems Air Traffic Control Airport Traffic Control Tower Automatic Terminal Information Service Automated UNICOM Automated Weather Observing System Barometric Vertical Navigation Back Course Bearing Captain Category Course Deviation Indicator Coast Guard Air Station Channel Circling Centerline Lighting System Clearance Delivery Computer Navigation Fix Controller Pilot Data Link Communications Common Traffic Advisory
Observing System Airport Surveillance RADAR Airport Surveillance Surveillance Systems Air Traffic Control Airport Traffic Control Tower Automatic Terminal Information Service Automated UNICOM Automated Weather Observing System Barometric Vertical Navigation Back Course Bearing Captain Category Counterclockwise Course Deviation Indicator Coast Guard Air Station Channel Circling Centerline Lighting System Clearance Delivery Computer Navigation Fix Controller Pilot Data Link Common Traffic Advisory Frequency
Observing System Airport Surveillance RADAR Airport Surveillance Surveillance Systems Air Traffic Control Airport Traffic Control Tower Automatic Terminal Information Service Automated UNICOM Automated Weather Observing System Barometric Vertical Navigation Back Course Bearing Captain Category Counterclockwise Course Deviation Indicator Coast Guard Air Station Channel Circling Centerline Lighting System Clearance Delivery Computer Navigation Fix Controller Pilot Data Link Common Traffic Advisory Frequency Clockwise
Observing System Airport Surveillance RADAR Airport Surveillance Surveillance Systems Air Traffic Control Airport Traffic Control Tower Automatic Terminal Information Service Automated UNICOM Automated Weather Observing System Barometric Vertical Navigation Back Course Bearing Captain Category Counterclockwise Course Deviation Indicator Coast Guard Air Station Channel Circling Centerline Lighting System Clearance Delivery Computer Navigation Fix Controller Pilot Data Link Communications Common Traffic Advisory Frequency Clockwise

D-ATIS	Digital-A
	Informa
DA	Decisio
DEP	Departu
DEP CON	Departu
DER	Departu
DH	Decisio
DME	Distanc
	Equipm
סח	Doportu
	Departo
DINK	Thrash
	Diverse
	Diverse
ELEV	Elevatio
EMAS	Enginee
	Arrestin
EXEC	Executiv
FAF	Final Ap
FD	Flight D
FL	Flight Le
FLD	Field
FM	Fan Ma
FMS	Flight M
GBAS	Ground
	Augmer
GCA	Ground
GCO	Ground
	Outlet
GLS	Ground
	Augmer
	Landing
GP	Glidena
GPS	Global
GS	Glide SI
НАА	Height A
ΗΔΙ	Height /
НАТ	Hoight /
НАТЬ	Hoight /
НСН	Heliport
hda	Hooding
пад	
1 III XL	Lighto
	Lignis
	neau-u
	Initial Ap
IAP	Deserved
1040	Procedu
ICAU	Internat
-	Organiz
IF	Interme
IFR	Instrum
ILS	Instrum
IM	Inner M
INC	Incorpo
Inop	Inopera
INT	Intersec
INTCNTL	Intercor
INTL	Internat
JNGB	Joint Na
JRB	Joint Re
Κ	Knots
KIAS	Knots Ir
LAAS	Local A
	System

aital-Automatic Terminal ormation Service cision Altitude parture parture Control parture End of Runway cision Height stance Measuring uipment parture Procedure placed Runway . reshold erse Vector Area vation gineered Material esting System ecutive al Approach Fix ght Director System ght Level ld n Marker ght Management System ound Based gmentation System ound Control Approach ound Communication ıtlet ound Based gmentation System nding System depath obal Positioning System de Slope ight Above Airport ight Above Landing ight Above Touchdown ight Above Threshold liport Crossing Height ading h Intensity Runway hts ad-up Display tial Approach Fix trument Approach ocedure ernational Civil Aviation ganization ermediate Fix trument Flight Rules strument Landing System er Marker corporated perative ersection ercontinental ernational int National Guard Base int Reserve Base ots ots Indicated Airspeed cal Area Augmentation

