

**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SUPERSEDED NUMBER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>
CELTK	SEVEN	CELTK7.CELTK	SIX	12/02/2021	30 Nov 2023

<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 4R: CLIMB ON HEADING 034.74 TO 520, THEN DIRECT NHANT, THEN ON TRACK 091.09 TO CROSS HURBE AT OR ABOVE 4000, THENCE ...
 TAKEOFF RWY 9: CLIMB ON HEADING 091.56 TO 520, THEN DIRECT CLAWW AT OR ABOVE 4000 AND AT OR BELOW 250 KIAS, THENCE ...
 TAKEOFF RWY 15R: CLIMB ON HEADING 150.16 TO INTERCEPT COURSE 119.92 TO TASKT, DO NOT EXCEED 210 KIAS UNTIL 520 FT MSL, THENCE ...
 TAKEOFF RWY 22L: CLIMB ON HEADING 214.74 TO INTERCEPT COURSE 137.15 TO CROSS TJAYY AT OR ABOVE 1200 AND AT OR BELOW 210 KIAS, THENCE ...
 TAKEOFF RWY 22R: CLIMB ON HEADING 214.74 TO INTERCEPT COURSE 142.35 TO CROSS TJAYY AT OR ABOVE 1200 AND AT OR BELOW 210 KIAS, THENCE ...
 TAKEOFF RWY 27: CLIMB ON HEADING 271.58 TO INTERCEPT COURSE 237.16 TO KIRAA, THENCE ...
 TAKEOFF RWY 33L: CLIMB ON HEADING 330.17 TO INTERCEPT COURSE 313.94 TO TEKKE, THEN ON TRACK 249.77 TO CROSS COUSY AT OR ABOVE 5000, THENCE ...

...ON DEPICTED TRACK TO CELTK. MAINTAIN 5000. EXPECT CLEARANCE TO FILED ALTITUDE WITHIN TEN 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>
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PBN REQUIREMENT NOTES:

RNAV 1-DME/DME/IRU OR GPS

EQUIPMENT REQUIREMENT NOTES:

NOTE: RADAR REQUIRED FOR NON-GPS EQUIPPED AIRCRAFT

PROCEDURAL DATA NOTES:

NOTE: JET AIRCRAFT ONLY.

TAKEOFF MINIMUMS:

RWYS 4L, 14, 15L, 32, 33R: NA-ATC.
 RWY 4R, 9, 15R, 22R, 33L: STANDARD WITH MINIMUM CLIMB OF 500 FT/NM TO 520.
 RWY 22L: 300-1 WITH MINIMUM CLIMB OF 500 FT/NM TO 520, OR STANDARD WITH MINIMUM CLIMB OF 500 FT/NM TO 520, IF TOWER REPORTS NO TALL VESSELS IN THE DEPARTURE AREA.
 RWY 27: STANDARD WITH MINIMUM CLIMB OF 500 FT/NM TO 1300.

TAKEOFF OBSTACLES NOTES:

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

CONTROLLING OBSTACLES:

RWY 9: 211 FT MSL TANK 422204.30N/0705803.73W.
 RWY 22L: 176 FT MSL SHIP 422041.00N/0710053.00W.
 RWY 22R: 176 FT MSL SHIP 422051.00N/0710110.00W.
 RWY 27: 720 FT MSL BUILDING 422117.13N/0710323.41W (CLIMB GRADIENT), 876 FT MSL BLDG_TOWER 422057.45N/0710430.58W (CLIMB-TO ALTITUDE).

MSA:

MSA FROM KBOS, 2500



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LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

CHART: TOP ALTITUDE 5000.
CHART SPEED ICON: MAXIMUM SPEED 210 KIAS AT TJAYY.
CHART SPEED ICON: MAXIMUM SPEED 250 KIAS AT BRRRO.
CHART SPEED ICON: MAXIMUM SPEED 250 KIAS AT CLAWW.
 AIRPORT MV: BOS 15W/2020
 DME/DME ASSESSMENT: SAT (RNP 2.0).

