

**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SUPERSEDED NUMBER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> |
|----------------|---------------|-------------------------|--------------------------|--------------|------------------------------|
| PPOINT | FOUR | PPOINT4.PPOINT | THREE | 08/17/2017 | |

| <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 6: CLIMBING LEFT TURN ON HEADING 039.00, THENCE...

TAKEOFF RWY 17: CLIMBING RIGHT TURN ON HEADING 219.00, THENCE...

TAKEOFF RWY 24: CLIMB ON HEADING 237.43, THENCE...

TAKEOFF RWY 35: CLIMB ON HEADING 351.53, THENCE...

... EXPECT VECTORS TO CROSS TYLIR AT OR ABOVE 3000, THEN ON TRACK 091.52 TO PPOINT, THEN ON ASSIGNED TRANSITION. EXPECT CLEARANCE TO FILED ALTITUDE/FLIGHT LEVEL WITHIN FIVE (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> |
|------------------------|-------------------------------------|----------------------------|--------------------------|---------------|-----------------|------------|-------------|------------------------------------|
| BARNES | PPOINT4.BAF | PPOINT | SHOEL | TRACK 154.91 | 7.76 | 5000 | 1600 | |
| | | SHOEL | RBELA | TRACK 214.75 | 10.07 | 6800 | 1600 | |
| | | RBELA | COTEE | TRACK 214.76 | 21.52 | 9300 | 1700 | |
| | | COTEE | BAF VORTAC | TRACK 269.84 | 73.84 | 16800 | 3100 | |
| CALVERTON | PPOINT4.CCC | PPOINT | SHOEL | TRACK 154.91 | 7.76 | 5000 | 1600 | |
| | | SHOEL | RBELA | TRACK 214.75 | 10.07 | 6800 | 1600 | |
| | | RBELA | JJIMY | TRACK 214.79 | 26.44 | 9900 | 1700 | |
| | | JJIMY | YANTC | TRACK 231.41 | 63.96 | 16300 | 2500 | |
| | | YANTC | CCC VOR/DME | TRACK 239.19 | 52.18 | 17000 | 2600 | |
| NELIE | PPOINT4.NELIE | PPOINT | SHOEL | TRACK 154.91 | 7.76 | 5000 | 1600 | |
| | | SHOEL | RBELA | TRACK 214.75 | 10.07 | 6800 | 1600 | |
| | | RBELA | JJIMY | TRACK 214.79 | 26.44 | 9900 | 1700 | |
| | | JJIMY | NELIE | TRACK 262.81 | 74.09 | 17000 | 2900 | |

| <u>DP NAME</u> | <u>NUMBER</u> | <u>DP COMPUTER CODE</u> | <u>SUPERSEDED NUMBER</u> | <u>DATED</u> | <u>ACTUAL EFFECTIVE DATE</u> |
|----------------|---------------|-------------------------|--------------------------|--------------|------------------------------|
| PPOINT | FOUR | PPOINT4.PPOINT | THREE | 08/17/2017 | |

PROCEDURAL DATA NOTES:

NOTE: FOR TURBOJETS ONLY.

NOTE: DME/DME/IRU OR GPS REQUIRED.

NOTE: RADAR REQUIRED.

NOTE: RNAV 1.

TAKEOFF MINIMUMS:

RWY 6, 17, 35, STANDARD WITH MINIMUM CLIMB OF 325 FT PER NM TO 3000.

RWY 24, STANDARD WITH MINIMUM CLIMB OF 335 FT PER NM TO 3000.

TAKEOFF OBSTACLES NOTES:

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

CONTROLLING OBSTACLES:

RWY 6: 1060 FT MSL TOWER 430349.00N/0711847.00W.

RWY 17: 1025 FT MSL TETHERED BALLOON 425843.17N/0710644.76W.

RWY 24: 547 FT MSL TOWER 425426.98N/0712740.95 (CLIMB GRADIENT), 1523 FT MSL TOWER 425854.70N/0713519.50W (CLIMB-TO ALTITUDE).

RWY 35: 1060 FT MSL TOWER 430349.00N/0711847.00W (CLIMB GRADIENT), 1523 FT MSL TOWER 425854.70N/0713519.50W (CLIMB-TO ALTITUDE).

