

**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 ID</u> KHLN	<u>PROCEDURE NAME</u> RNAV (GPS) X RWY 27	<u>ORIGINAL/AMENDMENT</u> 2	<u>CITY</u> HELENA	<u>STATE</u> MT	
<u>AIRPORT ELEVATION</u> 3877	<u>TDZE</u> 3852	<u>SUPERSEDED</u> RNAV (GPS) X RWY 27	<u>ORIGINAL/AMENDMENT</u> 1D	<u>DATED</u> 04/22/2021	<u>MAG VAR</u> 12E
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 23 FEBRUARY 2023	<u>REQUIRED EFFECTIVE DATE</u> 02/23/2023	<u>CANCEL/SUSPEND</u>	<u>EPOCH YEAR</u> 2025

TERMINAL ROUTES

FROM	FIX TYPE	TO	FIX TYPE	LEG TYPE	FO/FB	RNP	COURSE	DISTANCE	ALTITUDE
SWEDD	IAF	GASBE		TF	FB	1.00	319.55	6.84	8000
GASBE	IF	BIBDE		TF	FB	1.00	270.95	5.29	6800
BIBDE	FAF	FESAP/3.83 NM TO RW27		TF	FB	0.30	270.87	5.27	
FESAP/3.83 NM TO RW27		RW27	MAP	TF	FO	0.30	270.87	3.83	
RW27	MAP	4277 MSL		CA			270.87		
4277 MSL		EKIKE		DF	FB	1.00			
EKIKE		WOKEN		TF	FO	1.00	359.18	21.62	9400

MISSED APPROACH

MAP:

LPV: DA
 LNAV/VNAV: DA
 LNAV: RW27

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 9400 DIRECT EKIKE AND ON TRACK 359.18 TO WOKEN AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