AIRPORTS SERVED:

<u>AIRPORT ID</u>	<u>CITY</u>	<u>STATE</u>
KBOS	BOSTON	MA

COMMUNICATIONS:

CHART: ATIS, CLNC DEL, GND CON, TWR, DEP CON, CPDLC

FIXES AND/OR NAVAIDS:

BRRRO, CBEAR, COLYN, FENWY, ORRRR, TONNI, SCOAR, FRILL

REMARKS:

MSA CONTROLLING OBSTACLE: 1462 FT MSL TOWER (25-000619) 422302.73N/0712935.33W
 MAXIMUM 100 FT VEGETATION HEIGHT APPLIED.
 ENVIRONMENTAL REVIEW UNDER ORDER 1050.1F AND THE NOISE SCREENING HAVE BEEN ACCOMPLISHED.
 IN ACCORDANCE WITH THE MASSPORT ADVISORY COMMITTEE ON COMMUNITY NOISE REDUCTION, ALL CLIMB GRADIENTS, SPEED NOTES, AND CHART NOTES REGARDING NOISE ARE REMAINING ON THE PROCEDURE TO ENSURE FLIGHT CREW AWARENESS AND COMPLIANCE.
 RWY 9: APPLIES A 500 FT/NM LNAV ENGAGEMENT CLIMB GRADIENT/ALTITUDE. THE OBSTACLE REQUIRED CLIMB GRADIENT IS 266 FT/NM TO 300.
 RWY 22L: LNAV ENGAGEMENT CLIMB GRADIENT OF 500 FT/NM APPLIED WITH CEILING/VISIBILITY MITIGATION OF 176' SHIP AND IF NO SHIPS ARE REPORTED BY ATC.
 RWY 22R: APPLIES A 500 FT/NM LNAV ENGAGEMENT CLIMB GRADIENT/ALTITUDE. THE OBSTACLE REQUIRED CLIMB GRADIENT IS 319 FT/NM TO 300.
 RWY 27: APPLIES A 500 FT/NM LNAV ENGAGEMENT CLIMB GRADIENT/ALTITUDE. THE OBSTACLE REQUIRED CLIMB GRADIENT IS 487 FT/NM TO 1000. CLIMB-TO ALTITUDE OF 1300 APPLIED PER ATC FOR NOISE ABATEMENT.
 RWY 33L: 500 FT/NM CLIMB GRADIENT REQUIRED TO APPLY MINIMUM VI LEG LENGTH IAW THE 8260-58B, 5-3-1 A (1) (B) 2.
 APPROVAL LETTER: RWY 4R AND RWY 9 USE NON-STANDARD CLIMB GRADIENTS FOR NOISE SENSITIVE AREAS.

<u>FLIGHT INSPECTED BY</u>	<i>Digitally signed by</i>	<u>SIGNATURE</u>	<u>OFFICE</u>	<u>DATE</u>	
PRESSLER, ROBERT STEPHEN	<i>Digitally signed by</i>	CASIMIR L TABAKA	FIOG	9/15/2023	
	<i>Digitally signed by</i>	Oct 02, 2023			
<u>DEVELOPED BY</u>		<u>SIGNATURE</u>	<u>OFFICE</u>	<u>DATE</u>	
CASEY HILL			AJV-A432	06/08/2023	
<u>APPROVED BY</u>	<i>Digitally signed by</i>	<u>SIGNATURE</u>	<u>OFFICE</u>	<u>DATE</u>	<u>TITLE</u>
CASIMIR L. TABAKA	<i>Digitally signed by</i>		AJV-A432	11/30/2023	MANAGER
	<i>Digitally signed by</i>				

REQUIRED EFFECTIVE DATE

ROUTINE

COORDINATED WITH:

A4A **ALPA** **AOPA** **APA** **HAI** **NBAA** **OTHER:**ZBW, BOS APP CON, BOS ATCT, AMGR.



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CHANGES - REASONS:

