ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

8260.42A

6/11/97

SUBJ: HELICOPTER GLOBAL POSITIONING SYSTEM (GPS) NONPRECISION APPROACH CRITERIA

1. PURPOSE. This order contains criteria for formulation, review, approval, and publication of nonprecision helicopter instrument approach procedures, based on GPS navigation.

2. DISTRIBUTION. This order is distributed in Washington headquarters to the director level of the Air Traffic Service; the Offices of Airport Safety and Standards, and Communications, Navigation, and Surveillance Systems; to the division level in the Flight Standards Service; to the National Flight Procedures Office; and the Regulatory Standards and Compliance Division at the Mike Monroney Aeronautical Center; and to the regional Flight Standards divisions.

3. CANCELLATION. Order 8260.42, Helicopter Nonprecision Approach Criteria Utilizing the Global Positioning System (GPS), dated February 15, 1996, is canceled.

4. BACKGROUND. The foundation of these criteria are studies of GPS data from simulation and flight tests. A significant difference exists between approach procedures to runways and approach procedures to heliports. Approaches to runways terminate in relatively obstacle free landing environments. Approaches to heliports commonly terminate in areas of dense obstacle populations where executing a missed approach requires higher than average demands on pilot reaction and performance. Speed limitations incorporated in these criteria take advantage of the unique, slow speed capability of helicopters. These speed limitations allow construction of small obstacle clearance areas and yield the lowest possible minimums.

5. EXPLANATION OF CHANGES.

a. Paragraph 4a. Final Approach Waypoint (FAWP) changed to Final Approach Fix (FAF).
b. Paragraph 4f. Initial Approach Waypoint (IAWP) changed to Initial Approach Fix(IAF).
c. Paragraph 4g. Intermediate Waypoint (IWP) changed to Intermediate Fix (IF).
d. Paragraph 4h. Missed Approach Waypoint (MAWP) changed to Missed Approach Point (MAP).
e. Paragraphs 4j-4m. Acronyms for the military services added.
f. Paragraph 4 renumbered to 6.
g. Paragraph 5 renumbered to 7. New paragraph 5 is explanation of changes.
h. Paragraph 6 renumbered to 8.
i. Paragraph 7 renumbered to 9. New paragraph 7 adds provision for military to fly at 90 KIAS added.
j. New paragraph 7a. Notes added for military procedures.

Distribution: A-W(AT/AS/ND)-1; A-W(FS)-2; AVN-100 (100 cys); AMA-200 (80 cys); A-X(FS)-2

Initiated By: AFS-400

k. New paragraph 7b. Added conditions that mandate publication of SPECIAL procedures added.

l. New paragraph 7c. Table 1. Helicopter GPS Fix Displacement Tolerance

m. Paragraph 8 renumbered 10.

n. Paragraph 9 renumbered 11.

o. Paragraph 10 reworded for clarity and renumbered 12.

p. Paragraph 11 renumbered 13. Figures 1, 2, and table 2 added.

q. Paragraph 12 renumbered 14. Figures 3 and 4 added.

r. Paragraph 13 renumbered 15. Note added for military flying at 90 KIAS.

s. Paragraph 14 renumbered 16. New paragraph 16b reworded. Note added amending trapezoid widths for military flying at 90 KIAS.

t. New paragraph 16e. Note added for military flying at 90 KIAS. Figures 6, 7, 8 and 9 added.

u. Paragraph 15 renumbered 17. Figure 10 added.

v. New paragraph 17f added specifying missed approach flight path and outer boundary radius.

w. New paragraph 17g added specifying minimum leg length from MAP to next fix. Table 3 added.

x. New paragraph 17h added. Distance added for turn anticipation (DTA) added for route missed approach.

y. New paragraph 17i added military flying at 90 KIAS note.

z. Paragraph 16 renumbered 18. Table 4 added.

aa. Paragraph 17 renumbered 19.

bb. Paragraph 18 renumbered 20.

cc. Paragraph 19 renumbered 21.

6. DEFINITIONS.

a. Final Approach Fix (FAF). A fly-by waypoint (WP) for nonprecision GPS procedures that marks the beginning of the final approach segment.

b. Height Above Landing Area Elevation (HAL). The height of the minimum descent altitude (MDA) above the helipoint elevation.

c. Helipoint. The aiming point for the final approach course. It is normally the centerpoint of the touchdown and lift-off area (TLOF). The helipoint elevation is the highest point on the TLOF.

d. Heliport. An area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters. It includes buildings and facilities on the area.

e. Heliport Reference Point (HRP). The geographic center of a heliport.

f. Initial Approach Fix (IAF). Normally a fly-by waypoint that marks the beginning of the initial segment and the end of the feeder segment, if applicable.

g. Intermediate Fix (IF). A fly-by waypoint that marks the end of an initial segment and the beginning of the intermediate segment.

h. Missed Approach Point (MAP). A fly-over waypoint that marks the end of the final approach segment and the beginning of the missed approach segment.

i. Touchdown and Lift-Off Area. A TLOF may have any shape. The TLOF is the area of intended landing or takeoffs. See AC 150/5390-2, Heliport Design.

j. United States Air Force (USAF)

k. United States Army (USA)

l. United States Coast Guard (USCG)

m. United States Navy (USN)

n. Visual Segment Reference Line (VSRL). A +/- 75-foot line measured perpendicular to the final course at a distance from the helipoint of half the length of the shortest side of the helipad or 75 feet, whichever is smaller.

