ALL AFFECTED PROCEDURES REVIEWED?

[X] YES [ ] NO

REQUIRED EFFECTIVE DATE

ROUTINE

COORDINATES OF FACILITIES

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[X]	[ ]	[X]	[X]	[X]	[X]	[X] **ZID ARTCC,CMH ATCT, LCK ATCT, AMGR**

COORDINATED WITH:

FLIGHT CHECKED BY

NAME: FIFO DATE:

DEVELOPED BY

NAME: **SPECIALIST** FIFO **AVN-XXX** DATE:

APPROVED BY

NAME: MANAGER FIFO **AVN-XXX** DATE:

CHANGES:

1. **CHANGED COURSE FROM APE VORTAC FROM 225.30 TO 224.31**
2. **CHANGED FAC FROM 050.29 TO 050.30**
3. **CHANGED CAT II INFO:**
   DELETED 907 MSL / 170 HAT / 175 RA.
   857 MSL TO 839 MSL, 123 RA TO 105 RA, HAT 120 TO 103.
   DIST TO THLD FOR 153 HAT TO 1893 AND 103 HAT TO 939.
4. **DELETED MSA SECTOR 090-270 2700**
5. **DELETED CAUTION AND #DME REQUIRED NOTES.**
6. **CHANGED TDZE FOR RWY 05R FROM 737 TO 736.**
7. **CHANGED GS ALT AT MM FROM 948 TO 947.**
8. **CHANGED NOTE "ADF OR RADAR REQUIRED" TO "ADF OR DME REQUIRED"**

REASONS:

1. **RE-EVALUATED COURSE.**
2. **050.30 LOCALIZER CENTERLINE.**
3. **NEW CRITERIA PER TIL 00-005A AND PRIOR OBSTRUCTIONS (20' ANTENNA, AND GROUND ELEVATION REMOVED).**
4. **NEW OBSTRUCTION IN 090-270 SECTOR, NO LONGER ACHIEVE 300' DIFFERENCE.**
5. **NO LONGER REQUIRED.**
6. **NEW SURVEY DATA.**
7. **NEW DATA IN ASIS DATABASE.**
8. **IAW CURRENT CRITERIA.**

Figure A5-2

U.S. 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
ZANTI (IAF) (40E) (43A)	HABRA (TF) (FB) (40E) (41E) (43B)	184.46 / 5.00	4000
HABRA (IF) (40E) (43B)	GIPNE / 2.52 NM TO COBOP (TF) (FB) (40E) (42S)	184.46 / 3.24	3000
GIPNE (40E) (42S)	COBOP (TF) (FB) (40E) (43F)	184.46 / 2.52	2200
RW18L (MAP) (43M)	346 MSL (CA) (42M)	184.46	
346 MSL	FLOZY (DF) (FO) (40E) (41E) (43H)		2000

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW18L

CLIMB TO 2000 DIRECT FLOZY AND HOLD.

ADDITIONAL FLIGHT DATA:
HOLD S, LT, 004.46 INBOUND
FAS OBST: 218 POLE 282700N / 0811903W
230 TOWER 283007N / 0800950W
CHART VDP AT 1.30 MILES TO RW18L*
DISTANCE TO THLD FROM 384 HAT: 1.05 NM
ROUTE TYPE: A, R
APCH ROUTE QUALIFIER 1: W
APCH ROUTE QUALIFIER 2: S
WAAS CHANNEL # 21346
REFERENCE PATH ID: W18A

1. PT NA SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT ZANTI
3. FAC: 184.46 FAF: COBOP DIST FAF TO MAP: - THLD: 6.34
4. MIN. ALT: ZANTI 4000, HABRA 4000, GIPNE 3000, COBOP 2200
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2200 GS ALT AT: ____ OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 52.0 34:1 IS NOT CLEAR
8. MSA FROM: RW18L 3000

MAG VAR: 5W EPOCH YEAR: 00

MINIMUMS

TAKEOFF: X STANDARD ____ 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	346	1	250	346	1	250	346	1	250	346	1	250			
LNAV/VNAV DA	480	6000	384	480	6000	384	480	6000	384	480	6000	384			
LNAV MDA	560	5000	464	560	5000	464	560	6000	464	560	1 1/2	464			
CIRCLING	740	1 1/4	644	740	1 1/4	644	740	1 3/4	644	740	2	644			

NOTES:
*LNAV ONLY
BARO-VNAV NA BELOW -15°C (5°F)
GPS OR RNP-0.3 REQUIRED. DME/DME RNP-0.3 NA.
CHART PLANVIEW NOTE: RADAR REQUIRED

CITY AND STATE	ELEVATION: 96 TDZE: 96 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
ORLANDO, FL	ORLANDO INTL	RNAV	RNAV (GPS) RWY 18L, ORIG	AMDT: NONE DATE

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Figure A5-3

ALL AFFECTED PROCEDURES REVIEWED?
[X] YES [ ] NO

COORDINATES OF FACILITIES

REQUIRED EFFECTIVE DATE
P06/13/02

COORDINATED WITH:
ATA [X] AAT [ ] ALPA [X] APA [X] AOPA [X] NBAA [X] OTHER (specify) [X] ZJX, APP CON, CMO ATCT, AMGR

FLIGHT CHECKED BY

NAME:		DATE:
PENDING	FIFO	

DEVELOPED BY

NAME:		DATE:
SPECIALIST	FIFO AVN-XXX	

APPROVED BY

NAME:		DATE:
MANAGER	FIFO AVN-XXX	

CHANGES:

REASONS:
ORIGINAL - CAST PLAN

Figure A5-4

U.S. 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
CRG VORTAC (IAF) (40V) (43A)	POTME (TF) (FB) (40E) (41E) (43B)	327.57 / 2.19	3000
POTME (IF) (40E) (43B)	FIVOX (TF) (FB) (40E) (43F)	313.61 / 5.07	1700
RW31 (MAP) (40G) (41Y) (43M)	275 MSL (CA) (42M)	313.58	
275 MSL	OSBAJ (DF) (FO) (40E) 41E) (43H)		2000

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW31

CLIMB TO 2000 DIRECT OSBAJ AND HOLD.

1. PT NA SIDE OF COURSE _____ OUTBOUND _____ FT WITHIN ____ MILES OF _____ (IAF)
2. PROFILE STARTS AT POTME
3. FAC: 313.58 FAF: FIVOX DIST FAF TO MAP: - THLD: 5.03
4. MIN. ALT: POTME 3000, FIVOX 1700
5. DIST TO THLD FROM OM: _____ MM: _____ IM: _____ 150 HAT: _____ 100 HAT: _____ GS ANT: _____
6. MIN GS INCPT: 1700 GS ALT AT: _____ OM: _____ MM: _____ IM: _____
7. GS ANGLE: 3.00 TCH: 50.0 34:1 IS NOT CLEAR
8. MSA FROM: RW31 2700

ADDITIONAL FLIGHT DATA:
HOLD NW, RT, 133.46 INBOUND
FAS OBST: 121 TREE 302841N / 0814039W
149 TREE 302556N / 0813809W
CHART 442 STACK 302523N / 0813627W
DISTANCE TO THLD FROM 355 HAT: 0.96 NM
CHART VDP AT 1.02 MILES TO RW31*
ROUTE TYPE: A, R
APCH ROUTE QUALIFIER 1: W
APCH ROUTE QUALIFIER 2: S
WAAS CHANNEL # 21345
REFERENCE PATH ID: W31A

MAG VAR: 3W EPOCH YEAR: 85

MINIMUMS

TAKEOFF: X STANDARD | 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	275	1	250	275	1	250	275	1	250	275	1	250			
LNAV/VNAV DA	380	1 1/4	355	380	1 1/4	355	380	1 1/4	355	380	1 1/4	355			
LNAV MDA	400	1	375	400	1	375	400	1	375	400	1 1/4	375			
CIRCLING	520	1 1/4	490	520	1 1/4	490	520	1 1/2	490	640	2	610			

NOTES:
*LNAV ONLY
BARO-VNAV NA BELOW -15°C (5°F)
GPS OR RNP-0.3 REQUIRED. DME/DME RNP-0.3 NA.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT

CITY AND STATE	ELEVATION: 30 TDZE: 25 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
JACKSONVILLE, FL	JACKSONVILLE INTL	RNAV	RNAV (GPS) RWY 31, ORIG	AMDT: NONE DATE

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Figure A5-5

ALL AFFECTED PROCEDURES REVIEWED? [X] YES [ ] NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE ROUTINE
COORDINATED WITH: ATA [X] AAT [ ] ALPA [X] APA [X] AOPA [X] NBAA [X] OTHER (specify) [X] ZJX, JAX APP CON, AMGR		
FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME: SPECIALIST	FIFO AVN-XXX	DATE:
APPROVED BY		
NAME: MANAGER	FIFO ANV-XXX	DATE:
CHANGES:		
REASONS: ORIGINAL REQUEST BY ATL FPO.		

Figure A5-6

APPENDIX 6. RADAR - STANDARD INSTRUMENT APPROACH PROCEDURE, FAA FORM 8260-4

U.S. DEPARTMENT OF TRANSPORTATION -- FEDERAL AVIATION ADMINISTRATION
RADAR -- STANDARD INSTRUMENT APPROACH PROCEDURE -- FLIGHT STANDARDS SERVICE -- TITLE 14 CFR PART 97.31

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.

Initial approach minimum altitude(s) shall correspond with those established for enroute operation in the particular area or as set forth below. Positive identification must be established with the radar controller. From initial contact with radar to final authorized landing minimums, the instructions of the radar controller are mandatory except when; (A) Visual contact is established on final approach at or before descent to the authorized landing minimums; or (B) at pilot's discretion if it appears desirable to discontinue the approach.

