TERMINAL PROCEDURES PUBLICATION SYMBOLS

AERONAUTICAL INFORMATION

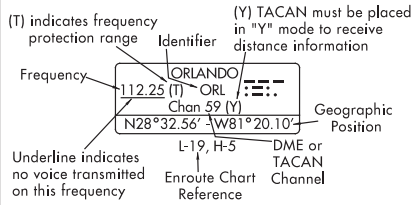
GENERAL INFORMATION

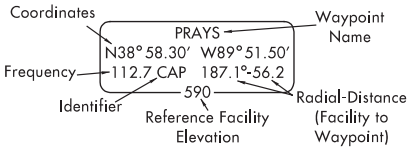
Symbols shown are for the Terminal Procedures Publication (TPP) which includes Standard Terminal Arrival Routes (STARs), Departure Procedures (DPs), Instrument Approach Procedures (IAP) and Airport Diagrams.

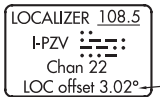
STANDARD TERMINAL ARRIVAL (STAR) CHARTS DEPARTURE PROCEDURE (DP) CHARTS

RADIO AIDS TO NAVIGATION

VOR
TACAN
VOR/DME
NDB/DME
VORTAC
LOC/DME
LOC
NDB (Non-directional Beacon)
LMM, LOM (Compass locator)
Marker Beacon
Localizer Course
SDF Course







REPORTING POINTS/FIXES WAYPOINTS

Reporting Points
N00° 00.00′
W00° 00.00′

75 → DME Mileage (when not obvious)

▲ Name (Compulsory)
△ Name (Non-Compulsory)

→ | DME fix

X Mileage Breakdown/ Computer Navigation Fix (CNF)
N00° 00.00′
W00° 00.00′

WAYPOINT
FLYOVER WAYPOINT

ROUTES

4500 MEA-Minimum Enroute Altitude
*3500 MOCA-Minimum Obstruction Clearance Altitude
270° Departure Route - Arrival Route
(65) Mileage between Radio Aids, Reporting Points, and Route Breaks
Distance not to scale
Transition Route
R-275 Radial line and value
Lost Communications Track
V12 J80 Airway/Jet Route Identification
(IAS) Holding Pattern
Changeover Point

Holding pattern with max. restricted airspeed
(175K) applies to all altitudes
(210K) applies to altitudes above 6000′ to and including 14000′

STANDARD TERMINAL ARRIVAL (STAR) CHARTS DEPARTURE PROCEDURE (DP) CHARTS

SPECIAL USE AIRSPACE

R-352
R-Restricted W-Warning
P-Prohibited A-Alert

ALTITUDES

5500 Mandatory Altitude
2300 Minimum Altitude
4800 Maximum Altitude
2200 Recommended Altitude

MCA (Minimum Crossing Altitude)

⊣ Altitude change at other than Radio Aids
All altitudes/elevations are in feet-MSL.
MRA- Minimum Reception Altitude.
MAA- Maximum Authorized Altitude.

AIRPORTS

STAR Charts

Civil Military Joint Civil-Military

DP Charts

NOTES

All mileages are nautical.
# Indicates control tower temporarily closed UFN.
★ Indicates a non-continuously operating facility, see A/FD or flight supplement.
All radials, bearings are magnetic.

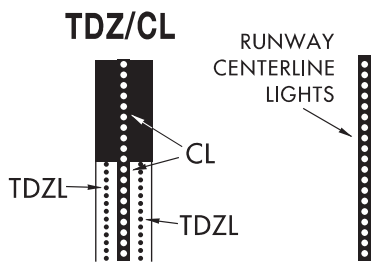
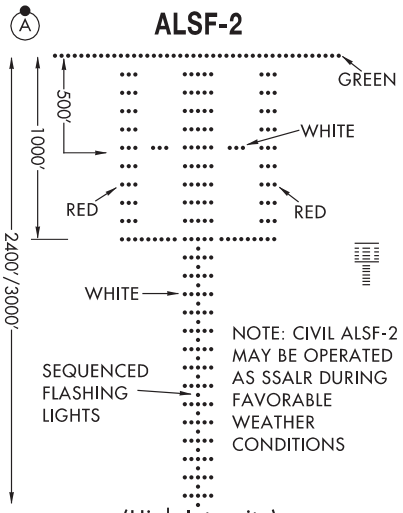
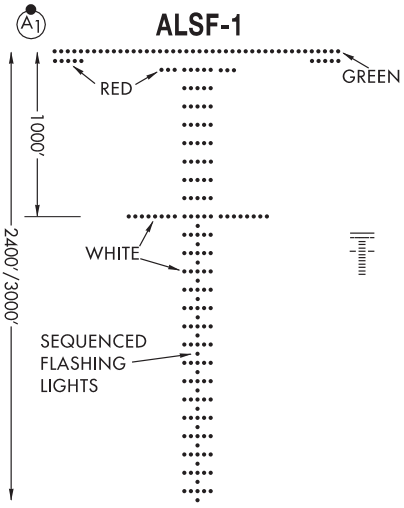
(NAME2.NAME) - Example of DP flight plan Computer Code.
(NAME.NAME2) - Example of STAR flight plan Computer Code.
SL-0000 (FAA) - Example of a chart reference number.

