

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.

DP NAME	NUMBER	DP COMPUTER CODE	SUPERSEDED NUMBER	DATED	ACTUAL EFFECTIVE DATE
BUNYN	ONE	BUNYN1.BUNYN	NONE		
TYPE:	OBSTACLE	COPTER	SID	SPECIAL	RNAV
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DP ROUTE DESCRIPTION:

MSP:  
TAKEOFF RWY 4, 22: CLIMB ON ASSIGNED HEADING FOR VECTORS TO JBUGG,THENCE...  
TAKEOFF RWY 12L: CLIMB ON HEADING 121.33 TO 1342, THEN LEFT TURN DIRECT FSHAY, CROSS FSHAY AT OR ABOVE 3500, THEN ON TRACK 105.00 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 12R: CLIMB ON HEADING 121.34 TO 1342, THEN LEFT TURN DIRECT FSHAY, CROSS FSHAY AT OR ABOVE 3500, THEN ON TRACK 105.00 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 17: CLIMB ON HEADING 169.53 TO 1342, THEN LEFT TURN DIRECT PGPEN, CROSS PGPEN AT OR ABOVE 3500, THEN ON TRACK 120.00 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 30L: CLIMB ON HEADING 301.36 TO 1342, THEN RIGHT TURN DIRECT BGAXE, CROSS BGAXE AT OR ABOVE 4000, THEN ON TRACK 340.00 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 30R: CLIMB ON HEADING 301.35 TO 1342, THEN RIGHT TURN DIRECT BGAXE, CROSS BGAXE AT OR ABOVE 4000, THEN ON TRACK 340.00 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 35: CLIMB ON HEADING 349.53 TO 1342, THEN DIRECT BGAXE, CROSS BGAXE AT OR ABOVE 4000, THEN ON TRACK 340.00 FOR VECTORS TO CROSS JBUGG, THENCE...

...CROSS JBUGG AT OR ABOVE 4500, THEN ON TRACK 355.21 TO BUNYN THEN ON TRANSITION. MAINTAIN (JETS) 7000/(PROPS) 5000, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

ALL AIRCRAFT: ATC CROSSING RESTRICTIONS AND CLIMB GRADIENTS: IF UNABLE TO ACCEPT CROSSING RESTRICTIONS AND CLIMB GRADIENTS ADVISE ATC PRIOR TO TAXI.  
RWY 12L: CROSS FSHAY AT OR ABOVE 3500, 420 FT/NM TO 3500.  
RWY 12R: CROSS FSHAY AT OR ABOVE 3500, 400 FT/NM FROM 1342 TO 3500.  
RWY 17: CROSS PGPEN AT OR ABOVE 3500, 370 FT/NM FROM 1342 TO 3500.  
RWY 30L/R: CROSS BGAXE AT OR ABOVE 4000, 420 FT/NM FROM 1342 TO 3500.  
RWY 35: CROSS BGAXE AT OR ABOVE 4000, 430 FT/NM TO 4000.

ANE, FCM:  
TAKEOFF ALL RWYS: CLIMB ON ASSIGNED HEADING FOR VECTORS TO JBUGG, CROSS JBUGG AT OR ABOVE 4500, THEN ON TRACK 355.21 TO BUNYN, THEN ON TRANSITION. MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

STP:  
TAKEOFF RWY 9: CLIMB ON HEADING 090.66 TO 1400 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 13: CLIMB ON HEADING 127.74 TO 1300 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 14: CLIMB ON HEADING 146.03 TO 1200 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 27: CLIMB ON HEADING 270.67 TO 1700 FOR VECTORS TO JBUGG, THENCE...  
TAKEOFF RWY 32: CLIMB ON HEADING 326.04 TO 1400 FOR VECTORS TO JBUGG THENCE...

