Flight Procedure Tracking Form	Action: AMENDMENT	Task Type: IAP	Date Open: 08/21/2012	Task #: 2011072926923421001	Request #: 20110729269234
Procedure: RNAV (GPS) RWY 12L AMDT 3		Airport ID: KMSP	Airport: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN		Reimbursable #:
City: MINNEAPOLIS	ST: MN	GPS #:		Estimated Chart Date: 05/02/2013	FICO #: 1100610
Fac ID:	Fac. Type:		Specialist: STEVE NELSON		

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:				QUALITY
QA:				3/18/13
Liaison:				

Procedure Comments: ENROUTE-NON

Remark Type: INFORMATION

MINNEAPOLIS, MN MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (KMSP) RNAV (GPS) Y RWY 12L, AMDT 3 (LPV) ENROUTE-YES FC: 3.19.13 PUB: 5.2.13

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): ALGIN-INT, REV 11; CCJAY-INT, REV 2; HAMML-INT, REV 2; KANAC-INT, ORIG; RAHXE, ORIG; UBTYA-INT, REV 2; WASHY-INT, REV 6; WHISK-INT, REV 12; (INFO ONLY) FUDGE-INT, REV 5; TLBAT-INT, REV 2.

CONTACT: JILL OLSON/STEVE BARNETT -AVJ-353 LEADS, 405.954.4014 / 405.954.9307.

FAS PACK SAT

ARI SAVED

WAAS CH 45525 W12B	APP CRS 121°	Rwy ldg 7620 THRE 839 Apt Elev 841

RNAV (GPS) Y RWY 12L
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

DME/DME RNP- 0.3 NA. Simultaneous approach authorized with Rwy 12R. LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -27°C (-16°F) or above 54°C (130°F). For inop ALSF, increase LPV Cat E visibility to RVR 4000, LNAV/VNAV Cat E visibility to 1⅜ mile, LNAV MDA Cat E visibility to 2 miles.

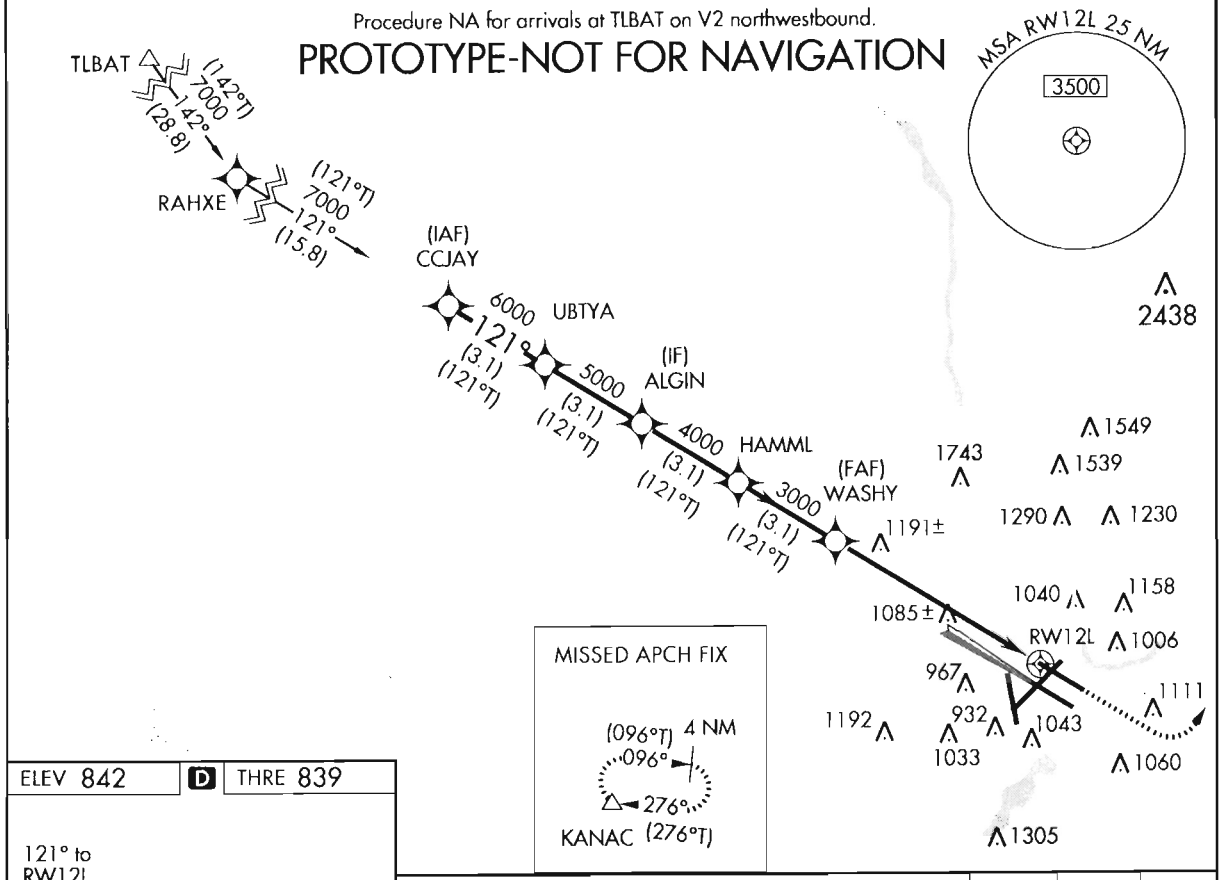
ALSF-2

MISSED APPROACH: Climb to 1300 then climbing left turn to 3000 direct KANAC and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2

Procedure NA for arrivals at TLBAT on V2 northwestbound.

