

Flight Procedure Tracking Form		Action: AMENDMENT	Task Type: SID	Date Open: 09/12/2012	Task #: 2011072926923410004	Request #: 20110729269234
Procedure: SID SMERF (RNAV) FIVE MINNEAPOLIS MN KMSP			Airport ID: KMSP	Airport: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN		Reimbursable #:
City: MINNEAPOLIS		ST: MN	GPS #:	Estimated Chart Date: 03/07/2013		FICO #:
Fac ID:	Fac. Type:		Specialist: SHANE DOWNUM			

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:				10/17/12 [Signature]
QA:	10/17 [Signature]			10/18 [Signature] CHECKED
Liaison:				

Procedure Comments:

ENROUTE

Remark Type: INFORMATION

ATTACHED FORM: 8260-15B & 8260-15C
 ABBREVIATED AMENDMENT
 MAG VAR UPDATE TO 0E, CHANGED ALL HEADINGS AND TRACKS BY TWO DEGREES.
 CONTACT: JILL OLSON/STEVE BARNETT 405-954-0414/9307

FIG NA
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NOV 26 2012 [Signature]

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DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
SMERF	FIVE	SMERF5.SMERF	FOUR	12/15/2011	

TYPE: RNAV SID

DP ROUTE DESCRIPTION:

TAKEOFF RWY 22, 35: CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS THENCE ...

TAKEOFF RWY 12L/12R: FOR ASSIGNED HEADINGS FROM 060 CW TO 100, CROSS MSP VOR/DME 7.00 DME ARC AT OR ABOVE 3500, MAINTAIN ASSIGNED ALTITUDE. IF UNABLE TO COMPLY, ADVISE ATC AS SOON AS POSSIBLE PRIOR TO DEPARTURE THENCE ...

TAKEOFF RWY 17: FOR ASSIGNED HEADINGS FROM 230 CW TO 285, CROSS MSP VOR/DME 7.00 DME ARC AT OR ABOVE 3500, MAINTAIN ASSIGNED ALTITUDE. IF UNABLE TO COMPLY, ADVISE ATC AS SOON AS POSSIBLE PRIOR TO DEPARTURE THENCE ...

TAKEOFF RWY 30 L/R: FOR ASSIGNED HEADINGS FROM 220 CW TO 360, CROSS MSP VOR/DME 7.00 DME ARC AT OR ABOVE 3500, MAINTAIN ASSIGNED ALTITUDE. IF UNABLE TO COMPLY, ADVISE ATC AS SOON AS POSSIBLE PRIOR TO DEPARTURE THENCE ...

TAKEOFF RWY 4: CLIMB HEADING 045.00 TO 2100 THENCE ...

... EXPECT RADAR VECTORS TO ZOGAP, THEN ON TRACK 289.11 TO PAGOZ AND ON TRACK 288.80 TO SMERF, TURBOJET AIRCRAFT MAINTAIN 7000 OR LOWER ASSIGNED ALTITUDE, ALL OTHER AIRCRAFT MAINTAIN 5000 OR LOWER ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE/FLIGHT LEVEL 10 MINUTES AFTER DEPARTURE.

TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):

Transition Name	Transition Computer Codes	From FIX/NAVAID	To FIX/NAVAID	Course	Distance	MEA	MOCA	Crossing Altitudes/Fixes

PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS:

- NOTE: DME/DME/IRU OR GPS REQUIRED.
- NOTE: RNAV 1.
- NOTE: RADAR REQUIRED.
- NOTE: FOR NON GPS EQUIPPED AIRCRAFT, FCM, DWN, BRD, AXN, ABR, ATY DME's MUST BE OPERATIONAL.

DEPARTURE CROSSING RESTRICTIONS: RWY 12 L/R REQUIRES AN ATC CLIMB GRADIENT OF 546 FT PER NM TO 3500. RWY 17 REQUIRES AN ATC CLIMB GRADIENT OF 465 FT PER NM TO 3500. RWY 30 L/R REQUIRES AN ATC CLIMB GRADIENT OF 380 FT PER NM TO 3500. CROSS PAGOZ AT OR ABOVE 5000.

TAKEOFF MINIMUMS:
RWY 4, 22, 12L, 12R, 17 STANDARD.
RWY 35 STANDARD WITH MINIMUM CLIMB OF 219 FT PER NM TO 2100.



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SMERF	FIVE	SMERF5.SMERF	FOUR	12/15/2011	

RWY 30L STANDARD WITH MINIMUM CLIMB OF 210 FT PER NM TO 2100.
 RWY 30R STANDARD WITH MINIMUM CLIMB OF 220 FT PER NM TO 2100.