ABBREVIATIONS 25107

LDA	Localizer Type Directional	OF
lda		
	Lanung	
	Low Intensity Runway Lights	PF
LNAV	Lateral Navigation	Pv
LOA	Letter of Agreement/	R.
	Authorization	R/
LOC	Localizer	R/
LOM	Locator Outer Marker	
LP	Localizer Performance	R
LPV	Localizer Performance with	
	Vertical Guidance	D
IR	Lead Radial	
	Long Dongo DADAD Station	
MA A	Movimum Authorized	
MAA		RL
	Altitude	R
MALS	Medium Intensity Approach	R
	Lighting System	
MALSF	Medium Approach Lighting	RF
	System with Sequenced	
	Flashers	R\
MALSR	Medium Intensity Approach	R\
	Lighting System with	5
	Runway Alignment Indicator	
	Lighte	5
MAD	Lights Missed Approach Doint	~
	Marina Qarra Air Fasility	SF
	Marine Corps Air Facility	
MCALF	Marine Corps Auxiliary	
	Landing Filed	SE
MCAS	Marine Corps Air Station	SF
MCB	Marine Corps Base	SI
MCOLF	Marine Corps Outlying Field	
MDA	Minimum Descent Altitude	SN
MEA	Minimum Enroute Altitude	SE
MEMI	Memorial	
METRO	Metropolitan	00
MIRI	Medium Intensity Runway	
	Lighte	~
N 4 N 4	Middle Merker	33
NINI		
MOCA	Minimum Obstruction	
	Clearance Altitude	SS
MRA	Minimum Reception Altitude	
MSL	Mean Sea Level	ST
MSPEC	Management Specification	ST
MUNI	Municipal	ST
N/A	Not Applicable	TA
NA	Not Authorized	TA
NAAS	Naval Auxiliary Air Station	TC
NAF	Naval Air Facility	тг
NALE	Naval Auxiliary Landing Field	тг
NAS	Naval Air Station	
	Nondiractional Padia Baacon	11
NM	Noutical Mile	-
NOLF	Naval Outlying Field	
NOPI	No Procedure Turn	тс
NOTAM	Notice to Airmen	TC
NS	Naval Station	tr.
NTL	National	TF
ODALS	Omnidirectional Approach	ΤV
	Lighting System	UN
ODP	Obstacle Departure	01
-	Procedure	119
OM	Outer Marker	119
		00

	Onerstiens Cresting
-SPEC	Operations Specification
AR	Precision Approach Radar
20	Bro Doporturo Clooropoo
JC	Pre-Departure Clearance
RW	Precision Runway Monitor
	Duivete
/t	Private
	Radial
۹	Radio Altimeter setting height
NI	Runway Alignment Indicator
∜∟	Runway Alignment mulcator
	Liahts
	Bunuau Contarline Light
LS	Runway Centenine Light
	System
=IL	Runway End Identifier Lights
-	Radius to Fix
GNL	Regional
10	Runway Lead-in Light System
LO	Runway Leau-In Light Oystern
VAV	Area Navigation
	Poquired Nevigation
NP	Required Navigation
	Performance
	Dummer Delint of
4	Runway Point of
	Intercention)
/R	Runway Visual Range
AD/	Pupway
/V Y	Runway
	Straight-in
	Cimulified Chart Annroach
ALS	Simplified Short Approach
	Light System
ALSF	Short Approach Lighting
	System with Sequenced
	eyetein mar eequeneeu
	Flashing Lights
)E	Simplified Directional Eacility
JF	Simplified Directional Lacinty
-B	Space Force Base
D	Standard Instrument
D	Standard Instrument
	Departure
И	Statute Mile
9 66	Sunrise-Sunset
SALF	Short Approach Lighting
	System with Sequenced
	System with Sequenced
	Flashing Lights
	Cimulified Chart Annroach
5ALR	Simplified Short Approach
	Light System with Runway
	All of the second
	Alignment Indicator Lights
CAL C	Simplified Short Approach
5ALS	Simplified Short Approach
	Liahtina System
-	Soint
	Sallit
TE .	Sainte
	Standard Tampinal Arrival
AR	Standard Terminal Arrival
Δ	Terminal Arrival Area
v	
ACAN	l actical Air Navigation
าน	Threshold Crossing Height
)Z	Touchdown Zone
	Touchdown Zono Elovation
ノムロー・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	Touchuown Zone Elevation
)7/CI	Touchdown Zone and
2/02	Dunway Contarline Lighting
	Runway Centenine Lighting
171	Touchdown Zone Lights
<u>~</u>	Touchdown Zono Eighto
1K	i nresnola
אחר	Takeoff Distance Available
JUA	
DRA	Takeott Run Available
	Track
	TACK
IMI	Terminal
ND	Tower
VK	rower
NICOM	Universal Communications
	Station
24	United States Army
DA	United States Alliny
SAF	United States Air Force
	-