PROTOTYPE-NOT FOR NAVIGATION

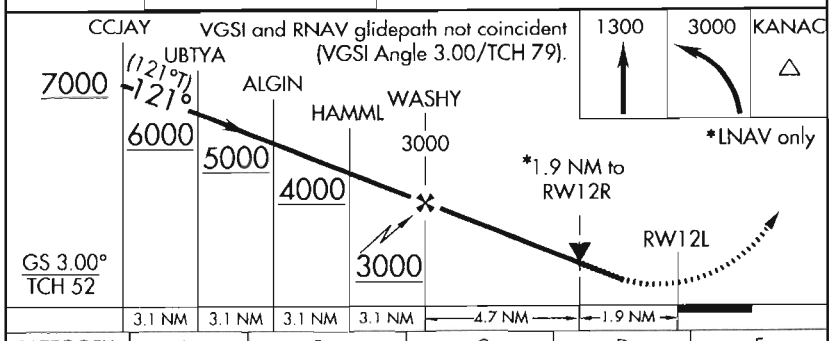


ELEV 842 | D | THRE 839

121° to RW12L

TLBAT: 4534.518 / 09420.453
RAHXE: 4511.644 / 09355.536
CCJAY: 4503.511 / 09336.374
UBTYA: 4501.891 / 09332.582
ALGIN: 4500.268 / 09328.793
HAMML: 4458.643 / 09325.008
WASHY: 4457.016 / 09321.226
RW12L: 4453.577 / 09313.260

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



CATEGORY	A	B	C	D	E
LPV DA	1039/24 200 (200-½)				
LNAV/VNAV DA	1248/45 409 (500-⅞)				
LNAV MDA	1520/24 681 (700-½)		1520-1½ 681 (700-1½)		
CIRCLING	1520-1 678 (700-1)		1520-2 678 (700-2)	1520-2¼ 678 (700-2¼)	1660-3 819 (900-3)

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV - STANDARD
INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.33

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
TLBAT	RAHXE (FB)	142.34 / 28.84	7000
RAHXE	CCJAY (FB)	120.83 / 15.82	7000
CCJAY (IAF)	UBTYA (FB)	121.06 / 3.14	6000
UBTYA	ALGIN (FB)	121.10 / 3.14	5000
ALGIN (IF)	HAMML (FB)	121.15 / 3.14	4000
HAMML	WASHY (FB)	121.19 / 3.14	3000
WASHY (FAF)	RW12L (MAP) (FO)	121.24 / 6.62	
(SEE FORM 8260-10)			

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW12L

CLIMB TO 1300, THEN CLIMBING LEFT TURN TO 3000 DIRECT KANAC AND HOLD.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT CCJAY
3. FAC: 121.24 FAF: WASHY DIST FAF TO MAP: 6.62 THLD: 6.62
4. MIN. ALT: CCJAY 7000, UBTYA 6000, ALGIN 5000, HAMML 4000, WASHY 3000
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 3000 GS ALT AT: WASHY 3000 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 52.2 34:1 IS CLEAR
8. MSA FROM: RW12L 3500

ADDITIONAL FLIGHT DATA:
HOLD E, RT, 275.59 INBOUND.
FAS OBST: 1139 AAO 445706N/0932114W
DISTANCE TO THLD FROM 200 HATH: 0.46 NM.
CHART VDP AT 1.89 MILES TO RW12L*
*LNAV ONLY.
WAAS CHANNEL # 45525
REFERENCE PATH ID: W12B
CHART LOC RWY 12R.
LTP HAE: 228.4 M

MAG VAR: 0E EPOCH YEAR: 2015

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT ALTERNATE: N A STANDARD @

CATEGORY =====>	A			B			C			D			E		
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
LPV DA	1039	2400	200	1039	2400	200	1039	2400	200	1039	2400	200	1039	2400	200
LNAV/VNAV DA	1248	4500	409	1248	4500	409	1248	4500	409	1248	4500	409	1248	4500	409
LNAV MDA	1520	2400	681	1520	2400	681	1520	1 1/2	681	1520	1 1/2	681	1520	1 1/2	681
CIRCLING	1520	1	678	1520	1	678	1520	2	678	1520	2 1/4	678	1660	3	818

NOTES:
CHART NOTE: DME/DME RNP-0.3 NA.
CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 12R.
CHART NOTE: LNAV PROCEDURE NA DURING SIMULTANEOUS OPERATIONS.
CHART NOTE: USE OF FD OR AP PROVIDING RNAV TRACK GUIDANCE REQUIRED DURING SIMULTANEOUS OPERATIONS.
(SEE FORM 8260-10)

@ CAT D 800-2 1/4, CAT E 900-3

CITY AND STATE	ELEVATION: 842 THRE: 839	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (GPS) RWY 12L, AMDT 3	AMDT: 2
				DATED 02/11/2010

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
[X] YES [ ] NO		ROUTINE

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[X]	[ ]	[X]	[X]	[X]	[X]	[X] ZMP, MSP APP CON, MSP ATCT, AMGR

	FIFO	DATE:
FLIGHT CHECKED BY		
NAME: JAMES LEROY KRENEK	FIOG	02/08/2013
DEVELOPED BY		
NAME: STEVE NELSON	AJV-353	10/22/2012
APPROVED BY		
NAME: LARRY H STROUT MANAGER	AJV-353	

CHANGES:

1. PROCEDURE WAS REDESIGNED TO INCORPORATE THE FIXES UTILIZED ON THE ILS PROCEDURE TO RWY 12L (HAMML, ALIGN, CCJAY).
2. ADDED A FEEDER ROUTE FROM TLBAT TO A FIX 35NM FROM RWY (RAHXE) TO IAF (CCJAY).
3. CHANGED MISSED APPROACH FROM CLIMB TO 4000 DIRECT JACKO AND LEFT TURN VIA TRACK 011 TO WHISK AND HOLD TO CLIMB TO 1300, THEN CLIMBING LEFT TURN TO 3000 DIRECT KANAC AND HOLD.
4. CHANGED BARO-VNAV NA NOTE TO FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -27C (-16F) OR ABOVE 54C (130F).
5. CHANGED INOP ALSF NOTE TO FOR INOPERATIVE ALSF, INCREASE LPV CAT E VISIBILITY TO RVR 4000, LNAV/VNAV CAT E VISIBILITY TO 1 3/8 MILE, LNAV CAT E VISIBILITY TO 2 MILES.
6. CHANGED LNAV/VNAV ALL CATS VISIBILITY FROM RVR 5000 TO RVR 4000, LNAV CAT D FROM 1 3/4 TO 1 1/2, AND LNAV CAT E FROM 2 TO 1 1/2.
7. CHANGED FAC FROM 119.24 TO 121.24.
8. CHANGED DIST FAF TO MAP/THLD FROM 6.51 TO 6.62.
9. CHANGED DISTANCE TO THLD FROM 200 HAT 0.47 TO DISTANCE FROM 200 HATH 0.46.
10. CHANGED TCH FROM 52.0 TO 52.2.
11. CHANGED CIRCLING CAT A/B/C/D HAA FROM 679 TO 678 AND CAT E FROM 819 TO 818.
12. CHANGED PROCEDURE NAME TO RNAV (GPS) Y RWY 30R.

