

U.S. DEPARTMENT of TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION
GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation.
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DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HOWIG	TWO	HOWIG2.HOWIG	ONE	18 SEP 14	25 JUN 2015

TYPE: SID RNAV

DP ROUTE DESCRIPTION:

DALLAS LOVE FIELD:

TAKEOFF RWY 13L: CLIMB HEADING 129.64 TO 1000, THENCE...

TAKEOFF RWY 13R: CLIMB HEADING 129.62 TO 1000, THENCE...

...RIGHT TURN HEADING 190.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO BOWTT, THEN ON TRACK 269.34 TO HOWIG, THEN ON (TRANSITION). MAINTAIN 3000.
 EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

TAKEOFF RWY 31L: CLIMB HEADING 309.63 TO 1000, THENCE...

TAKEOFF RWY 31R: CLIMB HEADING 309.65 TO 1000, THENCE...

...RIGHT TURN HEADING 330.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO BOWTT, THEN ON TRACK 269.34 TO HOWIG, THEN ON (TRANSITION). MAINTAIN 2000.
 EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

ALL OTHER AIRPORTS: WHEN ENTERING CONTROLLED AIRSPACE, FLY HEADING ASSIGNED BY ATC, EXPECT RADAR VECTORS TO BOWTT, THEN ON TRACK 269.34 TO HOWIG, THEN ON (TRANSITION). MAINTAIN ALTITUDE ASSIGNED BY ATC, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

DALLAS EXECUTIVE

TAKEOFF RWY 13: CLIMB HEADING 129.08 TO 1800 BEFORE TURNING WESTBOUND.

TAKEOFF RWY 17: CLIMB HEADING 174.13 TO 2600 BEFORE TURNING WESTBOUND.

TAKEOFF RWY 31: CLIMB HEADING 309.09 TO 1500 BEFORE TURNING SOUTHBOUND.

TAKEOFF RWY 35: CLIMB HEADING 354.13 TO 1400 BEFORE TURNING SOUTHBOUND.

FORT WORTH ALLIANCE

TAKEOFF RWY 16R: CLIMB HEADING 166.21 TO 1100 BEFORE TURNING RIGHT.

FORT WORTH MEACHAM INTL

TAKEOFF RWY 16: CLIMB HEADING 163.90 TO 1600 BEFORE PROCEEDING ON COURSE.

TAKEOFF RWY 17: CLIMB HEADING 163.90 TO 1600 BEFORE PROCEEDING ON COURSE.

FORT WORTH SPINKS

TAKEOFF RWY 17R: CLIMB HEADING 173.11 TO 1200 BEFORE TURNING RIGHT.

ARLINGTON MUNI

TAKEOFF RWY 16: CLIMB HEADING 162.02 TO 2500 BEFORE TURNING LEFT.

TAKEOFF RWY 34: CLIMB HEADING 342.02 TO 1400 BEFORE TURNING SOUTHEAST BOUND.

GRAND PRAIRIE MUNI

TAKEOFF RWY 17: CLIMB HEADING 189.34 TO 2500 BEFORE PROCEEDING ON COURSE.

LANCASTER RGNL

TAKEOFF RWY 31: CLIMB HEADING 314.32 TO 1800 BEFORE TURNING LEFT.



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HOWIG	TWO	HOWIG2.HOWIG	ONE	18 SEP 14	25 JUN 2015

DECATUR MUNI:

TAKEOFF RWY 17: CLIMB HEADING 163.45 TO 1700 BEFORE PROCEEDING NORTH.

BOURLAND FIELD

TAKEOFF RWY 17: CLIMB HEADING 165.44 TO 1400 BEFORE TURNING RIGHT.

MID-WAY RGNL

TAKEOFF RWY 18: CLIMB HEADING 177.98 TO 1700 BEFORE PROCEEDING NORTHBOUND.

TAKEOFF RWY 36: CLIMB HEADING 012.98 TO 2700 BEFORE TURNING LEFT.

PARKER COUNTY

TAKEOFF RWY 35: CLIMB HEADING 355.37 TO 1600 BEFORE TURNING LEFT.

TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):

Transition Name	Transition Computer Codes	From FIX/NAVAID	To FIX/NAVAID	Course	Distance	MEA	MOCA	Crossing Altitudes/Fixes
ALIAN	HOWIG2.ALIAN	HOWIG	HOOTT	207.08	9.43	10000	2500	
			IAMUP	257.80	25.07	10000	2800	
			ALIAN	257.53	50.79	10000	3000	
BRHMA	HOWIG2.BRHMA	HOWIG	SNUCK	239.07	5.67	10000	2500	
			WUDIE	274.46	25.47	10000	2600	
			KATZZ	274.24	69.85	10000	3000	
			BRHMA	279.17	75.24	10000	4000	
CIKAN	HOWIG2.CIKAN	HOWIG	HOOTT	207.08	9.43	10000	2500	
			JAGID	252.34	25.41	10000	2800	
			WSTEX	252.18	57.30	10000	3100	
			CIKAN	260.02	50.13	10000	4100	
DOSXX	HOWIG2.DOSXX	HOWIG	HOOTT	207.08	9.43	10000	2500	
			JAGID	252.34	25.41	10000	2800	
			WSTEX	252.18	57.30	10000	3100	
			DOSXX	248.04	32.63	10000	3900	
HUDAD	HOWIG2.HUDAD	HOWIG	EEORE	325.93	10.89	10000	2400	
			BGLEE	283.36	26.51	10000	2700	
			HUDAD	283.16	63.72	10000	2900	
HULZE	HOWIG2.HULZE	HOWIG	POOBR	299.59	6.34	10000	2500	

QUALITY
3
CHECKED

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HOWIG			TWO	HOWIG2.HOWIG	ONE		18 SEP 14	25 JUN 2015
			WALIE	280.68	26.19	10000	3600	
			HRPER	280.48	67.25	10000	3000	
			HULZE	282.46	37.21	10000	3400	
WSTEX	HOWIG2.WSTEX	HOWIG	HOOTT	207.08	9.43	10000	2500	
			JAGID	252.34	25.41	10000	2800	
			WSTEX	252.18	57.30	10000	3100	

PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS:

NOTE: RADAR REQUIRED.