1. MOVED TJAYY WAYPOINT .4 NM NORTHWEST - FPT/ATC REQUEST DUE TO COMMUNITY REQUEST FOR NOISE ABATEMENT.
2. ADDED CROSSING ALTITUDE AND SPEED RESTRICTION AT TJAYY OF AT OR ABOVE 1200 AND NOT EXCEED 210 KIAS - FPT/ATC REQUEST DUE TO COMMUNITY COORDINATION FOR NOISE ABATEMENT.
3. DP ROUTE DESCRIPTION: CHANGED LEG HEADING TO TJAYY ON RWY 22L TRANSITION FROM 139.00 TO 137.15-FPT/ATC REQUEST TO RELOCATE TJAYY TO SUPPORT NOISE ABATEMENT PER COMMUNITY REQUEST.
4. DP ROUTE DESCRIPTION: CHANGED LEG HEADING TO TJAYY ON RWY 22R TRANSITION FROM 143.40 TO 142.35- FPT/ATC REQUEST TO RELOCATE TJAYY TO SUPPORT NOISE ABATEMENT PER COMMUNITY REQUEST.
5. DP ROUTE DESCRIPTION: CHANGED LEG HEADING TO KIRAA ON RWY 27 TRANSITION FROM 234.00 TO 237.16- MINIMUM VI-CF SEGMENT CRITERIA APPLIED FOR NOISE ABATEMENT IAW 8260-58B, 5-3-1 A (1)(B)2.
6. DP ROUTE DESCRIPTION: CHANGED LEG HEADING TO TASKT ON RWY 15R TRANSITION FROM 119.00 TO 119.92- MINIMUM VI-CF SEGMENT CRITERIA APPLIED FOR NOISE ABATEMENT IAW 8260-58B, 5-3-1 A (1)(B)2.
7. DP ROUTE DESCRIPTION: CHANGED LEG HEADING TO TEKKE ON RWY 33L TRANSITION FROM 313.00 TO 313.94- MINIMUM VI-CF SEGMENT CRITERIA APPLIED FOR NOISE ABATEMENT IAW 8260-58B, 5-3-1 A (1)(B)2.
8. PROCEDURAL DATA NOTES: ADDED CHART NOTE: DO NOT EXCEED 210 KIAS UNTIL PASSING TJAYY- ATC/FPT REQUEST FOR FLIGHT CREW AWARENESS AND CHART CONSISTENCY.
9. PROCEDURAL DATA NOTES: CHANGED CHART NOTE: FOR TURBOJETS ONLY TO NOTE: JET AIRCRAFT ONLY- FPT/ATC REQUEST,
10. REMARKS: REMOVED REFERENCE TO RWY 22L/R IN CHART NOTE: RWY 15R, 22L/R: DO NOT EXCEED 210K UNTIL LEAVING 520 FT MSL- NO LONGER NEEDED WITH NEW SPEED CONSTRAINT ADDED TO TJAYY.
11. DP ROUTE DESCRIPTION RWY 9: MOVED CLAWW WAYPOINT .03NM EAST- MITIGATE CLIMB GRADIENT CRITERIA PER ORDER 8260.46J, PARA 2-1-1E(2)(B)2.
12. MOVED ALL THE NOTES FROM PROCEDURAL DATA NOTES TO PBN REQUIREMENT NOTES, EQUIPMENT NOTES, AND PROCEDURAL DATA NOTES AS NECESSARY WITH CURRENT CRITERIA- 8260.46J CHAPTER 3
13. ADDED MSA - 8260.46J 3-1-2.
14. ADDED "CHART" TO COMMUNICATIONS BLOCK - 8260.46J APPENDIX B 2E.
