

**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><b>AIRPORT ID</b></u> KRNO	<u><b>PROCEDURE NAME</b></u> RNAV (GPS) X RWY 35L	<u><b>ORIGINAL/AMENDMENT</b></u> 2	<u><b>CITY</b></u> RENO	<u><b>STATE</b></u> NV	
<u><b>AIRPORT ELEVATION</b></u> 4415	<u><b>TDZE</b></u> 4410	<u><b>SUPERSEDED</b></u> RNAV (GPS) X RWY 34L	<u><b>ORIGINAL/AMENDMENT</b></u> 1A	<u><b>DATED</b></u> 02/01/2018	<u><b>MAG VAR</b></u> 13E
<u><b>FACILITY</b></u> RNAV	<u><b>COORDINATES OF FACILITIES</b></u>	<u><b>ACTUAL EFFECTIVE DATE</b></u> 3 NOVEMBER 2022	<u><b>REQUIRED EFFECTIVE DATE</b></u> 11/03/2022	<u><b>CANCEL/SUSPEND</b></u>	<u><b>EPOCH YEAR</b></u> 2020

**TERMINAL ROUTES**

FROM	FIX TYPE	TO	FIX TYPE	LEG TYPE	FO/FB	RNP	COURSE	DISTANCE	ALTITUDE
SWR VOR/DME		ZAPTU		TF	FB	1.00	091.21	16.79	11200
ZAPTU		PIDIC		TF	FB	1.00	077.02	7.04	11400
RICHY		PIDIC		TF	FB	1.00	046.70	13.46	11400
VIKES		NIPME		TF	FB	1.00	179.30	6.76	11000
PIDIC	IAF	JUKNU		TF	FB	1.00	347.12	4.20	9900
NIPME	IAF	JUKNU		TF	FB	1.00	257.22	7.00	9900
RAMRE	IAF	JUKNU		TF	FB	1.00	323.08	9.81	9900
TARVR	IAF	SPOON		TF	FB	1.00	347.09	17.49	11500
SPOON	IAF	JUKNU		TF	FB	1.00	347.12	4.41	9900
JUKNU	IF	ZEXUT		TF	FB	1.00	347.12	5.79	8600
ZEXUT		KARME		TF	FB	1.00	347.12	2.53	8100
KARME	FAF	FEBAK/6.30 NM TO RW35L		TF	FB	0.30	347.11	3.69	
FEBAK/6.30 NM TO RW35L		RW35L	MAP	TF	FO	0.30	347.11	6.30	
RW35L	MAP	4815 MSL		CA			347.11		
4815 MSL		TAKLE		DF	FO	1.00			11000



**MISSED APPROACH**

**MAP:**

LNAV/VNAV: DA  
LNAV: RW35L

**MISSED APPROACH INSTRUCTIONS:**

CLIMB TO 11000 DIRECT TAKLE AND HOLD, CONTINUE CLIMB-IN-HOLD TO 11000.  
\*MISSED APPROACH REQUIRES MINIMUM CLIMB OF 250 FEET PER NM TO 5600.

**ALTERNATE MISSED APPROACH INSTRUCTIONS:**

**PROFILE:**

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)
2. PROFILE STARTS AT JUKNU					
3. FAC:	347.11	FAF: KARME	DIST FAF TO MAP: 9.99	DIST FAF TO THLD: 9.99	
4. MIN ALT:	JUKNU 9900, ZEXUT 8600, KARME 8100, FEBAK/6.30 NM TO RW35L 6740				
5. DIST TO THLD FROM OM:	MM:	IM:	150 HAT:	1070 HAT: 2.76	GS ANT:
6. MIN GP INCPT:	8100	GP ALT AT PFAF :	KARME 8100	OM:	MM: IM:
7. GP ANGLE:	3.41	34:1: IS CLEAR	20:1: IS CLEAR	TCH: 72.0	
8. MSA FROM:	RW35L 12000				

**PBN REQUIREMENTS NOTE:**

RNP APCH - GPS.