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

REFERENCE MAG VAR: KMHT 15W EPOCH YEAR: 2020.

DME/DME ASSESSMENT: SAT (RNP 2.0)

CHART: TOP ALTITUDE: 3000

CHART: MINIMUM CROSSING ALTITUDE AT TYLIR - 3000

AIRPORTS SERVED:

| <u>AIRPORT NAME</u> | <u>AIRPORT ID</u> | <u>CITY</u> | <u>STATE</u> |
|---------------------|-------------------|-------------|--------------|
| MANCHESTER | KMHT | MANCHESTER | NH |

COMMUNICATIONS:

ATIS, CLEARANCE DEL, GROUND CONTROL, TOWER, BOS DEP CON

FIXES AND/OR NAVAIDS:

REMARKS:

1. CLIMB GRADIENTS FOR RWY 6, 17, AND 35 ESTABLISHED TO REACH MVA AND ALLOW FOR EFFECTIVE VECTORING TO THE IF. CLIMB GRADIENT CONTROLLING OBSTACLES ARE MVA CONTROLLING OBSTACLES. CLIMB GRADIENT TERMINATION ALTITUDES ENSURE OBSTACLE CLEARANCE AND ALSO ENSURE 3000 CROSSING ALTITUDE IS REACHED AT TYLIR AND ENSURES DME/DME RECEPTION PRIOR TO THE FIX.

2. MINIMUM CLIMB GRADIENT FOR TAKEOFF RWY 24 MITIGATES 547 MSL TOWER (36-000006) AND ALSO ENSURES MINIMUM DME/DME RECEPTION ALTITUDE OF 3000 AT TYLIR. ENABLES ATC TO USE DESIRED TAKEOFF COURSE VICE AIRPORT 8260-15A WHICH USES OFFSET COURSE TO ACCOUNT FOR 2007 FLIGHT INSPECTION RECOMMENDATION TO INCREASE SAFETY MARGIN FOR LIGHT AIRCRAFT ENCOUNTERING CROSS WIND CONDITIONS.



| <u>DP NAME</u> | <u>NUMBER</u> | <u>DP COMPUTER CODE</u> | <u>SUPERSEDED NUMBER</u> | <u>DATED</u> | <u>ACTUAL EFFECTIVE DATE</u> |
|---|--|-------------------------|--------------------------|--------------|------------------------------|
| PPORT | FOUR | PPORT4.PPORT | THREE | 08/17/2017 | |
| <u>FLIGHT INSPECTED BY</u> | | | <u>OFFICE</u> | <u>DATE</u> | |
| DANIEL KIRBY | <i>Digitally signed by</i> JOHN BORDY Jun 17, 2021 | | FICO | 06/09/2021 | |
| <u>DEVELOPED BY</u> | | | <u>OFFICE</u> | <u>DATE</u> | |
| ANTHONY CAPPABIANCO | <i>Digitally signed by</i> ANTHONY J CAPPABIANCO Apr 15, 2021 | | AJV-A422 | 01/04/2021 | |
| <u>APPROVED BY</u> | | | <u>OFFICE</u> | <u>DATE</u> | <u>TITLE</u> |
| MARLON ROBINSON | <i>Digitally signed by</i> JOHN BORDY Jun 17, 2021 | | AJV-A420 | | MANAGER |
| <u>REQUIRED EFFECTIVE DATE</u> | | | | | |
| ROUTINE | | | | | |
| <u>COORDINATED WITH:</u> | | | | | |
| A4A <input checked="" type="checkbox"/> ALPA <input checked="" type="checkbox"/> AOPA <input checked="" type="checkbox"/> APA <input checked="" type="checkbox"/> HAI <input type="checkbox"/> NBAA <input checked="" type="checkbox"/> OTHER: ZBW, BOS APP CON, MHT ATCT, ARPT MGR | | | | | |



| DP NAME | NUMBER | DP COMPUTER CODE | SUPERSEDED NUMBER | DATED | ACTUAL EFFECTIVE DATE |
|---------|--------|------------------|-------------------|------------|-----------------------|
| PPOINT | FOUR | PPOINT4.PPOINT | THREE | 08/17/2017 | |

CHANGES - REASONS:

