

**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
GRAPHIC DEPARTURE PROCEDURES (DP)**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated.  
Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

<u>DP NAME</u>	<u>NUMBER</u>	<u>DP COMPUTER CODE</u>	<u>SUPERSEDED NUMBER</u>	<u>DATED</u>	<u>ACTUAL EFFECTIVE DATE</u>
ZEFFR	EIGHT	ZEFFR8.ZEFFR	SEVEN	11/03/2022	

<u>TYPE:</u>	<u>OBSTACLE</u>	<u>COPTER</u>	<u>SID</u>	<u>SPECIAL</u>	<u>RNAV</u>
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DP ROUTE DESCRIPTION:**

**TAKEOFF RWY 17L:** CLIMB ON HEADING 167.12 TO 4920, THEN DIRECT ZEFFR, THEN ON DEPICTED ROUTE, THENCE ...

**TAKEOFF RWY 17R:** CLIMB ON HEADING 167.11 TO 4920, THEN DIRECT ZEFFR, THEN ON DEPICTED ROUTE, THENCE ...

...MAINTAIN FL190 OR ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 5 MINUTES AFTER DEPARTURE.

**TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):**

<u>TRANSITION NAME</u>	<u>TRANSITION COMPUTER CODE</u>	<u>FROM FIX/NAVAID</u>	<u>TO FIX/NAVAID</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>MEA</u>	<u>MOCA</u>	<u>CROSSING ALTITUDE/FIXES</u>
BLKJK	ZEFFR8.BLKJK	EPOSE	HITME	TRACK 106.43	2.76	9500	9500	AT/ABOVE 10000
		HITME	WITTT	TRACK 105.85	3.16	10100	10100	AT/ABOVE 11000
		WITTT	DATTT	TRACK 041.89	8.57	10100	10100	AT/ABOVE 14000
		DATTT	BLKJK	TRACK 029.89	11.91	10100	9600	
DARBI	ZEFFR8.DARBI	EPOSE	KSINO	TRACK 165.31	20.03	9300	9300	AT/ABOVE 11400
		KSINO	DARBI	TRACK 165.32	41.21	13700	13700	
MRLET	ZEFFR8.MRLET	EPOSE	JCKPT	TRACK 179.59	5.78	8600	8600	AT/ABOVE 10700
		JCKPT	MRLET	TRACK 179.63	6.10	11100	11100	AT/ABOVE 13000
PESKE	ZEFFR8.PESKE	EPOSE	FOLDD	TRACK 119.34	2.20	9200	9200	AT/ABOVE 9600
		FOLDD	ODLEE	TRACK 118.70	12.68	9800	9800	AT/ABOVE 10800
		OLDEE	PESKE	TRACK 122.87	31.70	11000	11000	

**PROCEDURAL DATA NOTES:**

**PBN REQUIREMENT NOTES:**

RNAV 1 - GPS

**EQUIPMENT REQUIREMENT NOTES:**

RADAR REQUIRED

**TAKEOFF MINIMUMS:**

**RWY 8:** NA - ATC

**RWY 17L:** 600-2 1/4 WITH MINIMUM CLIMB OF 500 FT PER NM TO 9200.

**RWY 17R:** STANDARD WITH MINIMUM CLIMB OF 370 FT PER NM TO 7000.



TAKEOFF OBSTACLES NOTES:  
SEE FORM 8260-15A, TAKOFF MINIMUMS AND OBSTACLES DEPARTURE PROCEDURES (ODP).

CONTROLLING OBSTACLES:  
RWY 17L: 6360 FT MSL AAO 392201.27N/1194724.04W (CLIMB GRADIENT, CLIMB-TO ALTITUDE), 4953 MSL TERRAIN (32-054713) 392822.79N/1194534.55W (CEILING), 4829 MSL TERRAIN (32-055356) 392734.97N/1194521.02W (VISIBILITY)  
RWY 17R: 6360 FT MSL AAO 392201.27N/1194724.04W

MSA:  
MSA FROM KRNO, 12000

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:  
AIRPORT MV: RNO 13E/2020.  
CHART SPEED ICON MAXIMUM SPEED 250 KIAS AT WITTT  
CHART: TOP ALTITUDE: FL190.  
DME/DME ASSESSMENT: UNSAT.