...CROSS JBUGG AT OR ABOVE 4500, THEN ON TRACK 355.21 TO BUNYN, THEN ON TRANSITION. MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):

TRANSITION NAME	TRANSITION COMPUTER CODE	FROM FIX/NAVAID	TO FIX/NAVAID	COURSE	DISTANCE	MEA	MOCA	CROSSING ALTITUDE/FIXES
DULUTH	BUNYN1.DLH	BUNYN	BAYBB	TRACK 022.55	15.15	8000	2500	
		BAYBB	JAYYJ	TRACK 022.86	37.31	10000	2500	
		JAYYJ	DLH VORTAC	TRACK 023.11	38.48	12000	3100	
KVUSI	BUNYN1.KVUSI	BUNYN	GPERS	TRACK 331.90	17.11	8000	2400	



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BUNYN	ONE	BUNYN1.BUNYN	NONE		
	GPERS	JERAH	TRACK 332.44	48.55	10000 2700
	JERAH	KVUSI	TRACK 331.85	30.35	12000 2800

**PBN REQUIREMENT NOTES:**

RNAV 1 - DME/DME/IRU OR GPS.

**EQUIPMENT REQUIREMENT NOTES:**

RADAR REQUIRED.

**PROCEDURAL DATA NOTES:**

**TAKEOFF MINIMUMS:**

MSP:

RWY 12L, 22: STANDARD.

RWY 4, 35: STANDARD WITH MINIMUM CLIMB OF 220 FT/NM TO 2000.

RWY 12R, 17, 30L/R: STANDARD WITH MINIMUM CLIMB OF 500 FT/NM TO 1342.

ANE:

RWY 9: STANDARD WITH MINIMUM CLIMB OF 350 FT/NM TO 2900.

RWY 18: STANDARD WITH MINIMUM CLIMB OF 370 FT/NM TO 3000.

RWY 27, 36: STANDARD WITH MINIMUM CLIMB OF 260 FT/NM TO 2800.

FCM:

RWY 10L/R, 18, 28L/R, 36: STANDARD.

STP:

RWY 31: NA-AIRPORT RESTRICTIONS.

RWY 9: STANDARD WITH MINIMUM CLIMB OF 310 FT/NM TO 1200.

RWY 13: STANDARD WITH MINIMUM CLIMB OF 240 FT/NM TO 1400.

RWY 14: STANDARD WITH MINIMUM CLIMB OF 220 FT/NM TO 1500.

RWY 27: STANDARD WITH MINIMUM CLIMB OF 350 FT/NM TO 1100.

RWY 32: STANDARD WITH MINIMUM CLIMB OF 340 FT/NM TO 2500.

**TAKEOFF OBSTACLES NOTES:**

SEE FORM 8260-15A, TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURE (ODP).

**CONTROLLING OBSTACLES:**

MSP:

RWY 4: 2438 FT MSL TOWER 450344.83N/0930822.61W.

RWY 35: 1743 FT MSL BUILDING 445834.00N/0931621.00W.

ANE:

RWY 9, 18, 27, 36: 2438 FT MSL TOWER 450344.83N/0930822.61W.

STP:

RWY 9: 977 FT MSL TREE 445624.13N/0930133.24W (CLIMB GRADIENT); 1058 FT MSL TREE 445602.90N/0930100.41W (CLIMB GRADIENT TERMINATION ALTITUDE); 1234 FT MSL BUILDING 445702.59N/0925945.02W (CLIMB-TO ALTITUDE).

RWY 13: 1238 FT MSL TOWER 445440.64N/0925910.72W (CLIMB GRADIENT/CLIMB GRADIENT TERMINATION ALTITUDE); 1137 FT MSL TANK 445518.00N/0930012.00W (CLIMB-TO ALTITUDE).

RWY 14: 1241 FT MSL AAO 445327.00N/0925936.00W (CLIMB GRADIENT/CLIMB GRADIENT TERMINATION ALTITUDE); 2375 FT MSL TOWER 450330.00N/0930728.00W (CLIMB-TO ALTITUDE).

RWY 27: 870 FT MSL TREE 445553.97N/0930459.45W (CLIMB GRADIENT); 965 FT MSL TREE 445544.61N/0930537.26W (CLIMB GRADIENT TERMINATION ALTITUDE); 2438 FT MSL TOWER 450344.83N/0930822.61W (CLIMB-TO ALTITUDE).