NOTE: RNAV 1.

NOTE: DME/DME/IRU OR GPS REQUIRED.

NOTE: DALLAS LOVE FIELD: FOR USE BY PROPS ONLY.

NOTE: FILE THIS SID WHEN DFW IS ON NORTH FLOW DEPARTING RWY 35L/C, 36L/R. FILE SWABR DEPARTURE WHEN DFW IS ON SOUTH FLOW DEPARTING RWYS 17C/R, 18L/R.

NOTE: VERTICAL NAVIGATION PLANNING INFORMATION: EXPECT TO CROSS BOWTT AT OR BELOW 8000.

NOTE: ALIAN TRANSITION ATC ASSIGNED ONLY.

NOTE: AIRCRAFT LANDING LBB TERMINAL AREA: FILE BRHMA TRANSITION (BRHMA.HOWIG2).

NOTE: HUDAD, HULZE, BRHMA TRANSITIONS: FOR AIRCRAFT FILING FL240 AND ABOVE.

TAKEOFF MINIMUMS:

DALLAS LOVE FIELD:

RWY 13L, 13R, STANDARD WITH A MINIMUM CLIMB OF 500 FT PER NM TO 1200.

RWY 31L, 31R, STANDARD WITH A MINIMUM CLIMB OF 500 FT PER NM TO 1000.

ADDISON

RWY 33, STANDARD.

RWY 15, 400–2 1/2 OR STANDARD WITH A MINIMUM CLIMB OF 325 FT PER NM TO 1100.

DALLAS EXECUTIVE

RWY 13, 31, 35, STANDARD.

RWY 17, 400–2 3/4 OR STANDARD WITH A MINIMUM CLIMB OF 220 FT PER NM TO 1200

COLLIN COUNTY RGNL AT MC KINNEY

RWY 18, 36, STANDARD.

FORT WORTH ALLIANCE

RWY 34L, 34R, STANDARD.

RWY 16L, 300–2 1/4 OR STANDARD WITH A MINIMUM CLIMB OF 208 FT PER NM TO 1100, OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1400 FT PRIOR TO DER.

RWY 16R, 300–2 1/4 OR STANDARD WITH A MINIMUM CLIMB OF 210 FT PER NM TO 1100, OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1500 FT PRIOR TO DER.



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FORT WORTH MEACHAM INTL

RWY 16, 17, STANDARD.

RWY 34, 300–2 OR STANDARD WITH A MINIMUM CLIMB OF 220 FT PER NM TO 1100, OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1800 FT PRIOR TO DER.

RWY 35, 300-1 1/4 OR STANDARD WITH MINIMUM CLIMB OF 205 FT PER NM TO 900, OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1200 FT PRIOR TO DER.

FORT WORTH SPINKS

RWY 17L, 35R, NA-ENVIRONMENTAL.

RWY 17R, 35L, STANDARD.

FORT WORTH NAS JRB/CARSWELL FIELD

REFER TO APPROPRIATE MILITARY SERVICE DIRECTIVES.

ARLINGTON MUNI

RWY 16, 34, STANDARD.

DENTON MUNI

RWY 18, 36, STANDARD.

GRAND PRAIRIE MUNI

RWY 35, NA-ATC.

RWY 17, STANDARD.

LANCASTER RGNL

RWY 13, STANDARD.

RWY 31, 300–1 1/4 OR STANDARD WITH A MINIMUM CLIMB OF 205 FT PER NM TO 800, OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1200 FT PRIOR TO DER.

MESQUITE METRO

RWY 18, 36, STANDARD.

CLEBURNE RGNL

RWY 15, STANDARD.

RWY 33, 300-1 1/2 OR STANDARD WITH MINIMUM CLIMB OF 422 FT PER NM TO 1200.

DECATUR MUNI

RWY 17, STANDARD

RWY 35, STANDARD WITH MINIMUM CLIMB OF 320 FT PER NM TO 3500.

ENNIS MUNI

RWY 15, 33, STANDARD.