SECTION 1. GENERAL CRITERIA

7. GENERAL. These criteria assume use of GPS airborne equipment meeting the requirements of TSO-C129a, Airborne Supplemental Navigation Equipment Using GPS. Orders 8260.3B, United States Standard for Terminal Instrument Procedures, and 8260.38A, Civil Utilization of Global Positioning System (GPS), apply, unless otherwise specified. Heliport design shall meet the requirements of AC 150/5390-2, Heliport Design. Airspeeds shall not exceed 70 knots in the final and missed approach segments. (USA/USAF/USN/USCG ONLY: Procedures may be designed for an airspeed not to exceed 90 knots in the final and missed approach segment when specific restrictions listed in this order are applied.) The missed approach airspeed limitation applies until the aircraft is established on the inbound course to the missed approach clearance limit.

a. Publish the following notes on the approach:

(1) **"Limit final and missed approach maximum airspeed** to 70 KIAS;" for USAF/USA/USCG/USN procedures designed for 90 KIAS, either "**Not For Civil Use**," or "**Civil Users: Limit final and missed approach maximum airspeed to 70 KIAS**," as appropriate.

(2) **Arm the approach mode before** approaching closer than 30 nautical miles (NM) from the heliport reference point (HRP) or airport reference point (ARP). e.g. **"Arm approach mode 30 NM prior to the HRP/ARP".**

b. Publish the procedure as a SPECIAL procedure and publish annotations to require special aircrew qualifications when the approach is to a heliport or a point-in-space and one of the following conditions exists: (USAF/USA/USCG/USN NA).

(1) The course change at the final approach fix (FAF) from the intermediate course to the final approach course exceeds 30°.

(2) Final descent gradient exceeds 600 feet/NM.

(3) The course change at the MAP from the final course to the missed approach course exceeds 30°.

(4) The Visual Segment Descent Angle (VSDA) exceeds 6.0°.

(5) The criteria in AC-150/5390-2 is waived.

c. Fix Displacement Tolerance.

TABLE 1. HELICOPTER GPS FIX (WP) DISPLACEMENT TOLERANCE

	EN ROUTE	**TERMINAL**	**APPROACH**
Cross Track	±2.8 NM	±1.0 NM	±0.4 NM
Along Track	±2.0 NM	±1.0 NM	±0.3 NM
	En Route	IAF	FAF
	Feeder	Initial Step Down Fix	Final Step Down Fix
	Feeder Step Down	IF	MAP
		Intermediate Step Down Fix	
		MA Turn Fix	
		MA Holding Fix	

8. GPS APPROACH COURSE ESTABLISHMENT. Use current guidance contained in Order 8260.19C, Flight Procedures and Airspace, and Order 8260.38A for approaches to a TLOF. Use "heliport" vice "landing threshold."

9. PROCEDURE IDENTIFICATION. Order 8260.3B, paragraph 1105, applies, except:

a. For approaches to a helipoint, NAVAID type is considered GPS. Example: COPTER GPS 160.

b. For approaches to runways, substitute "RWY (runway numbers)" for final bearing. Examples: COPTER GPS RWY 22, COPTER GPS RWY 31R.

10. HOLDING. Order 8260.3B, chapter 11, paragraph 1124, applies. Locate helicopter holding fixes within 25 NM of the HRP/ARP.

SECTION 2. EN ROUTE CRITERIA

11. GENERAL. En route criteria contained in Order 8260.3B, chapter 15, Non-VOR/DME Basic Area, applies to helicopter GPS en route segments.

12. FEEDER SEGMENT ROUTE WIDTH.

a. Construct routes originating 25 NM or less from the HRP/ARP:

(1) and ending 30 NM or less from the HRP/ARP, with a primary area width of ±1.5 NM and a secondary width of 0.5 NM (terminal size).

(2) and ending more than 30 NM from the HRP/ARP, with a primary area width of ±4.0 NM and a secondary width of 2.0 NM (en route criteria size).

b. Construct routes originating beyond 25 NM from the HRP/ARP:

(1) and ending more than 25 NM from the HRP/ARP, with a primary area width of ±4.0 NM and a secondary width of 2.0 NM (en route criteria size).

(2) and ending 25 NM or less from the HRP/ARP, beginning with standard en route dimensions (primary area width of ±4.0 NM and a secondary width of 2.0 NM) and tapering at a rate 30° inward relative to course to terminal criteria size beginning at the latest point the feeder fix can be received.

(a) If the route originates beyond 30 NM from the HRP/ARP, the taper begins when the route centerline reaches a point 30 NM from the HRP/ARP or the latest point the feeder fix can be received, whichever is encountered last.

(b) If the distance from the plotted position of the feeder fix/facility to the plotted position of the next fix is less than 6.33 NM (tapered segment is less than 4.33 NM long), taper from the latest position the feeder fix can be received directly to the appropriate area edges abeam the plotted position of the next fix.

SECTION 3. TERMINAL CRITERIA

13. APPROACH CONFIGURATION. Consider the BASIC “T” approach configuration as the first option in procedure design. It affords flexibility and standardization of procedure design. Use initial and intermediate segment lengths as specified in table 2 as the first option in procedure design. Accommodate deviations from this configuration as operational and air traffic requirements dictate.