CHANGES - REASONS

1. MAGVAR UPDATE FROM 16E TO 12E.
2. TERMINAL ROUTE SWEDD TO GASBE COURSE/DISTANCE CHANGED FROM 325.54/6.01 TO 319.55/6.84. - MAGVAR UPDATE/GASBE MOVED.
3. TERMINAL ROUTE GASBE TO BIBDE COURSE/DIST/ALT CHANGED FROM 266.98/6.01/7100 TO 270.95/5.29/6800
4. TERMINAL ROUTE FINAL ADDED BIBDE TO FESAP/3.83NM TO RW27 270.87/5.27. - ADDED SDF TO FINAL.
5. TERMINAL ROUTE FINAL ADDED FESAP/3.83NM TO RW27 TO RWY27 270.87/3.83. - ADDED SDF TO FINAL.
6. TERMINAL ROUTE CA LEG ADDED RW27 TO 4277 MSL 270.87. - 8260.19I COMPLIANCE.
7. TERMINAL ROUTE MISSED APPROACH ADDED 4277 MSL TO EKIKE. - 8260.19I COMPLIANCE.
8. TERMINAL ROUTE MISSED APPROACH ADDED EKIKE WOKEN 359.18/9400
9. MISSED APPROACH TRACK FROM EKIKE TO WOKEN CHANGED FROM 355.18 TO 359.18. - MAGVAR ADJUSTMENT.
10. MISSED APPROACH HOLDING ALT CHANGED FROM 9300 TO 9400. - FPT REQUEST.
11. PROFILE LINE THREE CHANGED FAC/DIST FAF TO MAP/DIST FAF TO THLD: FROM 266.88/9.78/9.78 TO 270.87/9.11/9.11. - MAGVAR UPDATE/FAF MOVEMENT.
12. PROFILE LINE FOUR CHANGED FROM GASBE 8000, BIBDE 7100 TO GASBE 8000, BIBDE 6800, FESAP/3.83 NM TO RW27 5120. - FPT REQUEST CHANGE BIBDE ALT AND SDF ADDED.
13. PROFILE LINE FIVE ADDED 649 HAT: 1.88. - 8260.19I COMPLIANCE.
14. PROFILE LINE SIX CHANGED FROM MIN GP INCPT: 7100/GS ALT AT: BIBDE 7100 TO 6800/BIBDE 6800. - NEW FAF ALT.
15. PROFILE LINE 7 CHNGED FROM TCH: 54.5 TO 55.1, 20:1 IS CLEAR WAS ADDED. - 8260.19I COMPLIANCE/FAF ALT CHANGE TO ALIGN WITH VGSI.
16. PROFILE LINE 8 MSA CHANGED FROM 10700 TO 10600. - NEW OBSTACLE EVALUATION.
17. ADDITIONAL FLIGHT DATA CHANGED HOLDING INBOUND COURSE FROM 026.00 TO 030.00. - MAGVAR UPDATE.
18. ADDITIONAL FLIGHT DATA CHANGED ARRIVAL HOLDING INBOUND COURSE FROM 325.54 TO 322.00. - TO ATTAIN OBSTACLE CLEARANCE TO MAINTAIN 10,000 HOLDING ALT.
19. ADDITIONAL FLIGHT DATA FAS OBST CHANGED FROM CHART FAS OBST: 4348 ANT ON OL STK .463509N/1115516W, 4579 TREE .463507N/1114438W TO 4348 STACK (30-000089) 463509N/1115516W. - NEW OBSTACLE EVALUATION.
20. ADDITIONAL FLIGHT DATA REMOVED CHART 5499 TREE .463523N/1114349W. - NEW OBSTACLE EVALUATION.
21. ADDITIONAL FLIGHT DATA REMOVED DISTANCE TO THLD FROM 1113 HAT: 3.35 NM. - 8260.19I COMPLIANCE.
22. ADDITIONAL FLIGHT DATA CHANGED FROM CHART VDP AT 4.84 NILES TO RW27* •LNAV ONLY. TO CHART VDP: 3.05 NM TO RW27. - MINIMUMS CHANGED DUE TO NEW OBSTACLE EVALUATION.
23. ADDITIONAL FLIGHT DATA CHART TDZE: 3852 - 8260.19I COMPLIANCE.
24. ADDITIONAL FLIGHT DATA REMOVED CHART AIRPORT ELEV: 3877. - 8260.19I COMPLIANCE.
25. ADDITIONAL FLIGHT DATA ADDED 7:1 OBSTACLE : 5440 AAO 463551N/1114353W. - 8260.19I COMPLIANCE.
26. NOTE CHANGED FROM CIRCLING NA FOR CAT D SOUTH OF RWY9-27. TO CIRCLING NA FOR CATS C AND D S OR RWY 9-27. - 8260.19I COMPLIANCE.
27. NOTE CHANGED FROM FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -26°C OR ABOVE 54°C. TO FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -22°C OR ABOVE 42°C. - NEW CLIMATE STUDY.
28. NOTE REMOVED INOPERATIVE TABLE DOES NOT APPLY TO LNAV CATS A-B. - MINIMUMS CHANGED WITH SDF.
29. PROFILE NOTE REMOVED FROM VGSI AND RNAV GLIDEPATH NOT COINCIDENT (VGSI ANGLE 3.00/TCH 55). - THEY ARE ALIGNED.
30. PDN REQUIREMENTS NOTE CHANGED FROM RNP APCH TO RNP APCH-GPS. - 8260.19I COMPLIANCE.
31. REMOVED PLANVIEW AND PROFILE NOTE: FOR LPV FLY VISUAL TO AIRPORT, 267 DEGREES • 3.3 MILES. - PER 8260.3E, THE DA IS LESS THAN 3 MILES FROM LTP (1.93 NM) WITH LOWER MINS.
32. REMOVED PLANVIEW AND PROFILE NOTE: FOR LNAVNAV FLY VISUAL TO AIRPORT, 21;7 DEGREES • 4.4 MILES. - PER 8260.3E, DA IS LESS THAN 3 MILES FROM THE LTP (2.58 NM) WITH LOWER MINS.
33. MINIMUMS LPV DA/HAT/VIS CHANGED FROM CATS A/B 4965/1113/2, CATS C/D 4965/1113/3 TO ALL CATS 4501/649/1 3/8. - NEW OBSTACLE EVALUATION.
34. MINIMUMS LNAV/VNAV DA/HAT/VIS CHANGED FROM CATS A/B 5289/1437/2, CATS C/D 5289/1437/3 TO 4724/872/2. - NEW OBSTACLE EVALUATION.
35. MINIMUMS LNAV MDA/HAT/VIS CHANGED FROM CAT A 5440/1588/1 1/4 CAT B 5440/1588/1 1/2, CATS C/D 5440/1588/2 1/2 TO CAT A 4880/1028/ 3/4, CAT B 4880/1028/1, CATS C/D 4880/1025/2 1/2. - NEW OBSTACLE EVALUATION.
36. MINIMUMS CIRCLING MDA/HAA CHANGED FROM CAT A 5440/1563/1 1/4, CAT B 5440/1563/ 1 1/2, CATS C/D 5920/2043/3 TO 4880/1003/1 1/4, CAT B 4880/1003/1 1/2, CATS C/D 5920/2043/3. - NEW OBSTACLE EVALUATION.
37. FAS DATA LTP/FTP LAT/LONG CHANGED FROM 463610.7595N/1115745.9565W TO 463610.7600N/1115745.9550W. - NEW SURVEY.
38. FAS DATA FPAP LAT/LONG CHANGED FROM 463630.7100N/1115954.4700W TO 463630.3420N/1115952.0220W. - NEW SURVEY.
39. FAS DATA TCH CHANGED FROM 00054.5 TO 00055.1. - NEW TCH TO MATCH VGSI.
40. FAS LENGTH OFFSET CHANGED FROM 0064 TO 0008. - NEW EVALUATION.
41. FAS DATA CRC REMAINDER CHANGED FROM 451204E5 TO 63FE2ACE. - NEW SURVEY AND EVALUATION.
42. FAS DATA ELLIPSOIDAL HEIGHT CHANGED FROM +11587 TO +11588. - NEW SURVEY AND EVALUATION.