**NOTES:**

CHART NOTE: CIRCLING TO RWY 8 NA AT NIGHT.  
 CHART NOTE: BARO-VNAV NA.  
 CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT RICHY ON V28-113 SOUTHWEST BOUND.  
 CHART NOTE: FOR INOPERATIVE ALS INCREASE LNAV CAT A AND B VISIBILITY TO 1 1/4 SM.  
 CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO LNAV CATS C AND D.  
 CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT SWR VOR/DME ON V6 AND T331 SOUTHWEST BOUND.  
 CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT RAMRE ON V165 SOUTHWEST BOUND,  
 CHART SPEED ICON IN PLANVIEW AT ZAPTU: MAX 210 KIAS.  
 CHART SPEED ICON IN PLANVIEW AT PIDIC: MAX 250 KIAS.  
 CHART SPEED ICON IN PLANVIEW AT NIPME: MAX 250 KIAS.

**ADDITIONAL FLIGHT DATA:**

CHART MANDATORY 14000 AT TARVR.  
 HOLD N, RT, 167.12 INBOUND.  
 FAS OBST: 5380 AAO 392338N/1194713W.  
 CHART 5215 POLE 392333N/1194706W.  
 CHART VDP AT 2.64 NM TO RW35L.



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

**ALTERNATE:** NA  CAT A, B 1200-4, CAT C, D 2100-4

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
LNAV/VNAV DA*	5480	4	1070	5480	4	1070	5480	4	1070	5480	4	1070				
LNAV/VNAV DA	5521	4	1111	5521	4	1111	5521	4	1111	5521	4	1111				
LNAV MDA*	5480	3/4	1070	5480	1	1070	5480	2 1/2	1070	5480	2 1/2	1070				
LNAV MDA	5560	3/4	1150	5560	1	1150	5560	3	1150	5560	3	1150				
CIRCLING	5560	1 1/4	1145	5560	1 1/2	1145	6460	3	2045	6460	3	2045				

