

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
ILS STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.29**

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> ILS Z OR LOC Z RWY 27	<u>ORIGINAL/AMENDMENT</u> 3	<u>CITY</u> HELENA	<u>STATE</u> MT	
<u>AIRPORT ELEVATION</u> 3877	<u>TDZE</u> 3852	<u>SUPERSEDED</u> ILS OR LOC Z RWY 27	<u>ORIGINAL/AMENDMENT</u> 2B	<u>DATED</u> 04/22/2021	<u>MAG VAR</u> 12E
<u>FACILITY</u> I-HLN	<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
HLN VORTAC		HAU NDB					093.79	8.40	9700
CUSDA/HLN 20.00 DME CW	IAF	ZIMUM/HLN 20.00 DME	NOPT				20.00 DME ARC		11100
PATRR/HLN 20.00 DME CW	IAF	ZIMUM/HLN 20.00 DME	NOPT				20.00 DME ARC		11100
ZIMUM/HLN 20.00 DME CW	IAF	DOOKR/HLN 20.00 DME	NOPT				20.00 DME ARC (HLN LR-085)		10200
HUDVU/HLN 20.00 DME CCW	IAF	KEDEC/HLN 20.00 DME	NOPT				20.00 DME ARC		11100
NNORA/HLN 20.00 DME CCW	IAF	KEDEC/HLN 20.00 DME	NOPT				20.00 DME ARC		11100
KEDEC/HLN 20.00 DME CCW	IAF	DOOKR/HLN 20.00 DME	NOPT				20.00 DME ARC (HLN LR-098)		10200
JUVGO/HLN 22.00 DME	IAF	DOOKR/HLN 20.00 DME	NOPT				270.71	2.00 (I-HLN)	10200
DOOKR/HLN 20.00 DME		YERUT/HLN 16.40 DME					270.71	3.60 (I-HLN)	9000
YERUT/HLN 16.40 DME	IF	GELEY/HLN 10.67 DME					270.71	5.73 (I-HLN)	7400
YERUT/HLN 16.40 DME	IF	HAU NDB					270.71	8.01 (I-HLN)	7100

MISSED APPROACH

MAP:

ILS: DA
LOC: 8.71 NM AFTER HAU NDB

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 4700 THEN CLIMBING RIGHT TURN TO 9300 ON HEADING 021 AND ON HLN VORTAC R-340 TO WOKEN INT AND HOLD, CONTINUE CLIMB-IN-HOLD TO 9300.
**MISSED APPROACH REQUIRES MINIMUM CLIMB OF 300 FEET PER NM TO 6000; IF UNABLE TO MEET CLIMB GRADIENT, SEE ILS Y OR LOC Y RWY 27.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



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

ALTERNATE: NA ILS: STANDARD - NA WHEN CONTROL TOWER CLOSED.; LOC: CAT A, B 1800-2, CAT C, D, E 2100-3, NA WHEN CONTROL TOWER CLOSED.

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
S-ILS 27**	4052	1/2	200	4052	1/2	200	4052	1/2	200	4052	1/2	200	4052	1/2	200
S-LOC 27	5640	1 1/4	1788	5640	1 1/2	1788	5640	3	1788	5640	3	1788	5640	3	1788
CIRCLING	5640	1 1/4	1763	5640	1 1/2	1763	6000	3	2123	6000	3	2123	6000	3	2123
ORYON FIX MINIMUMS*															
S-LOC 27	4600	1/2	748	4600	3/4	748	4600	1 3/4	748	4600	1 3/4	748	4600	1 3/4	748
CIRCLING	4640	1	763	4800	1 1/4	923	6000	3	2123	6000	3	2123	6000	3	2123