Except when the radar controller may direct otherwise prior to final approach, a missed approach shall be executed as provided below when; (A) communications on final approach is lost for more than 5 seconds during a precision approach, or for more than 30 seconds during a surveillance approach; (B) directed by radar controllers; (C) visual contact is not established upon descent to authorized landing minimums; or (D) if landing is not accomplished.

RADAR TERMINAL AREA MANEUVERING SECTORS AND ALTITUDES *(Sectors and distances measured from radar antenna)*

FROM	TO	DISTANCE	ALTITUDE	DISTANCE	ALTITUDE	DISTANCE	ALTITUDE	DISTANCE	ALTITUDE	DISTANCE	ALTITUDE
AS ESTABLISHED BY THE CURRENT MINNEAPOLIS ASR MINIMUM VECTORING ALTITUDE CHART											

MISSED APPROACH

MAP:
PAR RWYS 12R/30L: DA
ASR RWYS 12R/30L: THLD

RWY 12R: CLIMB TO 1500 THEN CLIMBING RIGHT TURN TO 5000 DIRECT FGT VORTAC AND HOLD. HOLD S, RT, 358 INBOUND.

RWY 30L: CLIMB TO 1600 THEN CLIMBING RIGHT TURN TO 5000 DIRECT GEP VORTAC AND HOLD. HOLD NW, LT, 117 INBOUND.

MINIMUMS

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

CATEGORY =====>	A			B			C			D			E		
	DH/ MDA	VIS	HAT/HAA	DH/MDA	V I S	HAT/HAA	DH/MDA	V I S	HAT/HAA	DH/MDA	V I S	HAT/HAA	DH/MDA	V I S	HAT/HAA
PAR S-12R	1041	2400	200	1041	2400	200	1041	2400	200	1041	2400	200	1041	2400	200
PAR S-30L	1023	4000	200	1023	4000	200	1023	4000	200	1023	4000	200	1023	4000	200
ASR S-12R	1380	2400	539	1380	2400	539	1380	5000	539	1380	6000	539	1380	1 1/2	539
ASR S-30L	1360	5000	537	1360	5000	537	1360	1 1/2	537	1360	1 3/4	537	1360	2	527
CIRCLING	1380	1	539	1380	1	539	1380	1 1/2	439	1460	2	619	1660	3	819

NOTES:
PAR RWY 12R: FAF 5.82 MILES FROM THRESHOLD. GLIDESLOPE INTERCEPT ALTITUDE 2800. FINAL APPROACH COURSE 119.
PAR RWY 30L: FAF 5.32 MILES FROM THRESHOLD. GLIDESLOPE INTERCEPT ALTITUDE 2700. FINAL APPROACH COURSE 299.
ASR RWY 12R: FAF 5.82 MILES FROM THRESHOLD. MINIMUM ALTITUDE 2800; FINAL APPROACH COURSE 119. RECOMMENDED ALTITUDE 5 MILES 2470, 4 MILES 2140, 3 MILES 1810, 2 MILES 1480.
ASR RWY 30L: FAF 5.32 MILES FROM THRESHOLD. MINIMUM ALTITUDE 2700. FINAL APPROACH COURSE 299. RECOMMENDED ALTITUDE 5 MILES2390, 4 MILES2080, 3 MILES1770, 2 MILES1460.

LOST COMMUNICATIONS (ALL RWYS): **AS DIRECTED BY ATC ON INITIAL CONTACT.**

ADDITIONAL FLIGHT DATA

TDZE: **841**	RWY: **12R**	TDZE: **823**	RWY: **30L**
TDZE:	RWY:	TDZE:	RWY:

FAS OBST:
PAR RWY 12R: 179 TREE 644409N/1565733W
PAR RWY 30L: 161 ROAD 644410N/1565436W
ASR RWY 12R: 187 ANTENNA 644418N/1565724W
ASR RWY 30L: 238 TOWER 644417N/1564823W
PAR RWY 12R: GS 3.00 / TCH 50.3 / RPI 776
PAR RWY 30L: GS 3.00 / TCH 55.4 / RPI 845

MAG VAR: **3E** EPOCH YEAR: **05**

CITY AND STATE	ELEVATION: **841** / AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP
MINNEAPOLIS, MN	**MINNEAPOLIS-ST PAUL INTL (WOLD-CHAMBERLAIN)**	**MSP ASR/PAR**	**RADAR 1, ORIG**	AMDT: **NONE**
				DATED:

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Figure A6-1

ALL AFFECTED PROCEDURES REVIEWED? [X] YES [ ] NO	COORDINATES OF FACILITIES **PAR 645043.23N/1585634.15W ASR 645144.56N/1585423.42W**	REQUIRED EFFECTIVE DATE **ROUTINE**

COORDINATED WITH:

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

FLIGHT CHECKED BY			
NAME:		FIFO	DATE:
DEVELOPED BY			
NAME: **SPECIALIST**		FIFO **AVN-XXX**	DATE:
APPROVED BY			
NAME: **MANAGER**	MANAGER	FIFO **AVN-XXX**	DATE:

CHANGES:

REASONS:
ORIGINAL

Figure A6-2

APPENDIX 7. STANDARD

INSTRUMENT APPROACH PROCEDURE,

FAA FORM 8260-5

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

NDB

STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICE - TITLE 14 CFR PART 97.27

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
GEP VORTAC	PPI NDB	125.57 / 24.58	3400
FGT VORTAC (IAF)	PPI NDB (NoPT)	070.00/3.85 (HDG) & 023.22/14.92 (PPI NDB)	2800

MISSED APPROACH

MAP: **8.20 MILES AFTER PPI NDB.**

CLIMB TO 2200 THEN CLIMBING RIGHT TURN TO 2800 DIRECT PPI NDB AND HOLD.

ADDITIONAL FLIGHT DATA:

HOLD SE, RT, 023.24 INBOUND.

FAS OBST: 1165 TREE 445721N / 925454W

HUDSN TO RW04: 3.24 / 40.

1. PT **L** SIDE OF COURSE **203.24** OUTBOUND **2800** FT WITHIN **10** MILES OF **PPI NDB** (IAF)
2.
3. FAC **023.24** FAF **PPI NDB** DIST FAF TO MAP **8.20** THLD **8.20**
4. MIN. ALT **PPI NDB 2800, HUDSN INT 1800**
8. MSA FROM: **PPI NDB 3500**

MAG VAR: **3E** EPOCH YEAR: **85**

MINIMUMS

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

CATEGORY =====>	A			B			C			D			E		
	MDA	VIS	HAT/HAA	MDA	VIS	HAT/ HAA	MDA	VIS	HAT/ HAA	MDA	VIS	HAT/ HAA	MDA	VIS	HAT/ HAA
S-04	1800	1	868	1800	1 1/4	868	1800	2 1/2	868		NA				
CIRCLING	1800	1	868	1800	1 1/4	868	1800	2 1/2	868		NA				
HUDSN FIX MINIMUMS															
S-04	1520	1	588	1520	1	588	1520	1 1/2	588		NA				
CIRCLING	1520	1	588	1540	1	608	1540	1 3/4	608		NA				

NOTES:

USE ST PAUL DOWNTOWN HOLMAN FIELD ALTIMETER SETTING.

STRAIGHT-IN MINIMUMS NA AT NIGHT.

CITY AND STATE	ELEVATION: 932 TDZE: 932 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP
				AMDT 3C
ST PAUL	**LAKE ELMO**	**PPI**	**NDB RWY 4, AMDT 4**	DATE 09/30/1999

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Figure A7-1

ALL AFFECTED PROCEDURES REVIEWED?
[X] YES [ ] NO

COORDINATES OF FACILITIES

REQUIRED EFFECTIVE DATE
ROUTINE

COORDINATED WITH:
ATA [ ] AAT [ ] ALPA [ ] APA [ ] AOPA [X] NBAA [X] OTHER [X] (specify) ZMP, MSP ATCT, AMGR

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME: SPECIALIST	FIFO AVN-XXX	DATE:
APPROVED BY		
NAME: MANAGER	FIFO AVN-XXX	DATE:

CHANGES:
1. RAISED STRAIGHT-IN AND CIRCLING MDA AND STEP DOWN FIX ALTITUDE FROM 1760 TO 1800.
2. RAISED FAF, PT AND MISSED APPROACH ALTITUDE FROM 2500 TO 2800.
3. CHANGED INITIAL SEGMENT FROM FGT VORTAC.
4. ADDED NOTE"STRAIGHT-IN MINIMUMS NA AT NIGHT".
5. CHANGED MSA FROM 3400/2800 TO 3500.
6. RAISED CIRCLING CAT B/C STEP DOWN MDA FROM 1520 TO 1540.
7. "OR GPS" REMOVED FROM PROCEDURE TITLE.

REASONS:
1, 6. RE-EVALUATED REMOTE ALTIMETER ADJUSTMENT.
2, 5. NEW OBSTACLE EVALUATION.
3. IAW CURRENT CRITERIA.
4. NO LIGHTING RWY 04/22.
7. STAND ALONE RNAV (GPS) PUBLISHED RWY 32.

THIS CANCELS FDC 1/0823.

Figure A7-2

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

VOR/DME **STANDARD INSTRUMENT APPROACH PROCEDURE**

FLIGHT STANDARDS SERVICE - TITLE 14 CFR PART 97.23

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
TMIAF / 10.00 DME CW (IAF)	**TMMIF / 10.00 DME**	**10.00 DME ARC**	**4100**
TMMIF	**TMFAF / 4.00 DME**	**291.12 / 6.00**	**2700**

MISSED APPROACH

MAP: **TMMAP / 0.38 DME**

CLIMB TO 2300 THEN CLIMBING LEFT TURN TO 4100 DIRECT ELO VOR/DME AND HOLD.