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BOURLAND FIELD**RWY 17**, 300-2 OR STANDARD WITH MINIMUM CLIMB OF 512 FT PER NM TO 1300.**RWY 35**, STANDARD.**MID-WAY RGNL****RWY 18, 36**, STANDARD**RALPH M HALL/ROCKWALL MUNI****RWY 17, 35**, STANDARD.**PARKER COUNTY****RWY 17, 35**, STANDARD.**TAKEOFF OBSTACLES NOTES:****DALLAS LOVE FIELD****NOTE: RWY 13L**, TREES, POLES AND ELECTRICAL SYSTEMS BEGINNING 844 FT FROM DER, 515 FT LEFT OF CENTERLINE, UP TO 45 FT AGL/541 FT MSL. CRANE 5270 FT FROM DER, 568 FT LEFT OF CENTERLINE, 130 FT AGL/630 FT MSL.**NOTE: RWY 13R**, POLES AND FENCES BEGINNING 693 FT FROM DER, 601 FT RIGHT OF CENTERLINE, UP TO 29 FT AGL/501 FT MSL. SIGN 779 FT FROM DER, 669 FT LEFT OF CENTERLINE, 30 FT AGL/503 FT MSL. TREES BEGINNING 1122 FT FROM DER, 670 FT LEFT AND RIGHT OF CENTERLINE, UP TO 40 FT AGL/514 FT MSL. SIGN 1424 FT FROM DER, 763 FT LEFT OF CENTERLINE, 45 FT AGL/516 FT MSL. ROD ON STAKE 2234 FT FROM DER, 979 FT LEFT OF CENTERLINE, 65 FT AGL/537 FT MSL.**NOTE: RWY 31L**, TREES BEGINNING 327 FT FROM DER, 374 FT RIGHT OF CENTERLINE, UP TO 60 FT AGL/501 FT MSL.**NOTE: RWY 31R**, POLE 38 FT FROM DER, 501 FT LEFT OF CENTERLINE, 27 FT AGL/487 FT MSL. TREES BEGINNING 366 FT FROM DER, 552 FT RIGHT OF CENTERLINE, UP TO 65 FT AGL/530 FT MSL. POLE 1531 FT FROM DER, 719 FT RIGHT OF CENTERLINE, UP TO 61 FT AGL/521 FT MSL.**ADDISON****NOTE: RWY 15**, VEHICLES ON ROAD AND IN PARKING LOTS, RAILROADS, AND POLES BEGINNING 168 FT FROM DER, 118 FT RIGHT OF CENTERLINE, UP TO 36 FT AGL/665 FT MSL. NAVAID, SIGN, VEHICLES IN PARKING LOTS, RAILROADS, POLES, TREES, AND BUILDINGS BEGINNING 316 FT FROM DER, 1 FT LEFT OF CENTERLINE, UP TO 50 FT AGL/683 FT MSL. POLE AND TREES BEGINNING 1705 FT FROM DER, 46 FT RIGHT OF CENTERLINE, UP TO 59 FT AGL/690 FT MSL. BUILDINGS BEGINNING 3191 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 149 FT AGL/787 FT MSL. BUILDING 1.1 NM FROM DER, 279 FT LEFT OF CENTERLINE, 229 FT AGL/850 FT MSL. BUILDING 1.9 NM FROM DER, 970 FT RIGHT OF CENTERLINE, 345 FT AGL/975 FT MSL. BUILDING 2.1 NM FROM DER, 58 FT RIGHT OF CENTERLINE, 362 FT AGL/973 FT MSL.**NOTE: RWY 33**, SERVICE ROAD AND BUILDINGS BEGINNING 45 FT FROM DER, 458 FT RIGHT OF CENTERLINE, UP TO 10 FT AGL/653 FT MSL. SIGN, VEHICLES IN PARKING LOTS, POLES, BUILDINGS, AND TREES BEGINNING 641 FT FROM DER, 335 FT LEFT OF CENTERLINE, UP TO 34 FT AGL/693 FT MSL. SIGN, VEHICLES ON ROAD AND IN PARKING LOTS, POLES, BUILDINGS, AND TREES BEGINNING 651 FT FROM DER, 455 FT RIGHT OF CENTERLINE, UP TO 37 FT AGL/696 FT MSL. BUILDINGS, POLES, AND TREES BEGINNING 1597 FT FROM DER, 3 FT RIGHT OF CENTERLINE, UP TO 54 FT AGL/723 FT MSL. BUILDINGS, POLES, AND TREES BEGINNING 1667 FT FROM DER, 4 FT LEFT OF CENTERLINE, UP TO 47 FT AGL/716 FT MSL.**DALLAS EXECUTIVE****NOTE: RWY 13**, REIL AND OBSTRUCTION LIGHT ON BLAST FENCE BEGINNING 19 FT FROM DER, 115 FT LEFT OF CENTERLINE, UP TO 10 FT AGL/658 FT MSL. REIL 20 FT FROM DER, 115 FT RIGHT OF CENTERLINE, 6 FT AGL/651 FT MSL.**NOTE: RWY 17**, REIL 38 FT FROM DER, 116 FT RIGHT OF CENTERLINE, 5 FT AGL/663 FT MSL. REIL 40 FT FROM DER, 160 FT LEFT OF CENTERLINE, 5 FT AGL/664 FT MSL. TREES BEGINNING 61 FT FROM DER, 340 FT LEFT OF CENTERLINE, UP TO 63 FT AGL/702 FT MSL. TREES BEGINNING 113 FT FROM DER, 304 FT RIGHT OF CENTERLINE, UP TO 37 FT AGL/686 FT MSL. TOWER 2.2 NM FROM DER, 583 FT LEFT OF CENTERLINE, 314 FT AGL/1027 FT MSL.**NOTE: RWY 31**, REIL 29 FT FROM DER, 152 FT LEFT OF CENTERLINE, 5 FT AGL/656 FT MSL. REIL 29 FT FROM DER, 151 FT RIGHT OF CENTERLINE, 5 FT AGL/658 FT MSL. TREES BEGINNING 11 FT FROM DER, 237 FT LEFT OF CENTERLINE, UP TO 29 FT AGL/700 FT MSL. TREES BEGINNING 23 FT FROM DER, 268 FT RIGHT OF CENTERLINE, UP TO 47 FT AGL/686 FT MSL. TREES BEGINNING 1095 FT FROM DER, 167 FT RIGHT OF CENTERLINE, UP TO 69 FT AGL/708 FT MSL. TREES BEGINNING 1560 FT FROM DER, 554 FT LEFT OF CENTERLINE, UP TO 71 FT AGL/740 FT MSL.

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NOTE: RWY 35, TERRAIN AND REIL BEGINNING 4 FT FROM DER, 10 FT RIGHT OF CENTERLINE, UP TO 5 FT AGL/656 FT MSL. REIL 40 FT FROM DER, 118 FT LEFT OF CENTERLINE, 5 FT AGL/654 FT MSL. TREES BEGINNING 87 FT FROM DER, 302 FT LEFT OF CENTERLINE, UP TO 51 FT AGL/680 FT MSL. BUILDING AND TREES BEGINNING 82 FT FROM DER, 284 FT RIGHT OF CENTERLINE, UP TO 65 FT AGL/691 FT MSL.