REASONS:

1-3. FPT REQUEST.
4. 8260.19E, PARA 4-97 AND AFS MEMO/FORMULA DATED MAY 30, 2012.
5-6. APPLICATION OF CURRENT VISIBILITY TABLE VALUES.
7. KMSP MAG VAR CHANGE FROM 2E TO 0E.
8. APPLIED 8260.54A, PFAF FORMULA 2-16B.
9. APPLICATION OF THRE INSTEAD OF TDZE.
10. UTILIZED CURRENT AIRPORT DATA.
11. APT ELEV CHANGED FROM 841 TO 842.
12. (RNP) PROCEDURE IN DEVELOPMENT.

01/08/13: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 10/22/12.
1. REVERSING CHANGES REQUESTED BY THE FPT, TO THE ORIGINAL DEVELOPED VALUES, AT THE REQUEST OF THE FPT.
2. CHANGED ALTITUDE TLBAT TO RAHXE AND RAHXE TO CCJAY FROM 5000 TO 7000; CCJAY TO UBTYA FROM 5000 TO 6000.
3. CHANGED PROFILE STARTS AT ALGIN TO CCJAY.
SEE 8260-10

QUALITY 4 CHECKED

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TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
RW12L (MAP)	1300 MSL	121.24	1300
1300 MSL	KANAC (FO)		3000

NOTES, (CONT.):

CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -27C (-16F) OR ABOVE 54C (130F).
CHART NOTE: FOR INOPERATIVE ALSF, INCREASE LPV CAT E VISIBILITY TO RVR 4000, LNAV/VNAV CAT E VISIBILITY TO 1 3/8 MILE, LNAV CAT E VISIBILITY TO 2 MILES.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVAL AT TLBAT ON V2 NORTHWEST BOUND.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.

QUALITY CONTROL 4

CITY AND STATE	ELEVATION: 842 THRE: 839	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (GPS) RWY 12L, AMDT 3	AMDT: 2
				DATED: 02/11/2010

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

REASONS CONT.
4. READDED MIN ALT CCJAY 7000 AND UBTYA 6000.

3/18/2013: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 10/22/2012.
1. CHANGED PROCEDURE NAME FROM RNAV (GPS) Y RWY 12L BACK TO RNAV (GPS) RWY 12L.

QUALITY CHECKED 4

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FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KMSP
RUNWAY	RW12L
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W12B
LTP/FTP LATITUDE	445334.6290N
LTP/FTP LONGITUDE	0931315.5660W
LTP/FTP ELLIPSOIDAL HEIGHT	+02284
FPAP LATITUDE	445248.2900N
FPAP LONGITUDE	0931128.5300W
THRESHOLD CROSSING HEIGHT (TCH)	00052.2
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0248
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	35.0
CRC REMAINDER	759D48F0

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+02556
FPAP ORTHOMETRIC HEIGHT	+02556

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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ARINC PACKET - 424-18 - RNAV (GPS)

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   ALGIN K30    C     N45001607W093284758                        E0007     NAR          ALGIN
        SUSAEAENRT   CCJAY K30    C     N45033066W093362244                        E0008     NAR          CCJAY
        SUSAEAENRT   HAMML K30    C     N44583858W093250045                        E0006     NAR          HAMML
        SUSAEAENRT   KANAC K30    C   L N44520191W092555314                        E0002     NAR          KANAC
        SUSAEAENRT   RAHXE K30    W     N45113864W093553218                        E0010     NAR          RAHXE
        SUSAEAENRT   TLBAT K30    R   L N45343110W094202716                        E0013     NAR          TLBAT
        SUSAEAENRT   UBTYA K30    C     N45015343W093323491                        E0007     NAR          UBTYA
        SUSAEAENRT   WASHY K30    C     N44570096W093211353                        E0006     NAR          WASHY

                1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3AMSP     0     110YHN44525510W093131840E000000842         1800018000C    MNAR    MINNEAPOLIS-ST PAUL INTL/WOLD-

                1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3FR12L  ARAHXE 010RAHXEK3EA0E       IF                                                18000                A JS
        SUSAP KMSPK3FR12L  ARAHXE 020CCJAYK3EA0E  A 020TF                      12080158    + 07000                             A JS
        SUSAP KMSPK3FR12L  ARAHXE 030UBTYAK3EA0E    010TF                      12110031    + 06000                             A JS
        SUSAP KMSPK3FR12L  ARAHXE 040ALGINK3EA0EE B 010TF                      12110031    + 05000                             A JS
        SUSAP KMSPK3FR12L  ATLBAT 010TLBATK3EA0E       IF                                                18000                A JS
        SUSAP KMSPK3FR12L  ATLBAT 020RAHXEK3EA0E    020TF                      14230288    + 07000                             A JS
        SUSAP KMSPK3FR12L  ATLBAT 030CCJAYK3EA0E  A 020TF                      12080158    + 07000                             A JS
        SUSAP KMSPK3FR12L  ATLBAT 040UBTYAK3EA0E    010TF                      12110031    + 06000                             A JS
        SUSAP KMSPK3FR12L  ATLBAT 050ALGINK3EA0EE B 010TF                      12110031    + 05000                             A JS
        SUSAP KMSPK3FR12L  R      010ALGINK3EA0E  I    IF                                  + 05000     18000                   A JS
        SUSAP KMSPK3FR12L  R      011HAMMLK3EA0E S  051TF                      12120031    + 04000                             A JS
        SUSAP KMSPK3FR12L  R      020WASHYK3EA1E  F 051TF                      12120031    + 03000                 RW12L K3PGA JS
        SUSAP KMSPK3FR12L  R      020WASHYK3EA2WALPV       ALNAV/VNAV ALNAV                                                        JS
        SUSAP KMSPK3FR12L  R      030RW12LK3PG0GY M 031TF                      12120066      00891             -300          A JS
        SUSAP KMSPK3FR12L  R      040         0  M     CA                      1212        + 01300                             A JS
        SUSAP KMSPK3FR12L  R      050KANACK3EA0EY  L   DF                                  + 03000                             A JS
        SUSAP KMSPK3FR12L  R      060KANACK3EA0EE  R   HM                      27560040    + 03000                             A JS