ADDITIONAL FLIGHT DATA:

HOLD E, LT, 291 INBOUND.
FAS OBST: 1619 TREE 474811N / 914832W
FAC CROSSES RWY C/L EXTENDED 3000
FROM THLD
TMFAF TO RW30: 3.10 / 52
CHART VDP AT 1.54 DME
CHART ELO R-194 AT TMIAF

1. PT **NA** SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. **PROFILE STARTS AT TMMIF**
3. FAC **291.12** FAF **TMFAF** DIST FAF TO MAP **-** THLD **3.62**
4. MIN. ALT **TMMIF 4100, TMFAF 2700**
8. MSA FROM: **ELO VOR/DME 3400**

MAG VAR: **0E** EPOCH YEAR: **00**

MINIMUMS

TAKEOFF: | | STANDARD | **X** | SEE FAA FORM 8260-15A FOR THIS AIRPORT | ALTERNATE: N A | | **STANDARD**

CATEGORY =====>	A			B			C			D			E		
	MDA	VIS	HAT/HAA	MDA	VIS	HAT/ HAA	MDA	VIS	HAT/ HAA	MDA	VIS	HAT/ HAA	MDA	VIS	HAT/ HAA
S-30	**1880**	**1**	**425**	**1880**	**1**	**425**	**1880**	**1 1/4**	**425**	**1880**	**1 1/4**	**425**			
CIRCLING	**1920**	**1**	**465**	**1920**	**1**	**465**	**1940**	**1 1/2**	**485**	**2020**	**2**	**565**			

NOTES:

CITY AND STATE	ELEVATION: **1455** TDZE: **1455** AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP
ELY, MN	**ELY MUNI**	**ELO**	**VOR/DME RWY 30, AMDT 5**	AMDT **4**
				DATE **03/27/97**

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Figure A7-3

ALL AFFECTED PROCEDURES REVIEWED?

[X] YES [ ] NO

COORDINATES OF FACILITIES

REQUIRED EFFECTIVE DATE

ROUTINE

COORDINATED WITH:

ATA [ ] AAT [ ] ALPA [X] APA [ ] AOPA [X] NBAA [X] OTHER (specify) [X] **ZMP, AMGR**

FLIGHT CHECKED BY

NAME: | FIFO | DATE:

DEVELOPED BY

NAME: **SPECIALIST** | FIFO **AVN-XXX** | DATE:

APPROVED BY

NAME: **MANAGER** MANAGER | FIFO **AVN-XXX** | DATE:

CHANGES:

1. **MOVED FAF FROM 3 DME TO 4 DME AND RAISED ALTITUDE FROM 2400 TO 2700.**
2. **DELETED PROCEDURE TURN, AND FEEDER ROUTE FROM HIB VOR/DME.**
3. **RAISED ALTITUDE ON 10 DME ARC FROM 3300 TO 4100.**
4. **CHANGED MISSED APPROACH INSTRUCTIONS.**
5. **ADDED VGSI AND VDP DATA.**
6. **CHANGED FINAL RADIAL FROM 288 TO 291.**

REASONS:

1. **TO MEET DESCENT AND AIRSPACE REQUIREMENTS IAW 8260.3B.**
2. **NOT AUTHORIZED DUE TO P-204.**
3. **TO STAY ABOVE P-204.**
4. **TO SHORTEN MISSED APPROACH AND ALIGN ALTITUDE WITH THE INITIAL.**
5. **IAW 8260.3B, CHANGE 17.**
6. **291 IS OPTIMUM FINAL COURSE.**

THIS CANCELS FDC 9/4464.

Figure A7-4

APPENDIX 8.

SPECIAL INSTRUMENT APPROACH PROCEDURE,

FAA FORM 8260-7

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION -- FLIGHT STANDARDS SERVICE
SPECIAL INSTRUMENT APPROACH PROCEDURE -- FLIGHT STANDARDS SERVICE

COPTER RNAV

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.

If an instrument approach procedure of the above type is conducted at the below named airport, it shall be conducted in accordance with a charted instrument approach procedure predicated on the specifications contained herein, unless an approach is conducted in accordance with a different procedure for such airport authorized by the Administrator. Minimum altitudes shall correspond with those established for en route operation in the particular area or as set forth below.

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
CELGU WP	CUVAV WP (TF) (FB)	330.66 / 8.50	6500
BISDE WP (IAF)	HERUR WP (TF) (FB)	222.02 / 3.00	6300
CUVAV WP (IAF)	HERUR WP (TF) (FB)	041.98 / 3.00	6300
HERUR WP	JISAK WP (TF) (FB)	312.03 / 3.20	4800
RUNGE WP (MAP)	ZAGEP WP (DF) (FO)		6300

MISSED APPROACH

MAP: RUNGE WP

CLIMBING RIGHT TURN TO 6300 DIRECT ZAGEP WP AND HOLD

1. PT NA SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT HERUR WP
3. FAC: 312.03 FAF: JISAK WPNC DIST FAF TO MAP: - THLD: ____
4. MIN. ALT: HERUR WP 6300 ; JISAK WP 4800 ; 1.2 NMTO RUNGE WP 3600
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: ____ GS ALT AT: ____ OM: ____ MM: ____ IM: ____
7. GS ANGLE: ____ TCH: ____
8. MSA FROM: RUNGE WP 7600

ADDITIONAL FLIGHT DATA:
HOLD S, RT , 001.94 INBOUND
MAP TO HELIPORT 312 / 0.76
FAS OBST : 2375 TREE, 351045 / 0832060
RUNGE WP TO HELIPORT 7.4 / 20 HOVER
FINAL SEGMENT (TF)

MAG VAR: 5W EPOCH YEAR: 00

MINIMUMS

TAKEOFF: | | STANDARD | | NOTES | ALTERNATE: N A | X |

CATEGORY =====>	COPTER			B			C			D			E		
	DH/ MDA	VIS	HAL	DH/ MDA	VIS	HAT/ HAA	DH/ MDA	VIS	HAT/ HAA	DH/ MDA	VIS	HAT/ HAA	DH/ MDA	VIS	HAT/ HAA
H - 312	2700	7 / 8	614												

NOTES:
SPECIFICATION ONLY, NOT FOR COCKPIT USE
LIMIT FINAL, MISSED APPROACH AND HOLDING AIRSPEED TO 70 KIAS
USE ANDREWS - MURPHY AIRPORT ALTIMETER SETTING
PROCEED VISUALLY FROM RUNGE WP OR CONDUCT THE SPECIFIED MISSED APPROACH

CITY AND STATE	ELEVATION: TDZE: Landing Area2086 / AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: / AMDT: NONE / DATED:
FRANKLIN , NC	ANGEL MEDICAL CENTER	RNAV	COPTER RNAV (GPS) 312, ORIG	

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NOTES CONTINUED:

AIR CARRIER NOTES:

The procedure on the other side and the foregoing data are hereby:

SUBMITTED BY		
NAME: **DANIEL E. NORMAN, MANAGING OWNER, 865-681-6137**	COMPANY **STI, LLC**	DATE: **03/05/02**
FLIGHT CHECKED BY		
NAME:	FIO	DATE:
DEVELOPED BY		
NAME:	NFPO **AVN-160**	DATE:
RECOMMENDED BY		
NAME: MANAGER	NFPO **AVN-110**	DATE:
APPROVED BY		
NAME:	AFS-400	DATE:

OPERATIONS SPECIFICATIONS -- AIRPORT

_____ holding Air Carrier Operating Certificate No. _____ hereby acknowledges receipt of Operations Specifications to operate into and out of the airport named on the other side as a ☐ Regular, ☐ Refueling, ☐ Alternate, ☐ Provisional for _____ airport with the following type aircraft:

Unless otherwise authorized in the Operations Specifications - Airport, an instrument approach of this type shall be conducted in accordance with the procedure specified on the other side and the air carrier minimums specified above with the following exceptions:

DATE: _____ RECEIVED FOR THE AIR CARRIER BY: _____ TITLE: _____
SIGNATURE

AMENDMENT NO. _____

BY DIRECTION OF THE ADMINISTRATOR _____ _____
SIGNATURE TITLE

EFFECTIVE DATE: _____

Figure A8-2

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION -- FLIGHT STANDARDS SERVICE
SPECIAL INSTRUMENT APPROACH PROCEDURE -- FLIGHT STANDARDS SERVICE

RNAV

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.

If an instrument approach procedure of the above type is conducted at the below named airport, it shall be conducted in accordance with a charted instrument approach procedure predicated on the specifications contained herein, unless an approach is conducted in accordance with a different procedure for such airport authorized by the Administrator. Minimum altitudes shall correspond with those established for en route operation in the particular area or as set forth below.

