

**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.
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<u>DP NAME</u>	<u>NUMBER</u>	<u>DP COMPUTER CODE</u>	<u>SUPERSEDED NUMBER</u>	<u>DATED</u>	<u>EFFECTIVE DATE</u>
CELTK	FIVE	CELTK5.CELTK	FOUR	06/25/2015	12 OCT 2017

<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 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 HEADING 091.56 TO 520, THEN DIRECT CLAWW, CROSS CLAWW AT OR ABOVE 4000, THENCE...**TAKEOFF RWY 15R:** CLIMB HEADING 150.16 TO INTERCEPT COURSE 131.00 TO FOXXX, DO NOT EXCEED 210 KIAS UNTIL 520 FT MSL, THENCE...**TAKEOFF RWY 22L:** CLIMB HEADING 214.74 TO INTERCEPT COURSE 139.00 TO TJAYY, DO NOT EXCEED 210 KIAS UNTIL 520 FT MSL, THENCE...**TAKEOFF RWY 22R:** CLIMB HEADING 214.74 TO INTERCEPT COURSE 143.40 TO TJAYY, DO NOT EXCEED 210 KIAS UNTIL 520 FT MSL, THENCE...**TAKEOFF RWY 27:** CLIMB HEADING 271.58 TO INTERCEPT COURSE 234.00 TO KIRAA, THENCE...**TAKEOFF RWY 33L:** CLIMB HEADING 330.18 TO INTERCEPT COURSE 313.00 TO TEKKE, THEN ON TRACK 249.77 TO CROSS COUSY AT OR ABOVE 5000, THENCE...

...ON DEPICTED ROUTE TO CELTK. MAINTAIN 5000 OR LOWER ASSIGNED ALTITUDE. EXPECT CLEARANCE TO FILED ALTITUDE/FLIGHT LEVEL WITHIN TEN (10) 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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PROCEDURAL DATA NOTES:**NOTE:** DME/DME/IRU OR GPS REQUIRED.**NOTE:** RADAR REQUIRED FOR NON-GPS EQUIPPED AIRCRAFT.**NOTE:** RNAV 1.**NOTE:** FOR TURBOJETS ONLY.**NOTE:** DEPARTURE HDG/RNAV TRACKS/VECTORS ARE PREDICATED ON AVOIDING NOISE SENSITIVE AREAS. FLIGHT CREW AWARENESS AND COMPLIANCE IS IMPORTANT IN MINIMIZING NOISE IMPACTS ON SURROUNDING COMMUNITIES.**NOTE: RWY 15R, 22L, 22R:** DO NOT EXCEED 210 KIAS UNTIL 520 FT MSL.**NOTE:** AT/BELOW 250K UNTIL BRRRO.**TAKEOFF MINIMUMS:****RWY 4L, 14, 15L, 32, 33R:** NA-ATC.**RWY 4R:** STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 3600.**RWY 9:** STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 4000.**RWY 15R:** STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 520.**RWY 22L:** 300-1 WITH MINIMUM CLIMB OF 500 FT PER NM TO 520, OR STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 520 IF TOWER REPORTS NO TALL VESSELS IN THE DEPARTURE AREA.**RWY 22R:** STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 520.**RWY 27:** STANDARD WITH A MINIMUM CLIMB OF 500 FT PER NM TO 1300.**RWY 33L:** STANDARD WITH A MINIMUM CLIMB OF 500 FT PER NM TO 4900.**TAKEOFF OBSTACLES NOTES:****NOTE: RWY 4R:** SHIPS BEGINNING 578 FT FROM DER, ON CENTERLINE, UP TO 50 FT AGL/50 FT MSL. TREES, POLE, AND TOWER BEGINNING 1807 FT FROM DER, 382 FT LEFT OF CENTERLINE, UP TO 30 FT AGL/68 FT MSL. TREES BEGINNING 2282 FT FROM DER, 691 FT LEFT OF CENTERLINE, UP TO 57 FT AGL/77 FT MSL.**NOTE: RWY 9:** SHIPS BEGINNING 761 FT FROM DER, ON CENTERLINE, UP TO 65 FT AGL/65 FT MSL. TANK AND OBSTACLE LIGHT BEGINNING 5883 FT FROM DER, 1453 FT LEFT OF CENTERLINE, UP TO 120 FT AGL/217 FT MSL.**NOTE: RWY 15R:** SIGN 45 FT FROM DER, 267 FT RIGHT OF CENTERLINE, 15 FT AGL/16 FT MSL.

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NOTE: RWY 22L: POLE 394 FT FROM DER, ON CENTERLINE, 15 FT AGL/31 FT MSL. SHIP RIG 2440 FT FROM DER, 34 FT LEFT OF CENTERLINE, 176 FT AGL/176 FT MSL. TOWER AND LIGHT 3585 FT FROM DER, 926 FT LEFT OF CENTERLINE, 114 FT AGL/128 FT MSL. CRANES BEGINNING 3675 FT FROM DER, 439 FT RIGHT OF CENTERLINE, UP TO 146 FT AGL/146 FT MSL.