AIRPORTS SERVED:			
AIRPORT ID	CITY	STATE	
KRNO	RENO	NV	

COMMUNICATIONS:  
CHART: ATIS, CLNC DEL, GND CON, RENO TOWER.

FIXES AND/OR NAVAIDS:

REMARKS:  
RWY 17L CLIMB GRADIENT DUE TO OBSTACLES IS 350 FT PER NM TO 7000, 500 FT PER NM TO 9200 USED TO ENSURE AIRCRAFT WERE ABOVE THE AT/ABOVE RESTRICTION AT EPOSE.

FLIGHT INSPECTED BY		OFFICE	DATE	
TROY E.DEVINE	<div>Digitally signed by CASIMIR L TABAKA Feb 27, 2023</div>	FPO	2/9/2023	
DEVELOPED BY		OFFICE	DATE	
TYLER MITCHELL	<div>Digitally signed by TYLER D MITCHELL Feb 27, 2023</div>	AJV-A432	12/02/2022	
APPROVED BY		OFFICE	DATE	TITLE
CASIMIR TABAKA	<div>Digitally signed by CASIMIR L TABAKA Feb 27, 2023</div>	AJV-A432		MANAGER

REQUIRED EFFECTIVE DATE  
ROUTINE

COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZOA, RNO ATCT, AMGR



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ZEFFR	EIGHT	ZEFFR8.ZEFFR	SEVEN	11/03/2022	