<u>DP NAME</u>	<u>NUMBER</u>	<u>DP COMPUTER CODE</u>	<u>SUPERSEDED NUMBER</u>	<u>DATED</u>	<u>ACTUAL EFFECTIVE DATE</u>
BUNYN	ONE	BUNYN1.BUNYN	NONE		

RWY 32: 973 FT MSL TOWER 445730.10N/0930432.14W (CLIMB GRADIENT); 2375 FT MSL TOWER 450330.00N/0930728.00W (CLIMB GRADIENT TERMINATION ALTITUDE); 1271 FT MSL BUILDING 445647.16N/0930528.42W (CLIMB-TO ALTITUDE).

**MSA:**

ALL AIRPORTS: 3500

**LOST COMMUNICATIONS PROCEDURES:**

**ADDITIONAL FLIGHT DATA:**

AIRPORT MV: MSP (P) 0E/2015, ANE 2E/2000, FCM 3E/1985, STP 0E/2020.

DME/DME ASSESMENT: SAT (RNP 2.0).

MSP- CHART: TOP ALTITUDE: (JETS) 7000/(PROPS) 5000.

ANE, FCM, STP- CHART: TOP ALTITUDE: ASSIGNED BY ATC.

CHART: MINIMUM CROSSING ALTITUDE AT JBUGG - 4500.

**AIRPORTS SERVED:**

<u>AIRPORT ID</u>	<u>CITY</u>	<u>STATE</u>
MSP	MINNEAPOLIS	MN
ANE	MINNEAPOLIS	MN
FCM	MINNEAPOLIS	MN
STP	ST PAUL	MN

**COMMUNICATIONS:**

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

**FIXES AND/OR NAVAIDS:**

**REMARKS:**

100 FT VEGETATION USED PER FPT.

WAIVERS (1):ATC REQUESTED ALTITUDE LOWER THAN UNRESTRICTED CLIMB ALLOWED BY TERPS EVALUATION;; WAIVER (2): REDUCED ROC; WAIVER (3): ATC CLIMB GRADIENT.

STP: RWY 31, RESTRICTED DUE TO OBSTACLES CAUSING HIGHER THAN 500 FT/NM CLIMB GRADIENT. ATC DOESN'T HAVE A RESTRICTION. CHECK WITH AIRPORT FOR A FUTURE CHANGE TO ADD MINS TO THE ODP AND SIDS.

MSP MINIMUMS COMBINED TO REDUCE CHART CLUTTER: RWYS 4, 35 - 220 FT/NM TO 2000. RWYS 12L, 22 - STANDARD. RWY 12R, 17, 30L/R - 500 FT/NM TO 1342.

MSP RWY 12R, 17, 30L/R: 500 FT/NM LNAV ENGAGEMENT CLIMB GRADIENT REQUIRED FOR PROCEDURE DESIGN DUE TO WIND SPIRALS.

MSP RWY 12L/R, 30L/R AND 35: AIRCRAFT CALCULATED ALTITUDE AT FIX FSHAY AND BGAXE BELOW MVA ADDITIONAL SECTORED EVALUATION ACCOMPLISHED. ALL SURFACES CLEAR.

CHART: DEPARTURE ROUTE DESCRIPTION FOR 12L/R AND 30 L/R TOGETHER USING THE ROUNDED VALUES. UNROUNDED VALUES USED FOR DOCUMENTATION PURPOSES ONLY.

DP RESTRICTIONS FOR ATC FACILITIES INFORMATION:

ATC IS NOT ALLOWED TO LET AN AIRCRAFT CLIMBING TO THE LOWEST ALTITUDES ASSIGNED ENTER A HIGHER MVA UNLESS ATC HAS ASSIGNED AND THE PILOT REACHED THE ALTITUDE EQUAL TO OR HIGHER THAN THE MVA SECTOR THEY ARE ENTERING OR FAA ORDER 7110.65, PARAGRAPH 5-6-3.A.(1) OR (2) IS BEING APPLIED (ATC IS RESPONSIBLE FOR OBSTACLE SEPARATION UNTIL THE AIRCRAFT REACHES THE MVA ALTITUDE OR HIGHER).