ABBREVIATIONS 25107

USCG USMC USN USSF	United States Coast Guard United States Marine Corps United States Navy United States Space Force
VASI	Visual Approach Slope Indicator
VCOA	Visual Climb Over Airport
VDA	Vertical Descent Angle
VDP	Visual Descent Point
VFR	Visual Flight Rules
VGSI	Visual Glide Slope Indicator
VNAV	Vertical Navigation
VOR	Very High Frequency Omni-
	Directional Range
VORTAC	Very High Frequency Omni-
	Directional Range/Tactical
	Air Navigation
WAAS	Wide Area Augmentation
	System
WP/WPT	Waypoint

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JUN 2025

INSTRUMENT	APPROACH PROCEDURES	(CHARTS

PLANVIEW SYMBOLS



5 MAY 2025 to 12 JUN 2025

15 MAY 2025

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12 JUN 2025





5 MAY 2025 to 12 JUN 2025

LEGEND 23334 STANDARD TERMINAL ARRIVAL (STAR) CHARTS



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LEGEND 23334

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DEPARTURE PROCEDURE (DP) CHARTS



5 MAY 2025 to 12 JUN 2025

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INSTRUMENT APPROACH PROCEDURES (CHARTS)

AIRPORT DIAGRAM/AIRPORT SKETCH							
Runways							
	Helicopter Alighting Areas 🛞 🕂 州 🧥 🕂						
Surface Hard Surface Parking Overruns, Surface	Negative Symbols used to identify Copter Procedures						
Areas Blast Pads	landing point 🕕 🛨 🖪 🛦 🛨						
× × ×××	NOTE: Landmark features depicted on Copter Approach insets and sketches are provided for visual reference only						
Runway Surface Movement Construction Runway	Runway TDZ elevation TDZE 123						
ARRESTING GEAR: Specific arresting gear systems; e.g., BAK12, MA-1A etc., shown on airport diagrams,							
not applicable to Civil Pilots. Military Pilots refer to appropriate DOD publications.	(shown when rounded runway slope is $\geq 0.3\%$)						
Tuni-directional Tbi-directional } Jet Barrier	NOTE: Runway Slope measured to midpoint on runways 8000 feet or longer						
ARRESTING SYSTEM [EMAS]							
REFERENCE FEATURES	U.S. Navy Optical Landing System (OLS) "OLS" location is shown because of its height of						
Displaced Threshold	approximately 7 feet and proximity to edge of						
Hot Spot	of aircraft.						
Runway Holding Position Markings Buildings	Approach light symbols are shown in the						
Self-Serve Fuel ##	Flight Information Handbook.						
Tanks	Airport diagram scales are variable.						
Obstructions∧ Airport Beacon #	True/magnetic North orientation may vary from						
Runway Radar Reflectors	diagram to diagram						
Bridges	Coordinate values are shown in 1 or ½ minute						
Control Tower # TWR	6 second ticks, within each 1 minute increments.						
Unlit Lit Wind Cone 🕩 🖈	Positional accuracy within ± 600 feet unless otherwise						
Landing Tee	noted on the chart.						
letrahedron P 🗦	Runway length depicted is the physical length of						
# When Control Tower and Rotating Beacon are	if any) but excluding areas designated as stopways.						
co-located, Beacon symbol will be used and further identified as TWR	A D symbol is shown to indicate runway declared						
## See appropriate Chart Supplement for	distance information available, see appropriate Chart						
information.	Supplement for distance information.						
Runway Weight Bearing Capacity or Pavement	NOTE: All new and revised airport diagrams are shown refer-						
Classification Number (PCN)/Pavement Classification Rating (PCR) is shown as a codified expression. Refer	enced to the World Geodetic System (WGS) (noted on						
to the appropriate Supplement/Directory for applicable	appropriate diagram), and may not be compatible with local coordinates published in DoD FLIP.						
codes e.g., RWY 14-32 PCR 560 R/B/W/1; 5-75, D-185, 2D-325, 2D/2D2-1120	(Foreign Only)						
	The airport sketch box includes the final approach						
FIELD	course or final approach course extended.						
HS 1 Runway Slope ELEV	Displaced Threshold Runway Visual						
(A5) -1 0.7% UP 174	(a) Identification						
Runway End ELEV 9000 X 200							
Elevation 164 Runway Dimensions (in feet) Ru	Inway Heading (Magnetic) Movement Area Dimensions (in feet)						
Airport diagrams are specifically designed to assist in the movement of around traffic at locations with complex							
Airport diagrams are specifically designed to assist in the movement of ground traffic at locations with complex runway/taxiway configurations. Airport diagrams are not intended to be used for approach and landing or departure operations. For revisions to Airport Diagrams: Consult FAA Order 7910.4.							