TERMINAL ROUTES				MISSED APPROACH
FROM	TO	COURSE AND DISTANCE	ALTITUDE	MAP: GLS: NA LNAV / VNAV : DA LNAV: RW36 CLIMB TO 2600 VIA 001.88 COURSE TO HIVOX WP AND HOLD
DIKLE WP (IAF)	HOBSA WP (TF) (FB)	319.29/5.22	2600	
HOBSA WP (IF)	JUBMI WP (TF) (FB)	001.88 / 5.00	2600	
RW36 (MAP)	HIVOX WP (TF) (FB)	001.88 / 4.19	2600	

1. PT NA SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT HOBSA WP
3. FAC: 001.88 FAF: JUBMI WP DIST FAF TO MAP: - THLD: 4.88
4. MIN. ALT: HOBSA WP 2600 ; JUBMI WP 2600
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2600 GS ALT AT: ____ OM: - MM: - IM: -
7. GS ANGLE: 3.0 TCH: 50.0 34:1 IS CLEAR
8. MSA FROM: RW36 2600

ADDITIONAL FLIGHT DATA:
HOLD S, RT, 001.88 INBOUND
FAS OBST: 1080 TREES 391933 / 0851612
CHART VDP AT 1.05 NM TO RW36*
DISTANCE TO THLD FROM 366 HAT : 0.99 NM
FINAL SEGMENT (TF)
CHART PLAN VIEW NOTE: RADAR REQUIRED

MAG VAR: 4W EPOCH YEAR: 00

MINIMUMS

TAKEOFF: | STANDARD | X | NOTES | ALTERNATE: N A | X |

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
GLS PA DA		NA			NA			NA			NA			NA	
LNAV / VNAV	1340	1 1/4	365	1340	1 1/4	365	1340	1 1/4	365	1340	1 1/4	365			
LNAV MDA	1360	1	385	1360	1	385	1360	1	385	1360	1 1/4	385			

NOTES: SPECIFICATION ONLY - NOT FOR COCKPIT USE
TAKEOFF MINIMUMS: RWY 18 STANDARD, RWY 36 300-1 (1099 TREES 392111/851536)
BARO VNAV NA BELOW -15C (5F)
GPS OR RNP 0.3 REQUIRED , DME / DME RNP 0.3 NA
* LNAV ONLY

CITY AND STATE	ELEVATION: 975 TDZE: 975 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
BATESVILLE, IN	HILLENBRAND AIRPORT	RNAV	RNAV (GPS) RWY 36, ORIG	AMDT: NONE DATED:

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Figure A8-3

NOTES CONTINUED:

AIR CARRIER NOTES:

The procedure on the other side and the foregoing data are hereby:

SUBMITTED BY		
NAME: DANIEL E. NORMAN, MANAGING OWNER, 865-681-6137	COMPANY: STI, LLC	DATE: 02/27/02
FLIGHT CHECKED BY		
NAME:	FIO	DATE:
DEVELOPED BY		
NAME: RICHARD K. CLARK	NFPO: AVN-160	DATE:
RECOMMENDED BY		
NAME: DAVID R. COOK MANAGER	NFPO: AVN-130	DATE:
APPROVED BY		
NAME:	AFS-400	DATE:

OPERATIONS SPECIFICATIONS -- AIRPORT

_____ holding Air Carrier Operating Certificate No. _____ hereby acknowledges receipt of Operations Specifications to operate into and out of the airport named on the other side as a ☐ Regular, ☐ Refueling, ☐ Alternate, ☐ Provisional for _____ airport with the following type aircraft:

Unless otherwise authorized in the Operations Specifications - Airport, an instrument approach of this type shall be conducted in accordance with the procedure specified on the other side and the air carrier minimums specified above with the following exceptions:

DATE: _____ RECEIVED FOR THE AIR CARRIER BY: _____ TITLE: _____
SIGNATURE

AMENDMENT NO. _____

BY DIRECTION OF THE ADMINISTRATOR _____ _____
SIGNATURE TITLE

EFFECTIVE DATE: _____

Figure A8-4

APPENDIX 9.

STANDARD INSTRUMENT APPROACH

PROCEDURE DATA RECORD,

FAA FORM 8260-9

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
INITIAL	ZANTI	HABRA	1. TOWER (10-0366)	284250.00N / 0812034.00W	577 (3C)	1000	AT	4000
			2. TERRAIN	284015.00N / 0812054.00W	115 (100)		AS1500	1600
INTERMEDIATE	HABRA (IF/IAF)	GIPNE / 2.52 NM	3. TOWER (10-1952)	283635.00N / 0811927.00W	402 (5D)	500	AT	3000
		TO COBOP	4. TERRAIN	283906.00N / 0812121.00W	119 (100)		AS1500	1600
STEPDOWN	GIPNE	COBOP	5. TOWER (10-1931)	283539.00N / 0811805.00W	412 (5D)	500	AT	2200
			6. TERRAIN	283354.00N / 0812015.00W	138 (100)		AS1500	1600
FINAL: LNAV/VNAV	COBOP	RW18L	7. 100' TREE	283108.00N / 0812045.00W	226 (2C)	34:1		480 / 384
FINAL: LNAV	COBOP	RW18L	8. TOWER (10-6162)	283007.00N / 0811950.00W	230 (4D)	250	XL18, AC50	560
FINAL: LPV	GS INTCP	THLD				34:1		346 / 250
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA/DA/RW18L	FLOZY				ASC		2000
			9. TOWER (10-1956)	283108.00N / 0811945.00W	560 (4D)	1000		1600
ELEV:	138 / 230 / 293		10. TERRAIN	283134.00N / 0811956.00W	123 (100)		AS1500	1600

4. CIRCLING	DISTANCE		HT. ABV. ARPT.							
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	644	11. 320' NEW ATCT	282538.00N / 0811828.00W	434 (2C)	300		740
CATEGORY B	1.5 NM		450		644	11.		434 (2C)	300		740
CATEGORY C	1.7 NM		450		644	11.		434 (2C)	300		740
CATEGORY D	2.3 NM		550		644	11.		434 (2C)	300		740
CATEGORY E	4.5 NM		550								

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW18L

SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A
360-360	TOWER	128 / 18.8	1949 (2C)	3000					

CITY AND STATE	AIRPORT & ELEVATION 96	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
ORLANDO, FL	ORLANDO INTL	RNAV	RNAV (GPS) RWY 18L, ORIG	ASO

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Figure A9-1

NOTES / EXPLANATIONS FROM OPPOSITE SIDE OF FORM:

SEE AIRSPACE LETTER ATTACHED.

VERTICAL DATUM: NAVD88

GEOID HEIGHT: -91.5

LNAV/VNAV: INNER SURFACE: 23.4:1
OUTER SURFACE: 34:1

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
MCO ATCT **MCO APP CON**	[ ] NWS OTHER: [ ] FAA **ASOS** [ ] A/C **LLWAS**	SOURCE: **KMCO**
		DISTANCE:
SATISFACTORY ON: [X] VHF [X] UHF [ ] HF	LOCATION: **ON AIRPORT**	HOURS REMOTE OPERATION:
	HRS OPTN: **24**	ADJUSTMENT:

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

5. AIRSPACE				
	FLOOR OF CONTROLLED AIRSPACE UNDER FAC			CONTROL AREA
	[X] CONTROL ZONE: **24**		HOURS OPTN	TRANSITION AREA

6. APPROACH & RUNWAY LIGHTING				
[X]	ALS**F-2 17, 35, 36R**	[X]	REIL **36L**	
[ ]	(S) SALS	[X]	TDZ **17, 18R, 36R**	
[X]	MALS**R 18R**	[X]	C/LINE **17-35, 18L-36R, 18R-36L**	
[X]	HIRL **17-35, 18L-36R, 18R-36L**	[X]	OTHER (Specify) **VASI 18L, 36L**	
[ ]	MIRL			

7. RUNWAY MARKINGS	8. RUNWAY VISUAL RANGE
ALL WEATHER	APPROACH **17-35, 18L-36R, 18R-36L**
INSTRUMENT	ROLL OUT **17-35, 18L-36R, 18R-36L**

9. GLIDE SLOPE		
G S ANGLE: **3.00**	ELEV RWY THRESHOLD: **92.5**	
DISTANCE FROM RWY:	ELEV GS ANTENNA:	
	THRESHOLD CROSSING HEIGHT: **52.0**	

10. FINAL APPROACH COURSE AIMING			
[X]	RUNWAY THRESHOLD		F T. FROM THRESHOLD
[X]	ON CENTERLINE		F T. FROM CENTERLINE

11. WAIVERS OF STANDARDS	NUMBER OF WAIVERS ON FILE	DATES OF APPROVAL
	NONE	

PART C - REMARKS:
TAA NOT USED, ATC REQUEST.

ALTITUDES AT ALL FIXES ARE ATC REQUIREMENTS.

ASOS IS ON SERVICE-A

VGSI DATA: 3.00/53

PART D - PREPARED BY:	DATE:
SPECIALIST	**08/26/2002**
TITLE:	OFFICE:
AERONAUTICAL INFORMATION SPECIALIST	**AVN-XXX**

Figure A9-2

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
INITIAL	CRG VORTAC	POTME	1. TOWER (10-2221)	301932.00N / 0813300.00W	264 (1A)	1000	AT	3000
			2. TERRAIN	302315.00N / 0812921.00W	92 (100)		AS1500	1600
INTERMEDIATE	POTME (IF/IAF)	FIVOX	3. STACK (10-2017)	302552.00N / 0813302.00W	660 (5D)	500	DG540	1700
			4. TERRAIN	302312.00N/ 0812933.00W	92 (100)		AS1500	1600
FINAL: LNAV/VNAV	FIVOX	RW31	5. 100' TREE	302645.00N / 0813910.00W	130 (2C)	PDA		380 / 355
FINAL: LNAV	FIVOX	RW31	6. 100' TREE	302556.00N / 0813809.00W	149 (2C)	250		400
FINAL: LPV	GS INTCP	THLD				34:1		275 / 250
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA/DA/RW31	OSBAJ				ASC		2000
			7. TOWER (10-1987)	302543.00N / 0813945.00W	252 (4D)	1000		1300
ELEV:	130 / 150 / 127		8. TERRAIN	302532.00N / 0814002.00W	98 (100)		AS1500	1600

4. CIRCLING	DISTANCE	HT. ABV. ARPT. REQUIRED		HT. ABV. ARPT. ACTUAL						
CATEGORY A	1.3 NM		350		490	9. TANK (10-3074)	302936.00N / 0814036.00W	202 (1B)	300	520
CATEGORY B	1.5 NM		450		490	9.		202 (1B)	300	520
CATEGORY C	1.7 NM		450		490	9.		202 (1B)	300	520
CATEGORY D	2.3 NM		550		610	10. TOWER (10-3375)	302925.00N / 0813805.00W	280 (5D)	300	AC50	640
CATEGORY E	4.5 NM		550							

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW31

SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A
360-360	TOWER	355 / 20.7	1641 (5D)	2700					

CITY AND STATE	AIRPORT & ELEVATION 30	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
JACKSONVILLE, FL	JACKSONVILLE INTL	RNAV	RNAV (GPS) RWY 31, ORIG	ASO

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Figure A9-3

NOTES / EXPLANATIONS FROM OPPOSITE SIDE OF FORM:

SEE AIRSPACE LETTER ATTACHED.

