

**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE  
TITLE 14 CFR PART 97.33**

Bearings, headings, courses, tracks 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 feet RVR.

<u>AIRPORT</u> MINNEAPOLIS-ST PAUL INTL/WOLD- CHAMBERLAIN	<u>AIRPORT ID</u> KMSP	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 22	<u>ORIGINAL/AMENDMENT</u> 1C	<u>CITY</u> MINNEAPOLIS	<u>STATE</u> MN
<u>AIRPORT ELEVATION</u> 842	<u>TDZE</u> 828	<u>SUPERSEDED</u> RNAV (GPS) RWY 22	<u>ORIGINAL/AMENDMENT</u> 1B	<u>DATED</u> 04/30/2015	<u>MAG VAR</u> 0E
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 10 SEPTEMBER 2020	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>	<u>EPOCH YEAR</u> 2015

**TERMINAL ROUTES**

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
WHISK	IAF	FATES		TF	FB	1.00	200.43	7.34	4000
FATES	IF	JALUN		TF	FB	1.00	225.14	6.04	2600
JALUN	FAF	RW22	MAP	TF	FO	0.30	225.08	5.31	
RW22	MAP	1190 MSL		CA	FB		225.08		
1190 MSL		JOGTO		DF	FB	1.00			
JOGTO		FGT VORTAC		TF	FO	1.00	159.07	13.08	3000

**MISSED APPROACH**

**MAP:**

LPV: DA  
LNAV/VNAV: DA  
LNAV: RW22

**MISSED APPROACH INSTRUCTIONS:**

CLIMB TO 3000 DIRECT JOGTO AND ON TRACK 159.07 TO FGT VORTAC AND HOLD.

**ALTERNATE MISSED APPROACH INSTRUCTIONS:**



PROFILE:

1. PT

SIDE OF COURSE

OUTBOUND

FT WITHIN

MILES OF (IAF)

2. PROFILE STARTS AT FATES

3. FAC:

225.08

FAF: JALUN

DIST FAF TO MAP: 5.31

DIST FAF TO THLD: 5.31

4. MIN ALT: FATES 4000, JALUN 2600

5. DIST TO THLD FROM OM:

MM:

IM:

150 HAT:

362 HAT: 0.96

GS ANT:

6. MIN GP INCPT:

2600

GP ALT AT FAF : JALUN 2600

OM:

MM:

IM:

7. GP ANGLE:

3.00

34:1: IS NOT CLEAR

20:1: IS CLEAR

TCH: 55.0

8. MSA FROM: RW22 3500

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: RWY 22 HELICOPTER VISIBILITY REDUCTION BELOW RVR 4000 NOT AUTHORIZED.  
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -27°C OR ABOVE 54°C.  
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT WHISK ON V78 EASTBOUND.  
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).  
CHART NOTE: FOR INOPERATIVE ALS, INCREASE LPV CAT E VISIBILITY TO RVR 5500, LNAV/VNAV ALL CATS VISIBILITY TO RVR 6000 AND LNAV CAT A/B VISIBILITY TO RVR 5500, AND CAT E TO 1 3/4 SM.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON.  
CHART VDP AT 1.67 NM TO RW22\*  
\*LNAV ONLY  
WAAS CHANNEL #60927  
REFERENCE PATH ID: W22A  
CHART FAS OBST: 1158 TANK 445504N/0930960W.  
CHART: 1224 SPIRE 445649N/0930633W.  
HOLD S, RT, 358.03 INBOUND  
LTP HAE: 225.2 M

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ STANDARD - CAT D 900-2 3/4, CAT E 1000-3



CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
LPV DA	1190	4000	362	1190	4000	362	1190	4000	362	1190	4000	362	1190	4000	362
LNAV/VNAV DA	1227	4500	399	1227	4500	399	1227	4500	399	1227	4500	399	1227	4500	399
LNAV MDA	1420	4000	592	1420	4000	592	1420	1 1/4	592	1420	1 1/4	592	1420	1 1/4	592
CIRCLING	1420	1	578	1420	1	578	1460	1 3/4	618	1660	2 3/4	818	1800	3	958

