

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE**

TITLE 14 CFR PART 97.33

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT</u> ASTORIA RGNL	<u>AIRPORT ID</u> KAST	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 26	<u>ORIGINAL/AMENDMENT</u> 1	<u>CITY</u> ASTORIA	<u>STATE</u> OR	
<u>AIRPORT ELEVATION</u> 14	<u>TDZE</u> 14	<u>SUPERSEDED</u> RNAV (GPS) RWY 26	<u>ORIGINAL/AMENDMENT</u> ORIG	<u>DATED</u> 05/07/2009	<u>MAG VAR</u> 15E	<u>EPOCH YEAR</u> 2020
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 19 JULY 2018	<u>REQUIRED EFFECTIVE DATE</u> 07/19/2018	<u>CANCEL SUSPEND</u>		

TERMINAL ROUTES

FROM	FIX TYPE	TO	FIX TYPE	LEG TYPE	FO/FB	RNP	COURSE	DISTANCE	ALTITUDE
AST VOR/DME		KKARP		TF	FO	2.00	080.96	18.27	5000
OLM VORTAC		HOMKU		TF	FB	2.00	189.18	50.34	5400
PITER		SMOAK		TF	FB	2.00	295.14	16.77	4500
HOMKU	IAF	KKARP	NOPT	TF	FB	1.00	188.82	5.00	4500
SMOAK	IAF	KKARP	NOPT	TF	FB	1.00	294.92	5.00	4500
KKARP	IF/IAF	YUZPI		TF	FB	1.00	260.81	6.00	3800
YUZPI		RROCK		TF	FB	1.00	260.70	2.01	3500
RROCK	FAF	IPUPE/4.90 NM TO RW26		TF	FB	0.30	260.67	4.90	
IPUPE/4.90 NM TO RW26		RW26	MAP	TF	FO	0.30	260.67	4.90	
RW26	MAP	264 MSL		CA			260.67		
264 MSL		STAZY		DF	FB	1.00			
STAZY		YUXBU		TF	FB	1.00	189.28	7.00	
YUXBU		KULOA		TF	FO	1.00	113.42	7.25	5000



MISSED APPROACH

MAP:

LPV: DA
LNAV: RW26

MISSED APPROACH INSTRUCTIONS:

(DO NOT EXCEED 210 KIAS UNTIL STAZY) CLIMB TO 5000 DIRECT STAZY AND LEFT TURN ON TRACK 189.28 TO YUXBU AND LEFT TURN ON TRACK 113.42 TO KULOA AND HOLD, CONTINUE CLIMB-IN-HOLD TO 5000.

ALTERNATE MISSED APPROACH INSTRUCTIONS:

PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF (IAF)				
2.	HOLD E KKARP, RT, 260.81	INBOUND, 4500 FT.	IN LIEU OF PT (IAF),	MAX 6000.				
3. FAC:	260.67	FAF: RROCK	DIST FAF TO MAP: 9.80	DIST FAF TO THLD: 9.80				
4. MIN ALT:	KKARP 4500, YUZPI 3800, RROCK 3500, IPUPE/4.90 NM TO RW26 1780*							
5. DIST TO THLD FROM OM:		MM:	IM:	150 HAT:	250 HAT: 0.56			
6. MIN GP INCPT: 3500	GP ALT AT FAF : RROCK 3500	OM:	MM:	IM:				
7. GP ANGLE: 3.30	34:1: IS NOT CLEAR	20:1: IS CLEAR	TCH: 55.0					
8. MSA FROM: RW26 4500								

PBN EQUIPMENT REQUIREMENTS NOTES

PBN REQUIREMENTS NOTE: RNP APCH.

NOTES:

CHART NOTE: CIRCLING TO RWY 32 NA AT NIGHT.
CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO LPV ALL CATS.
CHART NOTE: RWY 26 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
CHART NOTE: FOR INOPERATIVE ALS, INCREASE LNAV CAT A/B VISIBILITY TO 1 SM AND CAT C/D TO 2 1/2 SM.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT OLM VORTAC ON V287 NORTHBOUND.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT AST VORTAC ON V27 NORTHBOUND.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON.
CHART VDP AT 2.25 NM TO RW26*
*LNAV ONLY
WAAS CHANNEL #97711
REFERENCE PATH ID: W26A
FAS OBST: 600 AAO 460943N/1234640W.
HOLD S, LT, 349.64 INBOUND
LTP HAE: -19.7M

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA CAT A, B 900-2, CAT C 1100-3, CAT D 1200-3



CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA												
LPV DA	264	3/4	250	264	3/4	250	264	3/4	250	264	3/4	250			
LNAV MDA	860	3/4	846	860	3/4	846	860	1 7/8	846	860	1 7/8	846			
CIRCLING	860	1 1/4	846	860	1 1/4	846	1080	3	1066	1160	3	1146			

CHANGES - REASONS

8260-3 PDF EDITED:

1. ADDITIONAL FLIGHT DATA, LTP HAE: -19.7.
2. ALTERNATE, 'STANDARD' DELETED.
3. FAS DATA BLOCK, LTP/FTP ELLIPSOIDAL HEIGHT, CHANGED TO -00197.