1. CHANGED RWY 6 ROUTE DESCRIPTION FROM "CLIMBING LEFT TURN HEADING 039.00, THENCE..." TO "CLIMBING LEFT TURN ON HEADING 039.00, THENCE..." - 8260.46G 1-1-5.A(3).
2. CHANGED RWY 17 ROUTE DESCRIPTION FROM "CLIMBING RIGHT TURN HEADING 219.00, THENCE..." TO "CLIMBING RIGHT TURN ON HEADING 219.00, THENCE..." - 8260.46G 1-1-5.A(3).
3. CHANGED RWY 24 ROUTE DESCRIPTION FROM "CLIMB HEADING 237.43, THENCE..." TO "CLIMB ON HEADING 237.43, THENCE..." - 8260.46G 1-1-5.A(3).
4. CHANGED RWY 35 ROUTE DESCRIPTION FROM "CLIMB HEADING 351.53, THENCE..." TO "CLIMB ON HEADING 351.53, THENCE..." - 8260.46G 1-1-5.A(3).
5. CHANGED ROUTE DESCRIPTION FROM "... EXPECT VECTORS TO RAYMY, THEN ON DEPICTED ROUTE TO PPOINT. MAINTAIN 3000 OR AS ASSIGNED BY ATC. EXPECT CLEARANCE TO FILED ALTITUDE/FLIGHT LEVEL WITHIN FIVE (5) MINUTES AFTER DEPARTURE" TO "... EXPECT VECTORS TO CROSS TYLIR AT OR ABOVE 3000, THEN ON TRACK 091.52 TO PPOINT, THEN ON ASSIGNED TRANSITION. EXPECT CLEARANCE TO FILED ALTITUDE/FLIGHT LEVEL WITHIN FIVE (5) MINUTES AFTER DEPARTURE" - RAYMY REPLACED WITH TYLIR DUE TO LEG LENGTH ISSUES, 8260.58B 5-6-2. A, 8260.46G APPENDIX E SECTION 1.3.C.
6. CHANGED ORW VOR/DME TO YANTC IN CALVERTON TRANSITION - ORW VOR/DME TO BE DECOMMISSIONED, ATC REQUEST.
7. MEA FROM SHOEL TO RBELA CHANGED FROM 7000 TO 6800 - COMPLIANT WITH ENROUTE CLIMB RATES IAW 8260.3D 15-3-1.
8. MEA FROM RBELA TO COTEE CHANGED FROM 11000 TO 9300 - COMPLIANT WITH ENROUTE CLIMB RATES IAW 8260.3D 15-3-1.
9. MEA FROM COTEE TO BAF VORTAC CHANGED FROM 17000 TO 16800 - COMPLIANT WITH ENROUTE CLIMB RATES IAW 8260.3D 15-3-1.
10. MEA FROM RBELA TO JJIMY CHANGED FROM 11000 TO 9900 - COMPLIANT WITH ENROUTE CLIMB RATES IAW 8260.3D 15-3-1.
11. MOCA FROM JJIMY TO NELIE CHANGED FROM 2600 TO 2900 - NEW OBSTACLE EVALUATION.
12. RWY 6 TAKEOFF MINIMUMS CHANGED FROM "STANDARD WITH MINIMUM CLIMB OF 321 FT PER NM TO 3000" TO "STANDARD WITH MINIMUM CLIMB OF 325 FT PER NM TO 3000" - ROUNDED TO NEXT HIGHER 5 FT INCREMENT FOR EASIER USE AND STANDARDIZATION OF CLIMB GRADIENTS, AND TO PROVIDE A BUFFER FOR FUTURE CRITERIA.
13. RWY 17, 35 TAKEOFF MINIMUMS CHANGED FROM "STANDARD WITH MINIMUM CLIMB OF 320 FT PER NM TO 3000" TO "STANDARD WITH MINIMUM CLIMB OF 325 FT PER NM TO 3000" - ROUNDED TO NEXT HIGHER 5 FT INCREMENT FOR EASIER USE AND STANDARDIZATION OF CLIMB GRADIENTS, AND TO PROVIDE A BUFFER FOR FUTURE CRITERIA.
14. RWY 24 TAKEOFF MINIMUMS CHANGED FROM "STANDARD WITH MINIMUM CLIMB OF 320 FT PER NM TO 3000" TO "STANDARD WITH MINIMUM CLIMB OF 335 FT PER NM TO 3000" - NEW OBSTACLE EVALUATION.
15. REPLACED ALL TAKEOFF OBSTACLE NOTES WITH "SEE FORM 8260-15A, TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP)" - 8260.46G APPENDIX E, SECTION 1.7.A.