COLLIN COUNTY RGNL AT MC KINNEY

NOTE: RWY 18, TREE 2445 FT FROM DER, 689 FT RIGHT OF CENTERLINE, 70 FT AGL/653 FT MSL.

NOTE: RWY 36, TREE 1126 FT FROM DER, 703 FT RIGHT OF CENTERLINE, 35 FT AGL/610 FT MSL

FORT WORTH ALLIANCE

NOTE: RWY 16L, LIGHT POLE 1285 FT FROM DER, 689 FT LEFT OF CENTERLINE, 49 FT AGL/697 FT MSL. TANK 1.8 NM FROM DER, 3121 FT RIGHT OF CENTERLINE, 148 FT AGL/954 FT MSL.

NOTE: RWY 16R, FENCE 4 FEET FROM DER, 249 FT RIGHT OF CENTERLINE, 8 FT AGL/669 FT MSL. TANK 1.8 NM FROM DER, 2520 FT RIGHT OF CENTERLINE, 148 FT AGL/954 FT MSL.

NOTE: RWY 34L, FENCE 8 FT FROM DER, 250 FT LEFT OF CENTERLINE, 5 FT AGL/719 FT MSL. RAILROAD BEGINNING 421 FT FROM DER, 287 FEET LEFT OF CENTERLINE, UP TO 23 FT AGL/738 FT MSL.

NOTE: RWY 34R, POLE 217 FT FROM DER, 145 FT LEFT OF CENTERLINE, 29 FT AGL/728 FT MSL.

FORT WORTH MEACHAM INTL

NOTE: RWY 17, BUSHES 16 FT FROM DER, 160 FT RIGHT OF CENTERLINE, UP TO 3 FT AGL/674 FT MSL. LIGHT POLE 140 FT FROM DER, 454 FT LEFT OF CENTERLINE, 34 FT AGL/677 FT MSL. POLE, TOWER, HANGAR, BUILDINGS, TREES, AND ANTENNAS BEGINNING 531 FT FROM DER, 388 FT LEFT OF CENTERLINE, UP TO 59 FT AGL/722 FT MSL.

NOTE: RWY 34, VEHICLES ON ROAD BEGINNING 4 FT FROM DER, 236 FT LEFT OF CENTERLINE, UP TO 17 FT AGL/722 FT MSL. POLES AND TREES BEGINNING 973 FT FROM DER, 681 FT RIGHT OF CENTERLINE, UP TO 30 FT AGL/746 FT MSL. LIGHT POLES BEGINNING 2468 FT FROM DER, 1138 FT RIGHT OF CENTERLINE, UP TO 47 FT AGL/787 FT MSL. BUILDING 1.5 NM FROM DER, 2768 FT RIGHT OF CENTERLINE, 256 FT AGL/970 FT MSL.

NOTE: RWY 35, VEHICLES ON ROAD AND TREES BEGINNING ABEAM DER, 294 FT LEFT OF CENTERLINE, UP TO 29 FT AGL/705 FT MSL. TERRAIN, FENCES, VEHICLES ON ROAD, AND POLES BEGINNING 20 FT FROM DER, 229 FT RIGHT OF CENTERLINE, UP TO 17 FT AGL/697 FT MSL. TERRAIN, DAM, FENCES, AND VEHICLES ON ROAD BEGINNING 979 FT FROM DER, 1 FT RIGHT OF CENTERLINE, UP TO 17 FT AGL/720 FT MSL. SIGN AND POLE BEGINNING 1531 FT FROM DER, 282 FT LEFT OF CENTERLINE, UP TO 62 FT AGL/755 FT MSL. TRANSMISSION TOWER 6006 FT FROM DER, 1294 FT LEFT OF CENTERLINE, 99 FT AGL/821 FT MSL. TRANSMISSION TOWER 1.0 NM FROM DER, 1957 FT LEFT OF CENTERLINE, 98 FT AGL/826 FT MSL.

FORT WORTH SPINKS

NOTE: RWY 17R, TREE 4909 FT FROM DER, 1556 FT LEFT OF CENTERLINE, 60 FT AGL/830 FT MSL.

ARLINGTON MUNI

NOTE: RWY 16, REILS BEGINNING 80 FT FROM DER, 126 FT LEFT OF CENTERLINE, UP TO 15 FT AGL/601 FT MSL. REILS BEGINNING 77 FT FROM DER, 126 FT RIGHT OF CENTERLINE, UP TO 19 FT AGL/603 FT MSL. TREES 593 FT FROM DER, 479 FT RIGHT OF CENTERLINE, UP TO 26 FT AGL/614 FT MSL. TRANSMISSION TOWER 3596 FT FROM DER, 1433 FT LEFT OF CENTERLINE, 112 FT AGL/702 FT MSL.

NOTE: RWY 34, TREES BEGINNING 228 FT FROM DER, 403 FT LEFT OF CENTERLINE, UP TO 35 FT AGL/654 FT MSL. TREES BEGINNING 1090 FT FROM DER, 439 FT RIGHT OF CENTERLINE, UP TO 61 FT AGL/670 FT MSL. TREES 1525 FT FROM DER, 339 FT LEFT OF CENTERLINE, UP TO 72 FT AGL/681 FT MSL.

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DENTON MUNI

NOTE: RWY 18, VEHICLES ON ROAD BEGINNING 36 FT FROM DER, 274 FT LEFT OF CENTERLINE, UP TO 10 FT AGL/636 FT MSL. TREES BEGINNING 8 FT FROM DER, 381 FT RIGHT OF CENTERLINE, UP TO 27 FT AGL/636 FT MSL.

