

**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> MC CARRAN INTL	<u>AIRPORT ID</u> KLAS	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 1R	<u>ORIGINAL/AMENDMENT</u> 3	<u>CITY</u> LAS VEGAS	<u>STATE</u> NV
<u>AIRPORT ELEVATION</u> 2181	<u>TDZE</u> 2170	<u>SUPERSEDED</u> RNAV (GPS) RWY 1R	<u>ORIGINAL/AMENDMENT</u> 2	<u>DATED</u> 09/14/2017	<u>MAG VAR</u> 11E
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 25 FEBRUARY 2021	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>	<u>EPOCH YEAR</u> 2020

TERMINAL ROUTES

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
BUHLL	IAF	FEBET		TF	FB	1.00	318.15	2.69	6000
CAKNU	IAF	FEBET		TF	FB	1.00	013.80	5.72	6000
FEBET	IF	KIBSE		TF	FB	1.00	013.85	3.79	5100
KIBSE	FAF	GALNE/4.50 NM TO REPHO		TF	FB	0.30	013.87	3.71	
GALNE/4.50 NM TO REPHO		MOLME/3.25 NM TO REPHO		TF	FB	0.30	013.87	1.25	
MOLME/3.25 NM TO REPHO		REPHO	MAP	TF	FO	0.30	013.87	3.25	
REPHO	MAP	2700 MSL		CA			013.87		2700
2700 MSL		HADN		DF	FO	1.00			7000

MISSED APPROACH

MAP:

LPV: DA
LNAV/VNAV: DA
LNAV: REPHO

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 2700 THEN CLIMBING RIGHT TURN TO 7000 DIRECT HADN AND HOLD, CONTINUE CLIMB-IN-HOLD TO 7000.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT SIDE OF COURSE OUTBOUND FT WITHIN MILES OF (IAF)

2. PROFILE STARTS AT FEBET

3. FAC: 013.87 FAF: KIBSE DIST FAF TO MAP: 8.21 DIST FAF TO THLD: 9.01

4. MIN ALT: FEBET 6000, KIBSE 5100, GALNE/4.50 NM TO REPHO 3900*, MOLME/3.25 NM TO REPHO 3500*

5. DIST TO THLD FROM OM: MM: IM: 150 HAT: 288 HAT: 0.72 GS ANT:

6. MIN GP INCPT: 5100 GP ALT AT FAF : KIBSE 5100 OM: MM: IM:

7. GP ANGLE: 3.00 34:1: IS NOT CLEAR 20:1: IS CLEAR TCH: 60.0

8. MSA FROM: REPHO 12900

PBN REQUIREMENTS NOTE:

RNP APCH.
RADAR REQUIRED.

NOTES:

CHART NOTE: RWY 1R HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW 0°C OR ABOVE 54°C.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).
CHART SPEED ICON IN PLANVIEW AT BUHLL: MAX 210 KIAS.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON.
CHART VDP AT 0.81 NM TO REPHO*
*LNAV ONLY
WAAS CHANNEL #42800
REFERENCE PATH ID: W01A
FAS OBST: 2570 AAO 360144N/1151225W.
HOLD SW, RT, 058.82 INBOUND
LTP HAE: 633.3 M

MINIMUMS:

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

ALTERNATE: NA ☐ CAT A, B 900-2, CAT C 1000-2 3/4, CAT D 1400-3

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
LPV DA	2458	7/8	288	2458	7/8	288	2458	7/8	288	2458	7/8	288			
LNAV/VNAV DA	2641	1 3/8	471	2641	1 3/8	471	2641	1 3/8	471	2641	1 3/8	471			
LNAV MDA	2820	1	650	2820	1	650	2820	1 7/8	650	2820	1 7/8	650			
CIRCLING	3020	1 1/4	839	3060	1 1/4	879	3100	2 3/4	919	3540	3	1359			