16. CHANGED REMARKS BLOCK REMARK #1 FROM "MINIMUM CLIMB GRADIENTS FOR RWY 6, 17, AND 35 ESTABLISHED TO ENSURE MINIMUM DME/DME RECEPTION ALTITUDE OF 3000 REACHED AT RAYMY" TO "CLIMB GRADIENTS FOR RWY 6, 17, AND 35 ESTABLISHED TO REACH MVA AND ALLOW FOR EFFECTIVE VECTORING TO THE IF. CLIMB GRADIENT CONTROLLING OBSTACLES ARE MVA CONTROLLING OBSTACLES. CLIMB GRADIENT TERMINATION ALTITUDES ENSURE OBSTACLE CLEARANCE AND ALSO ENSURE 3000 CROSSING ALTITUDE IS REACHED AT TYLIR AND ENSURES DME/DME RECEPTION PRIOR TO THE FIX" IN REMARKS - RAYMY REPLACED WITH TYLIR DUE TO LEG LENGTH ISSUES, CLIMB GRADIENTS BASED ON MVA OBSTACLES TO ALLOW VECTORING AND CLIMB GRADIENT TERMINATION ALTITUDE OF 3000 FOR DME/DME RECEPTION.
17. RWY 6 CONTROLLING OBSTACLE CHANGED FROM "789 FT MSL AAO 425822.72N/0712137.11W" TO "1060 FT MSL TOWER 430349.00N/0711847.00W" - MVA AREA CONTROLLER.
18. RWY 17 CONTROLLING OBSTACLE CHANGED FROM "457 FT MSL POLE 425416.52N/0712501.99W" TO "1025 FT MSL TETHERED BALLOON 425843.17N/0710644.76W" - MVA AREA CONTROLLER.
19. RWY 24 CONTROLLING OBSTACLE CHANGED FROM "547 FT MSL TOWER 425426.98N/0712740.95. 1523 FT MSL TOWER 425854.70N/0713519.50W" TO "547 FT MSL TOWER 425426.98N/0712740.95 (CLIMB GRADIENT), 1523 FT MSL TOWER 425854.70N/0713519.50W (CLIMB-TO ALTITUDE)" - 8260.46G APPENDIX E, SECTION 1.8.A.
20. RWY 35 CONTROLLING OBSTACLE CHANGED FROM "409 FT MSL TREES 425716.44N/0712718.29W. 414 FT MSL TREES 425720.64N/0712715.36W. 407 FT MSL TREES 425729.22N/0712725.78W. 1523 FT MSL TOWER 425854.70N/0713519.50W" TO "1060 FT MSL TOWER 430349.00N/0711847.00W (CLIMB GRADIENT), 1523 FT MSL TOWER 425854.70N/0713519.50W (CLIMB-TO ALTITUDE)" - MVA AREA CONTROLLER, 8260.46G APPENDIX E SECTION 1.8.A.
21. REMOVED "CHART: MEA/MOCA FROM RAYMY TO PPOINT, 4000/2100" FROM ADDITIONAL FLIGHT DATA - MEA NOT APPLICABLE IN COMMON ROUTE WITHOUT WAIVER, 8260.46G 1-1-5.H(4).
22. REMOVED "PILOT NAVIGATION AREA: 7 NM ARC CENTERED ON RAYMY (IF), CW FROM: POINT A (BEARING 041 TO RAYMY) TO: POINT B (BEARING 131 TO RAYMY) MINIMUM ALTITUDE - 3000" FROM ADDITIONAL FLIGHT DATA - 8260.46G 1-1-5.H(4).
23. REMOVED "PSM VOR/DME" FROM FIXES AND/OR NAVAIDS - PSM VOR/DME BEING DECOMMISSIONED.
24. CHANGED REMARKS BLOCK REMARK #2 FROM "MINIMUM CLIMB GRADIENT FOR TAKEOFF RWY 24 MITIGATES 547 MSL TOWER (36-000006) 80 FEET OUTSIDE ICA OIS AND ALSO ENSURES MINIMUM DME/DME RECEPTION ALTITUDE OF 3000 AT RAYMY. ENABLES ATC TO USE DESIRED TAKEOFF COURSE VICE AIRPORT 8260-15A WHICH USES OFFSET COURSE TO ACCOUNT FOR 2007 FLIGHT INSPECTION RECOMMENDATION TO INCREASE SAFETY MARGIN FOR LIGHT AIRCRAFT ENCOUNTERING CROSS WIND CONDITIONS" TO "MINIMUM CLIMB GRADIENT FOR TAKEOFF RWY 24 MITIGATES 547 MSL TOWER (36-000006) AND ALSO ENSURES MINIMUM DME/DME RECEPTION ALTITUDE OF 3000 AT TYLIR. ENABLES ATC TO USE DESIRED TAKEOFF COURSE VICE AIRPORT 8260-15A WHICH USES OFFSET COURSE TO ACCOUNT FOR 2007 FLIGHT INSPECTION RECOMMENDATION TO INCREASE SAFETY MARGIN FOR LIGHT AIRCRAFT ENCOUNTERING CROSS WIND CONDITIONS" - RAYMY REPLACED WITH TYLIR, MEASUREMENT NO LONGER ACCURATE WITH RIASED CLIMB GRADIENT.
25. ADDED "CHART: MINIMUM CROSSING ALTITUDE AT TYLIR - 3000" TO ADDITIONAL FLIGHT DATA - 8260.46G APPENDIX E, SECTION 1.10.C.