MSP:

FOR THE ROUTED RUNWAY TRANSITIONS: IF ATC CLEARS THE PILOT FOR VECTORS TO THE IDF FOR A RUNWAY THAT HAS A ROUTED RUNWAY TRASNTION THE AIRCRAFT IS OFF THE DP AND ATC IS RESPONSIBLE FOR OBSTACLE PROTECTION.

RUNWAYS 12R, 17, 30L/R USE A 500 FT/NM CLIMB GRADIENT FOR PROCEDURE DESIGN TO PROTECT THE OBSTACLE EVALUATION AREAS. IF THE PILOT CANNOT ACCEPT THE CROSSING RESTRICTIONS OR CLIMB GRADIENTS THEY MUST BE ASSIGNED A DIFFERENT RUNWAY OR DEPARTURE PROCEDURE.

RUNWAYS 12L, 35 USE ATC CLIMB GRADIENTS FOR PROCEDURE DESIGN CROSSING RESTRICTION. IF PILOT CANNOT ACCEPT THE CROSSING RESTRICTION OR CLIMB GRADIENT THEY CAN STILL USE THE DEPARTURE PROCEDURE WITHOUT THEM. THEY WILL DEFAULT BACK TO THE TAKEOFF MINIMUMS. AN EVALUATION WAS CONDUCTED AT THE LAST FIX ON THE ROUTE TO VERIFY THAT ALL OBSTACLES WERE LOWER THAN THE OBSTACLE CLEARANCE SLOPE ELEVATION AT THE FIX BASED ON CLIMB GRADIENTS ALLOWED IN TAKEOFF MINIMUMS.

ANE:

TURN RESTRICTIONS FOR LOWEST ATC ASSIGNED ALTITUDE RWY 9, 27, 36: 190 CW 090 CLIMB TO 3000. REFERENCE ANE LETTER OF AGREEMENT (LOA).  
TURN RESTRICTIONS FOR LOWEST ATC ASSIGNED ALTITUDE RWY 18: RIGHT TURN 190 CW 090 CLIMB TO 3000. LEFT TURN 190 CW 060 CLIMB TO 3500. REFERENCE ANE LETTER OF AGREEMENT (LOA).

FLIGHT INSPECTED BY	SIGNATURE	OFFICE	DATE	
DEVELOPED BY	SIGNATURE	OFFICE	DATE	
RAKE MCGRAW (DEXTER SWEETING)		AJV-A431	08/26/2025	
APPROVED BY	SIGNATURE	OFFICE	DATE	TITLE
RAKE MCGRAW		AJV-A422		MANAGER

REQUIRED EFFECTIVE DATE  
ROUTINE

COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER:ZMP, MSP ATCT, MSP DEP CON, AMGR

CHANGES - REASONS:  
ORIGINAL PROCEDURE.

10/20/2025: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 08/26/2025.  
1. DP ROUTE DESCRIPTION: TAKEOFF RWY 17: UPDATED ROUTE FROM "...CROSS FSHAY AT OR ABOVE 3500..." TO "...CROSS PGPEN AT OR ABOVE 3500..."

10/24/2025: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 08/26/2025.  
1. REMARKS: DP RESTRICTIONS FOR ATC FACILITIES INFORMATION: ANE: UPDATED NOTE FROM " ...RWY 9, 27, 36: 190 CW 060 CLIMB TO 3000..." TO "...RWY 9, 27, 36: 190 CW 090 CLIMB TO 3000...".  
2. REMARKS: DP RESTRICTIONS FOR ATC FACILITIES INFORMATION: ANE: UPDATED NOTE FROM " ...RWY 18: RIGHT TURN 190 CW TO 060 CLIMB TO 3000. LEFT TURN CW 060 TO CW 190 CLIMB TO 3500..." TO "...RWY 18: RIGHT TURN 190 CW 090 CLIMB TO 3000. LEFT TURN 190 CW 060 CLIMB TO 3500...".



