

**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SUPERSEDED NUMBER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>EFFECTIVE DATE</u>
NEEDLE	ONE		NINE	04/30/2015	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 type="checkbox"/>

DP ROUTE DESCRIPTION:

TAKEOFF RWY 32L: CLIMB HEADING 315.21, MAINTAIN 2100 OR ATC ASSIGNED ALTITUDE, FOR RADAR VECTORS TO ASSIGNED ROUTE/FIX, EXPECT CLEARANCE TO FILED ALTITUDE WITHIN 3 MINUTES AFTER DEPARTURE.

TAKEOFF RWY 32R: CLIMB HEADING 315.20, MAINTAIN 2100 OR ATC ASSIGNED ALTITUDE, FOR RADAR VECTORS TO ASSIGNED ROUTE/FIX, EXPECT CLEARANCE TO FILED ALTITUDE WITHIN 3 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: RWY 32L/R, NO RIGHT TURNS AUTHORIZED UNTIL LEAVING 1400 FEET.
NOTE: RADAR REQUIRED.

TAKEOFF MINIMUMS:

RWY 14L/R, NA-ATC
RWY 32L, STANDARD WITH MINIMUM CLIMB OF 425 FT PER NM TO 1400 OR 400-1 7/8 WITH MINIMUM CLIMB OF 240 FT PER NM TO 1400.
RWY 32R, STANDARD WITH MINIMUM CLIMB OF 345 FT PER NM TO 1400 OR 400-2 WITH MINIMUM CLIMB OF 240 FT PER NM TO 1400.

TAKEOFF OBSTACLES NOTES:

NOTE: RWY 32R, GRD 14 FT FROM DER, 29 FT RIGHT OF CENTERLINE, 18 FT MSL. BLDGS BEGINNING 160 FT FROM DER, 488 FT RIGHT OF CENTERLINE, UP TO 37 FT AGL/56 FT MSL. POLE 214 FT FROM DER, 126 FT LEFT OF CENTERLINE, 12 FT AGL/28 FT MSL. POLE, AWOS, RVR, GS AND TOWER BEGINNING 461 FT FROM DER, 68 FT LEFT OF CENTERLINE, UP TO 34 FT AGL/51 FT MSL. BLDGS BEGINNING 719 FT FROM DER, 459 FT RIGHT OF CENTERLINE, UP TO 61 FT MSL. TREES, BLDGS, TRMSN TWRS, LT POLE AND RAILROAD BEGINNING 808 FT FROM DER, 404 FT RIGHT OF CENTERLINE, UP TO 73 FT MSL. BLDGS AND TRMSN TWRS BEGINNING 1425 FT FROM DER, 513 FT RIGHT OF CENTERLINE, UP TO 61 FT AGL/81 FT MSL. ANTENNA, TRMSN TWRS AND TREE BEGINNING 1831 FT FROM DER, 557 FT RIGHT OF CENTERLINE, UP TO 108 FT MSL. POLES, BLDGS AND TREE BEGINNING 2493 FT FROM DER, 948 FT LEFT OF CENTERLINE, UP TO 101 FT MSL. LT POLE 3032 FT FROM DER, 1207 FT RIGHT OF CENTERLINE, 114 FT MSL. TREES AND LT POLE BEGINNING 3238 FT FROM DER, 1118 FT RIGHT OF CENTERLINE, UP TO 155 FT MSL. TREES, BLDGS, TRMSN TWRS AND LT POLES BEGINNING 3352 FT FROM DER, 585 FT RIGHT OF CENTERLINE, UP TO 168 FT MSL. TREE 3684 FT FROM DER, 947 FT LEFT OF CENTERLINE, 91 FT AGL/113 FT MSL. TREES, TRMSN TWRS, BLDGS AND POLES BEGINNING 4585 FT FROM DER, 835 FT RIGHT OF CENTERLINE, UP TO 202 FT MSL. TREES, LT POLE, BLDGS AND TRMSN TWRS BEGINNING 5166 FT FROM DER, 919 FT RIGHT OF CENTERLINE, UP TO 229 FT MSL. TREES, BLDGS AND TRMSN TWRS BEGINNING 5490 FT FROM DER, 1039 FT RIGHT OF CENTERLINE, UP TO 241 FT MSL. TREES, BLDGS, TRMSN TWRS AND FENCE BEGINNING 1 NM FROM DER, 738 FT RIGHT OF CENTERLINE, UP TO 263 FT MSL. TREES, BLDGS, TRMSN TWRS AND GRD BEGINNING 1.1 NM FROM DER, 795 FT RIGHT OF CENTERLINE, UP TO 300 FT MSL. TREES, BLDGS AND TRMSN TWRS BEGINNING 1.2 NM FROM DER, 1042 FT RIGHT OF CENTERLINE, UP TO 320 FT MSL. TOWERS, BLDGS, TREES, ELEC TRANSMISSION LINES, LT POLE BEGINNING 1.3 NM FROM DER, 1027 FT RIGHT OF CENTERLINE, UP TO 376 FT MSL.