NOTE: RWY 36, TREES BEGINNING 88 FT FROM DER, 218 FT RIGHT OF CENTERLINE, UP TO 17 FT AGL/646 FT MSL. TREES 123 FT FROM DER, 217 FT LEFT OF CENTERLINE, UP TO 22 FT AGL/652 FT MSL. TREES BEGINNING 574 FT FROM DER, 517 FT RIGHT OF CENTERLINE, UP TO 43 FT AGL/682 FT MSL. TREES BEGINNING 864 FT FROM DER, 497 FT LEFT OF CENTERLINE, UP TO 43 FT AGL/672 FT MSL.

GRAND PRAIRIE MUNI

NOTE: RWY 17, ANTENNA, TOWER, VEHICLES ON ROAD, SIGN, POLE, AND TREES BEGINNING 190 FT FROM DER, 410 FT RIGHT OF CENTERLINE, UP TO 37 FT AGL/620 FT MSL.

LANCASTER RGNL

NOTE: RWY 31, TREES 888 FT FROM DER, 637 FT RIGHT OF CENTERLINE, UP TO 35 FT AGL/536 FT MSL. TREES BEGINNING 1133 FT FROM DER, 479 FT LEFT OF CENTERLINE, UP TO 45 FT AGL/541 FT MSL. TRANSMISSION TOWER 1.0 NM FROM DER, 1685 FT RIGHT OF CENTERLINE, 127 FT AGL/661 FT MSL.

MESQUITE METRO

NOTE: RWY 18, FENCE AND TREES BEGINNING ABREAM DER, 362 FT LEFT OF CENTERLINE, UP TO 5 FT AGL/447 FT MSL. SIGN, VEHICLES ON ROAD, AND TREES BEGINNING 254 FT FROM DER, 453 FT LEFT OF CENTERLINE, UP TO 49 FT AGL/478 FT MSL.

NOTE: RWY 36, TREES BEGINNING 45 FT FROM DER, 389 FT RIGHT OF CENTERLINE, UP TO 29 FT AGL/452 FT MSL. POLE 814 FT FROM DER, 288 FT RIGHT OF CENTERLINE, 27 FT AGL/467 FT MSL. BUILDING, POLE, AND TREES BEGINNING 53 FT FROM DER, 497 FT LEFT OF CENTERLINE, UP TO 41 FT AGL/483 FT MSL.

CLEBURNE RGNL

NOTE: RWY 15, MULTIPLE POLES BEGINNING 952 FT FROM DER, 425 FT RIGHT OF CENTERLINE, UP TO 30 FT AGL/883 FT MSL. TREE 441 FT FROM DER, 501 FT RIGHT OF CENTERLINE, 55 FT AGL/868 FT MSL. POLE 1137 FT FROM DER, 742 FT LEFT OF CENTERLINE, 35 FT AGL/875 FT MSL.

NOTE: RWY 33, MULTIPLE TREES BEGINNING 602 FT FROM DER, 300 FT LEFT OF CENTERLINE, UP TO 55 FT AGL/873 FT MSL. WELL DRILLING RIG 3268 FT FROM DER, 123 FT LEFT OF CENTERLINE, 174 FT AGL/1043 FT MSL. WELL DRILLING RIG 1.2 NM FROM DER, 615 FT LEFT OF CENTERLINE, 104 FT AGL/976 FT MSL. TRANSMISSION POLE 1817 FT FROM DER, 183 FT LEFT OF CENTERLINE, 80 FT AGL/900 FT MSL.

DECATUR MUNI

NOTE: RWY 17, TREES AND POLES BEGINNING 120 FT FROM DER, 372 FT LEFT OF CENTERLINE, UP TO 51 FT AGL/1071 FT MSL. TERRAIN AND TREES BEGINNING 327 FT FROM DER, 452 FT RIGHT OF CENTERLINE, UP TO 18 FT AGL/1067 FT MSL. POLES 766 FT FROM DER, 45 FT RIGHT OF CENTERLINE, UP TO 33 FT AGL/1065 FT MSL. POLES 2287 FT FROM DER, 662 FT LEFT OF CENTERLINE, UP TO 54 FT AGL/1095 FT MSL. STACKS AND BUILDINGS BEGINNING 2495 FT FROM DER, 786 FT RIGHT OF CENTERLINE, UP TO 62 FT AGL/1112 FT MSL. TOWER 5149 FT FROM DER, 895 FT RIGHT OF CENTERLINE, 117 FT AGL/1173 FT MSL.

NOTE: RWY 35, TREES BEGINNING 378 FT FROM DER, 276 FT RIGHT OF CENTERLINE, UP TO 31 FT AGL/1050 FT MSL.

ENNIS MUNI

NOTE: RWY 15, VEHICLE ON ROAD 362 FT FROM DER, 561 FT RIGHT OF CENTERLINE, 15 FT AGL/494 FT MSL. TREES BEGINNING 870 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 100 FT AGL/579 FT MSL.

NOTE: RWY 33, VEHICLES ON ROAD BEGINNING 423 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 15 FT AGL/534 FT MSL. TREES BEGINNING 40 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 100 FT AGL/609 FT MSL.

BOURLAND FIELD

NOTE: RWY 17, TREES BEGINNING 9 FT FROM DER, 87 FT RIGHT OF CENTERLINE, UP TO 60 FT AGL/886 FT MSL. TREES BEGINNING 17 FT FROM DER, 113 FT LEFT OF CENTERLINE, UP TO 57 FT AGL/886 FT MSL. TREES 188 FT FROM DER, 28 FT LEFT OF CENTERLINE, UP TO 15 FT AGL/844 FT MSL. TERRAIN, POLE, VEHICLES ON ROAD, AND TREES BEGINNING 680 FT FROM DER, 15 FT RIGHT OF CENTERLINE, UP TO 38 FT AGL/988 FT MSL. TERRAIN, VEHICLES ON ROAD, AND TREES BEGINNING 871 FT FROM DER, 10 FT LEFT OF CENTERLINE, UP TO 47 FT AGL/987 FT MSL. TREES 2723 FT FROM DER, 533 FT RIGHT OF CENTERLINE, UP TO 32 FT AGL/1011 FT MSL. TRANSMISSION TOWER 1.4 NM FROM DER, 2471 FT RIGHT OF CENTERLINE, 123 FT AGL/1123 FT MSL. TRANSMISSION TOWER 1.5 NM FROM DER, 2849 FT RIGHT OF CENTERLINE, 93 FT AGL/1092 FT MSL.