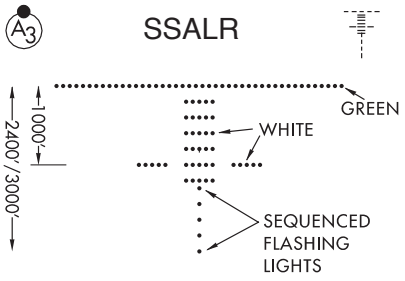
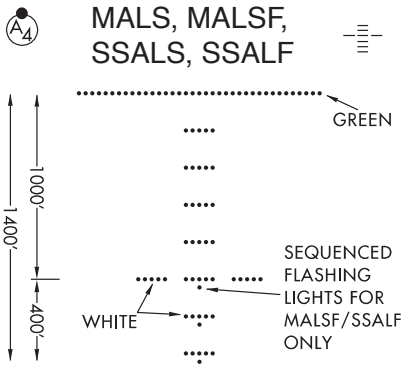
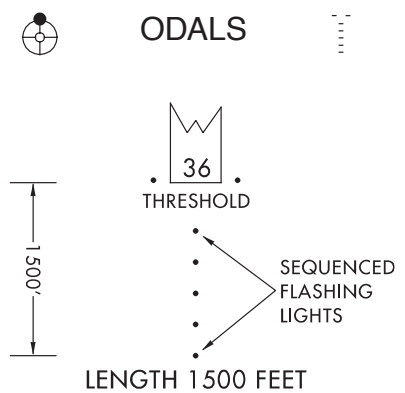
A Alternate Minimums not standard. Civil users refer to tabulation. USA/USN/USAF pilots refer to appropriate regulations.

A NA Alternate minimums are Not Authorized due to unmonitored facility or absence of weather reporting service.

T Take-off Minimums not standard and/or Departure Procedures are published. Refer to tabulation.

W **WAAS VNAV outages may occur daily due to initial system limitations. WAAS VNAV NOTAM service is not provided for this approach.**

APPROACH LIGHTING SYSTEM	
RUNWAY TOUCH-DOWN ZONE AND CENTERLINE LIGHTING SYSTEMS	
APPROACH LIGHTING SYSTEM ALSF-2	 (High Intensity) LENGTH 2400/3000 FEET
APPROACH LIGHTING SYSTEM ALSF-1	 (High Intensity) LENGTH 2400/3000 FEET

APPROACH LIGHTING SYSTEM	
SHORT APPROACH LIGHTING SYSTEM	 SAME AS INNER 1500' of ALSF-1
SIMPLIFIED SHORT APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS SSALR	 (High Intensity) LENGTH 2400/3000 FEET
MEDIUM INTENSITY (MALS AND MALSF) OR SIMPLIFIED SHORT (SSALS AND SSALF) APPROACH LIGHTING SYSTEMS MALS MALSF SSALS SSALF	 LENGTH 1400 FEET
MEDIUM INTESITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS MALSR	 SAME LIGHT CONFIGURATION AS SSALR.
OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM ODALS	 LENGTH 1500 FEET

APPROACH LIGHTING SYSTEM

VISUAL APPROACH SLOPE INDICATOR

VASI

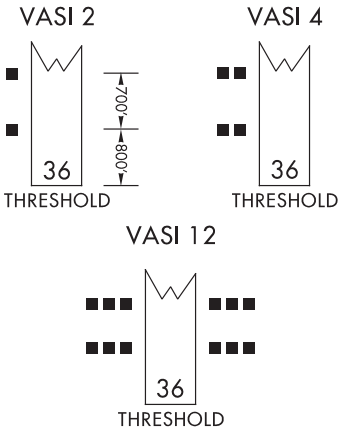
(V) VASI

VISUAL APPROACH SLOPE INDICATOR WITH STANDARD THRESHOLD CLEARANCE PROVIDED.