                1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3GRW12L   0082001213 N44533463W093131557-0200    +0228400839000052150I

                1         2         3         4         5         6         7         8         9         0         1         2         3
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QUALITY CHECKED

CITY AND STATE	ELEVATION: 842 THRE: 839	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: **MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN**	**RNAV**	**RNAV (GPS) RWY 12L, AMDT 3**	AMDT: **2**
				DATED: **02/11/2010**

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICES - FAR PART 97.33

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```
PP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3PR12L  RW12L001 0000W12B0N4453346290W09313155660+022840300N4452482900W093112853001067502480005 22F400350759D48F0
        SUSAP KMSPK3PR12L  RW12L002E      +02556+02556LPV       45525
```

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3SRW12LK3PG                0   18018003525                                                                        M
```

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 842 THRE: 839	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (GPS) RWY 12L, AMDT 3	AMDT: 2
				DATED: 02/11/2010

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	RAHXE	RAHXE	010		IF		FB					
	RAHXE	CCJAY	020	IAF	TF		FB	2.0	120.8(120.8T)	015.8	AA 07000	
	RAHXE	UBTYA	030		TF		FB	1.0	121.1(121.1T)	003.1	AA 06000	
	RAHXE	ALGIN	040		TF		FB	1.0	121.1(121.1T)	003.1	AA 05000	
	TLBAT	TLBAT	010		IF		FB					
	TLBAT	RAHXE	020		TF		FB	2.0	142.3(142.3T)	028.8	AA 07000	
	TLBAT	CCJAY	030	IAF	TF		FB	2.0	120.8(120.8T)	015.8	AA 07000	
	TLBAT	UBTYA	040		TF		FB	1.0	121.1(121.1T)	003.1	AA 06000	
	TLBAT	ALGIN	050		TF		FB	1.0	121.1(121.1T)	003.1	AA 05000	
		ALGIN	010	FACF	IF		FB				AA 05000	
		HAMML	011	SDF	TF		FB	0.5	121.2(121.2T)	003.1	AA 04000	
		WASHY	020	FAF	TF		FB	0.5	121.2(121.2T)	003.1	AA 03000	
		RW12L	030	MAP	TF		FO	0.3	121.2(121.2T)	006.6	AT 00891	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		121.2(121.2T)		AA 01300	
	KANAC	050		DF	L	FO				AA 03000	
	KANAC	060		HM	R	FO		275.6(275.6T)	004.0	AA 03000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	ALGIN	N450016.07	W0932847.58	N4500.268	W09328.793
	CCJAY	N450330.66	W0933622.44	N4503.511	W09336.374
	HAMML	N445838.58	W0932500.45	N4458.643	W09325.008
	KANAC	N445201.91	W0925553.14	N4452.032	W09255.886
	RAHXE	N451138.64	W0935532.18	N4511.644	W09355.536
	TLBAT	N453431.10	W0942027.16	N4534.518	W09420.453
	UBTYA	N450153.43	W0933234.91	N4501.891	W09332.582
	WASHY	N445700.96	W0932113.53	N4457.016	W09321.226
	RW12L	N445334.63	W0931315.57	N4453.577	W09313.260

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW12L	00839	52

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: **842** THRE: **839**	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: **MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN**	**RNAV**	**RNAV (GPS) RWY 12L, AMDT 3**	AMDT: **2**
				DATED: **02/11/2010**

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FEEDER	TLBAT	RAHXE	1. TOWER (27-000293)	453457.00N/0942255.00W	1648 (5D)	1000	AT4352	7000
			2. TERRAIN	453218.00N/0942303.00W	1287 (1300)		AS1500	2800
FEEDER: STEPDOWN	RAHXE	CCJAY	3. TOWER (27-001163)	451148.00N/0935732.00W	1349 (5D)	1000	AT4651	7000
			4. TERRAIN	450809.00N/0934451.00W	1146 (1100)		AS1500	2600
INITIAL	CCJAY	UBTYA	5. TOWER (27-001535)	450306.00N/0933413.00W	1436 (6F)	1000	AT3314 AC250	6000
			6. TERRAIN	450157.00N/0933618.00W	1083 (1100)		AS1500	2600
INITIAL: STEPDOWN	UBTYA	ALGIN	7. TOWER (27-000393)	445934.00N/0932841.00W	1319 (5D)	1000	AT2681	5000
			8. TERRAIN	445948.00N/0933115.00W	1073 (1100)		AS1500	2600
INTERMEDIATE	ALGIN	HAMML	9. TOWER (27-000565)	445956.00N/0932354.00W	1361 (4D)	500	AT2139	4000
			10. TERRAIN	445745.00N/0932551.00W	1041 (1000)		AS1500	2500
INTERMEDIATE:	HAMML	WASHY	9. TOWER (27-000565)	445956.00N/0932354.00W	1361 (4D)	500	AT1139	3000
STEPDOWN			11. TERRAIN	445742.00N/0932548.00W	1041 (1000)		AS1500	2500
FINAL: LPV	WASHY	RW12L				ASC		1039/200
FINAL: LNAV/VNAV	WASHY	RW12L	12. TREE (KMSPO013)	445400.33N/0931435.54W	940 (2C)	24.63:1	AC20 XP2	1248/409
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA / DA / RW12L	KANAC				ASC		3000
			14. AAO	445409.00N/0925724.00W	1280	1000		2300
ELEV:	872/1087/1389		15. TERRAIN	445409.00N/0925724.00W	1080 (1100)		AS1500	2600