QUALITY
3
CHECKED

U.S. DEPARTMENT of TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION
GRAPHIC DEPARTURE PROCEDURE (DP)

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DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HOWIG	TWO	HOWIG2.HOWIG	ONE	18 SEP 14	25 JUN 2015

NOTE: RWY 35, TERRAIN, FENCES, VEHICLES IN PARKING LOT, VEHICLES ON ROAD, SIGNS, POLES, AND TREES BEGINNING 22 FT FROM DER, 30 FT LEFT OF CENTERLINE, UP TO 26 FT AGL/935 FT MSL. TERRAIN, FENCES, VEHICLES ON ROAD, POLES, TREES, AND SIGNS BEGINNING 165 FT FROM DER, 42 FT RIGHT OF CENTERLINE, UP TO 42 FT AGL/925 FT MSL. TERRAIN, VEHICLES IN PARKING LOT, VEHICLES ON ROAD, AND TREES BEGINNING 1013 FT FROM DER, 29 FT RIGHT OF CENTERLINE, UP TO 15 FT AGL/956 FT MSL. TERRAIN, VEHICLES IN PARKING LOT, VEHICLES ON ROAD, AND TREES BEGINNING 2606 FT FROM DER, 328 FT RIGHT OF CENTERLINE, UP TO 16 FT AGL/995 FT MSL. TERRAIN, VEHICLES IN PARKING LOT, VEHICLES ON ROAD, AND TREES BEGINNING 2433 FT FROM DER, 663 FT LEFT OF CENTERLINE, UP TO 17 FT AGL/1006 FT MSL.

MID-WAY RGNL

NOTE: RWY 18, VEHICLES ON ROAD, CATENARIES, AND POLES BEGINNING 159 FT FROM DER, 465 FT RIGHT OF CENTERLINE, UP TO 39 FT AGL/712 FT MSL. TREES BEGINNING 956 FT FROM DER, 594 FT LEFT OF CENTERLINE, UP TO 71 FT AGL/722 FT MSL.

NOTE: RWY 36, TREES BEGINNING 6 FT FROM DER, 334 FT LEFT OF CENTERLINE, UP TO 34 FT AGL/753 FT MSL. TREES BEGINNING 82 FT FROM DER, 251 FT RIGHT OF CENTERLINE, UP TO 40 FT AGL/759 FT MSL. CATENARIES AND TREES BEGINNING 1067 FT FROM DER, 629 FT LEFT OF CENTERLINE, UP TO 37 FT AGL/765 FT MSL.

RALPH M HALL/ROCKWALL MUNI

NOTE: RWY 17, VEHICLES ON ROAD BEGINNING 19 FT FROM DER, ON CENTERLINE AND LEFT AND RIGHT OF CENTERLINE, UP TO 15 FT AGL/584 FT MSL. TREES BEGINNING 128 FT FROM DER, 354 FT LEFT OF CENTERLINE, UP TO 30 FT AGL/599 FT MSL. TREES BEGINNING 135 FT FROM DER, 205 FT RIGHT OF CENTERLINE, UP TO 30 FT AGL/589 FT MSL. TREES BEGINNING 810 FT FROM DER, ON CENTERLINE AND LEFT AND RIGHT OF CENTERLINE, UP TO 100 FT AGL/679 FT MSL.

NOTE: RWY 35, TRANSMISSION LINE AND TRANSMISSION TOWERS BEGINNING 362 FT FROM DER, ON CENTERLINE AND LEFT AND RIGHT OF CENTERLINE, UP TO 91 FT AGL/607 FT MSL.

PARKER COUNTY

NOTE: RWY 17, TREES BEGINNING 430 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 35 FT AGL/1016 FT MSL. HOUSES BEGINNING 952 FT FROM DER, 76 FT LEFT OF CENTERLINE, UP TO 30 FT AGL/1012 FT MSL. UTILITY POLES BEGINNING 1958 FT FROM DER, 185 FT RIGHT OF CENTERLINE, UP TO 55 FT AGL/1037 FT MSL.

NOTE: RWY 35, TREES BEGINNING 25 FT FROM DER, 176 FT LEFT OF CENTERLINE, UP TO 35 FT AGL/1014 FT MSL. VEHICLES ON ROAD 105 FT FROM DER, ACROSS CENTERLINE, 17 FT AGL/1007 FT MSL. SIGN AND POLE 193 FT FROM DER, 295 FT RIGHT OF CENTERLINE, 30 FT AGL/1008 FT MSL.

CONTROLLING OBSTACLES:

DALLAS LOVE FIELD

RWY 13L/R - 1368 MSL ANTENNA ON BLDG, 324648.00N/0964814.00W.

ADDISON

RWY 15: 850 FT MSL BUILDING 325629.00N/0964925.00W. 975 FT MSL BUILDING 325540.81N/0964919.57W. 973 FT MSL BUILDING 325536.93N/0964906.47W

DALLAS EXECUTIVE

RWY 17: 1027 FT MSL TOWER 323817.80N/0965154.09W. 2549 FT MSL TOWER 323502.67N/0965748.75W.

RWY 13, 35: 2549 FT MSL TOWER 323502.67N/0965748.75W.

RWY 31: 2449 FT MSL TOWER 323506.00N/0965842.00W.