ALL LIGHTS WHITE — — TOO HIGH

FAR LIGHTS RED, NEAR LIGHTS WHITE — ON GLIDE SLOPE

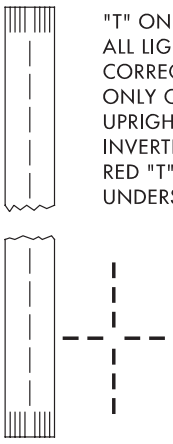
ALL LIGHTS RED — — TOO LOW



"T"-VISUAL APPROACH SLOPE INDICATOR

"T"-VASI

(V1) "T"-VASI



"T" ON BOTH SIDES OF RWY ALL LIGHTS VARIABLE WHITE. CORRECT APPROACH SLOPE- ONLY CROSS BAR VISIBLE. UPRIGHT "T"- FLY UP. INVERTED "T"- FLY DOWN. RED "T"- GROSS UNDERSHOOT.

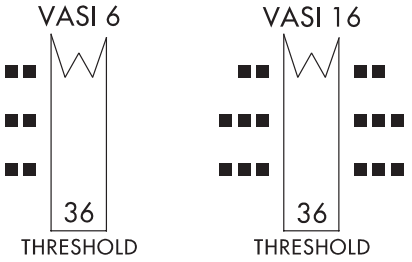
APPROACH LIGHTING SYSTEM

VISUAL APPROACH SLOPE INDICATOR

VASI

VASI

(V3) VISUAL APPROACH SLOPE INDICATOR WITH A THRESHOLD CROSSING HEIGHT TO ACCOMODATE LONG BODIED OR JUMBO AIRCRAFT.