Figure 1. FEEDER ROUTE EXAMPLES

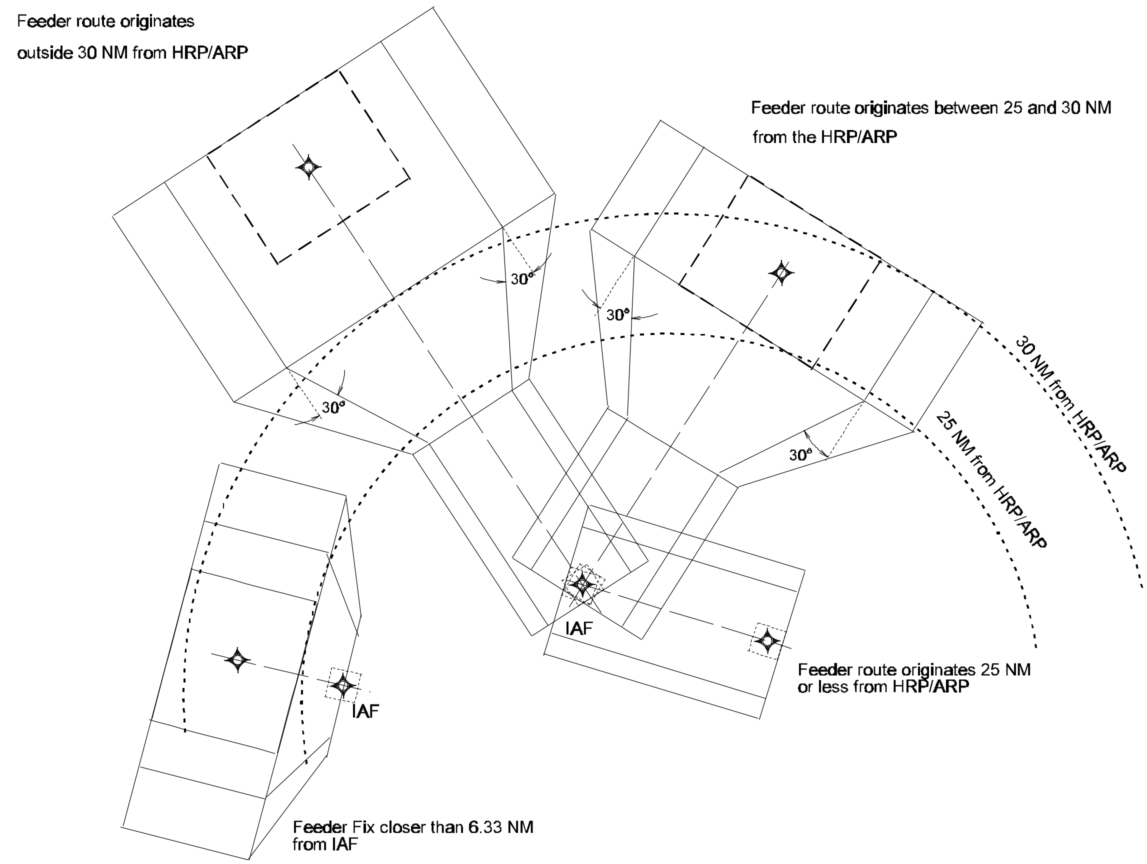


Figure 2. BASIC T CONFIGURATION

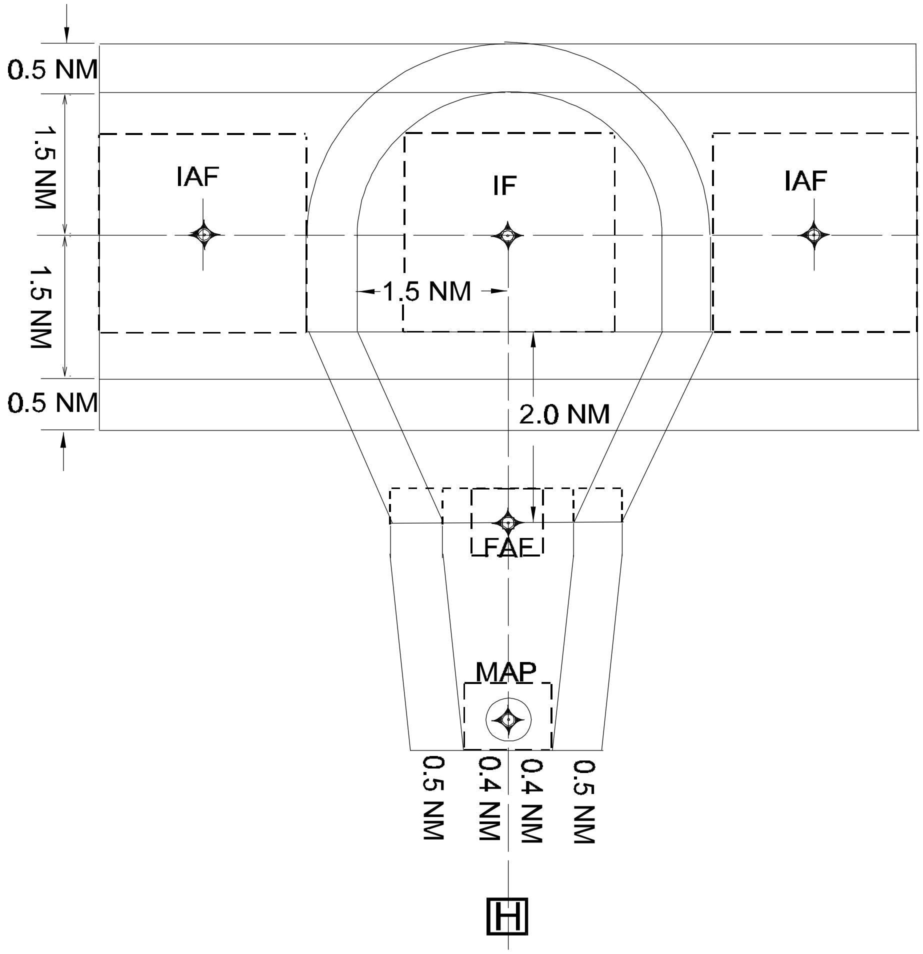


TABLE 2. HELICOPTER GPS MINIMUM INITIAL/INTERMEDIATE/FINAL SEGMENT LENGTHS

Course Intercept Angle (Degrees)	Minimum Length (NM)
00 - 30	2.0
> 30 - 90 *	3.0
> 90 - 120	4.0

* final segment 60° maximum intercept angle

14. INITIAL APPROACH SEGMENT. The initial approach segment begins at the IAF and ends at the IF or at an IF identified as an along track distance (ATD) from the FAF. Course change at the IF shall not exceed 120°. Turns of 90° or less do not require application of turn anticipation/expansion criteria.

a. Course Reversal. Construct the inbound leg of course reversal holding patterns within 30° of the intermediate or final segment course, as appropriate.