NOTE: RWY 32L, FENCE 249 FT FROM DER, 452 FT LEFT OF CENTERLINE, 26 FT MSL. BLDG 1022 FT FROM DER, 728 FT LEFT OF CENTERLINE, 50 FT MSL. LT POLE 1111 FT FROM DER, 683 FT RIGHT OF CENTERLINE, 50 FT MSL. TREES AND LT POLE BEGINNING 1166 FT FROM DER, 768 FT RIGHT OF CENTERLINE, UP TO 60 FT MSL. POLES, BLDGS AND TREES BEGINNING 1216 FT FROM DER, 571 FT LEFT OF CENTERLINE, UP TO 101 FT MSL. TRMSN TWRS BEGINNING 1598 FT FROM DER, 790 FT RIGHT OF CENTERLINE, UP TO 68 FT MSL. TREE 2192 FT FROM DER, 403 FT RIGHT OF CENTERLINE, 54 FT AGL/81 FT MSL. BLDG AND TREE BEGINNING 2286 FT FROM DER, 385 FT RIGHT OF CENTERLINE, UP TO 85 FT MSL. TREES BEGINNING 2407 FT FROM DER, 261 FT LEFT OF CENTERLINE, UP TO 91 FT AGL/113 FT MSL. TRMSN TWR AND TREE BEGINNING 2413 FT FROM DER, 350 FT RIGHT OF CENTERLINE, UP TO 97 FT MSL. TREES AND POLES BEGINNING 2468 FT FROM DER, 440 FT RIGHT OF CENTERLINE, UP TO 114 FT MSL. TREE 2640 FT FROM DER, 1143 FT RIGHT OF CENTERLINE, 127 FT MSL. TREES AND POLES BEGINNING 2717 FT FROM DER, 875 FT RIGHT OF CENTERLINE, UP TO 129 FT MSL. TREES, TOWERS AND LT POLES BEGINNING 3080 FT FROM DER, 431 FT RIGHT OF CENTERLINE, UP TO 140 FT MSL. TREE 3316 FT FROM DER, 1366 FT RIGHT OF CENTERLINE, 148 FT MSL. TREES BEGINNING 3358 FT FROM DER, 821 FT RIGHT OF CENTERLINE, UP TO 157 FT MSL. TREES AND POLES BEGINNING 3449 FT FROM DER, 894 FT RIGHT OF



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CENTERLINE, UP TO 158 FT MSL. TREES BEGINNING 3606 FT FROM DER, 787 FT RIGHT OF CENTERLINE, UP TO 180 FT MSL. BLDGS, TREES, POLES AND STACKS BEGINNING 3711 FT FROM DER, 543 FT RIGHT OF CENTERLINE, UP TO 196 FT MSL. BLDGS, TREES AND LT POLE BEGINNING 3979 FT FROM DER, 883 FT RIGHT OF CENTERLINE, UP TO 216 FT MSL. TREES, BLDGS, LT POLES, TRMSN TWRS, ANTENNA, PARKING LOT AND GRD BEGINNING 4213 FT FROM DER, 706 FT RIGHT OF CENTERLINE, UP TO 241 FT MSL. TREES, BLDGS, TRMSN TWRS AND LT POLES BEGINNING 5403 FT FROM DER, 764 FT RIGHT OF CENTERLINE, UP TO 248 FT MSL. TREES, BLDGS, TRMSN TWRS, LT POLES AND GRD BEGINNING 1 NM FROM DER, 851 FT RIGHT OF CENTERLINE, UP TO 260 FT MSL. TREES, GRD, TRMSN TWR AND POLES BEGINNING 1.1 NM FROM DER, 1141 FT RIGHT OF CENTERLINE, UP TO 282 FT MSL. TREES, LT POLE, BLDGS, TRMSN TWRS, ELEC TRANSMISSION LINES AND RDS BEGINNING 1.2 NM FROM DER, 1307 FT RIGHT OF CENTERLINE, UP TO 345 FT MSL.

CONTROLLING OBSTACLES:

RWY 32L: 241 FT MSL TREE 473309.11N/1221853.17W (CLIMB GRADIENT), 1008 FT MSL TOWER 473754.00N/1222103.00W (CLIMB GRADIENT/CLIMB-TO ALTITUDE), 345 FT MSL ELECTRIC TRANSMISSION LINE 473345.34N/1221904.79W (CEILING), 253 FT MSL TREE 473356.16N/1221910.98W (VISIBILITY).