CHANGES - REASONS

1. KHLN MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
2. CHANGED MISSED APPROACH INSTRUCTIONS FROM CLIMB TO 4700 THEN CLIMBING RIGHT TURN TO 9300 ON HEADING 021 AND ON HLN VORTAC R-340 TO WOKEN/GTF 37.68 DME AND HOLD TO CLIMB TO 4700 THEN CLIMBING RIGHT TURN TO 9300 ON HEADING 021 AND ON HLN VORTAC R-340 TO WOKEN INT AND HOLD, CONTINUE CLIMB-IN-HOLD TO 9300.**MISSED APPROACH REQUIRES MINIMUM CLIMB GRADIENT OF 300 FEET PER NM TO 6000; IF UNABLE TO MEET CLIMB GRADIENT, SEE ILS Y OR LOC Y RWY 27 - ELEVATION CHANGED DUE NEW OBSTACLE EVALUATION, RADIAL CHANGED DUE TO HLN VORTAC MAGVAR UPDATE FROM 1990/16E TO 2025/12E AND CLIMB GRADIENT REQUIRED TO MITIGATE MISSED APPROACH PENETRATIONS DOCUMENTED IAW 8260.19I PARA 8-6-6(F)1.
3. PROFILE LINE 3: FAC CHANGED FROM 266.71 TO 270.71 - HLN VORTAC MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
4. UPDATE TERMINAL ROUTES FEEDER SEGMENT HLN VORTAC TO HAU NDB COURSE FROM 089.65 TO 93.79 AND CHANGED ALTITUDE FROM 9700* TO 9700 - HLN VORTAC MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
5. UPDATE TERMINAL ROUTES INITIAL SEGMENT JUGVO TO DOOKR AND INITIAL STEPDOWN DOOKR TO YERUT COURSE FROM 266.71 TO 270.71 - HLN VORTAC MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
6. UPDATE TERMINAL ROUTES INTERMEDIATE SEGMENT YERUT TO GELEY COURSE FROM 266.71 TO 270.71 - HLN VORTAC MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
7. UPDATE TERMINAL ROUTES SEGMENT YERUT TO HAU NDB COURSE FROM 266.71 TO 270.71 - HLN VORTAC MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
8. MOVED ADF OR DME REQUIRED FROM ADDITIONAL FLIGHT DATA TO EQUIPMENT REQUIREMENTS NOTES
9. REMOVED VGSI AND ILS GLIDEPATH NOT COINCIDENT - ILS GLIDEPATH OR DESCENT ANGLES ARE COINCIDENT.
10. CHANGED CHART NOTE FROM INOPERATIVE TABLE DOES NOT APPLY TO S-LOC 27 CAT C/D/E. FOR INOPERATIVE MALSR, INCREASE S-ILS 27 CAT E VISIBILITY TO 3/4 MILE, INCREASE FERRI FIX MINIMUMS: S-LOC 27 CAT C/D/E VISIBILITY TO 1 7/8 MILES TO CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO S-LOC 27 ALL CATS. FOR INOPERATIVE ALS, INCREASE S-ILS 27 CAT E VISIBILITY TO 3/4 MILE, INCREASE ORYON FIX MINIMUMS: S-LOC 27 CAT C/D/E VISIBILITY TO 2 MILES - UPDATED VISCHECK RESULTS.
11. S-LOC 27 ALL CATS MDA/HAT FROM 5620/1768 TO 5640/1788, CAT A VIS FROM 3/4 TO 1 1/4 SM, CAT B VIS FROM 1 TO 1 1/2 SM - UPDATED OBSTACLE EVALUATION AND VISCHECK RESULTS.
12. CHANGED CIRCLING CATS A/B MDA/HAA FROM 5620/1743 TO 5640/1763, CATS C/D/E FROM 5920/2043 TO 6000/2123. FERRI FIX CIRCLING MINIMUMS REPLACED WITH ORION FIX CIRCLING MINIMUMS, CATS C/D/E MDA/HAA INCREASED FROM 5920/2043 TO 6000/2123 - UPDATED OBSTACLE EVALUATION AND VISCHECK RESULTS.
13. REMOVED FERRI FIX MINIMUMS - FERRI OM TO BE DECOMMISSIONED, REPLACED BY FIX ORYON AND ORYON FIX MINIMUMS.
14. UPDATE ADDITIONAL FLIGHT DATA FAS OBST FROM 4240 AAO 463447N/1115220W. TO 4280 AAO 463431N/1115059W - UPDATED OBSTACLE EVALUATION.
15. UPDATED 7:1 EXCLUDED OBS IN ADDITIONAL FLIGHT DATA FROM 4280 AAO 463424N/1115045W TO FAS OBST: 4459 AAO 463536N/1114500W - NEW OBS DATA AND FORMATTING CHANGED IAW 8260.19I PARA 8-6-10.E.2.