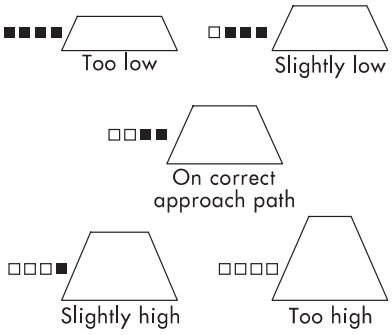


PRECISION APPROACH PATH INDICATOR

PAPI

PAPI

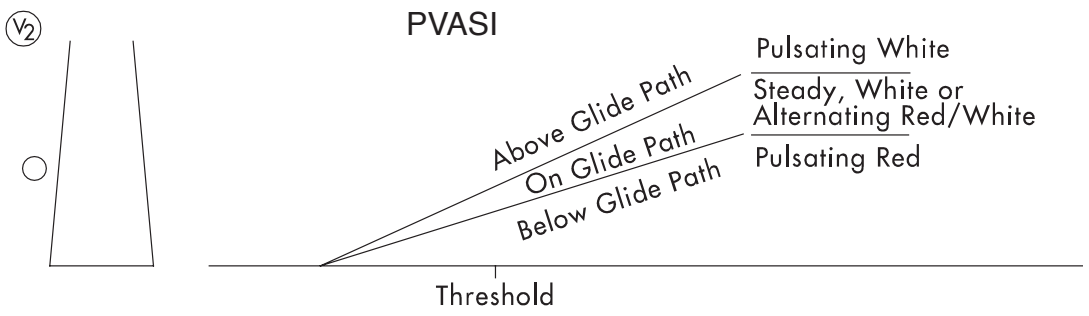
(P) Legend: □ White ■ Red



APPROACH LIGHTING SYSTEM

PULSATING VISUAL APPROACH SLOPE INDICATOR

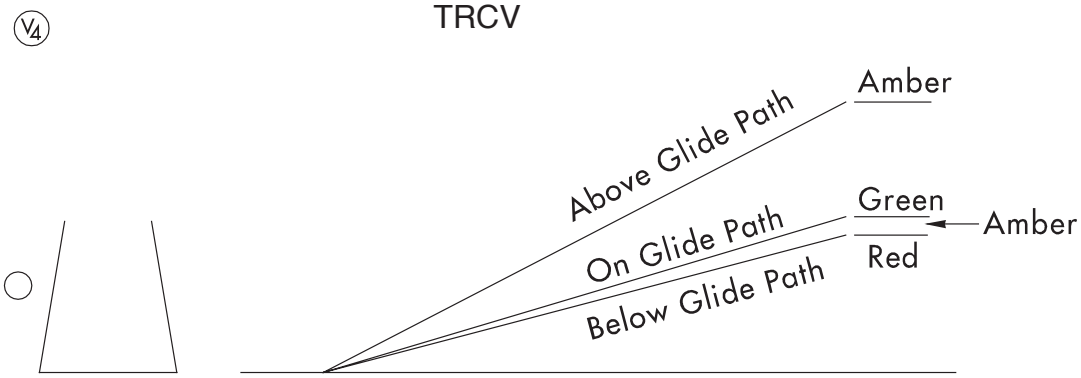
PVASI



CAUTION: When viewing the pulsating visual approach slope indicators in the pulsating white or pulsating red sectors, it is possible to mistake this lighting aid for another aircraft or a ground vehicle. Pilots should exercise caution when using this type of system.

TRI-COLOR VISUAL APPROACH SLOPE INDICATOR

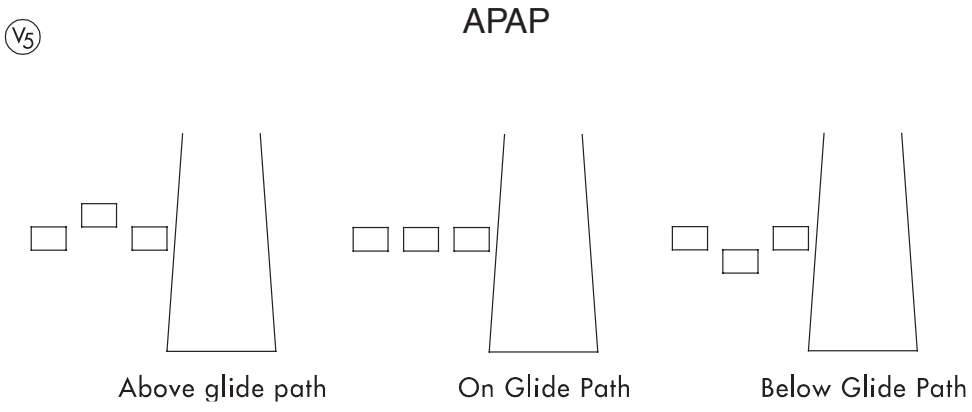
TRCV



CAUTION: When the aircraft descends from green to red, the pilot may see a dark amber color during the transition from green to red.

ALIGNMENT OF ELEMENT SYSTEMS

APAP



Painted panels which may be lighted at night. To use the system the pilot positions the aircraft so the elements are in alignment.

AIRPORT DIAGRAM/SKETCH

ARRESTING GEAR

uni-directional

bi-directional

Jet Barrier

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.

REFERENCE FEATURES

Buildings

Tanks

Obstruction

Highest Obstruction

Airport Beacon

Runway Radar Reflectors

Control Tower #

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

Helicopter Alighting Areas

Negative Symbols used to identify Copter Procedures landing point

TDZE 123 Runway TDZ elevation

0.3% DOWN
0.8% UP Runway Slope

(shown when runway slope exceeds 0.3%)

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

AIRPORT DIAGRAM/SKETCH

NOTES

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

Approach light symbols are shown in the Flight Information Handbook.

Airport diagram scales are variable.