RWY 32R: 369 FT MSL TRANSMISSION TOWER 473339.83N/1221852.40W (CLIMB GRADIENT), 376 FT MSL TRANSMISSION TOWER 473341.33N/1221853.72W (CLIMB-TO ALTITUDE), 747 FT MSL BLDG, 473621.00N/1222002.00W (CLIMB GRADIENT), 1008 FT MSL TOWER 473754.00N/1222103.00W (CLIMB-TO ALTITUDE), 376 FT MSL TRANSMISSION TOWER 473341.33N/1221853.72W (CEILING), 346 FT MSL TREE 473354.70N/1221859.35W (VISIBILITY).

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

CHART: TOP ALTITUDE 2100

AIRPORTS SERVED:

<u>AIRPORT NAME</u>	<u>CITY</u>	<u>STATE</u>
BOEING FIELD/ KING COUNTY INTL	SEATTLE	WA

COMMUNICATIONS:

ATIS, CLNC DEL, GND CON, BOEING ATCT, SEATTLE DEP CON.

FIXES AND/OR NAVAIDS:BTG VORTAC, EAT VOR/DME, ELN VOR/DME, HQM VORTAC, HUH VOR/DME, MWH VOR/DME, OLM VORTAC, PAE VOR/DME, SEA VORTAC, YKM VORTAC, YVR VOR/DME, YXC VOR/DME, YYJ VOR/DME

REMARKS:

REFERENCE MAG VAR: KBFI 15E EPOCH YR: 2020.

RWY 14L: ACTUAL OBSTACLE CLIMB-TO-ALTITUDE IS 400 FT. 1400 FT WAS USED PER PREVIOUS AMENDMENT AND ATC REQUEST.



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NEEDLE	ONE		NINE	04/30/2015	12 OCT 2017

FLIGHT INSPECTED BY: Digitally signed by
CHARLES D CUNNINGHAM **DONALD H LANIER**
Aug 02, 2017

OFFICE SYMBOL: FICO
DATE: 7/14/2017

DEVELOPED BY:
ROBERT GRIM

ROBERT E GRIM II Digitally signed by ROBERT E GRIM II
Date: 2017.03.14 15:07:19 -05'00'

OFFICE SYMBOL: AJV-5431
DATE: 03/14/2017

APPROVED BY: Digitally signed by
PAT MULQUEEN **DONALD H LANIER**
Aug 02, 2017

OFFICE SYMBOL: AJV-5430
DATE:

REQUIRED EFFECTIVE DATE:

ROUTINE

COORDINATED WITH:

A4A	ALPA	AOPA	APA	HAI	NBAA
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

OTHER:

ARPT MGR, SEA ATCT, SEA ARTCC

CHANGES - REASONS:

1. CHANGED DP ROUTE DESCRIPTION TAKEOFF RWY 32L HEADING FROM 310.21 TO 315.21 - APT MAG VAR ROTATED FROM 20E TO 15E.
2. CHANGED DP ROUTE DESCRIPTION TAKEOFF RWY 32R HEADING FROM 310.20 TO 315.20 - APT MAG VAR ROTATED FROM 20E TO 15E.
3. UPDATED TAKEOFF OBSTACLE NOTES.
4. RWYS RENUMBERED FROM 13L/R, 31L/R TO 14L/R, 32L/R. - APT MAG VAR ROTATED FROM 20E TO 15E.
5. CHANGED TAKEOFF MINIMUMS FROM RWY 31L, STANDARD WITH MINIMUM CLIMB OF 480 FT PER NM TO 1400 OR 400-1 1/4 WITH MINIMUM CLIMB OF 265 FT PER NM TO 1400, TO RWY 32L, STANDARD WITH MINIMUM CLIMB OF 425 FT PER NM TO 1400 OR 400-1 7/8 WITH MINIMUM CLIMB OF 240 FT PER NM TO 1400.
6. CHANGED TAKEOFF MINIMUMS FROM RWY 31R, STANDARD WITH MINIMUM CLIMB OF 371 FT PER NM TO 1400 OR 400-2 WITH MINIMUM CLIMB OF 240 FT PER NM TO 1400, TO RWY 32R, STANDARD WITH MINIMUM CLIMB OF 345 FT PER NM TO 1400 OR 400-2 WITH MINIMUM CLIMB OF 240 FT PER NM TO 1400. - NEW OBSTACLE EVALUATION.
7. ADDED INFORMATION REGARDING 1400 CLIMB-TO-ALTITUDE IN REMARKS BLOCK.

08/02/17: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 07/25/17.

1. DELETED DP COMPUTER CODE (NEEDLE1.NEEDLE).