TAKEOFF OBSTACLES NOTES:

NOTE: RWY 4, MULTIPLE TREES BEGINNING 800 FT FROM DER, 264 FT LEFT OF CENTERLINE, UP TO 75 FT AGL/921 FT MSL. ROD ON BLDG 2528 FT FROM DER, 1175 FT LEFT OF CENTERLINE, 78 FT AGL/922 FT MSL. FENCE 803 FT FROM DER, 585 FT LEFT OF CENTERLINE, 15 FT AGL/860 FT MSL. ANT ON OL BLDG 456 FT FROM DER, 319 FT LEFT OF CENTERLINE, 13 FT AGL/850 FT MSL. LT POLES 1932 FT FROM DER, 718 FT LEFT OF CENTERLINE, 45 FT AGL/885 FT MSL. STACK 4535 FT FROM DER, 481 FT LEFT OF CENTERLINE, 139 FT AGL/949 FT MSL.

NOTE: RWY 12R, MULTIPLE TREES BEGINNING 1477 FT FROM DER, 407 FT LEFT OF CENTERLINE, UP TO 86 FT AGL/851 FT MSL. MULTIPLE TREES BEGINNING 1426 FT FROM DER, 124 FT RIGHT OF CENTERLINE, UP TO 111 FT AGL/847 FT MSL. LT POLE 1408 FT FROM DER, 746 FT RIGHT OF CENTERLINE, 85 FT AGL/843 FT MSL. RADAR RFLTR 983FT FROM DER, 32 FT LEFT OF CENTERLINE, 15 FT AGL/829 FT MSL. PIPE ON BLDG, 826 FT FROM DER, 576 FT LEFT OF CENTERLINE, 10 FT AGL/825 FT MSL OL ON LOC 766 FT FROM DER, ON CENTERLINE, 7 FT AGL/821 FT MSL.

NOTE: RWY 17, ANTENNA 1272 FT FROM DER, 562 FT RIGHT OF CENTERLINE, 57 FT AGL/891 FT MSL. POLE 409 FT FROM DER, 530 FT RIGHT OF CENTERLINE, 29 FT AGL/866 FT MSL. WDI ON BLDG 2619 FT FROM DER, 881 FT LEFT OF CENTERLINE, 97 FT AGL/918 FT MSL. BLDG 2619 FT FROM DER, 859 FT LEFT OF CENTERLINE, 84 FT AGL/905 FT MSL. LT 1176 FT FROM DER, 291 FT RIGHT OF CENTERLINE, 11 FT AGL/875 FT MSL. TREE 2619 FT FROM DER, ON CENTERLINE, 79 FT AGL/900 FT MSL.

NOTE: RWY 22, TREE 2906 FT FROM DER, 833 FT RIGHT OF CENTERLINE, 94 FT AGL/934 FT MSL. HOPPER 1717 FT FROM DER, 456 FT LEFT OF CENTERLINE, 48 FT AGL/888 FT MSL.

NOTE: RWY 30L, MULTIPLE TREES BEGINNING 1113 FT FROM DER, 701 FT LEFT OF CENTERLINE, UP TO 80 FT AGL/919 FT MSL. TREE 1230 FT FROM DER, 633 FT RIGHT OF CENTERLINE, 30 FT AGL/877 FT MSL. GROUND 28 FT FROM DER, 490 FT RIGHT OF CENTERLINE, 844 FT MSL.

NOTE: RWY 30R, BLDG 1056 FT FROM DER, 198 FT LEFT OF CENTERLINE, 13 FT AGL/853 FT MSL. BILLBOARD SIGN 1463 FT FROM DER, 848 FT RIGHT OF CENTERLINE, 31 FT AGL/880FT MSL. MULTIPLE TREES BEGINNING 3010 FT FROM DER, 334 FT LEFT OF CENTERLINE, UP TO 94 FT AGL/940 FT MSL. LT POLE 1849 FT FROM DER, 698 FT RIGHT OF CENTERLINE, 17 FT AGL/871 FT MSL. FENCE 1327 FT FROM DER, 667 FT RIGHT OF CENTERLINE, 8 FT AGL/857 FT MSL. TREE 3703 FT FROM DER, 350 FT RIGHT OF CENTERLINE, 67 FT AGL/914 FT MSL. ROD ON POLE 3143 FT FROM DER, 47 FT RIGHT OF CENTERLINE, 38 FT AGL/898 FT MSL.

NOTE: RWY 35, TREE 175 FT FROM DER, 398 FT RIGHT OF CENTERLINE, 73 FT AGL/883 FT MSL. MULTIPLE TREES BEGINNING 1989 FT FROM DER, 351 FT LEFT OF CENTERLINE, UP TO 65 FT AGL/902 FT MSL. MULTIPLE BUILDINGS BEGINNING 5.4 NM FROM DER, 1787 FT LEFT OF CENTERLINE, UP TO 811 FT AGL/1743 FT MSL.