Figure 3. INITIAL/INTERMEDIATE SEGMENT CONSTRUCTION

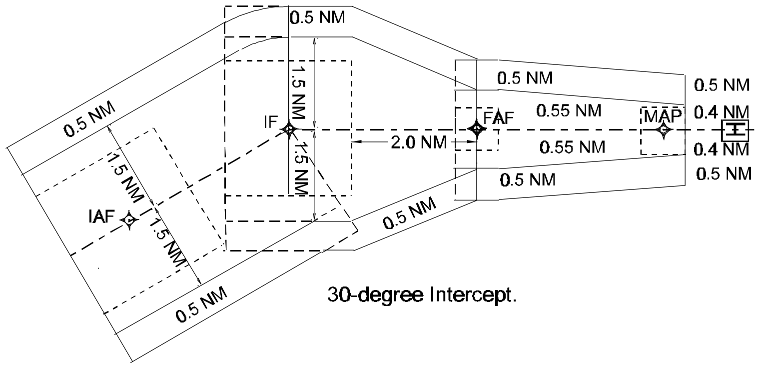
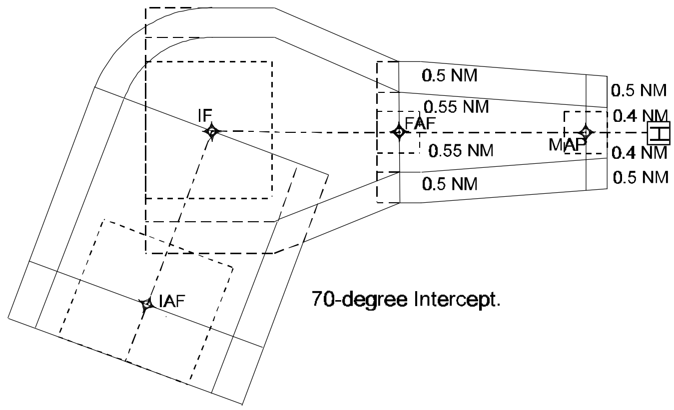


Figure 4. INITIAL/INTERMEDIATE SEGMENT CONSTRUCTION



b. Area.

(1) Length. The initial segment length should not exceed 10 NM, unless operational requirements dictate. Construct IAF's within 25 NM of the ARP/HRP. The minimum length is governed by the magnitude of turn required at the IAF. See table 2.

(2) Width.

(a) Primary Area. 1.5 NM each side of the course centerline.

(b) Secondary Area. 0.5 NM on each side of the primary area.

(3) Obstacle Clearance. Order 8260.3B, paragraph 232c, applies.

(4) Descent Gradient. Optimum descent gradient is 400 feet/NM. Where higher descent gradients are required, Order 8260.3B, paragraph 1110, applies.

15. INTERMEDIATE SEGMENT. The intermediate segment begins at the IF or an ATD fix and ends at the FAF.

a. Alignment. The maximum course change at the FAF is 60°; outside and inside turn expansion areas in 8260.38A apply only to military flying at 90 KIAS.

b. Area.

(1) Length. Maximum length is 5 NM. Recommended length is 3 NM. The minimum length is governed by the magnitude of turn required at the IF. See table 2.

(2) Width. The primary area is 1.5 NM each side of the segment centerline, beginning at the earliest IF position. The segment starts to taper inward 2 NM prior to the plotted position of the FAF to reach a width of ±0.55 NM at the plotted position of the FAF. The secondary area is 0.50 NM each side of the primary area.

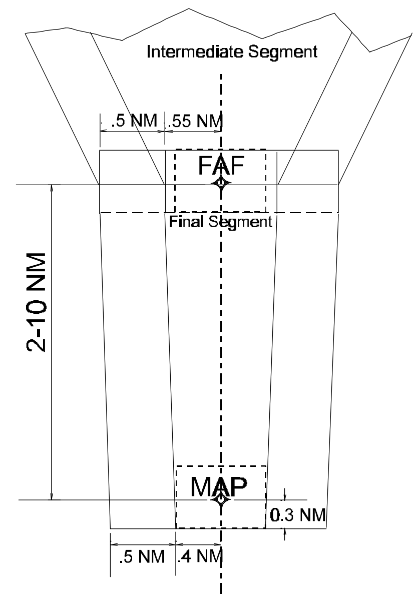
NOTE: USAF/USA/USCG/USN ONLY flying at 90 KIAS: Change 0.55 NM to 0.70 NM.

c. Obstacle Clearance. Order 8260.3B, paragraph 242c, applies.

d. Descent Gradient. The optimum descent gradient is 400 feet/NM. Where higher descent gradients are required, Order 8260.3B, paragraph 1110, applies. (USAF/USA/USCG/USN ONLY flying at 90 KIAS: If the turn from the initial segment to the intermediate segment exceeds 60°, intermediate descent gradient shall not exceed 600 ft/NM.)