NOTE: RWY 22R: SHIP RIG 4064 FT FROM DER, 8 FT RIGHT OF CENTERLINE, 176 FT AGL/176 FT MSL. STACK 1.4 NM FROM DER, 2755 FT RIGHT OF CENTERLINE, 250 FT AGL/265 FT MSL.

NOTE: RWY 27: LIGHT POLE AND ROD BEGINNING 1690 FT FROM DER, 750 FT RIGHT OF CENTERLINE, UP TO 86 FT AGL/102 FT MSL. BUILDINGS BEGINNING 1.2 NM FROM DER, 126 FT LEFT OF CENTERLINE, UP TO 251 FT AGL/261 FT MSL. BUILDINGS BEGINNING 1.4 NM FROM DER, 1166 FT RIGHT OF CENTERLINE, UP TO 261 FT AGL/274 FT MSL. BUILDINGS BEGINNING 1.6 NM FROM DER, 2654 FT RIGHT OF CENTERLINE, UP TO 548 FT AGL/560 FT MSL. BUILDINGS BEGINNING 1.7 NM FROM DER, 1532 FT RIGHT OF CENTERLINE, UP TO 620 FT AGL/643 FT MSL. BUILDINGS BEGINNING 1.93 NM FROM DER, 1507 FT RIGHT OF CENTERLINE, UP TO 685 FT AGL/709 FT MSL.

NOTE: RWY 33L: TREE 248 FT FROM DER, 377 FT RIGHT OF CENTERLINE, 16 FT AGL/27 FT MSL. WIND INDICATOR 1403 FT FROM DER, 322 FT RIGHT OF CENTERLINE, 19 FT AGL/59 FT MSL. LIGHT ON BUILDING AND ROD ON TANK BEGINNING 1677 FT FROM DER, 603 FT LEFT OF CENTERLINE, UP TO 58 FT AGL/73 FT MSL. TREES BEGINNING 2072 FT FROM DER, 51 FT RIGHT OF CENTERLINE, UP TO 72 FT AGL/94 FT MSL. SIGN 3015 FT FROM DER, 1123 FT RIGHT OF CENTERLINE, 73 FT AGL/101 FT MSL. TREE 4001 FT FROM DER, 578 FT LEFT OF CENTERLINE, 43 FT AGL/119 FT MSL. BUILDINGS 4363 FT FROM DER, 1082 FT LEFT OF CENTERLINE, 64 FT AGL/129 FT MSL. BUILDING 5080 FT FROM DER, 1494 FT LEFT OF CENTERLINE, 71 FT AGL/149 FT MSL. LIGHT ON BRIDGE 1.4 NM FROM DER, 2566 FT LEFT OF CENTERLINE, 262 FT AGL/262 FT MSL.

CONTROLLING OBSTACLES:

RWY 9: 206 FT MSL TANK 422204.30N/0705803.73W.

RWY 22L: 176 FT MSL SHIP RIG 422041.00N/0710053.00W.

RWY 22R: 176 FT MSL SHIP RIG 422051.00N/0710110.00W.

RWY 27: 639 FT MSL BLDG 422120.28N/0710307.73W. 920 FT MSL BLDG 422050.00N/0710457.00W.

RWY 33L: 262 FT MSL BRIDGE 422308.76N/0710248.14W.

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

REFERENCE MAG VAR: KBOS 15W, EPOCH YEAR: 2020

DME/DME ASSESSMENT: SAT (RNP 2.0)

CHART: TOP ALTITUDE: 5000.

CHART: SPEED ICON MAXIMUM SPEED 250 KIAS AT BRRRO.

AIRPORTS SERVED:

<u>AIRPORT NAME</u>	<u>CITY</u>	<u>STATE</u>
GENERAL EDWARD LAWRENCE LOGAN INTL	BOSTON	MA

COMMUNICATIONS:

ATIS, CLNC DEL, GND CON, TOWER, DEP CON

FIXES AND/OR NAVAIDS:

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



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REMARKS:

1. ALL CLIMB GRADIENTS ESTABLISHED TO SUPPORT MINIMUM DME/DME/IRU RECEPTION RNAV PRO RUN ALTITUDES EXCEPT RWY 27 WHICH IS FOR OBSTACLES.
2. RWY 27, 920 MSL BLDG IS LOCATED JUST OUTSIDE OF OBSTACLE SEARCH TRAP. TAKEOFF MINIMUMS PROTECT AIRCRAFT FROM THE OBSTACLE.
3. ABBREVIATED AMENDMENT, DOES NOT MEET PERIODIC REVIEW REQUIREMENTS.