LNAV/VNAV INNER SURFACE: 23.4:1
OUTER SURFACE: 34:1

GEOID HEIGHT: -93.2

VERTICAL DATUM: NAVD88

PARA 251, 34:1 PENETRATIONS:
KJAXA005 115 TREE 302825.85/0811423.37
KJAXA004 116 TREE 302825.27/0814023.32

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
JAX APP CON	[ ] NWS [ ] FAA [ ] A/C OTHER: **ASOS LLWAS**	SOURCE: **KJAX**
		DISTANCE:
SATISFACTORY ON: [X] VHF [X] UHF [ ] HF	LOCATION: **ON AIRPORT**	HOURS REMOTE OPERATION:
	HRS OPTN: **24**	ADJUSTMENT:

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

5. AIRSPACE				
		FLOOR OF CONTROLLED AIRSPACE UNDER FAC		CONTROL AREA
	X	CONTROL ZONE: **24**	HOURS OPTN	TRANSITION AREA

6. APPROACH & RUNWAY LIGHTING				
	X	ALS**F-2 7**	X	REIL **31**
		(S) SALS	X	TDZ **7-25, 13**
	X	MALS**R 13, 25**		C/LINE
	X	HIRL **7-25, 13-31**	X	OTHER (Specify) **VASI 31, PAPI 7**
		MIRL		

7. RUNWAY MARKINGS	8. RUNWAY VISUAL RANGE
ALL WEATHER **PIR-G 7-25, 13-31**	APPROACH
INSTRUMENT	ROLL OUT

9. GLIDE SLOPE		
	G S ANGLE: **3.00**	ELEV RWY THRESHOLD: **42.2**
	DISTANCE FROM RWY:	ELEV GS ANTENNA:
		THRESHOLD CROSSING HEIGHT: **50.0**

10. FINAL APPROACH COURSE AIMING			
	X	RUNWAY THRESHOLD	F T. FROM THRESHOLD
	X	ON CENTERLINE	F T. FROM CENTERLINE

11. WAIVERS OF STANDARDS	NUMBER OF WAIVERS ON FILE	DATES OF APPROVAL
	NONE	

PART C - REMARKS:
TERPS PARA 289 APPLIED TO 442 STACK 302523 / 0813627

ASOS IS ON SERVICE-A

TAA NOT USED PER ATC REQUEST.

VGSI DATA: 3.00/51

PART D - PREPARED BY:	DATE:
SPECIALIST	**08/26/2002**
TITLE: **AERONAUTICAL INFORMATION SPECIALIST**	OFFICE: **AVN-XXX**

Figure A9-4

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	APE VORTAC	COBBS LOM /	1. TOWER (36-0448)	400921.00N / 823651.00W	1580 (1C)	1000	AT	3000
		I-DDV 7.24 DME	2. TERRAIN	400933.00N / 823642.00W	1349(1300)		AS1500	2800
INTERMEDIATE	10NM	COBBS	3. TOWER (36-2643)	393520.00N / 830644.00W	1917 (5D)	500	AT	2500
			4. TERRAIN	394045.00N / 831251.00W	883 (900)		AS1500	2400
FINAL: ILS	GS INTCP	THLD				ASC		936 / 200
FINAL: LOC	COBBS	RW05R	5. 100' TREE	394630.00N / 825826.00W	819 (2C)	250		1080
FINAL: SIDESTEP	COBBS	RW05L	5.		819 (2C)	250		1080
FINAL: ILS (CAT II)	GS INTCP	THLD				ASC		839 / 105
	COBBS	10NM	3.		1917 (5D)	1000	AT	3000
2. PROCEDURE TURN			6. TERRAIN	394106.00N / 831245.00W	886 (900)		AS1500	2400
3. MISSED APPROACH MAP:	DA / RW05R	XUB VOR				ASC		3000
			7. TOWER (36-2432)	395224.00N / 824312.00W	1687 (4D)	1000		2700
ELEV:	811 / 830		8. TERRAIN	394523.00N / 824113.00W	987 (1000)		AS1500	2500

4. CIRCLING	DISTANCE		HT. ABV. ARPT.								
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	456	9. 100' TREE	394738.00N / 825438.00W	879 (2C)	300		1180
CATEGORY B	1.5 NM		450		456	9.		879 (2C)	300		1180
CATEGORY C	1.7 NM		450		456	9.		879 (2C)	300		1180
CATEGORY D	2.3 NM		550		556	9.		879 (2C)	300	HAA	1300
CATEGORY E	4.5 NM		550								

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: **DD LOM**

SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A
360-360	TOWER	015 / 25.4	2046 (5D)	3100					

CITY AND STATE	AIRPORT & ELEVATION 744	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
COLUMBUS, OH	RICKENBACKER INTL	I-DDV	ILS OR LOC RWY 5R, AMDT 2 ILS RWY 5R (CAT II), AMDT 2	AGL

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Figure A9-5

NOTES / EXPLANATIONS FROM OPPOSITE SIDE OF FORM:

NO AIRSPACE ACTION REQUIRED.

CAT II: 739' GROUND ELEVATION (KLCK0003) PENETRATES TOUCHDOWN AREA BY 3'. INCREASED 100 HAT 3' IAW TIL00-005A, DATED OCT 18, 2000, PARA 4.1.1b.

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH :	2. WEATHER SERVICE	3. ALTIMETER SETTING
CMH APP CON **LCK ATCT**	[ ] N W S OTHER: [ ] F A A **AWOS-3** [ ] A / C	SOURCE: **KLCK**
		DISTANCE:
SATISFACTORY ON: [X] V H F [X] U H F [ ] H F	LOCATION: **ON AIRPORT**	HOURS REMOTE OPERATION:
	HRS OPTN: **24**	ADJUSTMENT:

4. MONITOR STATUS	PRIMARY	SECONDARY
	NAVAID: **I-DDV LOCALIZER**	NAVAID: **DD LOM**
	MONITOR POINT: **LCK ATCT**	MONITOR POINT: **LCK ATCT**
HRS OPTN: CAT 1	**24**	**24**
HRS OPTN: CAT 3		

5. AIRSPACE				
FLOOR OF CONTROLLED AIRSPACE UNDER FAC			[ ]	CONTROL AREA
[ ]	CONTROL ZONE:	HOURS OPTN	[X]	TRANSITION AREA

6. APPROACH & RUNWAY LIGHTING				
[X]	ALS**F-2 05R**	[X]	REIL **05L/23R**	
[ ]	(S) SALS	[X]	TDZ **05R**	
[X]	MALS**R 23L**	[X]	C/LINE **05R/23L**	
[X]	HIRL **05R/05L 23L/23R**	[X]	OTHER (Specify) **VASI 05R/23L**	
[ ]	MIRL			

7. RUNWAY MARKINGS	8. RUNWAY VISUAL RANGE
ALL WEATHER **PIR-G 05R/05L 23L/23R**	APPROACH
INSTRUMENT	ROLL OUT

9. GLIDE SLOPE		
G S ANGLE: **3.00**	ELEV RWY THRESHOLD: **734.7**
DISTANCE FROM RWY: **1015**	ELEV GS ANTENNA: **739.4**
	THRESHOLD CROSSING HEIGHT: **53.8**

10. FINAL APPROACH COURSE AIMING			
[X]	RUNWAY THRESHOLD		F T. FROM THRESHOLD
[X]	ON CENTERLINE		F T. FROM CENTERLINE

11. WAIVERS OF STANDARDS	NUMBER OF WAIVERS ON FILE	DATES OF APPROVAL
	NONE	

PART C - REMARKS:

AWOS-3 IS ON SERVICE-A.

PART D - PREPARED BY:	DATE:
SPECIALIST	**08/26/2002**
TITLE:	OFFICE:
AERONAUTICAL INFORMATION SPECIALIST	**AVN-XXX**

Figure A9-6

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	GEP VORTAC	PPI NDB	1. TOWERS (24-0499)	450345.10N / 930822.20W	2438 (4D)	1000		3500
			2. TERRAIN	445457.00N / 925645.00W	1139(1100)		AS1500	2600
INITIAL	FGT VORTAC	PPI NDB	3. TOWER (24-1201)	444121.00N / 930423.00W	1753 (5D)	1000		2800
			4. TERRAIN	443533.00N / 925857.00	1080(1100)		AS1500	2600
INTERMEDIATE	10NM	PPI NDB	5. STACKS (24-1245)	444517.00N / 930236.00W	1295 (5D)	500	AT	2800
			6. TERRAIN	445157.00N / 925618.00W	1047(1000)		AS1500	2500
FINAL	PPI NDB	RW04	7. 200' TOWER	445640.00N / 925552.00W	1320 (2C)	300	RA54# XL110	1800
FINAL: STEPDOWN	HUDSN INT	RW04	8. 100' TREE	445721.00N / 925454.00W	1165 (2C)	300	RA54	1520
	PPI NDB	10NM	3.		1753 (5D)	1000		2800
2. PROCEDURE TURN			2.		1139(1100)		AS1500	2600
3. MISSED APPROACH MAP:	RW04	PPI NDB				ASC		2800
			9. ANT (24-5502)	445243.00N / 925423.00W	1565 (4D)	1000		2600
ELEV:	1166		10. TERRAIN	445132.00N / 925545.00W	1056(1100)		AS1500	2600

4. CIRCLING	DISTANCE		HT. ABV. ARPT.							
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	868 / 588	11. 100' TREE	445827.00N / 925033.00W	1139 (2C)	300	SI / SI	1800 / 1520
CATEGORY B	1.5 NM		450		868 / 608	12. 150' POWER LINE	450015.00N / 924900.00W	1179 (2C)	300	SI / RA54	1800 / 1540
CATEGORY C	1.7 NM		450		868 / 608	12.		1179 (2C)	300	SI / RA54	1800 / 1540
CATEGORY D	2.3 NM		550		NA						
CATEGORY E	4.5 NM		550								

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: **PPI NDB**

SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A
360-360	TOWERS	321 / 14.1	2438 (4D)	3500					

CITY AND STATE	AIRPORT & ELEVATION 932	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
ST PAUL, MN	LAKE ELMO	PPI NDB	NDB RWY 4, AMDT 4	AGL

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Figure A9-7

NOTES / EXPLANATIONS FROM OPPOSITE SIDE OF FORM:

NO ADDITIONAL AIRSPACE REQUIRED.