16. FINAL APPROACH SEGMENT. The final approach segment begins at the FAF and ends at the MAP. Except for point-in-space approaches, apply a visual segment from the MAP to the VSRL (See paragraph 16e). There are three types of final approach segments: approaches aligned to a runway, approaches to a helipoint, and approaches to a point-in-space.

Figure 5. FINAL SEGMENT CONSTRUCTION



a. Configuration and Alignment.

(1) Approach to a Helipoint and to Runways where Course Alignment is GREATER than 30° from Runway Alignment. Final approach course alignment is from the FAF to the helipoint. The MAP is located on the final approach course between the FAF and a point no closer to the helipoint than 0.3 NM from the VSRL. MAP location should provide the best compromise of lowest visibility and visual segment descent angle.

NOTE: The minimum distance limitation for locating the MAP guarantees the MAP displacement area will not extend closer than the edge of the helipad/heliport for helipad dimensions less than or equal to 150 x 150 feet.

(2) Approach to a Runway. Order 8260.38A, paragraph 13a, applies, except; change reference from 15° to 30°. Paragraph 16e, does not apply.

(3) Point in Space Approach. Order 8260.3B, paragraphs 1107 and 1127c, apply. Paragraph 16e does not apply.

b. Area. The area considered for obstacle clearance begins at the earliest FAF position and ends at the latest MAP position, or the runway threshold, or a point abeam the runway threshold, as appropriate.

(1) Length. The optimum length is 3 NM. The minimum length (FAF to MAP) is governed by the magnitude of turn required at the FAF. See table 2.

(2) Width. The primary area boundary begins 0.55 NM each side of the final segment centerline at the earliest FAF position. The width remains constant until the latest FAF position.

It then tapers to 0.4 NM at the latest MAP position. The secondary area boundary is 0.5 NM each side of the primary area.

NOTE: USAF/USA/USCG/USN ONLY flying at 90 KIAS: Change 0.55 NM to 0.70 NM and 0.40 NM to 0.5 NM in paragraph 16b(2) above.

c. Obstacle Clearance. Primary area required obstacle clearance (ROC) is 250 feet. Secondary ROC is 250 feet at the edge of the primary area, tapering uniformly to zero at the outer edge.

d. Descent Gradient. Order 8260.3B, paragraph 1110, applies, except when the magnitude of turn at the FAF exceeds 30°, the maximum descent gradient authorized is 600 feet per NM. Calculate final segment descent gradient from the FAF altitude at the plotted position of the FAF to the MDA at the plotted position of the MAP.

NOTE: Minimum Descent Altitude (MDA) is used vice touchdown zone elevation, or helipoint elevation, because it is the approach termination altitude. The helicopter is considered to be in a hover/air-taxi-mode after the MAP when the approach is to a runway. The visual segment descent gradient is considered separately in approaches to helipoints.

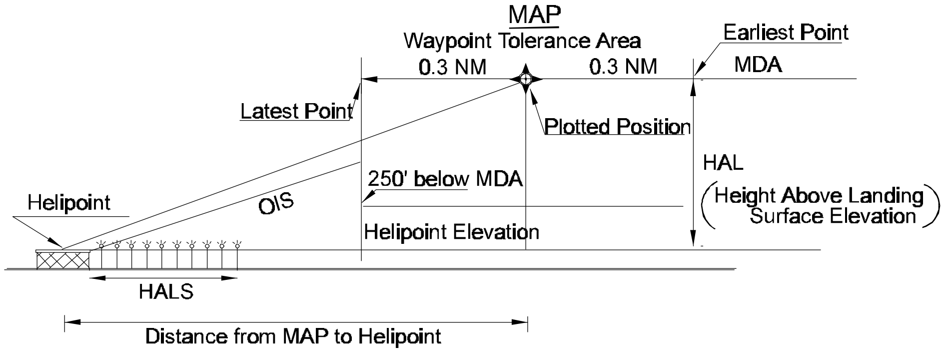
e. Visual Segment. The visual segment extends from the plotted position of the MAP to the VSRL and is centered on the final approach course.

(USAF/USA/USCG/USN ONLY flying at 90 KIAS: Minimum visual segment length is 2,500.)

(1) Area.

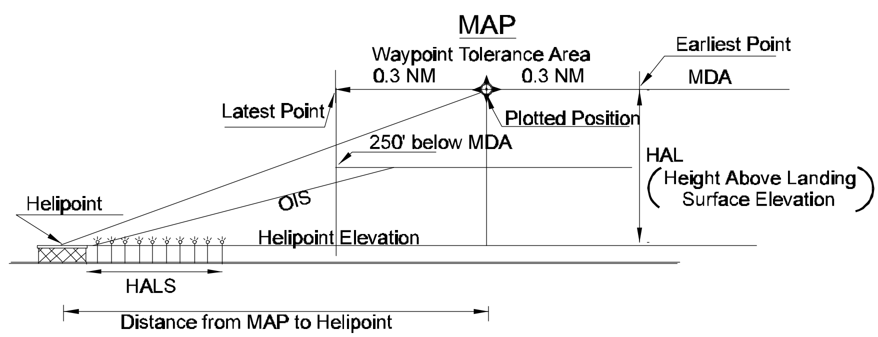
(a) Length. The area considered for obstacle clearance begins at the VSRL and extends in the direction of the MAP. It extends in the direction of the MAP to the point the visual segment obstacle identification surface (OIS) reaches an altitude 250 feet below the MDA, or the latest MAP position, whichever is further from the helipoint.