16. LOC MISSED APPROACH CHANGED FROM 8.72 NM AFTER HAU NDB TO 8.71 NM AFTER HAU NDB - HAU NDB COORDINATES MOVED 3.57 FEET TO REFLECT LOCATION ON LOC/AZ CENTERLINE ABEAM THE HAUSER NDB.
17. UPDATED ADDITIONAL FLIGHT DATA JUGVO ARRIVAL HOLDING INBOUND COURSE FROM 266.71 TO 270.71 - HLN VORTAC MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
18. UPDATED HIL AT HAUSER NDB INBOUND COURSE FROM 266.71 TO 270.71 - HLN VORTAC MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
19. UPDATED ADDITIONAL FLIGHT DATA ARC RADIAL NOTES FROM CHART HLN R-336 AT CUSDA TO CHART HLN R-340 AT CUSDA, CHART HLN R-008 AT PATRR TO CHART HLN R-012 AT PATRR, CHART HLN R-058 AT ZIMUM TO CHART HLN R-062 AT ZIMUM, CHART HLN R-208 AT HUDVU TO CHART HLN R-212 AT HUDVU, CHART HLN R-175 AT NNORA CHART HLN R-179 AT NNORA, AND CHART HLN R-103 AT KEDEC TO CHART HLN R-107 AT KEDEC - HLN VORTAC MAGVAR UPDATED FROM 1990/16E TO 2025/12E.
20. CHANGED CHART NOTE: CIRCLING NA SOUTH OF RWY 9-27 FOR CATS D AND E TO CIRCLING NA FOR CATS D AND E S OF RWY 09-27 - FORMATTING UPDATED IAW 8260.19I PARA 8-6-11.O.5(A).
21. PROFILE LINE 4 REPLACED FERRI OM/4.42 DME 5620* WITH ORYON/5.15 DME 5640 AND REMOVED YERUT/HLN 16.40 DME 9000 - FERRI OM TO BE DECOMMISSIONED.
22. PROFILE LINE 5 REMOVED DISTANCE TO THLD FROM OM: 4.73 AND PROFILE LINE 6 REMOVED OM: 5428 - FERRI OM TO BE DECOMMISSIONED.
23. CHANGED CHART NOTE FROM DME FROM HLN VORTAC. SIMULTANEOUS RECEPTION OF I-HLN AND HLN DME REQUIRED TO *CHART NOTE: DME FROM HLN VORTAC. DME USE REQUIRES SIMULTANEOUS RECEPTION OF I-HLN AND HLN DME - NOTE FORMAT UPDATED IAW 8260.19I PARA 8-6-9(K) FOR LOC PROCEDURES.
24. ADDED CHART VDP AT 1.89 DME DISTANCE VDP TO THLD 2.18 NM TO ADDITIONAL FLIGHT DATA - UPDATED EVALUATION WITH DME INFO.
25. REMOVED NOTE *LOC ONLY - NOTE APPLIED TO FERRI FIX MINIMUMS WHICH HAVE BEEN REMOVED.
26. REMOVED CHART NOTE CHART NOTE: MISSED APPROACH REQUIRES A MINIMUM CLIMB OF 300 FT PER NM TO 6000, IF UNABLE TO MEET CLIMB GRADIENT, SEE ILS OR LOC Y RWY 27 - UPDATED INFORMATION ADDED TO MISSED APPROACH INSTRUCTIONS SECTION.
27. CHANGED ADDITIONAL FLIGHT DATA NOTE CHART FROM CHART: 175K ICON AT HAU NDB TO CHART SPEED ICON IN PLANVIEW AT HAU NDB: MAX 175 KIAS - FORMATING UPDATED IAW 8260.91I PARA 4-6-10(G).
28. UPDATED ZIMUM TO DOOKR COURSE LEAD RADIAL FROM (HLN LR-081) TO (HLN LR-085) - HLN MAGVAR UPDATE.
29. UPDATED KEDEC TO DOOKR COURSE LEAD RADIAL FROM (HLN LR-094) TO (HLN LR-098) - HLN MAGVAR UPDATE.
30. CHANGED PROCEDURE NAME FROM ILS OR LOC Z RWY 27 TO ILS Z OR LOC Z RWY 27.

12/22/2022: THIS A CORRECTED COPY OF THE FORM APPROVED ON 11/04/2022.
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

Dec 22, 2022

OFFICE

DATE

DEVELOPED BY
GUY COPELAND

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JOHNNIE BAKER
Dec 22, 2022

OFFICE
AJV-A433

DATE
09/08/2022

APPROVED BY
JOHNNIE BAKER

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Dec 22, 2022

OFFICE
AJV-A430

DATE

TITLE
MANAGER