PILOT NAVIGATION AREA

10 NM ARC CENTERED ON ZOGAP (IF) CW
 FROM: POINT A (BEARING 244 DEGREES TO ZOGAP)
 TO: POINT B (BEARING 334 DEGREES TO ZOGAP)
 MINIMUM ALTITUDE 2900

CONTROLLING OBSTACLES:

RWY 4: 2438 FT MSL TOWER 450345.00N/0930822.00W
 RWY35: 1743 FT MSL BLDG 445934.00N/0931621.00W



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SMERF	FIVE	SMERF5.SMERF	FOUR	12/15/2011	

RWY 30L: 1743 FT MSL BLDG 445934.00N/0931621.00W
RWY 30R: 1743 FT MSL BLDG 445934.00N/0931621.00W

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

REFERENCE MAG VAR: KMSP 0E EPOCH YR: 2015
DME/DME/IRU ASSESSMENT: SAT (RNP 2.0)

AIRPORTS SERVED:

MINNEAPOLIS-ST PAUL INTERNATIONAL/WOLD CHAMBERLAIN AIRPORT

MINNEAPOLIS, MN.

COMMUNICATIONS:

ATIS, CLEARANCE DELIVERY, DEPARTURE CONTROL SOUTH OR EAST, DEPARTURE CONTROL NORTH OR WEST, ZMP, ATCT.

FIXES AND/OR NAVAIDS:

FCM VOR/DME

REMARKS:



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SMERF	FIVE	SMERF5.SMERF	FOUR	12/15/2011	

FLIGHT INSPECTED BY:

CHRISTOPHER GOTTWALD

10/3/11

REQUIRED EFFECTIVE DATE:

ROUTINE

DEVELOPED BY:

JILL OLSON (SHANE DOWNUM)

AJV-353

09/12/2012

APPROVED BY:

LARRY STROUT

AJV-353

COORDINATED WITH:

ATA, ALPA, APA, AOPA, NBAA, MSP ATCT, ZMP, AMGR

CHANGES:

1. UPDATED RWY 30R TAKEOFF OBSTACLES NOTE.
2. CHANGED PROCEDURE DATA NOTE FROM RADAR REQUIRED FOR NON-GPS EQUIPPED AIRCRAFT TO RADAR REQUIRED.
3. CHANGED ALL MAGNETIC COURSES, INCLUDING PNA BOUNDARIES, TWO DEGREES.

REASONS:

1. TO COINCIDE WITH REVISED 8260-15A
2. IAW DP ROUTE DESCRIPTION ALL AIRCRAFT ARE VECTORED.
3. KMSP AIRPORT MAGNETIC VARIATION CHANGE.



DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
SMERF	FIVE	SMERF5.SMERF	FOUR	12/15/2011	

FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
ZOGAP	450517.00N/0935233.00W	Y		IF					
PAGOZ	451117.56N/0941715.85W	Y	FB	TF	289.11	18.50	AT/ABOVE 5000		
SMERF	455515.82N/0973408.26W	Y	FB	TF	288.80	145.15			

QUALITY
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DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
SMERF RNAV	FIVE	SMERF5.SMERF	FOUR	12/15/2011	

ARINC SUMMARY - 424-18 - SID

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	ALL	ZOGAP	010		IF		FB					
	ALL	PAGOZ	020		TF		FB	1.0	289.1()	018.5	AA 05000	
	ALL	SMERF	030		TF		FB	1.0	288.8()	145.2		

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	PAGOZ	N451117.56	W0941715.85	N4511.293	W09417.264
	SMERF	N455515.82	W0973408.26	N4555.264	W09734.138
	ZOGAP	N450517.00	W0935233.00	N4505.283	W09352.550
	RW04	N445230.98	W0931402.73	N4452.516	W09314.046
	RW12L	N445334.63	W0931315.57	N4453.577	W09313.260
	RW12R	N445316.04	W0931402.87	N4453.267	W09314.048
	RW17	N445315.91	W0931432.11	N4453.265	W09314.535
	RW22	N445330.01	W0931239.67	N4453.500	W09312.661
	RW30L	N445224.68	W0931204.27	N4452.411	W09312.071
	RW30R	N445253.54	W0931140.67	N4452.892	W09311.678
	RW35	N445158.24	W0931411.92	N4451.971	W09314.199

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW04	00832	75
	RW12L	00839	52
	RW12R	00842	56
	RW17	00840	60
	RW22	00828	55
	RW30L	00814	58
	RW30R	00820	55
	RW35	00833	53

QUALITY
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CHECKED