EDA (PRESSURE PATTERNS SAME)
K21D 932 MSL
KSTP 705 MSL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:
MSP APP CON
PNM FSS

SATISFACTORY ON:
[X] VHF [X] UHF [ ] HF

2. WEATHER SERVICE
[ ] NWS [ ] OTHER:
[ ] FAA **ASOS**
[ ] A/C
LOCATION: **KSTP**
HRS OPTN: **24**

3. ALTIMETER SETTING
SOURCE: **KSTP**
DISTANCE: **9.49**
HOURS REMOTE OPERATION: **24**
ADJUSTMENT: **53.61**

4. MONITOR STATUS
PRIMARY
NAVAID: **PPI NDB**
MONITOR POINT: **INTERNAL**
HRS OPTN: CAT 1 / CAT 3 **24**
SECONDARY
NAVAID:
MONITOR POINT:
HRS OPTN: CAT 1 / CAT 3

5. AIRSPACE
FLOOR OF CONTROLLED AIRSPACE UNDER FAC
CONTROL ZONE:
CONTROL AREA
HOURS OPTN [X] TRANSITION AREA

6. APPROACH & RUNWAY LIGHTING
[ ] ALS
[X] (S) SALS
[ ] MALS
[ ] HIRL
[X] MIRL **14/32**
[X] REIL **14/32 (PCL)**
[ ] TDZ
[ ] C/LINE
[X] OTHER (Specify) **PAPI 32 (PCL)**

7. RUNWAY MARKINGS **BSC-G 04/22 14/32**

8. RUNWAY VISUAL RANGE

ALL WEATHER
APPROACH

INSTRUMENT
ROLL OUT

9. GLIDE SLOPE
G S ANGLE:
DISTANCE FROM RWY:
ELEV RWY THRESHOLD:
ELEV GS ANTENNA:
THRESHOLD CROSSING HEIGHT:

10. FINAL APPROACH COURSE AIMING
[X] RUNWAY THRESHOLD F T. FROM THRESHOLD
[X] ON CENTERLINE F T. FROM CENTERLINE

11. WAIVERS OF STANDARDS
NUMBER OF WAIVERS ON FILE
NONE
DATES OF APPROVAL

PART C - REMARKS:
ASOS IS ON SERVICE-A.
VDP NOT ESTABLISHED. NO DME SOURCE/REMOTE ALTIMETER IN USE.
NO LIGHTING RWY 04/22.

PART D - PREPARED BY:
SPECIALIST
DATE: **08/26/2002**

TITLE:
AERONAUTICAL INFORMATION SPECIALIST
OFFICE: **AVN-XXX**

Figure A9-8

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
INITIAL	TMIAF / 10.00 DME	TMMIF / 10.00 DME	1. 200' AAO	474142.00N / 915257.00W	2034 (4D)	1000	AT	4100
	CCW		2. TERRAIN	474142.00N / 915257.00W	1834(1800)		AS1500	3300
INTERMEDIATE	TMMIF	TMFAF / 4.00 DME	3. 200' AAO	474657.00N / 913648.00W	1949 (4D)	500		2400
			4. TERRAIN	474657.00N / 913648.00W	1749(1700)		AS1000	2700
FINAL	TMFAF	RW30	5. TREE (BTL-1061)	474811.00N / 914832.00W	1619 (2C)	250		1880
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	RW30	ELO VOR/DME				ASC		4100
			6. TOWER (24-6623)	474856.00N / 913542.00W	1651 (4D)	1000		2700
ELEV:	1650		7. TERRAIN	474952.00N / 913443.00W	1723(1700)		AS1500	3200

4. CIRCLING	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL					
CATEGORY A	1.3 NM	350	465	5.		1619 (2C)	300		1920
CATEGORY B	1.5 NM	450	465	5.		1619 (2C)	300		1920
CATEGORY C	1.7 NM	450	485	8. TREES (BTL-1062)	474741.00N / 914936.00W	1629 (2C)	300		1940
CATEGORY D	2.3 NM	550	565	9. TREES (BTL-1100)	474703.00N / 914832.00W	1639 (2C)	300	HAA	2020
CATEGORY E	4.5 NM	550							

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: ELO VOR/DME

SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG / DIST	ELEVATION (MSL)	M S A
360-360	TOWER	129 / 25.4	2316 (5E)	3400					

CITY AND STATE	AIRPORT & ELEVATION 1455	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
ELY, MN	ELY MUNI	ELO VOR/DME	VOR/DME RWY 30, AMDT 5	AGL

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Figure A9-9

NOTES / EXPLANATIONS FROM OPPOSITE SIDE OF FORM:

NO AIRSPACE ACTION REQUIRED.

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH :	2. WEATHER SERVICE	3. ALTIMETER SETTING
ZMP **PNM FSS**	[ ] NWS [ ] FAA [ ] A/C OTHER: **AWOS-3**	SOURCE: **KELO**
		DISTANCE:
SATISFACTORY ON: [X] VHF [X] UHF [ ] HF	LOCATION: **ON AIRPORT**	HOURS REMOTE OPERATION:
	HRS OPTN: **24**	ADJUSTMENT:

4. MONITOR STATUS	PRIMARY	SECONDARY
	NAVAID: **ELO VOR/DME**	NAVAID:
	MONITOR POINT: **PNM FSS**	MONITOR POINT:
	HRS OPTN: CAT 1 **24** / CAT 3	HRS OPTN: CAT 1 / CAT 3

5. AIRSPACE				
FLOOR OF CONTROLLED AIRSPACE UNDER FAC				CONTROL AREA
	CONTROL ZONE:	HOURS OPTN	X	TRANSITION AREA

6. APPROACH & RUNWAY LIGHTING				
	ALS	X	REIL **12/30 (PCL)**	
	(S) SALS		TDZ	
	MALS		C/LINE	
	HIRL	X	OTHER (Specify) **PAPI 12/30 (PCL)**	
X	MIRL **12/30 (PCL)**			

7. RUNWAY MARKINGS	8. RUNWAY VISUAL RANGE
ALL WEATHER	APPROACH
INSTRUMENT **NPI-F 12/30**	ROLL OUT

9. GLIDE SLOPE		
G S ANGLE:		ELEV RWY THRESHOLD:
DISTANCE FROM RWY:		ELEV GS ANTENNA:
		THRESHOLD CROSSING HEIGHT:

10. FINAL APPROACH COURSE AIMING			
	RUNWAY THRESHOLD	**3000**	FT. FROM THRESHOLD
X	ON CENTERLINE		FT. FROM CENTERLINE

11. WAIVERS OF STANDARDS	NUMBER OF WAIVERS ON FILE	DATES OF APPROVAL
	NONE	

PART C - REMARKS:

AWOS-3 IS ON SERVICE-A.

PART D - PREPARED BY:	DATE:
SPECIALIST	**08/02/2002**
TITLE:	OFFICE:
AERONAUTICAL INFORMATION SPECIALIST	**AVN-XXX**

Figure A9-10

APPENDIX 10.

STANDARD INSTRUMENT APPROACH PROCEDURE

CONTINUATION SHEET,

FAA Form 8260-10

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

Special

STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICE - 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.

Classification: Training and Operational Information Requirements

Instrument Procedure Requirements: This procedure applies GPS nonprecision criteria to operations at a high elevation airport with precipitous terrain.

Operator Requirements: The operator must provide each pilot (and dispatcher, if appropriate) assigned to conduct operations using this approach procedure with ground and flight training and operational information to safely conduct this nonprecision approach procedure to the Aspen-Pitkin County/Sardy Field, Aspen, Colorado (KASE). This training and operational information shall include, but is not limited to: procedure flight profile, airfield lighting and marking, close-in obstacles and nearby terrain, transition from IMC to VMC, use of visual cues in reduced visibility, determining and applying aircraft approach, landing and missed approach climb performance (including the effects of wind, density altitude, aircraft configuration, and gross weight), aircraft control and performance during steep approaches in reduced visibility, crewmember duties and aeronautical decision-making.

Inspector Guidance: The cognizant Principle Operations Inspector (POI) shall evaluate the operator's proposed training program, and, if applicable, General Operations Manual, checklists, or other operational documents, to determine their suitability for supporting safe IFR operations using this Instrument Approach Procedure (see Operator Requirements, above).

CITY AND STATE	ELEVATION: 7820 TDZE: 7737 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
				AMDT: None
Aspen, CO	Aspen-Pitkin County/Sardy Field	RNAV (GPS)	RNAV (GPS) Z Rwy 15, Original	DATED:

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Page 1 of 1 Pages

Figure A10-1

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
COORDINATED WITH: ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐		
FLIGHT CHECKED BY		
NAME:	FIO	DATE:
DEVELOPED BY		
NAME:	FIO **AFS-410**	DATE: **07/15/2002**
APPROVED BY		
NAME:	FIO	DATE:
CHANGES:		
REASONS:		

Figure A10-2

APPENDIX 11.