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INSTRUMENT APPROACH PROCEDURES (CHARTS) APPROACH LIGHTING SYSTEM - UNITED STATES



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INSTRUMENT APPROACH PROCEDURES (CHARTS) APPROACH LIGHTING SYSTEM - UNITED STATES



FREQUENCY PAIRING TABLE

TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY
17Y	108.05	40X	110.30	88Y	114.15
18X	108.10	40Y	110.35	89Y	114.25
18Y	108.15	41Y	110.45	90Y	114.35
19Y	108.25	42X	110.50	91Y	114.45
20X	108.30	42Y	110.55	92Y	114.55
20Y	108.35	43Y	110.65	93Y	114.65
21Y	108.45	44X	110.70	94Y	114.75
22X	108.50	44Y	110.75	95Y	114.85
22Y	108.55	45Y	110.85	96Y	114.95
23Y	108.65	46X	110.90	97Y	115.05
24X	108.70	46Y	110.95	98Y	115.15
24Y	108.75	47Y	111.05	99Y	115.25
25Y	108.85	48X	111.10	100Y	115.35
26X	108.90	48Y	111.15	101Y	115.45
26Y	108.95	49Y	111.25	102Y	115.55
27Y	109.05	50X	111.30	103Y	115.65
28X	109.10	50Y	111.35	104Y	115.75
28Y	109.15	51Y	111.45	105Y	115.85
29Y	109.25	52X	111.50	106Y	115.95
30X	109.30	52Y	111.55	107Y	116.05
30Y	109.35	53Y	111.65	108Y	116.15
31Y	109.45	54X	111.70	109Y	116.25
32X	109.50	54Y	111.75	110Y	116.35
32Y	109.55	55Y	111.85	111Y	116.45
33Y	109.65	56X	111.90	112Y	116.55
34X	109.70	56Y	111.95	113Y	116.65
34Y	109.75	80Y	113.35	114Y	116.75
35Y	109.85	81Y	113.45	115Y	116.85
36X	109.90	82Y	113.55	116Y	116.95
36Y	109.95	83Y	113.65	117Y	117.05
37Y	110.05	84Y	113.75	118Y	117.15
38X	110.10	85Y	113.85	119Y	117.25
38Y	110.15	86Y	113.95		
39Y	110.25	87Y	114.05		

See the Chart Supplement for a complete listing.

SUPPLEMENTAL TABLES 25107

INSTRUMENT TAKEOFF AND APPROACH PROCEDURE CHARTS RATE OF CLIMB TABLE (ft per min)

The rate of climb table is provided for use in planning and executing climbs with a known or approximate ground speed. Rates of climb in ft per min are monitored with a vertical speed indicator (VSI). The use of a climb rate should not be used if it will exceed the aircraft's operational limitations.