8260-9 PDF EDITED:

1. CIRCLING CAT C ADJUSTMENTS, DELETED DUPLICATE AC50.
2. ELEV RWY THRESHOLD ADDED, 12.3.
3. AIRSPACE FORM, RUNWAY APCH END AND DIST FURTHEST FROM ARP.



1. TERMINAL ROUTES, AST VOR/DME TO QAARY CHANGED TO AST VOR/DME TO KKARP. COURSE /DISTANCE CHANGED FROM 077.01/16.36 TO 080.96/18.27 - INTERMEDIATE FIX MOVED MORE THAN 1 NM AND RENAMED PER TERPS CRITERIA.
2. TERMINAL ROUTES, OLM VORTAC TO AMRCN CHANGED TO OLM VORTAC TO HOMKU. COURSE/DISTANCE CHANGED FROM 187.04/50.96 TO 189.18/50.34 - INITIAL FIX MOVED MORE THAN 1 NM AND RENAMED PER TERPS CRITERIA.
3. TERMINAL ROUTES, PITER TO LUKYI CHANGED TO PITER TO SMOAK. COURSE/DISTANCE CHANGED FROM 288.52/18.37 TO 295.14/16.77 - INITIAL FIX MOVED MORE THAN 1 NM AND RENAMED PER TERPS CRITERIA - INTERMEDIATE FIX MOVED MORE THAN 1 NM AND RENAMED PER TERPS CRITERIA.
4. TERMINAL ROUTES, AMRCN TO QAARY CHANGED TO HOMKU TO KKARP. COURSE CHANGED FROM 186.65 TO 188.82 - INITIAL AND INTERMEDIATE FIX MOVED MORE THAN 1 NM AND RENAMED PER TERPS CRITERIA.
5. TERMINAL ROUTES, LUKYI TO QAARY CHANGED TO SMOAK TO KKARP. COURSE CHANGED FROM 288.27 TO 294.92 - INITIAL AND INTERMEDIATE FIX MOVED MORE THAN 1 NM AND RENAMED PER TERPS CRITERIA.
6. TERMINAL ROUTES, QAARY TO YUZPI CHANGED TO KKARP TO YUZPI. RNP VALUE CHANGED FROM 0.50 TO 1.00. COURSE/DISTANCE CHANGED FROM 256.77/4.95 TO 260.81/6.00. ALTITUDE CHANGED FROM 3600 TO 3800 - INTERMEDIATE FIX MOVED MORE THAN 1 NM AND RENAMED PER TERPS CRITERIA. INTERMEDIATE RNP VALUE UPDATED TO NEW VALUE. NEW INTERMEDIATE CONTROLLING OBSTACLE.
7. TERMINAL ROUTES, YUZPI TO RROCK, COURSE/DISTANCE CHANGED FROM 256.70/1.07 TO 260.70/2.1. RNP VALUE CHANGED FROM 0.50 TO 1.00. ALTITUDE CHANGED FROM 3300 TO 3500 - INTERMEDIATE STEPDOWN ADJUSTED TO NEW MINIMUM LENGTH BASED ON NEW INTERMEDIATE RNP VALUE . NEW INTERMEDIATE STEPDOWN CONTROLLING OBSTACLE.
8. TERMINAL ROUTES, RROCK TO IPUPE, COURSE/DISTANCE CHANGED FROM 256.67/5.08 TO 260.67/4.90 - GPA ADJUSTED TO KEEP FINAL LENGTH UNDER 10NM AND FAF ALTITUDE AT MINIMUM INTERMEDIATE STEPDOWN ALTITUDE.
9. TERMINAL ROUTES, IPUPE TO RW26 (MAP), COURSE/DISTANCE CHANGED FROM 256.67/4.80 TO 260.67/4.90 - FINAL STEPDOWN LOCATION ADJUSTED WITH GPA ADJUSTMENT.
10. TERMINAL ROUTE ADDED: RW26 (MAP) TO 264 MSL (CA) 260.67 - CA LEG ADDED TO MISSED APPROACH INSTRUCTIONS PER 8260.58A 3-5-2. CA ALTITUDE MUST BE THE LOWEST OF DA, MDA OR 400 ABOVE AIRPORT ELEVATION.
11. TERMINAL ROUTES, RW26 (MAP) TO STAZY CHANGED TO 264 MSL TO STAZY - CA LEG ADDED TO MISSED APPROACH INSTRUCTIONS PER 8260.58A 3-5-2. CA ALTITUDE MUST BE THE LOWEST OF DA, MDA OR 400 ABOVE AIRPORT ELEVATION.
12. TERMINAL ROUTES, STAZY TO YUXBU, COURSE CHANGED FROM 185.28 TO 189.28 - MAG VAR UPDATED FROM 19E, EPOCH YEAR 1990 TO 15E, EPOCH YEAR 2020.