FINAL APPROACH SEGMENT DATA BLOCK

DATA REQUIREMENTS

APPENDIX 11. FINAL APPROACH SEGMENT (FAS) DATA BLOCK CYCLIC REDUNDANCY CHECK (CRC) REQUIREMENTS

Content of the FAS Data Block. Each FAS data block contains 20 elements (fields) that include the CRC remainder. The specific order and coding of the fields must be followed rigorously to ensure avionics compatibility. Until the process for electronic transmittal of this data is developed by AVN, the following FAS Data Block information must be documented on FAA Form 8260-10, Continuation Sheet, especially prepared for that purpose (see figures A11-1 and 2). This form will comprise the protected data pending development of an internal CRC process, and will be forwarded to the charting agencies for further processing and CRC protection.

1. Fields needed for the Final Approach Segment (FAS) Data Block record for approaches using WAAS (LPV minima) and are included in the CRC wrap:

Data Field	*Field Size*	*Data Type*
Operation Type	2 characters	Unsigned Integer
SBAS Service Provider Identifier	2 characters	Unsigned Integer
Airport Identifier	4 characters	Alphanumeric
Runway	5 characters	Alphanumeric
Approach Performance Designator	1 character	Unsigned Integer
Route Indicator	1 character	Alpha
Reference Path Data Selector	2 characters	Unsigned Integer
Reference Path Identifier (Approach ID)	4 characters	Alphanumeric
LTP/FTP Latitude	11 characters	Alphanumeric
LTP/FTP Longitude	12 characters	Alphanumeric
LTP/FTP Ellipsoidal Height	6 characters	Signed Integer
FPAP Latitude	11 characters	Alphanumeric
FPAP Longitude	12 characters	Alphanumeric
Threshold Crossing Height (TCH)	7 characters	Alphanumeric
TCH Units Selector (meters or feet used)	1 character	Feet or Meters
Glidepath Angle (GPA)	4 characters	Unsigned Integer
Course Width at Threshold	5 characters	Unsigned Integer
Length Offset	4 characters	Unsigned Integer
Horizontal Alert Limit (HAL)	3 characters	Numeric
Vertical Alert Limit (VAL)	3 characters	Numeric

2. Fields needed for integrity monitoring, and calculated using binary representation of FAS Data Block (as described in RTCA/DO-229C, Minimum Operational Performance Standards for Global Positioning System/Wide Area Augmentation System Airborne Equipment and as amended by TSO-C146A).

Data Field	*Field Size*	*Data Type*
Precision Approach Path Point Data CRC Remainder	8 characters	Hexadecimal

3. Fields not included in the FAS Data Block, but needed for the Precision Approach Path Point record, and which are not CRC wrapped.

Data Field	*Field Size*	*Data Type*
ICAO Code	2 characters	Alphanumeric
LTP Orthometric Height	6 characters	Signed Integer
FPAP Orthometric Height	6 characters	Signed Integer

4. Explanation of data field entries (in the general order they appear in the FAS Data Block):

a. Operation Type. A number from 0 to 15 that indicates the type of the final approach segment.

Example: 0 is coded for a straight-in approach procedure. (Codes for other procedures are reserved for future definition.)

b. SBAS Service Provider Identifier. A number from 0 to 15 that associates the approach procedure to a particular satellite based approach system service provider. For GBAS applications, this data is ignored.

Example: 0 (WAAS)

c. Airport Identifier. The four-character ICAO location identifier assigned to an airport. Where there is a national airport identifier but no ICAO location identifier, the three- or four-character national identifier is used. Where only three characters are provided, the trailing space is to be left blank.

Example: KDEN, YSSY, NZWN, FAEL, 3SL_, OH23

d. Runway. Runways are identified by two characters "RW" followed by the runway number. The fifth character is used where needed to indicate a left (L), right (R), or center (C). Helicopters are indicated by HEL0 without a number (the runway number is 0 as used to calculate the CRC).

Examples: RW26R, RW08L, RW18C, RW02, HEL0

e. Approach Performance Designator. A number from 0 to 7 that identifies the type of approach. An "0" is used to identify an LPV approach procedure and a "1" indicates a Category I approach procedure. Other values are reserved for future use.

Example: 0

f. Route Indicator. A single alpha character (A through Z or blank, omitting I and O) used to differentiate between multiple final approach segments to the same runway or heliport. The first approach to a runway is labeled "Z." Additional alpha characters are incrementally assigned.

Example: Z, Y, X, etc.

g. Reference Path Data Selector (RPDS). A number (0-48) that enables automatic tuning of a procedure by LAAS avionics. The number is related to the frequency of the VHF data broadcast and a

5-digit tuning identifier. The future ICAO SBAS SARPS will provide further information. Always "0" for WAAS operations.

Example: 0

h. Reference Path Identifier. A four-character identifier that is used to confirm selection of the correct approach procedure. This identifier is defined with a "W" signifying WAAS, followed by the runway number. The last character, beginning with the letter "A", excluding the letters "C", "L", and "R", will be used to define the first procedure, followed by a succeeding letter for each procedure to a particular runway. For example, an airport has three parallel runways and the left and right runways have both a straight-in procedure and an offset procedure; the center runway has a straight-in procedure only. The following (extreme) examples would be applicable:

Example: W09A & W09B would define the 2 unique FAS data blocks to RWY 09L.
W09D would be used to define the FAS data block for RWY 09C.
W09E & W09F would be used to define the FAS data blocks for RWY 09R.

NOTE: These suffixes do not have to be in any particular order so as to allow procedures to be added at a later time without changing existing FAS data blocks.

i. Landing Threshold Point (LTP)/Fictitious Threshold Point (FTP) - Latitude. Represents the latitude of the threshold defined in WGS-84 coordinates and entered to the ten-thousandth of an arc second. The most significant bit is the sign bit: 0 = Positive (Northern Hemisphere); 1 = Negative (Southern Hemisphere). However, for documentation purposes, identify the Latitude as follows:

Example: 225436.2125N (11 characters) for 22°54'36.2125" N

j. Landing Threshold Point (LTP)/Fictitious Threshold Point (FTP) - Longitude. Represents the longitude of the threshold defined in WGS-84 coordinates and entered to the ten-thousandth of an arc second. The most significant bit is the sign bit: 0 = Positive (Eastern Hemisphere); 1 = Negative (Western Hemisphere). However, for documentation purposes, identify the Latitude as follows:

Example: 1093247.8780E (12 characters) for 109°32'47.8780" E

k. LTP/FTP Height Above Ellipsoid (HAE). The height expressed in meters reference the WGS-84 ellipsoid, obtained from an official government source. This information is identified in the ASIS database as "Ellipsoid Elevation" and is in "feet" and must be converted to "meters." The first character is a + or – and the resolution value is in tenths of a meter with the decimal point suppressed.

Example: +00356 (+35.6m), -00051(-5.1m), +01566 (+156.6m), -00022 (-2.2m)

l. Flight Path Alignment Point (FPAP) - Latitude. A point located on a geodesic line or an extension of a geodesic line calculated between the LTP and the designated center of the opposite runway-landing threshold. It is positioned at a distance from the LTP to support a prescribed procedure design angular splay and course width, as well as functionality associated with an aircraft. It is used in conjunction with the LTP to determine the lateral alignment of the vertical plane containing the path of the RNAV final approach segment. On shorter runways, the FPAP may be located off the departure end of the landing runway. The latitude of the runway FPAP is defined in WGS-84 coordinates and entered to the ten-thousandth of an arc second. The most significant bit is

the sign bit: 0 = Positive (Northern Hemisphere); 1 = Negative (Southern Hemisphere). However, for documentation purposes, identify the Latitude as follows:

Example: 225436.2125N (11 characters) for 22°54'36.2125" N

m. FPAP - Longitude. The longitude of the runway FPAP is defined in WGS-84 coordinates and entered to the ten-thousandth of an arc second. The most significant bit is the sign bit 0 = Positive (Eastern Hemisphere); 1 = Negative (Western Hemisphere). However, for documentation purposes, identify the Latitude as follows:

Example: 1093247.8780E (12 characters) for 109°32'47.8780" E

n. Threshold Crossing Height (TCH). The designated crossing height of the flight path angle above the LTP (or FTP). The allowable range of values is defined in TERPS table 18A.

Example: 00055.0 (55.0 feet); 00042.0 (42.0 feet)

o. TCH Units Selector. This character defines the units used to describe the TCH.

Example: F = feet M = meters

p. Glidepath Angle. The angle of the approach path (glidepath) with respect to the horizontal plane defined according to WGS-84 at the LTP/FTP. It is specified in degrees.

Example: 02.75 (2.75°), 06.20 (6.20°), 03.00 (3.00°)

q. Course Width at Threshold. The semi-width (in meters) of the lateral course at the LTP/FTP, defining the lateral offset at which the receiver will achieve full-scale deflection. In combination with the distance to the FPAP, the course width defines the sensitivity of the lateral deviations throughout the approach. The allowable range varies from 80m to 143.75m. See Order 8260.50, Table 2-3 to determine course width.

NOTE: When the runway number is set to 00 (for circling approaches or Helicopter procedures), then the course width field is ignored and the course width is 38 meters.

Example 106.75

r. Length Offset. The distance from the stop end of the runway to the FPAP. It defines the location where lateral sensitivity changes to the missed approach sensitivity. The value is in meters with the limits being 0 to 2032m. This distance is rounded to the nearest 8-meter value. If the FPAP is located at the designated center of the opposite runway end, the distance is zero.

Example: 0000, 0424

s. Precision Approach Path Point CRC Remainder. An 8-character hexadecimal representation of the calculated remainder bits used to determine the integrity of the FAS Data Block data during transmission and storage. This information will be computed electronically with use of the electronic transmittal software and documented on Form 8260-10 (see figures A11-1 and A11-2).

Example CRC Remainder: E104FC14

t. ICAO Code. The first two designators of the ICAO location identifier, as identified in ICAO Doc 7910. In the Continental United States, the country code will begin with the letter "K" followed by a numeric character obtained from figure A11-3. Alaska, Hawaii, and U.S. Possessions will be as described in the ICAO Doc 7910.