Figure 6. VISUAL SEGMENT OIS TERMINATING AT LATEST MAP POSITION



OIS reaches MDA minus 250 feet first then ends at the latest MAP position

Figure 7. VISUAL SEGMENT OIS TERMINATING AT AN ALTITUDE 250' BELOW THE MDA



OIS reaches the latest MAP position first then ends at MDA minus 250 feet

(b) Width. The visual segment area begins at the width of ±75 feet, measured perpendicular to the final course and splays to the edges of the final primary area at the latest MAP position. It follows the width of the primary area to the end of the OIS.

Figure 8. VISUAL SEGMENT AREA

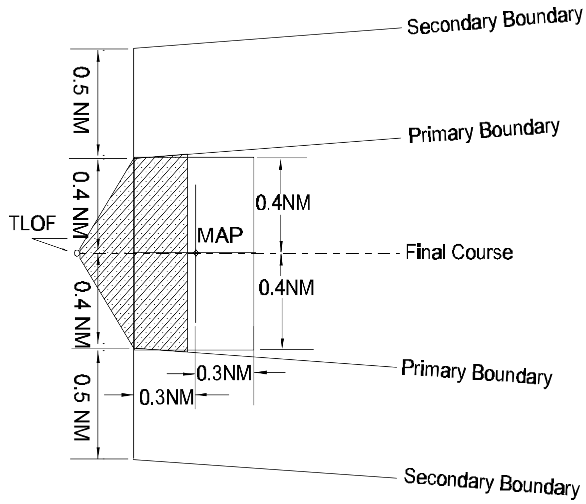
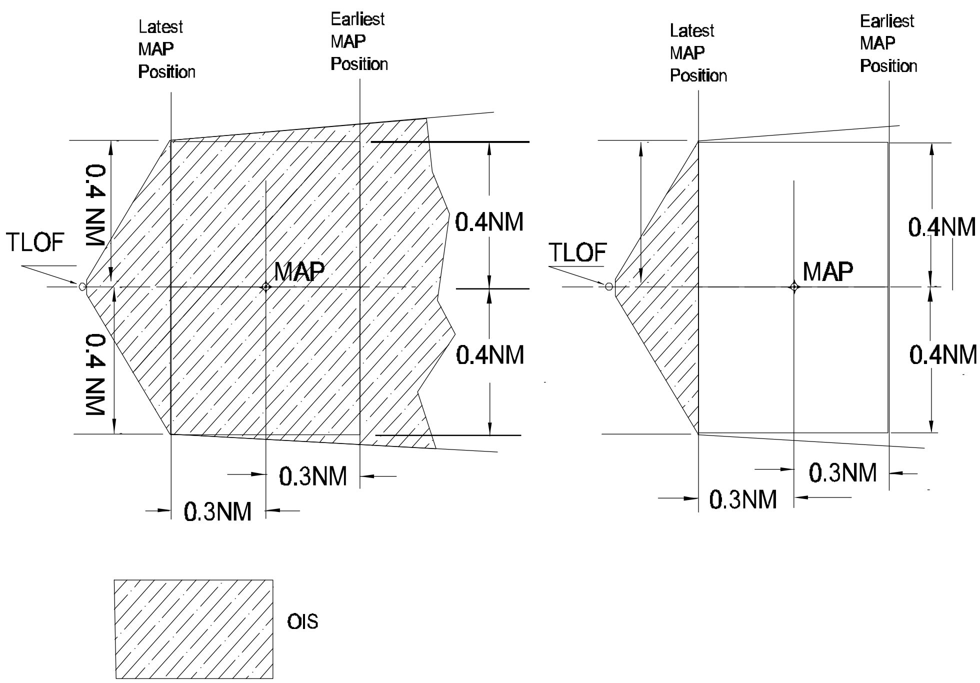


Figure 9. VISUAL SEGMENT AREA SHOWING SPLAY TO LATEST MAP POSITION AND FOLLOWING FINAL SEGMENT PRIMARY WIDTH



(2) Visual Segment Descent Angle. The VSDA is measured from the MDA at the MAP to helipoint elevation at the helipoint. Maximum VSDA is 10.2°, optimum is 6.0°, and the minimum is 3.0°.

(3) Visual Segment OIS. The slope of the OIS is 1.0° less than the computed VSDA. Evaluate obstacles based on the shortest distance, measured along the visual segment centerline, from the obstacle to the surface origin line. Obstacles shall not penetrate the OIS.

(4) Formulae. Use the following formulae to calculate HAL, visual segment length from VSRL to a point 250 feet below MDA (VSL250), and VSDA.

$$\text{HAL}=\text{MDA-Helipoint Elevation}$$

$$\text{VSL250} = \frac{\text{HAL - 250}}{\text{Tan(VSDA - 1}^{\circ})}$$

$$\text{VSDA} = \text{ArcTan}\left(\frac{\text{HAL}}{\text{MAP to Helipoint Distance in feet}}\right)$$

f. Visual Descent Point (VDP). A VDP may be established for helicopter GPS procedures. The VDP concepts in Order 8260.3B, paragraph 251, apply, except for: approaches to helipoints, change "runway threshold" and "runway touchdown point" to "helipoint," and "VASI" to "VGSI, PAPI, or CHAPI." The recommended VDP on-glideslope angle is 6°. The maximum angle is 10°, and the minimum angle is 3°. Publish the VDP as an ATD from the MAP. Do not publish a VDP if the VDP occurs between the MAP and the helipoint. Locate the VDP on the final course at the point where the visual glideslope indicator (VGSI) on-glideslope beam intersects the MDA. Where lights are not established, the VDP is located on the final course at a distance from the helipoint (threshold for approaches to runways) calculated by the following formula:

$$\text{Distance} = \frac{\text{HAL}}{0.131663}$$

NOTE: This distance is predicated on a descent gradient of 800 feet/NM.