FLIGHT INSPECTED BY:*Digitally signed by***ROBERT G HAMILTON**

Jul 20, 2017

OFFICE SYMBOL:

FICO

DATE:

7/12/17

DEVELOPED BY:*Digitally signed by***PETER R GUIMOND**

Apr 30, 2017

OFFICE SYMBOL:

AJV-5422

DATE:

04/30/2017

APPROVED BY:*Digitally signed by***ROBERT G HAMILTON**

Jul 20, 2017

OFFICE SYMBOL:

AJV-5420

DATE:**REQUIRED EFFECTIVE DATE:**

ROUTINE

COORDINATED WITH:A4AALPAAOPAAPAHAINBAA**OTHER:**

ZBW, BOS APP CON, BOS ATCT, AMGR

CHANGES - REASONS:

1. AMENDED REFERENCE MAGVAR FROM 16W, EPOCH YEAR 1995 TO 15W, EPOCH YEAR 2020 IN ADDITIONAL FLIGHT DATA - MATCH PENDING AIRNAV MAGVAR ASSIGNMENT.
2. DECREASED ALL MAGNETIC HEADINGS BY ONE DEGREE - COMPUTED USING UPDATED REFERENCE MAGVAR.
3. AMENDED TAKEOFF OBSTACLE NOTES FOR RWY 4R, 9, 22L, 22R, 27, AND 33L - MATCH FAA FORM 15A, AMDT 14A AT AIRPORT.
4. ADDED CHART SPEED ICON MAXIMUM SPEED 250 KIAS AT BRRRO IN ADDITIONAL FLIGHT DATA - IN ACCORDANCE WITH FAAO 8260.46F, PARA 2-1-1E(3)(B).
5. AMENDED RECOMMENDED NAVAID FOR CF LEGS FROM BOS VOR/DME TO CON VOR/DME - CONCORD IS THE CLOSEST FACILITY THAT HAS AN ASSIGNED MAGVAR THAT MATCHES THE PROCEDURE REFERENCE MAGVAR (15W) AND IS NOT ON THE CURRENT FACILITY DECOMMISSIONING LIST.

**FEDERAL AVIATION ADMINISTRATION
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DEPARTURE (DATA RECORD)**

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CELTK		FIVE		CELTK5.CELTK		FOUR		06/25/2015		12 OCT 2017	
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS		
RW04R (AER)*	422114.55N/0710037.27W*	N	-	-	-	-			*DISPL THLD (1155 FT)		
520 MSL		-	-	VA	019.74	-			CG 500 FT/NM TO 3600		
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	-			CG 500 FT/NM TO 4000		
CLAWW	422325.27N/0704847.67W	Y	FB	DF	-	-	AT/ABOVE 4000				
FENWY	422238.40N/0704340.17W	Y	FB	TF	101.59	3.88					
SCOAR	421845.42N/0703815.02W	Y	FB	TF	133.98	5.59					
CELTK	421559.05N/0700612.33W	Y	FB	TF	096.47	23.94					
RW15R (AER)*	422221.20N/0710056.13W*	N	-	-	-	-			*DISPL THLD (882 FT)		
	422026.20N/0705822.01W	-	-	VI	135.16	2.70		AT/BELOW 210K	CG 500 FT/NM TO 520		
FOXXX	421855.28N/0705410.54W	Y	FB	CF	116.00	3.46			RECOMMENDED NAVAID: CON VOR/DME		
BRRRO	422000.78N/0704805.48W	Y	FB	TF	076.37	4.64		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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FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS		
RW22L (AER)*	422225.69N/0710002.84W*	N	-	-	-	-			*DISPL THLD (1199 FT)		
	422004.85N/0710110.98W	-	-	VI	199.74	2.49		AT/BELOW 210K	CG 500 FT/NM TO 520		
TJAYY	421818.19N/0705737.75W	Y	FB	CF	124.00	3.18			RECOMMENDED NAVAID: CON VOR/DME		
BRRRO	422000.78N/0704805.48W	Y	FB	TF	076.37	7.28		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)		
	422029.09N/0710120.47W	-	-	VI	199.74	2.22		AT/BELOW 210K	CG 500 FT/NM TO 520		
TJAYY	421818.19N/0705737.75W	Y	FB	CF	128.40	3.51			RECOMMENDED NAVAID: CON VOR/DME		
BRRRO	422000.78N/0704805.48W	Y	FB	TF	076.37	7.28		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	-	-	-	-					
	422058.84N/0710249.80W	-	-	VI	256.58	2.72			CG 500 FT/NM TO 1300		
KIRAA	421631.48N/0710741.78W	Y	FB	CF	219.00	5.73			RECOMMENDED NAVAID: CON VOR/DME		
COLYN	420909.66N/0710224.39W	Y	FB	TF	151.87	8.34					
CELTK	421559.05N/0700612.33W	Y	FB	TF	080.41	42.32					

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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>
RW33L (AER)	422116.74N/0705929.71W	N	-	-	-	-			
	422317.97N/0710212.28W	-	-	VI	315.18	2.85			CG 500 FT/NM TO 4900
TEKKK	422445.85N/0710555.09W	Y	FB	CF	298.00	3.12			RECOMMENDED NAVAID: CON VOR/DME
COUSY	422117.92N/0711231.70W	Y	FB	TF	234.77	6.00	AT/ABOVE 5000		
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			