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

| DP NAME | | | | | NUMBER | DP COMPUTER CODE | SUPERSEDED NUMBER | DATED | ACTUAL EFFECTIVE DATE |
|-------------|------------------------|---|-------|----------|--------|------------------|-------------------|------------|-----------------------|
| PPOINT | | | | | FOUR | PPOINT4.PPOINT | THREE | 08/17/2017 | |
| FIX/NAVAID | LAT/LONG | C | FO/FB | LEG TYPE | TC | DIST (NM) | ALTITUDE | SPEED | REMARKS |
| TYLIR | 430332.93N/0711001.62W | Y | - | IF | - | - | AT/ABOVE 3000 | | |
| PPOINT | 430523.59N/0705929.08W | Y | FB | TF | 76.52 | 7.94 | | | |
| | | | | | | | | | |
| PPOINT | 430523.59N/0705929.08W | Y | - | IF | - | - | | | PPOINT4.BAF |
| SHOEL | 425927.00N/0705240.39W | Y | FB | TF | 139.91 | 7.76 | | | |
| RBELA | 424957.99N/0705717.96W | Y | FB | TF | 199.75 | 10.07 | | | |
| COTEE | 422942.23N/0710707.92W | Y | FB | TF | 199.76 | 21.52 | | | |
| BAF VORTAC | 420943.05N/0724258.32W | Y | FB | TF | 254.84 | 73.84 | | | |
| | | | | | | | | | |
| PPOINT | 430523.59N/0705929.08W | Y | - | IF | - | - | | | PPOINT4.CCC |
| SHOEL | 425927.00N/0705240.39W | Y | FB | TF | 139.91 | 7.76 | | | |
| RBELA | 424957.99N/0705717.96W | Y | FB | TF | 199.75 | 10.07 | | | |
| JJIMY | 422504.09N/0710923.06W | Y | FB | TF | 199.79 | 26.44 | | | |
| YANTC | 413322.81N/0715956.95W | Y | FB | TF | 216.41 | 63.96 | | | |
| CCC VOR/DME | 405546.65N/0724755.90W | Y | FB | TF | 224.19 | 52.18 | | | |
| | | | | | | | | | |
| PPOINT | 430523.59N/0705929.08W | Y | - | IF | - | - | | | PPOINT4.NELIE |
| SHOEL | 425927.00N/0705240.39W | Y | FB | TF | 139.91 | 7.76 | | | |
| RBELA | 424957.99N/0705717.96W | Y | FB | TF | 199.75 | 10.07 | | | |
| JJIMY | 422504.09N/0710923.06W | Y | FB | TF | 199.79 | 26.44 | | | |
| NELIE | 415627.64N/0724118.88W | Y | FB | TF | 247.81 | 74.09 | | | |

QUALITY
8
CHECKED