FORT WORTH ALLIANCE

RWY 16L: 954 FT MSL TANK 325641.21N/0971909.98W.

RWY 16R: 954 FT MSL TANK 325641.21N/0971909.98W. 1002 FT MSL TOWER 325653.00N/0971932.00W.

FORT WORTH MEACHAM INTL

RWY 16, 17: 1743 FT MSL TOWER 324501.00N/0971608.00W.

RWY 34: 970 FT MSL BUILDING 325123.18N/0972128.11W.

RWY 35: 821 FT MSL TRANSMISSION TOWER 325026.45N/0972224.41W. 826 FT MSL TRANSMISSION TOWER 325026.78N/0972232.32W.



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HOWIG	TWO	HOWIG2.HOWIG	ONE	18 SEP 14	25 JUN 2015

FORT WORTH SPINKS

RWY 17R: 1772 FT MSL TOWER 323212.00N/0972446.86W

ARLINGTON MUNI

RWY 16, 34: 2549 FT MSL TOWER 323502.67N/0965748.75W.

GRAND PRAIRIE MUNI

RWY 17: 2549 FT MSL TOWER 323502.67N/0965748.75W.

LANCASTER RGNL

RWY 31: 661 FT MSL TRANSMISSION TOWER 323601.76N/0964358.15W. 2549 FT MSL TOWER 323502.67N/0965748.75W.

CLEBURNE RGNL

RWY 33: 976 FT MSL WELL DRILLING RIG 322211.95N/0972629.30W. 1043 FT MSL WELL DRILLING RIG 322243.27N/0972649.63W.

DECATUR MUNI

RWY 17, 35: 2859 FT MSL TOWER 332312.00N/0973358.00W.

BOURLAND FIELDRWY 17: 1011 FT MSL TREES 323407.39N/0973524.72W. 1123 FT MSL TRANSMISSION TOWER 323306.16N/0973536.73W. 1092 TRANSMISSION TOWER 323258.36N/0973539.81W.
1275 FT MSL TOWER 323156.00N/0973623.00W.**MID-WAY RGNL**

RWY 18: 2449 FT MSL TOWER 323235.00N/0965733.00W.

RWY 36: 2549 FT MSL TOWER 323502.67N/0965748.75W.

PARKER COUNTY

RWY 35: 1418 FT MSL TOWER 324648.00N/0974155.00W.

LOST COMMUNICATIONS PROCEDURES:**ADDITIONAL FLIGHT DATA:**

REFERENCE MAG VAR: KDAL 6E EPOCH YEAR: 1990. DME/DME ASSESSMENT: SAT (RNP 2.0)

CHART: MEA/MOCA FROM BOWTT TO HOWIG, 7000/2300.

DALLAS LOVE FIELD: CHART: TOP ALTITUDE RWY 13L/13R: 3000; RWY 31L/31R: 2000.

ALL OTHER AIRPORTS: CHART: TOP ALTITUDE: ASSIGNED BY ATC.

PILOT NAVIGATION AREA:

7 NM ARC CENTERED ON BOWTT (IF), CW

FROM: POINT A (BEARING 224 DEGREES TO BOWTT)

TO: POINT B (BEARING 314 DEGREES TO BOWTT)

MINIMUM ALTITUDE – 7000



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DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HOWIG	TWO	HOWIG2.HOWIG	ONE	18 SEP 14	25 JUN 2015

AIRPORTS SERVED:

DALLAS LOVE FIELD
 ADDISON
 DALLAS EXECUTIVE
 COLLIN COUNTY RGNL AT MC KINNEY
 FORT WORTH ALLIANCE
 FORT WORTH MEACHAM INTL
 FORT WORTH SPINKS
 FORT WORTH NAS JRB/CARSWELL FIELD
 ARLINGTON MUNI
 DENTON MUNI
 GRAND PRAIRIE MUNI
 LANCASTER RGNL
 MESQUITE METRO
 CLEBURNE RGNL
 DECATUR MUNI
 ENNIS MUNI
 BOURLAND FIELD
 MID-WAY RGNL
 RALPH M HALL/ROCKWALL MUNI
 PARKER COUNTY

DALLAS, TX
 DALLAS, TX
 DALLAS, TX
 DALLAS, TX
 FORT WORTH, TX
 FORT WORTH, TX
 FORT WORTH, TX
 FORT WORTH, TX
 ARLINGTON, TX
 DENTON, TX
 GRAND PRAIRIE, TX
 LANCASTER, TX
 MESQUITE, TX
 CLEBURNE, TX
 DECATUR, TX
 ENNIS, TX
 FORT WORTH, TX
 MIDLOTHIAN/WAXAHACHIE, TX
 ROCKWALL, TX
 WEATHERFORD, TX

COMMUNICATIONS:

ATIS: DAL, ADS, RBD, AFW, FTW, FWS, NFW. **CLNC DEL:** DAL, ADS, RBD, TKI, AFW, FTW, NFW, GKY, DTO.

GND CON: DAL, ADS, RBD, TKI, AFW, FTW, FWS, NFW, GKY, DTO, GPM. **TOWER:** DAL, ADS, RBD, TKI, AFW, FTW, FWS, NFW, GKY, DTO, GPM.

CTAF: ADS, RBD, TKI, FWS, GKY, DTO GPM, LNC, HQZ, 50F, CPT, F41, F46, JWY, LUD, WEA. **DEP CON:** REGIONAL DEP CON.

FIXES AND/OR NAVAIDS:



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DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
HOWIG	TWO	HOWIG2.HOWIG	ONE	18 SEP 14	25 JUN 2015

REMARKS:

LETTER OF APPROVAL ON FILE FOR AIRPORTS/RUNWAYS OUTSIDE THE PNA. THE REFERENCE AIRPORT AND MAGVAR WERE CHANGED FROM KADS (5E) TO KDAL (6E).