13. TERMINAL ROUTES, YUXBU TO KULOA, COURSE CHANGED FROM 115.36 TO 113.42 - MAG VAR UPDATED FROM 19E, EPOCH YEAR 1990 TO 15E, EPOCH YEAR 2020.
14. PROFILE, LINE 2, HIL AT QAARY CHANGED TO HIL AT KKARP. COURSE CHANGED FROM 256.77 TO 260.81 - COURSE ADJUSTED TO MATCH NEW INTERMEDIATE COURSE AT NEW FIX KKARP.
15. PROFILE, LINE 3, FAC CHANGED FROM 256.67 TO 260.67. DISTANCE FAF TO MAP AND FAF TO THLD CHANGED FROM 9.88 NM TO 9.80 NM.
16. PROFILE, LINE 4, QAARY CHANGED TO KKARP. YUZPI 3600 CHANGED TO YUZPI 3800. RROCK 3300 CHANGED TO 3500. IPUPE/4.80 NM TO RW26 1600 CHANGED TO IPUPE/4.90 NM TO RW26 1780.
17. PROFILE, LINE 6, MIN GS INCPT 3300 CHANGED TO 3500. GS ALT AT RROCK 3500 ADDED.
18. PROFILE, LINE 7, GS ANGLE 3.00 CHANGED TO 3.30. TCH CHANGED FROM 55.7 TO 55. 20:1 IS CLEAR ADDED - IAW 8260.19H PARA 8-6-7G(3).
19. LPV MINIMA: CATS A-D CHANGED FROM 300 DA/286 HAT TO 264 DA/250 HAT. VISIBILITY CHANGED FROM 1 TO 3/4 - UPDATED CONTROLLING OBSTACLE.
20. LNAV MINIMA: CATS A-D, CHANGED FROM 900 MDA/886 HAT TO 860 MDA/846 HAT. CATS A/B VISIBILITY CHANGED FROM 1 1/4 TO 3/4. CAT C VISIBILITY CHANGED FROM 2 3/4 TO 1 7/8 AND CAT D VISIBILITY CHANGED FROM 3 TO 1 7/8 - UPDATED CONTROLLING OBSTACLE.
21. CIRCLING MINIMA: CATS A/B CHANGED FROM 900 MDA/885 HAA TO 860 MDA/846 HAA, CAT C CHANGED FROM 900 MDA/885 HAA/2 3/4 VIS TO 1080 MDA/1066 HAA/3 VIS AND CAT D CHANGED FROM 900 MDA/885 HAA TO 1160 MDA/1146 HAA - NEW CIRCLING CRITERIA APPLIED. UPDATED CONTROLLING OBSTACLES.
22. MISSED APPROACH CHANGED FROM 'CLIMB TO 5000 DIRECT STAZY AND VIA TRACK 185.28 TO YUXBU AND VIA TRACK 115.36 TO KULOA AND HOLD' TO '(DO NOT EXCEED 210 KIAS UNTIL STAZY) CLIMB TO 5000 DIRECT STAZY AND LEFT TURN ON TRACK 189.28 TO YUXBU AND LEFT TURN ON TRACK 113.42 TO KULOA AND HOLD, CONTINUE CLIMB-IN-HOLD TO 5000' - UPDATED EVALUATION IAW .19H PARA 8-6-6D (11).
23. ADDITIONAL FLIGHT DATA, NOTE CHANGED FROM 'HOLD S, LT, 345.64 INBOUND' TO 'HOLD S, LT, 349.64 INBOUND' - MAG VAR UPDATED FROM 19E, EPOCH YEAR 1990 TO 15E, EPOCH YEAR 2020.
24. ADDITIONAL FLIGHT DATA, FAS OBST DELETED: 649 AAO 460948N/1234647W AND FAS OBST ADDED: 600 AAO 460948N/1234647W - UPDATED FAS OBSTACLE.
25. ADDITIONAL FLIGHT DATA, DISTANCE TO THLD FROM 286 HAT: 0.73 NM CHANGED TO DISTANCE TO THLD FROM 250 HAT: 0.56 NM - HAT LOWERED TO MINIMUM ALLOWABLE.
26. ADDITIONAL FLIGHT DATA, NOTE ADDED: CHART VDP AT 2.25 NM TO RW26*. *LNAV ONLY - PRIMARY ALTIMETER SOURCE LOCAL TO AIRPORT AND 20:1 STR-IN PENETRATIONS CLEAR.
27. ADDITIONAL FLIGHT DATA, NOTE ADDED: CHART CIRCLING ICON - NEW CIRCLING CRITERIA APPLIED.
28. ADDITIONAL FLIGHT DATA, MAG VAR CHANGED FROM 19E 1990 TO 15E 2020.