12/22/2022: THIS A CORRECTED COPY OF THE FORM APPROVED ON 11/07/2022.
CHANGED REQUIRED EFFECTIVE DATE FROM 12/29/2022 TO 02/23/2023.



COORDINATED WITH:

A4A **ALPA** **AOPA** **APA** **HAI** **NBAA** **OTHER:** ZLC, HLN APP CON, HLN ATCT, AMGR

FLIGHT CHECKED BY

PENDING

Digitally signed by
JOHNNIE BAKER

OFFICE

DATE

DEVELOPED BY
JOHN KEEFER

Digitally signed by
JOHNNIE BAKER
Dec 22, 2022

Dec 22, 2022

OFFICE
AJV-A432

DATE
09/12/2022

APPROVED BY
CASIMIR TABAKA

Digitally signed by
JOHNNIE BAKER
Dec 22, 2022

OFFICE
AJV-A430

DATE

TITLE
MANAGER



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KHLN
RUNWAY	RW27
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	X
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W27A
LTP/FTP LATITUDE	463610.7600N
LTP/FTP LONGITUDE	1115745.9550W
LTP/FTP ELLIPSOIDAL HEIGHT	+11588
FPAP LATITUDE	463630.3420N
FPAP LONGITUDE	1115952.0220W
THRESHOLD CROSSING HEIGHT (TCH)	00055.1
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0008
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	63FE2ACE

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K1
LTP ORTHOMETRIC HEIGHT	+11719
FPAP ORTHOMETRIC HEIGHT	+11719