**CHANGES - REASONS**

- MAGVAR UPDATED FROM 16E/1985 TO 13E/2020 AND RUNWAY RENUMBERED FROM 34R TO 35R AND ALL MAGNETIC COURSES UPDATED - MAGVAR OUT OF TOLERANCE.
- FEEDER FROM SWA VOR/DME SDF ORUKE REPLACED WITH FIX ZAPTU - LEG LENGTH OUT OF CRITERIA/CHANGED PER FPT.
- ADDED SDF ZEXUT IN INTERMEDIATE FROM JUKNU TO KARME - OBSTACLE CLEARANCE IN INTERMEDIATE.
- ADDED NEW IAF FROM TARVR TO SPOON - ATC REQUEST TO TIE INTO THE TARVR STAR.
- ALTITUDE AT FIX JUKNU CHANGED FROM 9600 TO 9900 - PRECIPITOUS TERRAIN EVALUATION AND OBSTACLE CLEARANCE IN LEG FROM PIDIC TO JUKNU.
- REMOVED CHART NOTE "DME/DME RNP-0.3 NA" - 8260.19H 4-6-10.E.
- ADDED "PBN REQUIREMENTS NOTE: RNP APCH-GPS" - 8260.19H 8-6-8.
- LNAV MDA/HAT CHANGED FROM 5300/890 TO 5560/1150, VISIBILITY CAT A CHANGED FROM 1 TO 3/4 AND CATS C/D CHANGED FROM 2 1/2 TO 3 SM - NEW MISSED APPROACH PENETRATION.
- CIRCLING CATS A/B MDA/HAA CHANGED FROM 5340/925 TO 5560/1145, CATS C/D CHANGED FROM 5340/925 TO 6460/2045, CAT B VISIBILITY CHANGED FROM 1 1/4 TO 1 1/2 SM, CAT C VISIBILITY CHANGED FROM 2 3/4 TO 3 SM - NEW CIRCLING RADII APPLIED, CATS A/B TO MATCH STRAIGHT-IN MINIMUMS.
- VDP ADDED - 20:1 SURFACE CLEAR.
- ADDITIONAL FLIGHT DATA NOTE CHANGED FROM 5027 TOWER 392821N/1194529W. CHART 6274 ANT 392203N/1194711W, 5642 TREE 392321N/1194749W TO FAS OBST 5380 AAO 392338N/1194713W, CHART 5215 POLE 392333N/1194706W - NEW FINAL CONTROLLING OBSTACLE AND 7:1 EXCLUDED OBSTACLE.
- ALTERNATE MINIMUMS CHANGED FROM CAT A, B 1000-2, CAT C 1000-2 3/4, CAT D 1000-3 TO CAT A, B 1200-2, CAT C, D 2100-3 - NEW STRAIGHT-IN AND CIRCLING MINIMUMS.
- 20:1 AND 34:1 ARE CLEAR ADDED - DOCUMENTATION REQUIREMENT.
- MISSED APPROACH INSTRUCTIONS CHANGED FROM CLIMB TO 10000 DIRECT TAKLE AND HOLD, CONTINUE CLIMB-IN-HOLD TO 10000 TO CLIMB TO 11000 DIRECT TAKLE AND HOLD, CONTINUE CLIMB-IN-HOLD TO 11000 - NEW CONTROLLING OBSTACLE, MIN ALT DUE TO CIH CONTROLLING OBS IS 10300, ATC REQUESTED TO RAISE TO 11000.
- ADDED LNAV/VNAV MINIMUMS - FPT REQUEST.
- PROFILE LINE 4: MIN ALT CHANGED FROM JUKNU 9600, KARME 8100, FEBAK/6.30 NM TO RW34L 6740 TO JUKNU 9900, ZEXUT 8600, KARME 8100, FEBAK/6.30 NM TO RW35L 6700 - OBSTACLE CLEARANCE.
- CHART NOTE: CIRCLING RWY 7 NA AT NIGHT CHANGED TO RWY 8 - RUNWAY RENUMBERED DUE TO MAGVAR UPDATE.
- ADDED CHART NOTE: INOPERATIVE ALS DOES NOT APPLY TO LNAV CATS C AND D - MAP TO LTP DISTANCE GREATER THAN 3 SM.
- CHANGED INOPERATIVE LIGHTING NOTE FROM FOR INOPERATIVE MALSR INCREASE LNAV CAT A AND B VISIBILITY TO 1 1/4 TO FOR INOPERATIVE ALS INCREASE LNAV CAT A AND B VISIBILITY TO 1 1/4 SM. - TERPS TABLE 3-3-1
- ADDITIONAL FLIGHT DATA: ADDED CHART MANDATORY 14000 AT TARVR - ATC REQUEST TO TIE INTO THE TARVR STAR.
- INCORPORATED CHANGES FROM PREVIOUS P-NOTAMS INTO AMDT 2
- ADDED LNAV MISSED APPROACH CLIMB GRADIENT LINE OF MINIMA: ALL CATS MDA/HAT 5480/1070, VISIBILITY CATS A 3/4, CAT B 1, CATS C/D 2 1/2 SM - PER FPT REQUEST TO GET A LOWER MINIMA WITH MISSED APPROACH CLIMB GRADIENT.
- LNAV/VNAV MISSED APPROACH CLIMB GRADIENT LINE OF MINIMA: ALL CATS MDA/HAT 5480/1070, VISIBILITY ALL CATS 4 SM - PER FPT REQUEST TO GET A LOWER MINIMA WITH MISSED APPROACH CLIMB GRADIENT.
- PROFILE LINE 6: ADDED MIN GP INCPT 8100 AND GP ALT AT FAF ADDED KARME 8100 - LNAV/VNAV ADDED/REQUIRED BY CRITERIA.
- MISSED APPROACH INSTRUCTIONS: ADDED "MISSED APPROACH REQUIRES MINIMUM CLIMB OF 250 FEET PER NM TO 5600" - TO ACHIEVE LOWER MINIMA.
- ADDED NOTE: BARO VNAV NA - PRECIPITOUS TERRAIN IN FINAL.
- KARME MOVED 16 FT SOUTH AND FINAL APPROACH COURSE CHANGED FROM 344.12 TO 347.11 - MAGVAR AND COURSE CORRECTION.



**COORDINATED WITH:**

**A4A**  **ALPA**  **AOPA**  **APA**  **HAI**  **NBAA**  **OTHER:** ZOA, RNO APCH, RNO ATCT, AMGR, NV AERO.

**FLIGHT CHECKED BY**

PENDING

**OFFICE**

**DATE**

*Digitally signed by*  
**DAVID TEFFETELLER**  
Sep 07, 2022

**DEVELOPED BY**  
FRANK MOORE

*Digitally signed by*  
**FRANK MOORE**

**OFFICE**  
AJV-A433

**DATE**  
07/13/2022

**APPROVED BY**  
JOHNNIE BAKER

Aug 24, 2022

**OFFICE**  
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**DATE**

*Digitally signed by*  
**DAVID TEFFETELLER**  
Sep 07, 2022  
**TITLE**  
MANAGER