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL		OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
CATEGORY A	1.3 NM	350	678		16. BLDG (27-000367)	445120.51N/0931334.62W	1043 (1A)	300	SI	1520
CATEGORY B	1.5 NM	450	678		16. BLDG (27-000367)	445120.51N/0931334.62W	1043 (1A)	300	SI	1520
CATEGORY C	1.7 NM	450	678		16. BLDG (27-000367)	445120.51N/0931334.62W	1043 (1A)	300	SI	1520
CATEGORY D	2.3 NM	550	678		17. TANK (27-001379)	445503.51N/0930959.71W	1158 (1A)	300	SI	1520
CATEGORY E	4.5 NM	550	818		18. STACK (27-000479)	444839.00N/0931457.00W	1305 (5D)	300	AC50	1660

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW12L

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (27-000499)	019/ 10.8	2438 (1D)	3500					

CITY AND STATE	ELEVATION: 842 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
MINNEAPOLIS, MN	MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (GPS) RWY 12L, AMDT 3	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
MSP TOWER MSP APP CON	N W S / F A A / A / C — OTHER: ASOS	SOURCE: KMSP DISTANCE: HOURS REMOTE OPERATION:
SATISFACTORY ON: X VHF X UHF HF	LOCATION: KMSP	ADJUSTMENT: 0

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN: CAT 1	
	HRS OPTN: CAT 3	
5. APPROACH & RUNWAY LIGHTING	X	ALSF-1 12R ALSF-2 12L, 30L, 35
		(S) SALS
	X	MALSR 22, 04 MALSF 30R
	X	HIRL 12L, 30R, 17, 22, 30L, 04, 12R, 35
		MIRL
	X	REIL 30R, 17
	X	TDZ 12L, 30L, 12R, 35
	X	C/L 12L, 30R, 17, 30L, 12R, 35
	X	OTHER (SPECIFY) PAPI-4R 17 PAPI-4L 12L, 30R, 22, 30L, 04, 12R, 35
6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	PIR-G 12L, 30R, 22, 30L, 04, 12R, 35
	INSTRUMENT	NPI-G 17
7. RUNWAY VISUAL RANGE	APPROACH	12L, 30R, 17, 22, 30L, 04, 12R, 35
	MIDFIELD	12L, 30R, 17, 30L, 12R, 35
	ROLL OUT	12L, 30R, 17, 22, 30L, 04, 12R, 35
8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 838.6
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 52.2
9. FINAL APPROACH COURSE AIMING	X	RUNWAY THRESHOLD — FT. FROM THRESHOLD
	X	ON CENTERLINE — FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY: STEVE NELSON	DATE: 10/22/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-353

PART C - REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

NO ADDITIONAL AIRSPACE REQUIRED.

BACKUP ALTIMETER SOURCE NOT UTILIZED. KMSP HAS REDUNDANT WEATHER SOURCING.

ACT = -27C
ISA DEVIATION = -40.33
AVERAGE COLD TEMPERATURE BASED ON 5-YEAR HISTORY (2007-2011).
BARO VNAV HIGH TEMP CALCULATED PER AFS MEMO/FORMULA DATED MAY 30, 2012.

TAA NOT DEVELOPED PER FPT.

WASHY TO CCJAY FIX PLACEMENT DEVELOPED UTILIZING 8260.54A, FORMULA 2-16B AT 1000' INTERVALS.

LPV SURFACE 34:1
LNAV/VNAV SURFACE 24.63:1

VGSI DATA: 3.00/78.90.

OBS 14 & 15 ACCURACY IPDS DERIVED: 75' HORIZONTAL / 0' VERTICAL.

OBS 12: XP TO MAINTAIN CURRENT DA.

OBS 13: XP TO MAINTAIN CURRENT MDA.

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FINAL: LNAV	WASHY	RW12L	13. AAO	445706.37N/0932113.77W	1139 (2C)	250	XL31 XP100	1520

3. MISSED APPROACH									
	MAP:								
	ELEV:								

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL
CATEGORY A	1.3 NM	350	
CATEGORY B	1.5 NM	450	
CATEGORY C	1.7 NM	450	
CATEGORY D	2.3 NM	550	
CATEGORY E	4.5 NM	550	

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID:

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
MINNEAPOLIS, MN	ELEVATION: 842 AIRPORT NAME: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (GPS) RWY 12L, AMDT 3	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE		3. ALTIMETER SETTING
SATISFACTORY ON:	N W S	OTHER:	SOURCE:
	F A A		DISTANCE:
	A / C		HOURS REMOTE OPERATION:
V H F / U H F / H F	LOCATION:		ADJUSTMENT:

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN:	CAT 1
		CAT 3

5. APPROACH & RUNWAY LIGHTING		**ALS**
		(S) SALS
		MALS
		HIRL
		MIRL
		REIL
		TDZ
		C/LINE
		OTHER (SPECIFY)

6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	
	INSTRUMENT	
7. RUNWAY VISUAL RANGE	APPROACH	
	MIDFIELD	
	ROLL OUT	
8. GLIDE PATH	GP ANGLE:	ELEV RWY THRESHOLD:
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT:

9. FINAL APPROACH COURSE AIMING		RUNWAY THRESHOLD	FT. FROM THRESHOLD
		ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS:

PART D - PREPARED BY:	DATE:
TITLE:	OFFICE:

PART C - REMARKS:

RADIO FIX AND HOLDING DATA RECORD

NAME: ALGIN **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 450016.07N/0932847.58W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-PJL	LOC/DME		301.33	301.33	14.05	14.32		5000	6000
2	GOPHER	GEP	VORTAC	H	202.20	208.20		9.61		5000	6000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-PJL	LOC/DME	R-301	15	50	60