CHANGES - REASONS

1. REMOVED SKEBR TO CAKNU INITIAL SEGMENT, BOACH TO CAKNU INITIAL SEGMENT, AND FEBET TO KIBSE INTERMEDIATE STEPDOWN SEGMENT - FPT REQUEST PER IFPR.
2. ADDED BUHLL TO FEBET AND CAKNU TO FEBET INITIAL SEGMENTS - FPT REQUEST PER IFPR.
3. CHANGED INTERMEDIATE SEGMENT "FROM" POINT FROM CAKNU TO FEBET AND INTERMEDIATE SEGMENT "TO" POINT FROM FEBET TO KIBSE - FPT REQUEST PER IFPR.
4. ADDED GALNE TO MOLME AND MOLME TO REPHO LNAV FINAL STEPDOWN SEGMENTS - FPT REQUEST PER IFPR.
5. MOVED LNAV MAP FROM RWY01R TO REPHO - FPT REQUEST PER IFPR/ALLOWS FOR HAIDN TO BE UTILIZED AS THE NEW MISSED APPROACH CLEARANCE LIMIT.
6. CHANGED MISSED APPROACH CLIMB TO ALTITUDE FROM 2800 TO 2700 AND CLEARANCE LIMIT FROM BLD VORTAC TO HAIDN - FPT REQUEST PER IFPR.
7. CHANGED MISSED APPROACH INSTRUCTION FROM "CLIMB TO 2800 THEN CLIMBING RIGHT TURN TO 6000 DIRECT BLD VORTAC AND HOLD, CONTINUE CLIMB-IN-HOLD TO 6000" TO "CLIMB TO 2700 THEN CLIMBING RIGHT TURN TO 7000 DIRECT HAIDN AND HOLD, CONTINUE CLIMB-IN-HOLD TO 7000" - FPT REQUEST PER IFPR.
8. CHANGED PROFILE START POINT FROM CAKNU TO FEBET - FPT REQUEST PER IFPR.
9. CHANGED DIST FAF TO MAP FROM 9.01 TO 8.21 - FPT REQUESTED TO MOVE MAP 0.80 NM PRIOR TO LTP.
10. REMOVED CAKNU 6900, CHANGED FEBET FROM 6300 TO 6000, AND CHANGED GALNE FROM 5.30 TO 4.50 - CAKNU IS NOW IAF, FEBET IS NOW IF/ALTITUDE REQUESTED BY FPT, AND MAP IS NOW REPHO.
11. CHANGED 298 HAT 0.75 NM TO 288 HAT 0.72 NM - NEW LPV MISSED APPROACH CONTROLLING OBSTACLE/MA ADJUSTMENT.
12. ADDED 20:1 IS CLEAR - REQUIRED DOCUMENTATION BY CRITERIA.
13. CHANGED MSA CENTER POINT FROM RWY01R TO REPHO AND ALTITUDE FROM 13200 TO 12900 - NEW MSA CONTROLLING OBSTACLE.
14. ADDED RNP APCH AND RADAR REQUIRED - REQUIRED DOCUMENTATION BY CRITERIA/FPT REQUEST PER IFPR.
15. REMOVED FARENHEIT VALUES FROM BARO/VNAV CHART NOTE, CHANGED BELOW VALUE FROM -1 TO 0, AND CHANGED ABOVE VALUE FROM 52 TO 54 - FARENHEIT VALUES NOT REQUIRED FOR DOCUMENTATION/NEW 5-YEAR CLIMATE HISTORY REVIEW RESULTED IN ACT INCREASE FROM -1 TO 0.
16. REMOVED CHART NOTE: DME/DME RNP-0.3 NA - NO LONGER REQUIRED.
17. ADDED CHART SPEED ICON IN PLANVIEW AT BUHLL: MAX 210 KIAS - FPT REQUEST PER IFPR.
18. REMOVED CHART 2759 PWR LINE 355937N/1151357W - OBSTACLE NO LONGER EXISTS.
19. CHANGED MISSED APPROACH HOLDING PATTERN FROM "HOLD SE, RT, 330.00 INBOUND" TO "HOLD SW, RT, 058.82 INBOUND" - CLEARANCE LIMIT MOVED TO HAIDN/FPT REQUEST PER IFPR.