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**CHANGES - REASONS:**

- 1.CHANGED FROM ZEFFR SEVEN TO ZEFFR EIGHT-CRITERIA REVIEW.
- 2.CHANGED RWY 17L CHARTED TAKEOFF MINIMUMS FROM CEILING AND VIS 700-1 1/8 WITH MINIMUM CLIMB OF 440 FT/NM TO 9400, THEN MINIMUM CLIMB OF 400 FT/NM TO 13000 TO CEILING AND VIS 600-2 1/4 WITH MINIMUM CLIMB OF 350 FT/NM TO 7000- NEW TERRAIN/OBSTACLE EVALUATION.
- 3.CHANGED RWY 17R CHARTED TAKEOFF MINIMUMS FROM CEILING 500 VISIBILITY 2 1/8 OR STANDARD WITH MINIMUM CLIMB OF 440 FT/NM TO 9400, THEN MINIMUM CLIMB OF 400 FT/NM TO 13000 TO 370 FT/NM TO 7000- NEW TERRAIN/OBSTACLE EVALUATION.
- 4.ADDED A CROSSING RESTRICTION AT EPOSE WP OF AT OR ABOVE 9200-MCA CRITERIA.
- 5.ADDED A NEW WAYPOINT JCKPT 5.78 NM SOUTHWEST OF EPOSE WP ON THE MRLET TRANSITION WITH AN ALTITUDE RESTRICTION OF AT OR ABOVE 10700-MCA CRITERIA.
- 6.ADDED A NEW WAYPOINT KSINO 20.03 NM SOUTH OF EPOSE WP ON THE DARBI TRANSITION WITH AN ALTITUDE RESTRICTION OF AT OR ABOVE 11400-MCA CRITERIA.
- 7.ADDED A NEW WAYPOINT FOLDD 2.20 NM SOUTHEAST OF EPOSE WP ON THE PESKE TRANSITION WITH AN ALTITUDE RESTRICTION OF AT OR ABOVE 9600-MCA CRITERIA.
- 8.ADDED ALTITUDE RESTRICTION OF AT OR ABOVE 10800 AT ODLEE WP ON THE PESKE TRANSITION-MCA CRITERIA.
- 9.ADDED A NEW WAYPOINT HITME 2.75 NM SOUTHEAST OF EPOSE WP ON THE BLKJK TRANSITION WITH AN ALTITUDE RESTRICTION OF AT OR ABOVE 10000-MCA CRITERIA.
- 10.DELETED AT OR BELOW FL190 ALTITUDE RESTRICTION AT WITTT WP ON THE BLKJK TRANSITION-NOT NECESSARY: TOP ALTITUDE OF FL190 CHARTED.
- 11.ADDED ALTITUDE RESTRICTION OF AT OR ABOVE 11000 AT WITTT WP ON THE BLKJK TRANSITION-ALTITUDE REQUIRED WHEN A SPEED RESTRICTION IS APPLIED FOR CRITERIA.
- 12.CHANGED MEA FROM 15000 TO 10100 ON ROUTE FROM WITTT TO DATTT-NEW TERRAIN/OBSTACLE EVALUATION.
- 13.ADDED MOCA OF 10100 ON ROUTE FROM WITTT TO DATTT-NEW TERRAIN/OBSTACLE EVALUATION.
- 14.ADDED MEA OF 10100 ON ROUTE FROM DATTT TO BLKJK-NEW TERRAIN/OBSTACLE EVALUATION.
- 15.ADDED MOCA OF 9600 ON ROUTE FROM DATTT TO BLKJK-NEW TERRAIN/OBSTACLE EVALUATION.
- 16.CHANGED MEA FROM 15000 TO 9300 ON ROUTE FROM EPOSE TO KSINO-NEW TERRAIN/OBSTACLE EVALUATION.
- 17.CHANGED MOCA FROM 13600 TO 9300 ON ROUTE FROM EPOSE TO KSINO-NEW TERRAIN/OBSTACLE EVALUATION.
- 18.CHANGED MEA FROM 15000 TO 13700 ON ROUTE FROM KSINO TO DARBI-NEW TERRAIN/OBSTACLE EVALUATION.
- 19.CHANGED MOCA FROM 13600 TO 13700 ON ROUTE FROM KSINO TO DARBI-NEW TERRAIN/OBSTACLE EVALUATION.
- 20.ADDED MEA OF 8600 ON ROUTE FROM EPOSE TO JCKPT-NEW TERRAIN/OBSTACLE EVALUATION.
- 21.CHANGED MOCA FROM 11300 TO 8600 ON ROUTE FROM EPOSE TO JKPOT-NEW TERRAIN/OBSTACLE EVALUATION.
- 22.ADDED MEA OF 11100 ON ROUTE FROM JCKPT TO MRLET-NEW TERRAIN/OBSTACLE EVALUATION.
- 23.CHANGED MOCA FROM 11300 TO 11100 ON ROUTE FROM JCKPT TO MRLET-NEW TERRAIN/OBSTACLE EVALUATION.
- 24.ADDED MEA OF 9200 ON ROUTE FROM EPOSE TO FOLDD-NEW TERRAIN/OBSTACLE EVALUATION.
- 25.CHANGED MOCA FROM 11100 TO 9200 ON ROUTE FROM EPOSE TO FOLDD-NEW TERRAIN/OBSTACLE EVALUATION.
- 26.ADDED MEA OF 9800 ON ROUTE FROM FOLDD TO ODLEE-NEW TERRAIN/OBSTACLE EVALUATION.
- 27.CHANGED MOCA FROM 11100 TO 9800 ON ROUTE FROM FOLDD TO ODLEE-NEW TERRAIN/OBSTACLE EVALUATION.
- 28.CHANGED MEA FROM 15000 TO 11000 ON ROUTE FROM ODLEE TO PESKE-NEW TERRAIN/OBSTACLE EVALUATION.
- 29.ADDED MOCA OF 11000 ON ROUTE FROM ODLEE TO PESKE-NEW TERRAIN/OBSTACLE EVALUATION.
- 30.REMOVED CRITICAL DMES FROM PROCEDURAL DATA NOTES-NEW DME/DME ASSESSMENT.
- 31.CHANGED PBN REQUIREMENT NOTES FROM RNAV 1-DME/DME/IRU OR GPS TO RNAV 1 - GPS- DME/DME ASSESMENT UNSAT.
- 32.CHANGED EQUIPMENT REQUIREMENT NOTES FROM RADAR REQUIRED FOR NON-GPS EQUIPPED AIRCRAFT TO RADAR REQUIRED-NEW DME/DME ASSESSMENT.
- 33.ADDED MSA-IAW FAO 8260.46J 3-1-2.
34. CHANGED ADDITIONAL FLIGHT DATA FROM DME/DME ASSESMENT: SAT TO DME/DME ASSESMENT: UNSAT - DME ASSESMENT IS NOW UNSAT.