Example: K1, K7, PH, PA, MM, ER

u. Orthometric Height. The height of the LTP or FPAP, as related to the geoid, and presented as an MSL elevation defined to a tenth of a meter resolution with the decimal point suppressed. For the purpose of documenting this in the "Additional Path Point Record Information," the LTP and FPAP orthometric height will be the same and based on the LTP elevation. The value is preceded by a "+" or "-".

Example: +00362 (+36.2m), +02478 (+247.8m), -00214 (-21.4m)

v. Horizontal Alert Limit (HAL). The HAL is the radius of a circle in the horizontal plane (the local plane tangent to the WGS-84 ellipsoid), with its center being at the true position, that describes the region which is required to contain the indicated horizontal position with the required probability for a particular navigation mode assuming the probability of a GPS satellite integrity failure being included in the position solution is less than or equal to 10^{-4} per hour. The range of values is 0 to 50.8m with a 0.2 resolution. The HAL for LPV procedures developed using Order 8260.50 is a fixed value at 40.0 meters.

Example: HAL 40.0

w. Vertical Alert Limit (VAL). The VAL is half the length of a segment on the vertical axis (perpendicular to the horizontal plane of the WGS-84 ellipsoid), with its center being at the true position, that describes the region which is required to contain the indicated vertical position with a probability of $1\text{-}10^{-7}$ per approach, assuming the probability of a GPS satellite integrity failure being included in the position solution is less than or equal to 10^{-4} per hour. The range of values is 0 to 50.8m with a 0.2 resolution. The VAL for LPV procedures developed using Order 8260.50 is a fixed value at 50.0 meters. When future Precision WAAS becomes available, the VAL fixed value is planned to be 12 meters for these types of procedures.

NOTE: A VAL of 00.0 indicates that the vertical deviations should not be used (i.e., a lateral-only {LNAV} approach.

Example: VAL 50.0 VAL 12.0

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

Continuation

STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES 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.

FAS Data Block information

Data Field	DATA
Operation Type	0
SBAS Service Provider Identifier	0
Airport Identifier	KJAX
Runway	RW31
Approach Performance Designator	0
Route Indicator	
Reference Path Data Selector	0
Reference Path Identifier(Approach ID)	W31A
LTP/FTP Latitude	302842.2400N
LTP/FTP Longitude	0814056.1300W
LTP/FTP Ellipsoidal Height	-00210
FPAP Latitude	302931.7800N
FPAP Longitude	0814203.0100W
Threshold Crossing Height (TCH)	00050.0
TCH Units Selector (meters or feet used)	F
Glidepath Angle (GPA)	03.00
Course Width at Threshold	106.75
Horizontal Alert Limit (HAL)	40.0
Vertical Alert Limit (VAL)	50.0
Length Offset	0
CRC Remainder	688D11EF

Additional Path Point Record Information

ICAO Code	K7
LTP Orthometric Height	+00081
FPAP Orthometric Height	+00081

CITY AND STATE	ELEVATION: 30 TDZE: 25 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
				AMDT: NONE
JACKSONVILLE, FL	JACKSONVILLE INTL	RNAV	RNAV (GPS) RWY 31, ORIG	DATED:

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Figure A11-1

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

Figure A11-2



Figure A11-3. ICAO Code Numbers

APPENDIX 12.

ARINC 424 DATABASE CODES

APPENDIX 12. ARINC 424 DATABASE CODES

1. WAYPOINT DESCRIPTION CODES. The following Waypoint Description Codes are used by navigation database developers and documented as described in paragraph 851**.**

Figure A12-1. Waypoint Description Codes

Waypoint Description Type/ Function	*Enroute, STAR, APRCH for the line "Airport as Waypoint"* Used On	COL 40	COL 41	COL 42	COL 43
Airport as Waypoint	STAR, APCH	A			
Essential Waypoint[1]	En route, SID, STAR, APCH	E			
Off Airway Waypoint[2]	En route	F			
Runway as Waypoint, Helipad as Waypoint	SID, STAR, APCH	G			
Heliport as Waypoint	STAR, APCH	H			
NDB NAVAID as Waypoint	En route, SID, STAR, APCH	N			
Phantom Waypoint[3]	SID, STAR, APCH	P			
Non-Essential Waypoint[4]	En route	R			
Transition Essential Waypoint[5]	En route	T			
VHF NAVAID as Waypoint	En route, SID, STAR, APCH	V			
Flyover Waypoint, End of SID, STAR Route Type, APCH Transition or Final Approach[6]	SID, STAR, APCH		B		
End of En route Airway or Terminal Procedure Route Type	En route, SID, STAR, APCH		E		
Uncharted Airway Intersection[7]	En route		U		
Fly-Over Waypoint[8]	SID, STAR, APCH		Y		
Unnamed Stepdown Fix after Final Approach Fix[20]	APCH			A	
Unnamed Stepdown Fix Before Final Approach Fix[20]	APCH			B	
ATC Compulsory Waypoint[9]	En route			C	
Oceanic Gateway Waypoint[10]	En route			G	
First Leg of Missed Approach Procedure[11]	APCH			M	
Path Point Fix[19]	APCH			P	
Named Stepdown Fix[18]	APCH			S	
Initial Approach Fix[12]	APCH				A
Intermediate Approach Fix[13]	APCH				B
Initial Approach Holding Fix	APCH				C
Initial Approach Fix with Final Approach Course Fix	APCH				D
Final End Point Fix[16]	APCH				E
Published Final Approach Fix or Database Final Approach Fix[14]	APCH				F
Holding Fix	En route, SID, STAR, APCH				H
Final Approach Course Fix[15]	APCH				I
Published Missed Approach Point Fix[17]					M

2. WAYPOINT DESCRIPTION CODE DEFINITION/DESCRIPTION: Fixes are located at positions significant to navigation in the En route, Terminal Area, and Approach Procedure path definitions. The "Waypoint Description Code" field enables that significance or function of a fix at a specific location in a route to be identified. The field provides information on the type of fix. As a single fix can be used in different route structures and multiple times within a given structure, the field provides the function for each occurrence of a fix. Source/Content: Valid contents for the

"Waypoint Description Code" are contained in figure A12-1. The contents of Column 40 provide information on the fix type. Column 41 is used to define whether the fix is a "fly-over" or "fly-by" fix and to indicate the charting status of some waypoints. Columns 42 and 43 provide the fix function information. Column 40, Code "G," is valid for Runway as Waypoint and Helipad as Waypoint. Explanation of **superscript notes** and other details required to understand figure A12-1:

1. Any waypoint (not NAVAID, Airport, or Runway) in Terminal Procedures or any waypoint (not NAVAID ***or airport***) on En route Airways, required for navigation such as a change in bearing, intersection of two airways, beginning or ending of continuous segment.

2. Any waypoint published by government source but not part of any route structure.

3. A waypoint established during procedure coding on the nominal track.

4. Any waypoint (not NAVAID ***or airport***) on En route Airways that is not considered "Essential" or "Transition Essential."

5. Any waypoint (not NAVAID ***or airport***) on En route Airways for the purpose of transitioning between the En route and Terminal structures.

6. A fly-over waypoint (including NAVAID) specified by the procedure: (a) at the end of a SID or STAR Route Type; (b) at the end of an Approach Transition for FMS, GPS, or MLS/RNAV approach; or (c) at the missed approach point in an Approach Procedure.

7. Any waypoint (not NAVAID ***and airport***) on En route Airways that has not been established by government source. Used only in conjunction with "E" in Column 40.

8. Any waypoint (including NAVAID ***and airport***) that must be over flown before establishing on the following leg.

9. Any waypoint (including NAVAID ***and airport***) on En route Airways at which a "position report" must be made to the appropriate Air Traffic Control unit.

10. Any waypoint (including NAVAID) designated as the start/end of an oceanic organized rack system.

11. Coded on the first leg after a runway fix or missed approach point fix dependent on approach procedure coding rules. The leg may be the first leg of a published missed approach procedure or a leg to the published missed approach point.

12. Any waypoint (including NAVAID) established as an Initial Approach Fix.

13. Any waypoint (including NAVAID) established as an Intermediate Approach Fix and not coded as a Final Approach Course Fix.

14. Any waypoint (including NAVAID) established as a Final Approach Course Fix. This may be a fix published as the Final Approach Fix by a government source or, when no such. fix is published, one established by a data supplier

15. Any waypoint (including NAVAID) established as a Final Approach Course Fix. This may be a fix published as the Final Approach Course Fix by government source or, when no such fix is published but yet required, one established by a data supplier.

16. Any waypoint established as the Final End Point. This may be a fix published as the FEP by the government source or, when no such fix is published but yet required, one established by the data supplier. It is used in vertical coding of nonprecision approach procedures.

17. Any waypoint (including NAVAID or Runway) established as a Missed Approach Point by government source. The code is used in conjunction with "G" in Column 40 when the Runway is the published Missed Approach Point.

18. Any waypoint established and named by the government source lying between the Final Approach Fix and the Missed Approach Point or between a published Final Approach Course Fix and a Final Approach Fix.

19. Any waypoint established by the government source in support of RNAV-GPS/GLS Approach Procedures. Path Points are not part of the defined procedure track but are provided in a separate record where required. The points are not named and are always referred to as Path Point 1 and Path Point 2.

20. Any published but unnamed waypoint lying between the Final Approach Fix and the Missed Approach Point (Code "A") or between the Final Approach Course Fix and the Final Approach Fix (Code "B").

NOTE 1: Column 40, the fix type column, may be blank when a particular leg of a procedure does not include a fix, such as those legs ending in intercepts or terminating altitudes.

NOTE 2: With the rules provided for Columns 42 and 43, as further explained by references 11 and 17, it is possible to have the code "M" in both of the columns for one leg in cases where a runway fix which is not the designated missed approach point has been inserted into the procedure coding.