15. DP ROUTE DESCRIPTION: CHANGED LEG HEADING TO TASKT ON RWY 15R TRANSITION FROM 119.00 TO 119.92 - MINIMUM VI-CF SEGMENT CRITERIA APPLIED FOR NOISE ABATMENT IAW 8260-58B, 5-3-1 A(1)(B)2
16. DP ROUTE DESCRIPTION: RWY 22L CHANGED WORDING FROM "CLIMB ON HEADING 214.74 TO INTERCEPT COURSE 137.15 TO TJAYY, DO NOT EXCEED 210 KIAS UNTIL 520 FT MSL, THENCE" TO "CLIMB ON HEADING 214.74 TO INTERCEPT COURSE 137.15 TO CROSS TJAYY AT OR ABOVE 1200 AND AT OR BELOW 210 KIAS, THENCE" - FPT/ATC REQUEST.
17. DP ROUTE DESCRIPTION: RWY 22R CHANGED WORDING FROM "CLIMB ON HEADING 214.73 TO INTERCEPT COURSE 142.35 TO TJAYY, DO NOT EXCEED 210 KIAS UNTIL 520 FT MSL, THENCE" TO "CLIMB ON HEADING 214.74 TO INTERCEPT COURSE 142.35 TO CROSS TJAYY AT OR ABOVE 1200 AND AT OR BELOW 210 KIAS, THENCE" - FPT/ATC REQUEST.
18. REMARKS: ADDED APPROVAL LETTER INFORMATION - RWY 4R AND RWY 9 USE NON-STANDARD CLIMB GRADIENTS FOR NOISE SENSITIVE AREAS.
19. REMARKS: ADDED RWY 27: APPLIES A 500 FT/NM LNAV ENGAGEMENT CLIMB GRADIENT/ALTITUDE. THE OBSTACLE REQUIRED CLIMB GRADIENT IS 487 FT/NM TO 1000. CLIMB-TO ALTITUDE OF 1300 APPLIED FOR MOISE ABATEMENT - ATC/FPT REQUEST HIGHER ALTITUDE FOR NOISE ABATEMENT.
20. REMARKS: ADDED RWY 9: APPLIES A 500 FT/NM LNAV ENGAGEMENT CLIMB GRADIENT/ALTITUDE. THE OBSTACLE REQUIRED CLIMB GRADIENT IS 266 FT/NM TO 300- ATC/FPT REQUEST HIGHER ALTITUDE FOR NOISE ABATEMENT.
21. REMARKS: ADDED RWY 22L: LNAV ENGAGEMENT CLIMB GRADIENT OF 500 FT/NM APPLIED WITH CEILING/VISIBILITY MITIGATION OF 176' SHIP AND IF NO SHIPS ARE REPORTED BY ATC- ATC/ FPT REQUEST HIGHER ALTITUDE FOR NOISE ABATEMENT.
22. REMARKS: ADDED RWY 22R: APPLIES A 500 FT/NM LNAV ENGAGEMENT CLIMB GRADIENT/ALTITUDE. THE OBSTACLE REQUIRED CLIMB GRADIENT IS 319 FT/NM TO 300- ATC/FPT REQUEST HIGHER ALTITUDE FOR NOISE ABATEMENT.300 APPLIED FOR ATC - ATC/FPT REQUEST HIGHER ALTITUDE FOR NOISE ABATEMENT.
23. REMARKS: ADDED MSA CONTROLLING OBSTACLE DATA - FOR FUTURE USE.
24. REMARKS: ADDED MAXIMUM VEGETATION APPLIED - INFORMATION PER FPT CHECKLIST.
25. REMAKRS: ADDED 33L 500 FT/NM CLIMB GRADIENT TO APPLY MINIMUM VI LEG LENGTH IAW 8260.58B, 5-3-1 A (1) (B) 2.