20. CHANGED FAS OBSTACLE FROM 2610 AAO TO 2570 AAO - NEW LNAV FINAL SEGMENT CONTROLLING OBSTACLE PER TARGETS BUILD.
21. REMOVED 7:1 OBSTACLES - HIGHEST 7:1 EXCLUDED OBSTACLE LOWER THAN CONTROLLING OBSTACLE.
22. CHANGED VDP DISTANCE FROM "1.92 NM TO RWY01R" TO "0.81 NM TO REPHO" - VDP DOCUMENTED AS ATD FIX RELATIVE TO THE MAP PER CRITERIA.
23. CHANGED LPV DA/HAT ALL CATS FROM 2468/298 TO 2458/288 - NEW LPV MISSED APPROACH CONTROLLING OBSTACLE/MA ADJUSTMENT.
24. CHANGED LNAV/VNAV DA/HAT ALL CATS FROM 2633/463 TO 2641/471 AND CHANGED LNAV/VNAV VISIBILITY ALL CATS FROM 1 1/2 TO 1 3/8 - NEW LNAV/VNAV FINAL SEGMENT AND MISSED APPROACH CONTROLLING OBSTACLES/VISCHECK CALCULATION.
25. CHANGED LNAV MDA/HAT ALL CATS FROM 2860/690 TO 2820/650 AND CHANGED LNAV VISIBILITY CATS C/D FROM 2 TO 1 7/8 - SECOND SDF ADDED PER FPT REQUEST ON IFPR/NEW LNAV FINAL SEGMENT CONTROLLING OBSTACLE/VISCHECK CALCULATION.
26. CHANGED CIRCLING CAT B CMDA/HAA FROM 3040/859 TO 3060/879 - NEW CAT B CONTROLLING OBSTACLE.
27. CHANGED LTP LATITUDE DECIMAL PORTION FROM .6695 TO .6705 AND LTP LONGITUDE DECIMAL PORTION FROM .4365 TO .4360 - COORDINATES UPDATED PER 11/21/2018 SURVEY.
28. CHANGED LTP ELLIPSOIDAL HEIGHT FROM 6334 TO 6333 - UPDATED PER 11/21/2018 SURVEY.
29. CHANGED FPAP LATITUDE DECIMAL PORTION FROM .8800 TO .8950 AND FPAP LONGITUDE DECIMAL PORTION FROM .8035 TO .7960 - TARGETS CALCULATION.
30. CHANGED CRC REMAINDER FROM BDCFE6C9 TO READ 06D37241 - LTP COORDINATES/ELLIPSOIDAL HEIGHT UPDATED PER 11/21/2018 SURVEY.

COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZLA, LAS APP CON, LAS ATCT, NV AERO, AMGR

FLIGHT CHECKED BY

DANIEL C. FAVORITE

Digitally signed by

ALLAN WILL

Apr 24, 2020

OFFICE

FIOG

DATE

03/31/2020

DEVELOPED BY

MICHAEL R. GARRITY JR. MICHAEL GARRITY

Digitally signed by

Feb 19, 2020

OFFICE

AJV-A423

DATE

01/06/2020

APPROVED BY

MARLON ROBINSON

Digitally signed by

ALLAN WILL

Apr 24, 2020

OFFICE

AJV-A420

DATE

TITLE
MANAGER



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KLAS
RUNWAY	RW01R
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W01A
LTP/FTP LATITUDE	360431.6705N
LTP/FTP LONGITUDE	1151000.4360W
LTP/FTP ELLIPSOIDAL HEIGHT	+06333
FPAP LATITUDE	360554.8950N
FPAP LONGITUDE	1150912.7960W
THRESHOLD CROSSING HEIGHT (TCH)	00060.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0000
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	06D37241

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K2
LTP ORTHOMETRIC HEIGHT	+06614
FPAP ORTHOMETRIC HEIGHT	+06614