(1) Area.

(a) Straight-In Approaches to Runways. The VDP area for approaches to runways is described in Order 8260.3B, paragraphs 251c and 251d(1). Where no VASI is installed, the VDP OIS rises at a 6.5° angle from the threshold to the VDP.

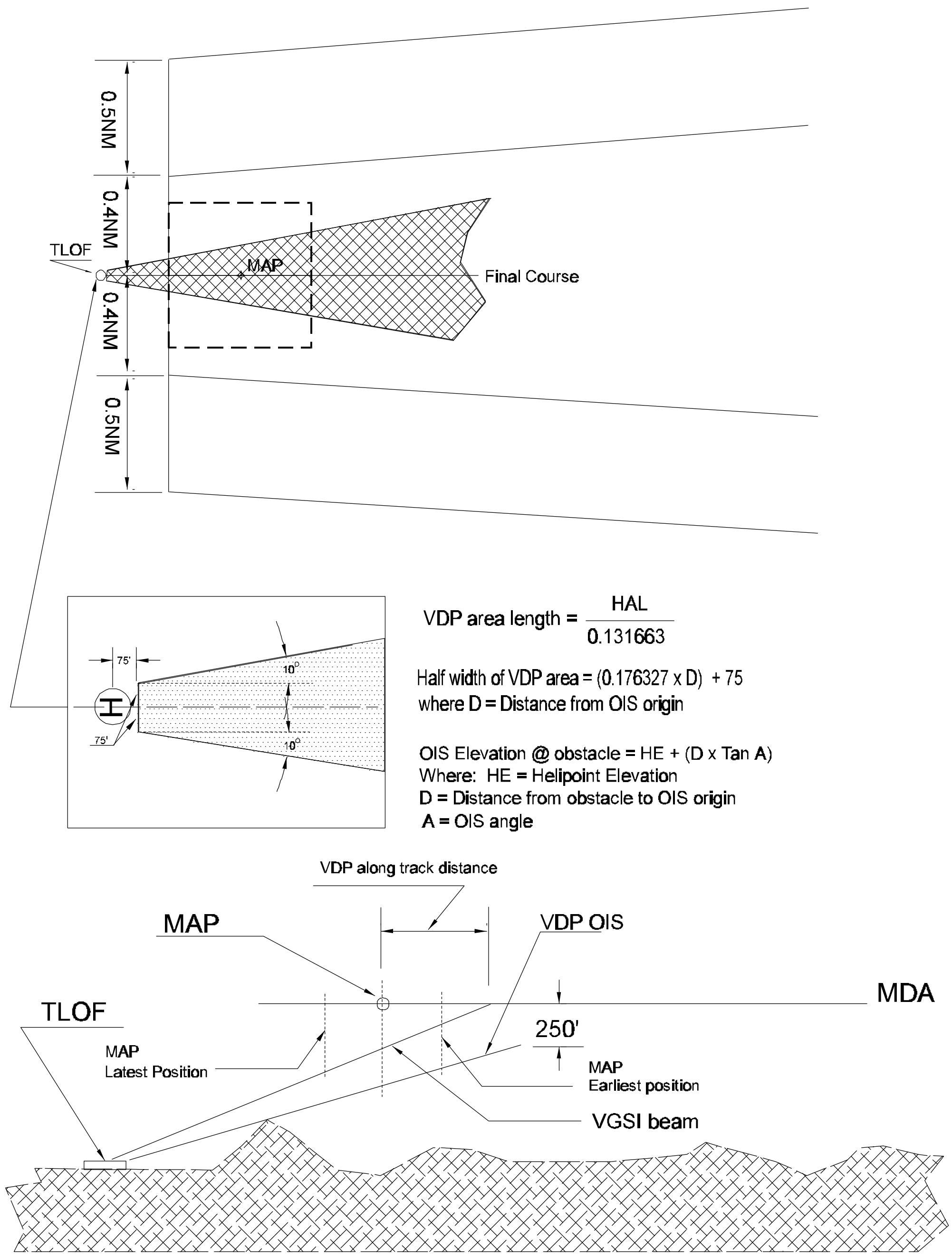
(b) Approaches to Helipoints. Center the VDP area on the final approach course. The VDP OIS origin is VSRL. The surface splays outward at a 10° angle relative to the courseline. It ends at the VDP, or where the VDP OIS elevation is equal to the MDA, minus the ROC, whichever occurs first. The VDP OIS inclines upward and outward from its origin at an angle 1º below the aiming angle of the on-glideslope beam. Where no VGSI is installed, the VDP OIS rises at a 6.5° angle from the point of origin.

(2) Obstacle Clearance. No obstacle shall penetrate the VDP OIS. Use the following formula to calculate the OIS elevation above mean sea level (MSL) at a specified obstacle location:

OIS Elevation = HE + (D x Tan A)

Where: HE=Helipoint Elevation, D=distance (ft) from the obstacle to OIS origin, A=OIS angle.