True/magnetic North orientation may vary from diagram to diagram

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

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

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

AIRPORT DIAGRAM/SKETCH

RUNWAYS

Hard Surface

Other than hard surface

Stopways, Taxiways, Parking Areas

Displaced Threshold

Closed Runway

Closed Taxiway

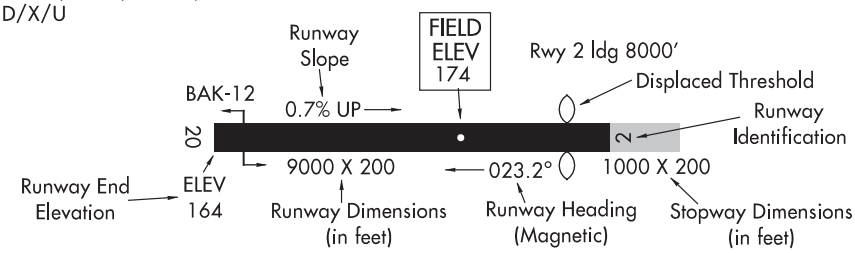
Under Construction

Metal Surface

Runway Centerline Lighting

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

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



SCOPE

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

INSTRUMENT APPROACH PROCEDURES PLAN VIEW

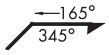
TERMINAL ROUTES

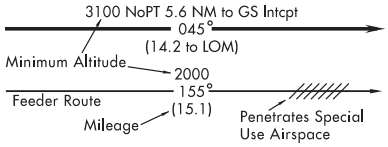
Procedure Track

Missed Approached

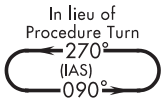
Visual Flight Path

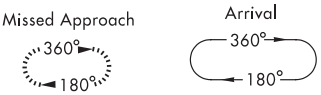
Procedure Turn (Type degree and point of turn optional)





HOLDING PATTERNS





Holding pattern with max. restricted airspeed:
(175K) applies to all altitudes.
(210K) applies to altitudes above 6000′ to and including 14000′.

Limits will only be specified when they deviate from the standard. DME fixes may be shown.

REPORTING POINTS / FIXES/ WAYPOINTS

▲ Name (Compulsory)

△ Name (Non-Compulsory)

X Mileage Breakdown/ Computer Navigation Fix (CNF)
N00° 00.00′
W00° 00.00′

Radial line and value — R-198

Lead Radial — LR-198

Lead Bearing — LB-198

Waypoint

MAP Waypoint

Flyover Waypoint

INSTRUMENT APPROACH PROCEDURES PLAN VIEW

RADIO AIDS TO NAVIGATIONS

VOR — VOR/DME

TACAN — VORTAC

NDB — NDB/DME

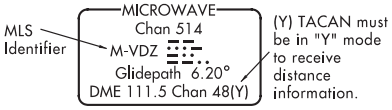
LOM/LMM (Compass locator at Outer/Middle Marker)

Marker Beacon

Localizer (LOC/LDA) Course — Right side shading-Front Course; Left side shading-Back Course

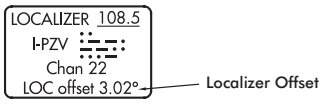
SDF Course

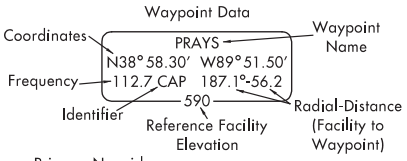
180° — MLS Approach Azimuth



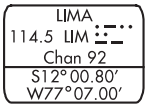
LOC/DME

LOC/LDA/SDF/MLS Transmitter
(shown when installation is offset from its normal position off the end of the runway.)

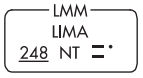




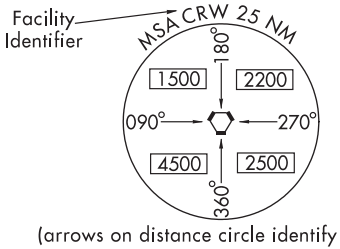
Primary Navaid with Coordinate Values



Secondary Navaid



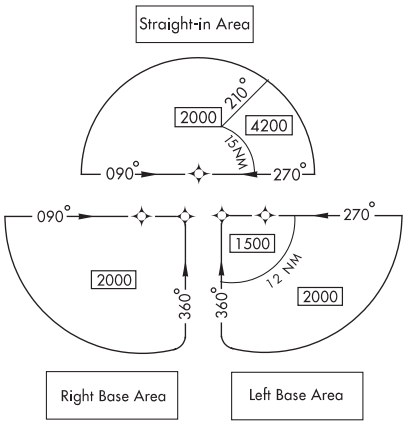
MINIMUM SAFE ALTITUDE



(arrows on distance circle identify sectors)

INSTRUMENT APPROACH PROCEDURES PLAN VIEW

TERMINAL ARRIVAL AREAS



Minimum MSL altitudes are charted within each of these defined areas/subdivisions that provide at least 1,000 feet of obstacle clearance, or more as necessary in mountainous areas.