**CHANGES - REASONS**

- 1. REMOVED "DME/DME RNP -0.3 NA" - NO LONGER REQUIRED.
- 2. ADDED PBN REQUIREMENTS NOTE: "RNP APCH" - IAW 8260.19H 8-6-8.B.(1).
- 3. DISTANCE TO THLD FROM 362 HAT CHANGED FROM "0.94 NM" TO "0.96 NM" - TARGETS EVALUATION.
- 4. CHANGED "CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -27C (-16F) OR ABOVE 54C (130F)" TO "CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -27C OR ABOVE 54C" - REMOVED FAHRENHEIT - IAW 8260.19H 8-6-9.S.
- 5. ADDED NOTES: "20:1 IS CLEAR".
- 6. ADDED CHART NOTE: "RWY 22 HELICOPTER VISIBILITY REDUCTION BELOW RVR 4000 NOT AUTHORIZED" - IAW 8260.19H 8-6-11.K.(3), 34:1 PENETRATION.
- 7. CHANGED VGSI NOTE FROM "CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT" TO "VGSI AND RNAV GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET})" - UPDATED NOTE FORMAT IAW 8260-19H 8-6-9, M(1).
- 8. CHANGED "PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT WHISK ON V13 NORTHBOUND, V78 EASTBOUND" TO "PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT WHISK ON V78 EASTBOUND" - DUE TO RZN VOR/DME, VOR MON DECOMMISSION.
- 9. CHANGED "CHART NOTE: FOR INOPERATIVE MALSR, INCREASE LPV ALL CATS VISIBILITY TO 1 1/8 SM, LNAV/VNAV ALL CATS VISIBILITY TO 1 1/4 SM AND LNAV CAT E VISIBILITY TO 1 3/4 SM" TO "CHART NOTE: FOR INOPERATIVE ALS, INCREASE LPV CAT E VISIBILITY TO RVR 5500, LNAV/VNAV ALL CATS VISIBILITY TO RVR 6000, AND LNAV CAT A/B VISIBILITY TO RVR 5500, AND CAT E TO 1 3/4 SM" - UPDATED VERBIAGE, AJV VALIDATED VISCHECK CALCULATOR.
- 10. ADDED TO ADDITIONAL FLIGHT DATA: "CHART CIRCLING ICON" - APPLIED EXPANDED CIRCLING CRITERIA TO APPROACH FROM NOTAM 5/1100, IAW 8260.19H 8-6-10.T.
- 11. CHANGED CIRCLING MINIMUMS MDA/HAA FROM "CAT C 1420/578, CAT D 1460/618, CAT E 1660/818" TO " CAT C 1460/618, CAT D 1660/818, CAT E 1800/958" - APPLIED EXPANDED CIRCLING CRITERIA TO APPROACH FROM NOTAM 5/1100, IAW 8260.3D 2-7-1.
- 12. CHANGED CIRCLING MINIMUMS VIS CAT D FROM "2" TO "2 3/4" - APPLIED EXPANDED CIRCLING CRITERIA TO APPROACH FROM NOTAM 5/1100, IAW 8260.3D TABLE 3-3-7.
- 13. CHANGED ALTERNATE MINIMUMS FROM "STANDARD - CAT E 900-3" TO "STANDARD - CAT D 900-2 3/4, CAT E 1000-3" - INCORPORATED NOTAM 5/1100, IAW 8260.3D 3-4-1.
- 14. FAS DATA LTP/FAP LAT/LONG UPDATED FROM "445330.0115N/0931239.6690W" TO "445330.0090N/0931239.6705W" - DUE TO LTP/FAP LAT/LONG CHANGE FROM NEW SURVEY/AIRNAV DATA.
- 15. CRC REMAINDER CHANGED FROM "D4296F3F" TO "8E1DFB65" - DUE TO LTP/FAP LAT/LONG CHANGE FROM NEW SURVEY/AIRNAV DATA.

**COORDINATED WITH:**

**A4A** ☒    **ALPA** ☒    **AOPA** ☒    **APA** ☒    **HAI** ☐    **NBAA** ☒    **OTHER:** ZMP, MSP APP CON, MSP ATCT, AMGR.

<b><u>FLIGHT CHECKED BY</u></b>		<i>Digitally signed by</i> <b>JOHN BORDY</b> Jun 03, 2020	<b><u>OFFICE</u></b> FICO	<b><u>DATE</u></b> 6/1/2020	
<b><u>DEVELOPED BY</u></b>		<i>Digitally signed by</i> <b>JOHN BORDY</b> Jun 03, 2020	<b><u>OFFICE</u></b> AJV-A422	<b><u>DATE</u></b> 02/18/2020	
<b><u>APPROVED BY</u></b>	<i>Digitally signed by</i> <b>JOHN BORDY</b> Jun 03, 2020		<b><u>OFFICE</u></b> AJV-A420	<b><u>DATE</u></b>	<b><u>TITLE</u></b> MANAGER
MARLON ROBINSON					



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KMSP
RUNWAY	RW22
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W22A
LTP/FTP LATITUDE	445330.0090N
LTP/FTP LONGITUDE	0931239.6705W
LTP/FTP ELLIPSOIDAL HEIGHT	+02252
FPAP LATITUDE	445220.1600N
FPAP LONGITUDE	0931417.9500W
THRESHOLD CROSSING HEIGHT (TCH)	00055.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0000
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	8E1DFB65

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+02525
FPAP ORTHOMETRIC HEIGHT	+02525