Figure 10. VDP OIS



SECTION 4. MISSED APPROACH

17. GENERAL. The missed approach segment begins at the earliest MAP position and ends at a holding point designated by a missed approach holding fix (MAHF) clearance limit. OPTIMUM routing is straight ahead to a direct entry into holding at the MAHF. Order 8260.38A applies, with the following exceptions:

a. The length of the missed approach segment splay is 7.5 NM, vice 15 NM.

b. Segment route width expands to ±1.5 NM (primary) and 0.5 NM (secondary), vice ±4 NM and 2 NM, respectively.

c. Locate the MAHWP within 25 NM of the HRP/ARP.

d. Use a 20:1 primary OIS slope vice a 40:1 slope and a 4:1 secondary OIS slope vice a 12:1 slope.

e. Construct the turning segment outer turn radius boundary using “wide” methodology.

f. **For a turning missed approach** use an outer boundary radius of 1.3 NM and a flight path radius of 4,000 feet (0.66 NM).

g. **Use the following** minimum leg length from the MAP to the next fix when constructing a "route" missed approach:

TABLE 3. MISSED APPROACH INITIAL LEG LENGTH

Turn Magnitude	15°-30°	>30°-45°	>45°-60°	>60°-90°	>90°-120°
Minimum Length (NM)	1.5	2	2.5	3	3.5

h. Distance Added for Turn Anticipation (DTA). Order 8260.38A paragraph 10b applies only to the turn at the first fix of a "route" missed approach using the following formula:

$$\text{DTA} = 1.6 \times \tan\left(\frac{\text{turn angle}}{2}\right)$$

NOTE: For USAF/USA/USCG/USN helicopter procedures flown at 90 KIAS,

$$\text{DTA} = 2 \times \tan\left(\frac{\text{turn angle}}{2}\right)$$

i. USAF/USA/USCG/USN ONLY flying at 90 KIAS. The beginning width of the missed approach segment is ±0.5 NM.

SECTION 5. MINIMUMS FOR HELICOPTER NONPRECISION GPS APPROACHES

18. APPLICATION. Minimums specified in Order 8260.3B, chapter 3, apply to helicopter GPS procedures, except as follows:

a. General Information. Paragraphs 310 and 311 apply. For helicopter procedures to helipoints, substitute “helipoint elevation” for “airport elevation” or “touchdown zone elevation.”

b. Altitudes. Paragraph 321 applies, except, change 40:1 to 20:1. Paragraph 322 does not apply. Minimums are based on the helipoint elevation.

c. Visibilities.

(1) Approaches to Lighted Heliports. The visibility associated with computed height above landing (HAL), as specified in table 4, is the lowest visibility attainable, prior to applying credit for lights.

TABLE 4. EFFECT OF HEIGHT ABOVE LANDING (HAL) SURFACE ELEVATION ON VISIBILITY MINIMUMS.

HAL	250 - 475 feet	476 - 712 feet	713 - 950 feet	Above 950 feet
Visibility Minimum (MI)	½	¾	1.0	Visibility = HAL÷TAN 10.2º from helipoint to plotted position of MAP ÷5280'; rounded to next higher ¼ mile visibility increment.

(2) Approaches to Runways. See Order 8260.3B, paragraph 1127a(1).

(3) No-Light Visibility. Minimum visibility shall not be less than the distance from the plotted position of the MAP to the helipoint.

(4) Credit for Lights. Where a helicopter approach lighting system (HALS) (or equivalent) is installed, the visibility may be reduced by 1/4 statute mile.

NOTE: Annotate the procedure to indicate the minimum no-light visibility applicable if HALS fail.

d. Lighting Systems for Helicopter GPS Instrument Approach Procedures.

(1) Heliport Instrument Lighting System (HILS). A HILS is recommended for all helicopter GPS approach operations. Approved runway lighting is adequate for approaches to runways. When a HILS is installed, the system shall be in alignment with the course from the MAP to the helipoint.

(2) Heliport Approach Lighting System. A HALS is necessary for locations desiring lower minimums for approaches designed to heliports.

19. STANDARD APPROACH MINIMUMS. Paragraph 350 applies, with the application of paragraph 1127a(1) for approaches to runways, or paragraph 1127a(2), for approaches to helipoints. Paragraph 351 does not apply.

20. STANDARD ALTERNATE MINIMUMS. A heliport/airport served only by GPS approaches is not suitable for use as an alternate. Nonprecision minimums authorized when a heliport or runway is to be used as an alternate shall be the HIGHER of the following or as specified in the appropriate military directive as necessary:

a. Ceiling 800 feet and visibility 2 SM.

b. Highest published COPTER minimums.

c. Highest published Category A straight-in minimums to a runway.

d. Highest published Category A circling minimums (when straight-in minimums are not published).

21. INFORMATION UPDATE. Forward for consideration any deficiencies found, clarification needed, or suggested improvements regarding the content of this order to:

DOT/FAA
ATTN: Flight Procedures Branch, AFS-440
P.O. Box 25082
Oklahoma City, OK 73125

a. Your Assistance is Welcome. FAA Form 1320-19, Directive Feedback Information, is included at the end of this order for your convenience. If an interpretation is needed immediately, you may call the originating office for guidance. However, you should also use the FAA Form 1320-19 as a follow-up to the verbal conversation.

b. Use the "Other Comments" block of this form to provide a complete explanation of why the suggested change is necessary.

David E. Hanley
David E. Hanley
Acting Deputy Director, Flight Standards Service

U.S. Department of Transportation
Federal Aviation Administration

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: Order ______________________________

To: Directive Management Officer, ______________________________

(Please check all appropriate line items)

☐ An error (procedural or typographical) has been noted in paragraph ________ on page ________.

☐ Recommend paragraph ________ on page ________ be changed as follows: *(attach separate sheet if necessary)*

☐ In a future change to this directive, please include coverage on the folowing subject *(briefly describe what you want added):*

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: ______________________________ Date: ____________

FTS Telephone Number: ________________ Routing Symbol: ____________

FAA Form 1320—19 (8-89)