SPECIAL USE AIRSPACE

R-352

R-Restricted W-Warning
P-Prohibited A-Alert

OBSTACLES

- Spot Elevation
- Obstacle
- Highest Obstacle
- Highest Spot Elevation
- ± Doubtful accuracy

FACILITIES / FIXES

FM
IM
MM
NDB
OM
VOR
VORTAC
TACAN
WP

FIX
INT

ALTITUDES

5500 Mandatory Altitude

2300 Minimum Altitude

4800 Maximum Altitude

2200 Recommended Altitude

MCA (Minimum Crossing Altitude)

INSTRUMENT APPROACH PROCEDURES PLAN VIEW

MISCELLANEOUS

VOR Changeover Point

RWY 15 S12°00.52′ W77°06.91′ End of Rwy Coordinates (DOD only)

Distance not to scale

International Boundary

Final Approach Fix (FAF) (for non-precision approaches)

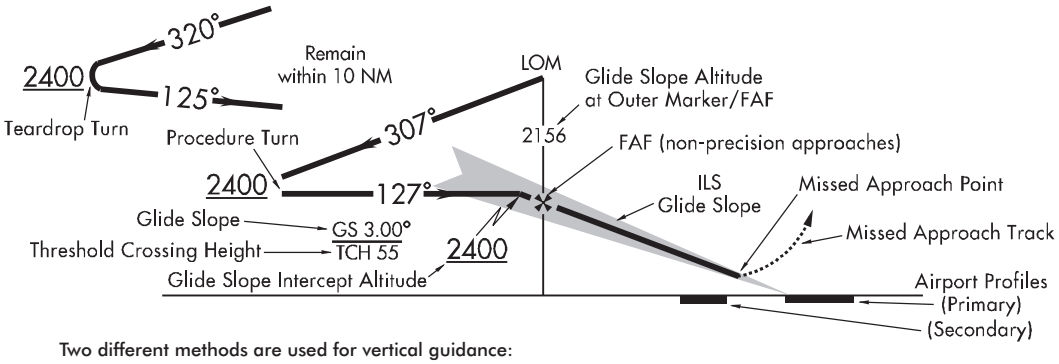
2400 Glide Slope/Glide Path Intercept Altitude and Final Approach Fix for precision approaches. Unless otherwise indicated, the non-precision final approach altitude is to be maintained until the next fix.

Visual Descent Point (VDP)

Visual Flight Path

INSTRUMENT APPROACH PROCEDURES PROFILE VIEW

PROFILE VIEW



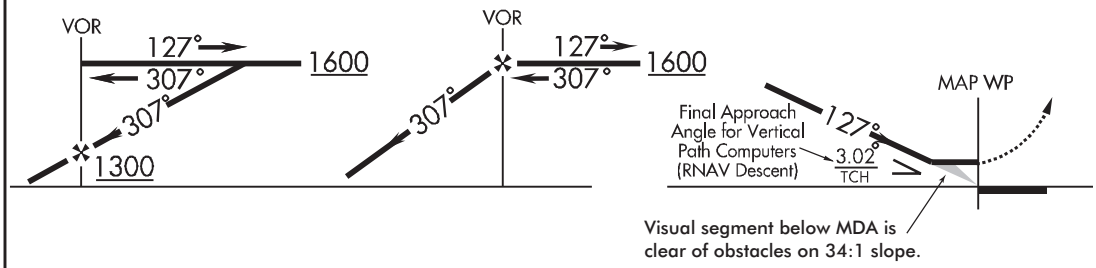
Two different methods are used for vertical guidance:

ILS and LNAV/VNAV use $\frac{\text{GS } 3.00°}{\text{TCH } 55}$ in the lower left or right corner.

"GS" indicates an electronic glide slope is present in the case of an ILS approach and precision vertical guidance for LNAV/VNAV.

Other charts use $\frac{3.00° >}{\text{TCH } 55}$ as a non-precision vertical guidance to avoid controlled flight into terrain. It is placed above or below the procedure track following the fix it is based on.

DESCENT FROM HOLDING PATTERN



Visual segment below MDA is clear of obstacles on 34:1 slope.

MLS APPROACH