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-PJL DME LAT/LONG: 445303.68N/0931148.87W.
LOCATION IAW 8260.54A FORMULA 2-16B.
ESTABLISHED ESV IS FOR LOC/GS/DME.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12L	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12L			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
1. RELOCATED FIX 0.43NM (2623.08') NORTHWEST.
2. ADDED FIX TYPES WP.
3. CHANGED FAC 1 MAG BRG FROM 300.33 TO 301.33, DME FROM 13.62 TO 14.05, DIST FROM FAC NM FROM 13.89 TO 14.32.
4. CHANGED FAC 2 MAG/TRUE BRG FROM 199.64/205.64 TO 202.20/208.20, DIST FROM FAC NM FROM 9.64 TO 9.61, MRA FROM 3000 TO 5000.
5. CHANGED ESV I-PJL RADIAL FROM 300 TO 301, DISTANCE FROM 14 TO 15.
6. ADDED FACILITY USED TO ESTABLISH FIX COORDINATE NOTE.
7. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 09/24/2012 **OFFICE:** AJV-353 **NAME:** STEVE NELSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CCJAY **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 450330.66N/0933622.44W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-PJL	LOC/DME		301.33	301.33	20.33	20.60		5000	8000
2	GOPHER	GEP	VORTAC	H	236.24	242.24		11.20		5000	8000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-PJL	LOC/DME	R-301	21	5000	8000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-PJL DME LAT/LONG: 445303.68N/0931148.87W.
LOCATION IAW 8260.54A FORMULA 2-16B.
ESTABLISHED ESV IS FOR LOC/GS.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12L	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12L			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
1. RELOCATED FIX 0.93NM (5626.96') NORTHWEST.
2. ADDED FIX TYPE WP.
3. CHANGED FAC 1 MAG BRG FROM 300.33 TO 301.33, DME FROM 19.40 TO 20.33, DIST FROM FAC NM FROM 19.67 TO 20.60, MRA FROM 7000 TO 5000.
4. CHANGED FAC 2 MAG/TRUE BRG FROM 232.01/238.01 TO 236.24/242.24, DIST FROM FAC NM FROM 10.75 TO 11.20, MRA FROM 3000 TO 5000.
5. CHANGED ESV I-PJL RADIAL FROM 300 TO 301, DISTANCE FROM 20 TO 21, MIN ALTITUDE FROM 7000 TO 5000.
6. ADDED FACILITY USED TO ESTABLISH FIX COORDINATE NOTE.
7. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 09/24/2012 **OFFICE:** AJV-354 **NAME:** STEVE NELSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

QUALITY CHECKED 4

RADIO FIX AND HOLDING DATA RECORD

NAME: HAMML **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445838.58N/0932500.45W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-PJL	LOC/DME		301.33	301.33	10.91	11.18		4000	5300
2	GOPHER	GEP	VORTAC	H	184.42	190.42		10.27		4000	5300

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-PJL DME LAT/LONG: 445303.68N/0931148.87W.
LOCATION IAW 8260.54A FORMULA 2-16B.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12L	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12L			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
1. RELOCATED FIX 0.25NM (1522.88') NORTHWEST.
2. ADDED FIX TYPES WP.
3. CHANGED FAC 1 MAG BRG FROM 300.33 TO 301.33, DME FROM 10.66 TO 10.91, DIST FROM FAC NM FROM 10.93 TO 11.18, MAA FROM 5300 TO 5000.
4. CHANGED FAC 2 MAG/TRUE BRG FROM 183.13/189.13 TO 184.42/190.42, DIST FROM FAC NM FROM 10.36 TO 10.27, MRA FROM 3000 TO 4000, MAA FROM 5300 TO 5000.
5. REMOVED ESV. NOT NECESSARY FOR THIS FIX.
6. ADDED FACILITY USED TO ESTABLISH FIX COORDINATE NOTE.
7. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 09/24/2012 **OFFICE:** AJV-353 **NAME:** STEVE NELSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

QUALITY CHECKED 4

RADIO FIX AND HOLDING DATA RECORD

NAME: KANAC **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445201.91N/0925553.14W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	GOPHER	GEP	VORTAC	H	125.47	131.47	25.16	25.16		3000	17500
2	FARMINGTON	FGT	VORTAC	H	031.00	037.00	17.77	17.77		3000	17500
3	MINNEAPOLIS	MSP	VOR/DME	L	095.59	097.59	13.13	13.13		3000	17500

HOLDING: **HOLDING TYPE OF ACTION:** ESTABLISH

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	SE	GEP	VORTAC	125.47	305.47	R	1		3000	14000	5	11
2	E	MSP	VOR/DME	095.59	275.59	R	1		3000	14000	5	11
3	E		WP	095.59	275.59	R		4	3000	14000	5	11

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	445457.00N/0925645.00W	1339	4E
1	265	AAO	444615.00N/0923542.00W	1395	4E
2	200	AAO	445457.00N/0925645.00W	1339	4E
2	265	TOWER (55-000156)	445630.32N/0923935.00W	1466	2C
3	200	AAO	445457.00N/0925645.00W	1339	4E
3	265	TOWER (55-000156)	445630.32N/0923935.00W	1466	2C

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
FARMINGTON (FAC 2) AND GOPHER (FAC 1) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
HOLDING PATTERNS EVALUATED FOR MILITARY AIRCRAFT AT KMSP.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE (US)
EN ROUTE	V2-97	1, 2				
IAP	CONVERGING ILS RWY 30L (ALT MA)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	CONVERGING ILS RWY 30R (ALT MA)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12L	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12L (ALT MA)	1, 2	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30R (ALT MA)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II) (ALT MA)	1, 2	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III) (ALT MA)	1, 2	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I) (ALT MA)	1, 2	1	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12L		3	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12L		3	KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 03/07/2013

DEVELOPED BY: **DATE:** 10/16/2012 **OFFICE:** AJV-353 **NAME:** STEVE NELSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

QUALITY CHECKED 4

RADIO FIX AND HOLDING DATA RECORD

NAME: RAHXE **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 451138.64N/0935532.18W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) Y RWY 12L			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 03/07/2013

DEVELOPED BY: **DATE:** 10/11/2012 **OFFICE:** AJV-353 **NAME:** STEVE NELSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: UBTYA **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 450153.43N/0933234.91W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-PJL	LOC/DME		301.33	301.33	17.19	17.46		5000	7000
2	GOPHER	GEP	VORTAC	H	220.56	226.56		9.95		5000	7000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-PJL	LOC/DME	R-301	18	5000	7000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-PJL DME LAT/LONG: 445303.68N/0931148.87W.
LOCATION IAW 8260.54A FORMULA 2-16B.
ESTABLISHED ESV FOR LOC/GS/DME.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12L	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12L			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
1. RELOCATED FIX 0.66NM (3994.69') NORTHWEST.
2. CHANGED FAC 1 MAG BRG FROM 300.33 TO 301.33, DME FROM 16.53 TO 17.19, DIST FROM FAC NM FROM 16.80 TO 17.46, MRA FROM 6000 TO 5000.
3. CHANGED FAC 2 MAG/TRUE BRG FROM 216.85/222.85 TO 220.56/226.56, DIST FROM FAC NM FROM 9.80 TO 9.95, MRA FROM 3000 TO 5000.
4. CHANGED ESV I-PJL RADIAL FROM 300 TO 301, DISTANCE FROM 17 TO 18, MIN ALTITUDE FROM 6000 TO 5000.
5. ADDED FACILITY USED TO ESTABLISH FIX COORDINATE NOTE.
6. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 09/24/2012 **OFFICE:** AJV-353 **NAME:** STEVE NELSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