29. NOTE CHANGED FROM 'INOPERATIVE TABLE DOES NOT APPLY' TO 'INOPERATIVE TABLE DOES NOT APPLY TO LPV ALL CATS' - UPDATED EVALUATION.
30. NOTE ADDED: PBN REQUIREMENTS NOTE: RNP APCH - PER MEMO 257.
31. NOTE DELETED: DME/DME RNP-0.3 NA - PER MEMO 257.
32. NOTE DELETED: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE KELSO ALTIMETER SETTING AND INCREASE ALL DA 95 FT AND ALL MDA 100FT; INCREASE LPV ALL CATS, LNAV CATS C AND D AND CIRCLING CATS C AND D VISIBILITY 1/4 MILE - PRIMARY ALTIMETER SOURCE LOCAL, ON-AIRPORT AND ON WMSCR.
33. NOTE DELETED: ALTERNATE MINIMUMS NA WHEN LOCAL WEATHER NOT AVAILABLE - PRIMARY ALTIMETER SOURCE LOCAL, ON-AIRPORT AND ON WMSCR.
34. NOTE DELETED: HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED - NOTE CHANGED PER CRITERIA CHANGE.
35. NOTE ADDED: RWY 26 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED - 34:1 PENETRATIONS PUBLISHED IAW 8260.19H PARA 8-6-11K(3).
36. NOTE ADDED: CIRCLING RWY 32 NA AT NIGHT - 20:1 CIRCLING PENETRATIONS - PUBLISHED IAW 8260.19H PARA 8-6-11O(2)(G).
37. NOTE ADDED: FOR INOPERATIVE ALS, INCREASE LNAV CAT A/B VISIBILITY TO 1 SM AND CAT C/D TO 2 1/2 SM - PER VISCHECK.
38. NOTE ADDED: PROCEDURE NA FOR ARRIVALS AT AST VORTAC ON V27 NORTHBOUND - TURN EXCEEDS 90 DEGREES.
39. NOTE DELETED: ALTERNATE MINIMUMS NA WHEN LOCAL WEATHER NOT AVAILABLE - PRIMARY ALTIMETER SOURCE LOCAL, ON-AIRPORT AND ON WMSCR.
40. ALTERNATE MINS NOTE UPDATED FROM '@ CAT A, B 900-2, CAT C 900-2 3/4, CAT D 900-3' TO '@ CAT A, B 900-2, CAT C 1100-3, CAT D 1200-3' - CIRCLING CAT A-D MDAS ABOVE STANDARD.
41. CRC REMAINDER CHANGED FROM C073339F TO 9F21D7B7 - GPA, TCH, COURSE WIDTH AT THRESHOLD AND LTP/FPAP COORDINATES UPDATED.



COORDINATED WITH:

A4A ALPA AOPA APA HAI NBAA OTHER: ZSE, AMGR

FLIGHT CHECKED BY

PENDING

Digitally signed by
DONALD H LANIER
Jun 12, 2018

OFFICE

FIOG

DATE

DEVELOPED BY

Digitally signed by

ANDREA CHANEY **ANDREA J CHANEY**

May 04, 2018

OFFICE

AJV-5433

DATE

04/05/2018

APPROVED BY

PATRICK MULQUEEN

Digitally signed by
DONALD H LANIER
Jun 12, 2018

OFFICE

AJV-5430

DATE

TITLE
MANAGER



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KAST
RUNWAY	RW26
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W26A
LTP/FTP LATITUDE	460930.6050N
LTP/FTP LONGITUDE	1235211.2245W
LTP/FTP ELLIPSOIDAL HEIGHT	-00197
FPAP LATITUDE	460939.1225N
FPAP LONGITUDE	1235418.8190W
THRESHOLD CROSSING HEIGHT (TCH)	00055.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.30
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1200
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	9F21D7B7

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K1
LTP ORTHOMETRIC HEIGHT	+00037
FPAP ORTHOMETRIC HEIGHT	+00037