2/27/2023: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 12/02/2022.

1. RWY 17L TAKE-OFF MINIMUMS CHANGED FROM 600-2 1/4 WITH MINIMUM CLIMB OF 350 FT PER NM TO 7000 TO A MINIMUM CLIMB OF 500 FT PER NM TO 9200.



**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
DEPARTURE (DATA RECORD)**

DP NAME				NUMBER		DP COMPUTER CODE		SUPERSEDED NUMBER		DATED		ACTUAL EFFECTIVE DATE	
ZEFFR				EIGHT		ZEFFR8.ZEFFR		SEVEN		11/03/2022			
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED		REMARKS			
RWY17L (AER)	393049.83N/1194600.27W	N	-	-	-	-							
4920 MSL	-	-	-	VA	180.12	-	AT/ABOVE 4920	CG 500 FT PER NM TO 9200					
ZEFFR	392549.66N/1194609.60W	Y	FB	DF	-	-							
EPOSE	391913.83N/1194610.96W	Y	FB	TF	180.16	6.59	AT/ABOVE 9200						
RW17R (AER)*	393039.96N/1194609.22W	N	-	-	-	-						*DISPL THLD (1000.00 FT)	
4920 MSL	-	-	-	VA	180.11	-	AT/ABOVE 4900	CG 440 FT PER NM TO 9400					
ZEFFR	392549.66N/1194609.60W	Y	FB	DF	-	-							
EPOSE	391913.83N/1194610.96W	Y	FB	TF	180.16	6.59	AT/ABOVE 9200						
EPOSE	391913.83N/1194610.96W	Y	-	IF	-	-	AT/ABOVE 9200	ZEFFR8.BLKJK					
HITME	391752.19N/1194304.84W	Y	FB	TF	119.43	2.76	AT/ABOVE 10000						
WITTT	391620.56N/1193930.93W	Y	FB	TF	118.85	3.16	AT/ABOVE 11000	AT/BELOW 250K					
DATTT	392116.39N/1193028.38W	Y	FB	TF	054.89	8.57	AT/ABOVE 14000						
BLKJK	393000.00N/1192000.00W	Y	FB	TF	042.89	11.91							
EPOSE	391913.83N/1194610.96W	Y	-	IF	-	-	AT/ABOVE 9200	ZEFFR8.DARBI					
KSINO	385911.25N/1194525.62W	Y	FB	TF	178.31	20.03	AT/ABOVE 11400						
DARBI	381757.03N/1194353.66W	Y	FB	TF	178.32	41.21							
EPOSE	391913.83N/1194610.96W	Y	-	IF	-	-	AT/ABOVE 9200	ZEFFR8.MRLET					

QUALITY

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<u>DP NAME</u>		<u>NUMBER</u>		<u>DP COMPUTER CODE</u>		<u>SUPERSEDED NUMBER</u>		<u>DATED</u>	<u>ACTUAL EFFECTIVE DATE</u>
ZEFFR		EIGHT		ZEFFR8.ZEFFR		SEVEN		11/03/2022	
<u>FIX/NAVAID</u>	<u>LAT/LONG</u>	<u>C</u>	<u>FO/FB</u>	<u>LEG TYPE</u>	<u>TC</u>	<u>DIST (NM)</u>	<u>ALTITUDE</u>	<u>SPEED</u>	<u>REMARKS</u>
JCKPT	391334.89N/1194748.29W	Y	FB	TF	192.59	5.78	AT/ABOVE 10700		
MRLET	390737.20N/1194931.20W	Y	FB	TF	192.63	6.10	AT/ABOVE 13000		
EPOSE	391913.83N/1194610.96W	Y	-	IF	-	-	AT/ABOVE 9200		ZEFFR8.PESKE
FOLDD	391743.96N/1194404.08W	Y	FB	TF	132.34	2.20	AT/ABOVE 9600		
ODLEE	390916.76N/1193153.93W	Y	FB	TF	131.70	12.68	AT/ABOVE 10800		
PESKE	384626.81N/1190340.37W	Y	FB	TF	135.87	31.70			