QUALITY CHECKED 4

RADIO FIX AND HOLDING DATA RECORD

NAME: WASHY **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445700.96N/0932113.53W **TYPE:** WP, RADAR, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-PJL	LOC/DME		301.33	301.33	7.77	8.04	48868	3000	5300
2	GOPHER	GEP	VORTAC	H	169.96	175.96		11.76		3000	5300

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
LOCATION IAW 8260.54A FORMULA 2-16B.
I-PJL DME LAT/LONG: 445303.68N/0931148.87W.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12L	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12L			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
1. RELOCATED FIX 0.12NM (710.18') NORTHWEST.
2. CHANGED FAC 1 MAG BRG FROM 300.33 TO 301.33, DME FROM 7.65 TO 7.77, DIST FROM FAC NM/FT FROM 7.93/48158 TO 8.04/48868.
3. CHANGED FAC 2 MAG/TRUE BRG FROM 169.50/175.50 TO 169.96/175.96, DIST FROM FAC NM FROM 11.82 TO 11.76.
4. ADDED FACILITY USED TO ESTABLISH COORDINATE NOTE.
5. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 10/18/2012 **OFFICE:** AJV-353 **NAME:** STEVE NELSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

QUALITY CHECKED 4

RADIO FIX AND HOLDING DATA RECORD

NAME: WHISK **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 450823.57N/0925743.72W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	GOPHER	GEP	VORTAC	H	085.00	091.00	17.46	17.46		3000	17500
2	FLYING CLOUD	FCM	VOR/DME	L	046.15	047.15		27.84		3400	17500
3	FARMINGTON	FGT	VORTAC	H	011.00	017.00	31.95	31.95		4000	17500
4	MINNEAPOLIS	MSP	VOR/DME	L	036.55	038.55	18.70	18.70		3400	17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	E	GEP	VORTAC	085.00	265.00	R	1		3000	14000	5	11
2	N		WP	014.00	194.00	R		4	3000	14000	5	11
3	N	FGT	VORTAC	011.00	191.00	R	1		4000	14000	6	11
4	NE	MSP	VOR/DME	036.55	216.55	R	1		4000	14000	5	11

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	450730.00N/0925754.00W	1250	4E
2	200	AAO	450730.00N/0925754.00W	1250	4E
3	200	TOWER (27-000481)	450828.00N/0930602.00W	1426	5D
4	200	AAO	451506.00N/0924948.00W	1280	4E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
GOPHER (FAC 1) AND FARMINGTON (FAC 3) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V13	1, 2, 3				(US)
EN ROUTE	V78	1, 2, 3				(US)
IAP	RNAV (GPS) RWY 22			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 32		2	K21D	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 14	1, 2	1	KSTP	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 14 (ALT MA)	4	1	KSTP	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 32	4	4	KSTP	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 32 (ALT MA)	3	3	KSTP	ST PAUL	MN (US)
IAP	RNAV (GPS) RWY 14		2	KSTP	ST PAUL	MN (US)
IAP	RNAV (GPS) RWY 32		2	KSTP	ST PAUL	MN (US)
STAR	AGUDE	1, 2, 3, 4		KFBL	FARIBAULT	MN (US)
STAR	AGUDE	1, 2, 3, 4		KGYL	GLENCOE	MN (US)
STAR	AGUDE	1, 2, 3, 4		KMGG	MAPLE LAKE	MN (US)
STAR	AGUDE	1, 2, 3, 4		KANE	MINNEAPOLIS	MN (US)
STAR	AGUDE	1, 2, 3, 4		KFCM	MINNEAPOLIS	MN (US)
STAR	AGUDE	1, 2, 3, 4		KLVN	MINNEAPOLIS	MN (US)
STAR	AGUDE	1, 2, 3, 4		KMIC	MINNEAPOLIS	MN (US)
STAR	AGUDE	1, 2, 3, 4		KRGK	RED WING	MN (US)
STAR	AGUDE	1, 2, 3, 4		KSGS	SOUTH ST PAUL	MN (US)
STAR	AGUDE	1, 2, 3, 4		K21D	ST PAUL	MN (US)
STAR	AGUDE	1, 2, 3, 4		KSTP	ST PAUL	MN (US)
STAR	AGUDE	1, 2, 3, 4		KRNH	NEW RICHMOND	WI (US)
STAR	AGUDE	1, 2, 3, 4		KOEO	OSCEOLA	WI (US)

REQUIRED CHARTING: STAR, MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW

QUALITY CHECKED

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 12 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
1. CHANGED FAC 1 MRA FROM 3400 TO 3000.
2. CHANGED FAC 3 MRA FROM 5500 TO 4000.
3. DELETED PAT 2.
4. DELETED 265KT EVALUATION AND CORRESPONDING REMARK FROM PAT 1 AND 4.
5. ADDED FACILITIES USED TO ESTABLISH FIX COORDINATE NOTE.
6. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 09/17/2012 **OFFICE:** AJV-353 **NAME:** STEVE NELSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

QUALITY CHECKED

"INFO ONLY"

RADIO FIX AND HOLDING DATA RECORD

NAME: FUDGE **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 450403.27N/0933451.81W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	GOPHER	GEP	VORTAC	H	236.12	242.12	10.00	10.00		3000	17500
2	FLYING CLOUD	FCM	VOR/DME	L	336.97	337.97		15.69		3000	17500