CHANGES:

1. ADDED DALLAS LOVE FIELD DATA TO DP ROUTE DESCRIPTION. MADE KDAL REFERENCE AIRPORT, 6E EPOCH YEAR 1990. ALL TRANSITION COURSES CHANGED BY MINUS 1 DEGREE.
2. CHANGED ALL REFERENCE OF DYREK TO HULZE. DYREK TRANSITION RENAMED HULZE TRANSITION.
3. CHANGED RUNWAY NUMBERS FOR MESQUITE FROM 17/35 TO 18/36.
4. ADDED WSTEX TRANSITION.
5. CHANGED ALL MEAS ON TRANSITIONS TO 10000.
6. ADDED NOTE FOR DAL RESTRICTING SID TO PROPS ONLY.
7. DELETED NOTE FOR PROPS TO FILE AND EXPECT THE KINGDOM OR COYOTE DEPARTURE.
8. ADDED NOTE FOR ALIAN TRANSITION ATC ASSIGNED ONLY.
9. ADDED NOTE FOR LBB TERMINAL AREA ARRIVALS TO FILE BRHMA TRANSITION.
10. ADDED NOTE FOR HUDAD, HULZE, BRHMA TRANSITIONS FOR AIRCRAFT FILING FL240 AND ABOVE.
11. ADDED TOP ALTITUDE DATA TO ADDITIONAL FLIGHT DATA.
12. PNA POINT A BEARING CHANGED TO 224, POINT B BEARING CHANGED TO 314.
13. CHANGED THE MEA/MOCA, FROM BOWTT TO HOWIG, TO 7000/2300.
14. CHANGED ALL COURSES ON THE HUDAD TRANSITION: INCREASED BY 1 DEGREE.
15. CHANGED ALL COURSES ON THE HULZE TRANSITION: INCREASED BY 1 DEGREE.

REASONS:

- 1-13. ATC REQUEST.
14-15. REFERENCE AIRPORT CHANGED FROM KADS (5E) TO KDAL (6E).

4/17/2015: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 11/12/2014.
1. REMOVED ALL REFERENCE TO FTW RWY 9/27.



DEPARTURE (DATA RECORD)

DP Name		Number	DP Computer Code				Superseded Number	Dated	Effective Date
HOWIG		TWO	HOWIG2.HOWIG				ONE	18 SEP 2014	25 JUN 2015
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
BOWTT	325712.00N/0972902.69W	Y	-	IF	-	-			
HOWIG	325753.68N/0973755.22W	Y	FB	TF	275.34	7.50			
HOWIG	325753.68N/0973755.22W	Y	-	IF	-	-			HOWIG2.ALIAN
HOOTT	324958.50N/0974401.79W	Y	FB	TF	213.08	9.43			
IAMUP	324712.31N/0981335.68W	Y	FB	TF	263.80	25.07			
ALIAN	324114.02N/0991323.24W	Y	FB	TF	263.53	50.79			
HOWIG	325753.68N/0973755.22W	Y	-	IF	-	-			HOWIG2.BRHMA
SNUCK	325529.83N/0974401.79W	Y	FB	TF	245.07	5.67			
WUDIE	330004.18N/0981348.75W	Y	FB	TF	280.46	25.47			
KATZZ	331203.68N/0993543.82W	Y	FB	TF	280.24	69.85			
BRHMA	333117.03N/1010235.41W	Y	FB	TF	285.17	75.24			
HOWIG	325753.68N/0973755.22W	Y	-	IF	-	-			HOWIG2.CIKAN
HOOTT	324958.50N/0974401.79W	Y	FB	TF	213.08	9.43			
JAGID	324446.26N/0981331.98W	Y	FB	TF	258.34	25.41			
WSTEX	323242.98N/0991953.04W	Y	FB	TF	258.18	57.30			
CIKAN	322900.00N/1001900.00W	Y	FB	TF	266.02	50.13			
HOWIG	325753.68N/0973755.22W	Y	-	IF	-	-			HOWIG2.DOSXX
HOOTT	324958.50N/0974401.79W	Y	FB	TF	213.08	9.43			
JAGID	324446.26N/0981331.98W	Y	FB	TF	258.34	25.41			
WSTEX	323242.98N/0991953.04W	Y	FB	TF	258.18	57.30			
DOSXX	322338.17N/0995655.90W	Y	FB	TF	254.04	32.63			
HOWIG	325753.68N/0973755.22W	Y	-	IF	-	-			HOWIG2.HULZE
POOBR	330135.28N/0974403.10W	Y	FB	TF	305.59	6.34			
WALIE	330903.43N/0981355.84W	Y	FB	TF	286.68	26.19			
HRPER	332746.50N/0993100.93W	Y	FB	TF	286.48	67.25			
HULZE	333927.59N/1001318.11W	Y	FB	TF	288.46	37.21			



DEPARTURE (DATA RECORD)

DP Name		Number		DP Computer Code			Superseded Number		Dated	Effective Date
HOWIG		TWO		HOWIG2.HOWIG			ONE		18 SEP 2014	25 JUN 2015
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS	
HOWIG	325753.68N/0973755.22W	Y	-	IF	-	-			HOWIG2.HUDAD	
EEORE	330731.10N/0974401.33W	Y	FB	TF	331.93	10.89				
BGLEE	331615.82N/0981351.51W	Y	FB	TF	289.36	26.51				
HUDAD	333652.04N/0992555.62W	Y	FB	TF	289.16	63.72				
HOWIG	325753.68N/0973755.22W	Y	-	IF	-	-			HOWIG2.WSTEX	
HOOTT	324958.50N/0974401.79W	Y	FB	TF	213.08	9.43				
JAGID	324446.26N/0981331.98W	Y	FB	TF	258.34	25.41				
WSTEX	323242.98N/0991953.04W	Y	FB	TF	258.18	57.30				