ft/NM	%	GROUND SPEED (knots)											
		60	90	120	150	180	210	240	270	300	330	360	
152	2.50	152	228	304	380	456	532	608	684	760	836	912	
200	3.29	200	300	400	500	600	700	800	900	1000	1100	1200	
210	3.46	210	315	420	525	630	735	840	945	1050	1155	1260	
220	3.62	220	330	440	550	660	770	880	990	1100	1210	1320	
230	3.79	230	345	460	575	690	805	920	1035	1150	1265	1380	
240	3.95	240	360	480	600	720	840	960	1080	1200	1320	1440	
250	4.11	250	375	500	625	750	875	1000	1125	1250	1375	1500	
260	4.28	260	390	520	650	780	910	1040	1170	1300	1430	1560	
270	4.44	270	405	540	675	810	945	1080	1215	1350	1485	1620	
280	4.61	280	420	560	700	840	980	1120	1260	1400	1540	1680	
290	4.77	290	435	580	725	870	1015	1160	1305	1450	1595	1740	
300	4.94	300	450	600	750	900	1050	1200	1350	1500	1650	1800	
310	5.10	310	465	620	775	930	1085	1240	1395	1550	1705	1860	
320	5.27	320	480	640	800	960	1120	1280	1440	1600	1760	1920	
330	5.43	330	495	660	825	990	1155	1320	1485	1650	1815	1980	
340	5.60	340	510	680	850	1020	1190	1360	1530	1700	1870	2040	
350	5.76	350	525	700	875	1050	1225	1400	1575	1750	1925	2100	
360	5.92	360	540	720	900	1080	1260	1440	1620	1800	1980	2160	
370	6.09	370	555	740	925	1110	1295	1480	1665	1850	2035	2220	
380	6.25	380	570	760	950	1140	1330	1520	1710	1900	2090	2280	
390	6.42	390	585	780	975	1170	1365	1560	1755	1950	2145	2340	
400	6.58	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	
450	7.41	450	675	900	1125	1350	1575	1800	2025	2250	2475	2700	
500	8.23	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	
550	9.05	550	825	1100	1375	1650	1925	2200	2475	2750	3025	3300	

SUPPLEMENTAL TABLES 25107

INSTRUMENT TAKEOFF AND APPROACH PROCEDURE CHARTS RATE OF DESCENT TABLE

The rate of descent table is provided for use in planning and executingdescents with a known or approximate ground speed. The descent chart may also be used to calculate a constant rate of descent in the final segment on a nonprecision approach. This rate of descent is advisory only. Rates of descent in ft per min are monitored with a vertical speed indicator (VSI). The use of a descent rate should not be used if it will exceed the aircraft's operational limitations.

ANGLE	ft/NM	GROUND SPEED (knots)											
		60	90	120	150	180	210	240	270	300	330	360	
2.0	212	212	318	424	530	637	743	849	955	1061	1167	1273	
2.5	265	265	398	531	663	796	929	1061	1194	1326	1459	1592	
2.6	276	276	414	552	690	828	966	1104	1242	1380	1518	1655	
2.7	287	287	430	573	716	860	1003	1146	1289	1433	1576	1719	
2.8	297	297	446	594	743	892	1040	1189	1337	1486	1634	1783	
2.9	308	308	462	616	770	923	1077	1231	1385	1539	1693	1847	
3.0	318	318	478	637	796	955	1115	1274	1433	1592	1751	1911	
3.1	329	329	494	658	823	987	1152	1316	1481	1645	1810	1974	
3.2	340	340	510	679	849	1019	1189	1359	1529	1699	1868	2038	
3.3	350	350	526	701	876	1051	1226	1401	1577	1752	1927	2102	
3.4	361	361	541	722	902	1083	1263	1444	1624	1805	1985	2166	
3.5	372	372	557	743	929	1115	1301	1487	1672	1858	2044	2230	
3.6	382	382	573	765	956	1147	1338	1529	1720	1911	2103	2294	
3.7	393	393	589	786	982	1179	1375	1572	1768	1965	2161	2358	
3.8	404	404	605	807	1009	1211	1413	1614	1816	2018	2220	2421	
3.9	414	414	621	828	1036	1243	1450	1657	1864	2071	2278	2485	
4.0	425	425	637	850	1062	1275	1487	1700	1912	2124	2337	2549	
4.5	478	478	717	956	1196	1435	1674	1913	2152	2391	2630	2869	
5.0	532	532	797	1063	1329	1595	1861	2126	2392	2658	2924	3190	
5.5	585	585	878	1170	1463	1755	2048	2340	2633	2925	3218	3510	
6.0	639	639	958	1277	1597	1916	2235	2555	2874	3193	3512	3832	
6.5	692	692	1038	1385	1731	2077	2423	2769	3115	3461	3808	4154	
7.0	746	746	1119	1492	1865	2238	2611	2984	3357	3730	4103	4476	
7.5	800	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800	
8.0	854	854	1281	1708	2135	2562	2989	3416	3843	4270	4697	5124	
8.5	908	908	1362	1816	2270	2724	3178	3632	4086	4540	4994	5448	
9.0	962	962	1444	1925	2406	2887	3368	3849	4331	4812	5293	5774	
9.5	1017	1017	1525	2034	2542	3050	3559	4067	4576	5084	5592	6101	
10.0	1071	1071	1607	2143	2678	3214	3750	4286	4821	5357	5893	6428	