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

DP NAME				NUMBER		DP COMPUTER CODE		SUPERSEDED NUMBER		DATED		ACTUAL EFFECTIVE DATE	
BUNYN				ONE		BUNYN1.BUNYN		NONE					
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS				
RWY12L (AER)	445334.63N/0931315.57W	N	-	-	-	-							
1342 MSL	-	-	-	VA	121.33	-	AT/ABOVE 1342						
FSHAY	445055.82N/0930303.14W	Y	FB	DF	-	-	AT/ABOVE 3500		LEFT TURN				
FSHAY	445055.82N/0930303.14W	-	-	FM	105.00	-							
RWY12R (AER)	445316.04N/0931402.87W	N	-	-	-	-			CG 500 FT/NM TO 1342				
1342 MSL	-	-	-	VA	121.34	-	AT/ABOVE 1342						
FSHAY	445055.82N/0930303.14W	Y	FB	DF	-	-	AT/ABOVE 3500		LEFT TURN				
FSHAY	445055.82N/0930303.14W	-	-	FM	105.00	-							
RWY17 (AER)	445315.91N/0931432.11W	N	-	-	-	-			CG 500 FT/NM TO 1342				
1342 MSL	-	-	-	VA	169.53	-	AT/ABOVE 1342						
PGPEN	444750.48N/0930620.24W	Y	FB	DF	-	-	AT/ABOVE 3500		LEFT TURN				
PGPEN	444750.48N/0930620.24W	-	-	FM	120.00	-							
RWY30L (AER)	445224.68N/0931204.27W	N	-	-	-	-			CG 500 FT/NM TO 1342				
1342 MSL	-	-	-	VA	301.36	-	AT/ABOVE 1342						
BGAXE	450020.12N/0931741.04W	Y	FB	DF	-	-	AT/ABOVE 4000		RIGHT TURN				
BGAXE	450020.12N/0931741.04W	-	-	FM	340.00	-							
RWY30R (AER)*	445253.54N/0931140.67W*	N	-	-	-	-			*DISPLTHLD (200 FT) CG 500 FT/NM TO 1342				
1342 MSL	-	-	-	VA	301.35	-	AT/ABOVE 1342						

QUALITY

8

QUALITY  
8  
CHECKED

<u>DP NAME</u>		<u>NUMBER</u>		<u>DP COMPUTER CODE</u>		<u>SUPERSEDED NUMBER</u>		<u>DATED</u>	<u>ACTUAL EFFECTIVE DATE</u>
BUNYN		ONE		BUNYN1.BUNYN		NONE			
<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>
BGAXE	450020.12N/0931741.04W	Y	FB	DF	-	-	AT/ABOVE 4000		RIGHT TURN
BGAXE	450020.12N/0931741.04W	-	-	FM	340.00	-			
RWY35 (AER)	45158.24N/0931411.92W	N	-	-	-	-			CG 220 FT/NM TO 2000
1342 MSL	-	-	-	VA	349.53	-	AT/ABOVE 1342		
BGAXE	450020.12N/0931741.04W	Y	FB	DF	-	-	AT/ABOVE 4000		
BGAXE	450020.12N/0931741.04W	-	-	FM	340.00	-			
JBUGG	451421.89N/0930206.20W	Y	-	IF	-	-	AT/ABOVE 4500		
BUNYN	452427.46N/0930318.22W	Y	FB	TF	355.21	10.13			
BUNYN	452427.46N/0930318.22W	Y	-	IF	-	-			BUNYN1.DLH
BAYBB	453826.46N/0925501.50W	Y	FB	TF	022.55	15.15			
JAYYJ	461247.01N/0923409.28W	Y	FB	TF	022.86	37.31			
DLH VORTAC	464807.79N/0921210.33W	Y	FB	TF	023.11	38.48			
BUNYN	452427.46N/0930318.22W	Y	FB	IF	-	-			BUNYN1.KVUSI
GPERS	453932.06N/0931447.57W	Y	FB	TF	331.90	17.11			
JERAH	462229.13N/0934714.18W	Y	FB	TF	332.44	48.55			
KVUSI	464912.05N/0940804.80W	Y	FB	TF	331.85	30.35			