09/22/2023 THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 06/08/2023.

1. REMOVED PROCEDURAL DATA NOTE: DEPARTURE HDG/RNAV TRACK PREDICATED ON AVOIDING NOISE SENSITIVE AREAS. FLIGHT CREW AWARENESS AND COMPLIANCE IS IMPORTANT IN MINIMIZING NOISE IMPACTS ON SURROUNDING COMMUNITIES.
2. REMOVED THE FOLLOWING PROCEDURAL DATA NOTES: DO NOT EXCEED 210 KIAS UNTIL PASSING TJAYY, DO NOT EXCEED 250 KIAS UNTIL PASSING BRRRO, DO NOT EXCEED 250 KIAS UNTIL PASSING CLAWW, RWY 15R: DO NOT EXCEED 210 KIAS UNTIL LEAVING 520 FT MSL.



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

<u>DP NAME</u>	<u>NUMBER</u>	<u>DP COMPUTER CODE</u>	<u>SUPERSEDED NUMBER</u>	<u>DATED</u>	<u>ACTUAL EFFECTIVE DATE</u>				
CELTK	SEVEN	CELTK7.CELTK	SIX	12/02/2021	30 Nov 2023				
<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>
RW04R (AER)*	422114.55N/0710037.27W	N	-	-	-	-			*DISPL THLD (1155 FT)
520 MSL	-	-	-	VA	019.74	-	AT/ABOVE 520		CG 500 FT/NM TO 520
NHANT	422623.24N/0705759.97W	Y	FB	DF	-	-			
HURBE	422738.74N/0705107.04W	Y	FB	TF	076.09	5.25	AT/ABOVE 4000		
ORRRR	422528.48N/0704513.44W	Y	FB	TF	116.41	4.87			
TONNI	422224.06N/0703648.72W	Y	FB	TF	116.20	6.95			
CELTK	421559.05N/0700612.33W	Y	FB	TF	105.60	23.59			
RW09 (AER)	422120.72N/0710046.42W	N	-	-	-	-			
520 MSL	-	-	-	VA	076.56	-	AT/ABOVE 520		CG 500 FT/NM TO 520
CLAWW	422325.73N/0704845.02W	Y	FB	DF	-	-	AT/ABOVE 4000	AT/BELOW 250K	
FENWY	422211.10N/0704306.02W	Y	FB	TF	106.51	4.37			
SCOAR	421845.42N/0703815.02W	Y	FB	TF	133.59	4.97			
CELTK	421559.05N/0700612.33W	Y	FB	TF	096.47	23.94			
RW15R (AER)*	422221.20N/0710056.13W	N	-	-	-	-			*DISPL THLD (882 FT)
-	422033.81N/0705832.19W	-	-	VI	135.16	2.52		AT/BELOW 210K	CG 500 FT/NM TO 520
TASKT	421917.76N/0705206.54W	Y	FB	CF	104.92	4.93			
BRRRO	422000.78N/0704805.48W	Y	FB	TF	076.45	3.07	AT/ABOVE 3000	AT/BELOW 250K	
SCOAR	421845.42N/0703815.02W	Y	FB	TF	099.70	7.41			
CELTK	421559.05N/0700612.33W	Y	FB	TF	096.47	23.94			

QUALITY
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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>	
CELTK		SEVEN		CELTK7.CELTK		SIX		12/02/2021		30 Nov 2023	
<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>		
RW22L (AER)*	422225.69N/0710002.85W	N	-	-	-	-			*DISPL THLD (1199 FT)		
-	422007.04N/0710109.91W	-	-	VI	199.74	2.45			CG 500 FT/NM TO 520		
TJAYY	421837.22N/0705757.21W	Y	FB	CF	122.15	2.81	AT/ABOVE 1200	AT/BELOW 210K			
BRRRO	422000.78N/0704805.48W	Y	FB	TF	079.17	7.45	AT/ABOVE 3000	AT/BELOW 250K			
SCOAR	421845.42N/0703815.02W	Y	FB	TF	099.70	7.41					
CELTK	421559.05N/0700612.33W	Y	FB	TF	096.47	23.94					
RW22R (AER)*	422234.26N/0710019.93W	N	-	-	-	-			*DISPL THLD (819 FT)		
-	422031.57N/0710119.26W	-	-	VI	199.74	2.17			CG 500 FT/NM TO 520		
TJAYY	421837.22N/0705757.21W	Y	FB	CF	127.35	3.14	AT/ABOVE 1200	AT/BELOW 210K			
BRRRO	422000.78N/0704805.48W	Y	FB	TF	079.17	7.45	AT/ABOVE 3000	AT/BELOW 250K			
SCOAR	421845.42N/0703815.02W	Y	FB	TF	099.70	7.41					
CELTK	421559.05N/0700612.33W	Y	FB	TF	096.47	23.94					
RW27 (AER)	422136.78N/0705915.73W	N	-	-	-	-					
-	422106.67N/0710205.64W	-	-	VI	256.58	2.16			CG 500 FT/NM TO 1300		
KIRAA	421631.48N/0710741.78W	Y	FB	CF	222.16	6.19					
COLYN	420909.66N/0710224.39W	Y	FB	TF	151.87	8.34					
CELTK	421559.05N/0700612.33W	Y	FB	TF	080.41	42.32					
RW33L (AER)	422116.74N/0705929.71W	N	-	-	-	-					
-	422310.18N/0710201.85W	-	-	VI	315.17	2.67			CG 500 FT/NM TO 520		
TEKKK	422445.85N/0710555.09W	Y	FB	CF	298.94	3.29					
COUSY	422117.92N/0711231.70W	Y	FB	TF	234.77	6.00	AT/ABOVE 5000				



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<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>
CBEAR	421519.94N/0710936.29W	Y	FB	TF	160.00	6.35			
COLYN	420909.66N/0710224.39W	Y	FB	TF	139.03	8.17			
CELTK	421559.05N/0700612.33W	Y	FB	TF	080.41	42.32			