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V148	1, 2				(US)
IAP	RNAV (GPS) RWY 28			KMGG	MAPLE LAKE	MN (US)
STAR	ENCEE (RNAV)			KSTP	ST PAUL	MN (US)

REQUIRED CHARTING: STAR, MILITARY IAP, IAP, AREA, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5 **DATE OF REVISION:** 02/11/2010

REASON FOR REVISION:
FAC 1 ADDED DIST FROM FAC 10.00 NM.
FAC 2 UPDATED MAG BRG 333.99 TO 336.97, TRUE BRG 339.99 TO 337.97 AND ADDED DIST FROM FAC 15.69 NM.
REMOVED FAC 3 DATA.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 09/10/2009 **OFFICE:** AVN-120 **NAME:** PABLO ORTIZ

APPROVED BY: **DATE:** 02/11/2010 **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

QUALITY CHECKED 4

"INFO ONLY"

RADIO FIX AND HOLDING DATA RECORD

NAME: TLBAT **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 453431.10N/0942027.16W **TYPE:** INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	ALEXANDRIA	AXN	VOR/DME	L	114.22	121.22	43.95	43.95		3400	17500
2	DARWIN	DWN	VORTAC	L	002.24	009.24	29.66	29.66		3400	17500
3	ST CLOUD	STC	VOR/DME	T	274.57	277.57		12.00		3400	12000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
AXN	VOR/DME	R-114	44	3400	17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	310	TOWER (27-001214)	453404.00N/0943047.00W	2216	3C

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3300.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE (US)
EN ROUTE	V2	1, 2				
IAP	RNAV (GPS) Y RWY 12L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 32			KD39	SAUK CENTRE	MN (US)
IAP	RNAV (GPS) RWY 23			KSTC	ST CLOUD	MN (US)
IAP	RNAV (GPS) RWY 31			KSTC	ST CLOUD	MN (US)
IAP	VOR/DME RWY 13	3		KSTC	ST CLOUD	MN (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 08/25/2011

REASON FOR REVISION:
ADDED DIST FROM FAC FOR FAC 1, 2 AND 3.
UPDATED OBST ID NUMBER.
UPDATED FIX USE.
CORRECTED ESV DISTANCE FROM 45 TO 44 NM.

DEVELOPED BY: **DATE:** 03/03/2011 **OFFICE:** AVN-130 **NAME:** JON DENTON

APPROVED BY: **DATE:** 05/23/2011 **OFFICE:** AJV-353 **NAME:** GREGORY YAMAMOTO

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

QUALITY CHECKED 4

Federal Aviation Administration

Memorandum

Date:

To: Dick Powell Manager, National Flight Data Center, AJV-21

From: Larry H. Strout, Manager, Central Products Team, AJV-353

Subject: **ACTION:** Magnetic Variation Change for Minneapolis-St Paul Intl/Wold-Chamberlain (KMSP)

The Magnetic Variation (MV) data for the airport(s) and/or facility(s) listed under the 'Airport/Facility" column will be revised effective concurrent with the publication of the procedure(s) listed below.

CONVERGING ILS RWY 30L, AMDT 1
CONVERGING ILS RWY 30R, AMDT 2
CONVERGING ILS RWY 35, AMDT 3
ILS OR LOC RWY 12L, ILS RWY 12L (CAT II), ILS RWY 12L (CAT III), AMDT 9
ILS OR LOC RWY 12R, ILS RWY 12R (CAT II), ILS RWY 12R (CAT III), AMDT 10
ILS OR LOC RWY 30L, ILS RWY 30L (CAT II), AMDT 45
ILS OR LOC RWY 30R, AMDT 14
ILS OR LOC RWY 35, ILS RWY 35 (CAT II), ILS RWY 35 (CAT III), AMDT 3
LOC RWY 4, AMDT 2
LOC RWY 17, AMDT 2
LOC RWY 22, AMDT 2
RNAV (GPS) Y RWY 12L, AMDT 3
RNAV (GPS) Y RWY 12R, AMDT 2
RNAV (GPS) Y RWY 30L, AMDT 3
RNAV (GPS) Y RWY 30R, AMDT 2
RNAV (GPS) Y RWY 35, AMDT 2
RNAV (GPS) Z RWY 12L, ORIG
RNAV (GPS) Z RWY 12R, ORIG
RNAV (GPS) Z RWY 30L, ORIG
RNAV (GPS) Z RWY 30R, ORIG
RNAV (GPS) Z RWY 35, AMDT 1

STARS:
ARCHS (RNAV) ONE
BAINY (RNAV) ONE
CLFAX (RNAV) ONE
DOWNZ (RNAV) ONE

FEINT (RNAV) ONE
HHOGS (RNAV) ONE

STARS:
HORML (RNAV) ONE
KKILR (RNAV) ONE
MORSS (RNAV) ONE
MUSCL (RNAV) ONE
NITZR (RNAV) ONE
TORGY (RNAV) ONE

GRAPHIC DP:
HESTIN TWO
LEINY FOUR
SLAYER TWO
SMERF FIVE

Estimated Chart Date: 03/07/2013

Please publish these changes in the National Flight Data Digest.

MINNESOTA

Location	Name	Airport /Facility	Identifier	Assigned Magnetic Variation Is	Epoch Year
Minneapolis	Minneapolis-St Paul Intl/Wold-Chamberlain	Airport	KMSP / MSP	Old 2° East New 0° East	2015
Minneapolis		ILS (CAT III)	BMA	Old 1° East New 0° East	2015
Minneapolis		ILS (CAT III)	HKZ	Old 2° East New 0° East	2015
Minneapolis		ILS	INN	Old 1° East New 0° East	2015
Minneapolis		ILS (CAT II)	MSP	Old 0° East New 0° East	2015
Minneapolis		ILS (CAT III)	PJL	Old 1° East New 0° East	2015
Minneapolis		LOC	APL	Old 1° East New 0° East	2015
Minneapolis		LOC	SIJ	Old 1° East New 0° East	2015
Minneapolis		LOC	TJZ	Old 1° East New 0° East	2015
Minneapolis	Minneapolis APP CON	ASR-9	MSP	Old 3° East New 0° East	2015

If you have any questions please notify Larry H. Strout, larry.h.strout@faa.gov (405-954-5070).