U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

TACAN OR 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
MAF VORTAC	ODDLE/MAF 10.00 DME	176.98 / 10.00	4800
PEMSE/MAF 17.00 DME CCW (IAF)	ROVCO/MAF 17.00 DME (NOPT)	17.00 DME ARC	5000
QUADZ/MAF 17.00 DME CW (IAF)	ROVCO/MAF 17.00 DME (NOPT)	17.00 DME ARC	4800
ROVCO/MAF 17.00 DME (IF)	ODDLE/MAF 10.00 DME	356.98 / 7.00 (MAF R-177)	4600

MISSED APPROACH

MAP: MAF 4.59 DME

CLIMB TO 4800 DIRECT MAF VORTAC AND ON MAF VORTAC R-357 TO MERGE INT/MAF 16.66 DME AND HOLD.

ADDITIONAL FLIGHT DATA:

HOLD N, LT, 176.74 INBOUND.
FAS OBST: 3052 AAO 315223N/1021414W
CHART: ASR
CHART VDP AT 5.91 DME;
DISTANCE VDP TO THLD 1.32 MILES.
CHART MAF R-301 AT PEMSE.
CHART MAF R-047 AT QUADZ.
ODDLE TO RW34L: 2.96/50.

1. PT L SIDE OF COURSE 176.98 OUTBOUND 4800 FT WITHIN 10 MILES OF ODDLE (IAF)
2.
3. FAC 356.98 FAF ODDLE/MAF 10.00 DME DIST FAF TO MAP THLD 5.41
4. MIN. ALT ROVCO 4800, ODDLE 4600
8. MSA FROM: MAF VORTAC 5100

MAG VAR: 11E EPOCH YEAR:1965

MINIMUMS

TAKEOFF: 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-34L	3320	1	469	3320	1	469	3320	1 3/8	469	3320	1 3/8	469	3320	1 3/8	469
CIRCLING	3440	1	568	3440	1	568	3440	1 1/2	568	3520	2	648	3600	2 1/2	728

NOTES:

CHART NOTE: VISIBILITY REDUCTION BY HELICOPTERS NA.
CHART NOTE: CIRCLING TO RWY 16L NA AT NIGHT.
CHART PROFILE NOTE: PROCEDURE TURN NOT AUTHORIZED FOR CAT E
CHART PLANVIEW NOTE: RADAR AND DME REQUIRED FOR PROCEDURE ENTRY AT PEMSE INT.

@ CAT E 800-2 1/2

4 CHECKED

CITY AND STATE	ELEVATION: 2872 THRE: 2851	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	
MIDLAND, TX	AIRPORT NAME: MIDLAND INTL	MAF	VOR/DME OR TACAN RWY 34L, AMDT 10	SUP AMDT 9C DATE 07/05/2007

FAA FORM 8260-5 / April 2006 (computer generated)

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] **ZFW, MAF APP CON, CEN FPT, AMGR**

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:

DEVELOPED BY		
NAME: **JILL OLSON (BRIAN BERUBEE)**	FIFO **AJV-353**	DATE: **03/19/2012**

APPROVED BY		
NAME: **LARRY H STROUT** **MANAGER**	FIFO **AJV-353**	DATE:

CHANGES:

1. CHANGED FINAL COURSE FROM 357.00 TO 356.98
2. CHANGED FAF TO MAP DIST FROM 5.40 TO 5.41
3. CHANGED PT OUTBOUND COURSE FROM 177.00 TO 176.98
4. RAISED S-34L MINIMUMS FROM 3260 TO 3320 AND CAT C/D VIS FROM 1 1/4 TO 1 3/8
5. RAISED CMDA FROM 3340 TO 3440 AND 3520
6. NAMED INITIAL AND INTERMEDIATE FIXES
7. CHANGED INTERMEDIATE COURSE FROM 357.00 TO 356.98
8. CHANGED FEEDER COURSE FROM 177.00 TO 176.98
9. CHARTED VDP
10. CHANGED TCH FROM 52 TO 50
11. CHANGED TDZE TO THRE
12. ADDED "VISIBILITY REDUCTION BY HELICOPTERS NA" NOTE
13. ADDED PROCEDURE RESTRICTION NOTE

REASONS:

1/3. OPTIMIZATION
2. PFAF LOCATION
4/5. OBSTACLE STUDY
6. CRITERIA
7. CONSISTENT WITH FINAL COURSE CHANGE
8. RECALCULATION
9. QUALIFIES FOR VDP
10. AVNIS
11. SURVEY
12. 34:1 SURFACE PENETRATED
13. UNLIT 20:1 PENETRATIONS

QUALITY 4 CHECKED

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	MAF VORTAC	ODDLE/MAF 10.00	1. TOWER (48-002518)	315803.00N/1020707.00W	3234 (5D)	1000	PT566	4800
		DME	2. TERRAIN	315826.00N/1021510.00W	2945 (2900)		AS1000	3900
INITIAL: ARC	PEMSE/MAF 17.00	ROVCO/MAF 17.00	3. TOWER (48-011753)	315019.38N/1023200.60W	3994 (5D)	1000	AT572	5000
	DME CCW	DME	4. TERRAIN	321118.00N/1023127.00W	3186 (3200)		AS1500	4700
INITIAL: ARC	QUADZ/MAF 17.00	ROVCO/MAF 17.00	5. TOWER (48-008089)	315249.00N/1015654.00W	3228 (5D)	1000	AT572	4800
	DME CW	DME	6. TERRAIN	314254.00N/1021845.00W	2917 (2900)		AS1500	4400
INTERMEDIATE	ROVCO/MAF 17.00	ODDLE/MAF 10.00	7. TOWER (48-003969)	314740.00N/1021044.00W	3246 (5D)	500	DG854	4600
	DME	DME	8. TERRAIN	314630.00N/1021157.00W	2897 (2900)		AS1000	3900
INTERMEDIATE: PT	10 NM	ODDLE/MAF 10.00	9. TOWER (48-002704)	314019.00N/1021009.00W	3225 (5D)	500	DG875	4600
		DME	10. TERRAIN	314118.00N/1021915.00W	2924 (2900)		AS1000	3900
FINAL	ODDLE/MAF 10.00	SASRY/MAF 4.59	11. AAO	315223.37N/1021413.79W	3052 (2C)	250		3320
	DME	DME						
2. PROCEDURE TURN	ODDLE	10 NM	12. TOWER (48-012457)	314035.47N/1022133.51W	3447 (4D)	1000	AT353	4800
			13. TERRAIN	314035.47N/1022133.51W	2947 (2900)		AS1500	4400
3. MISSED APPROACH — MAP:	SASRY/MAF 4.59	MERGE INT/MAF				ASC		4800
	DME	16.66 DME	14. TOWER (48-008997)	320405.00N/1021353.00W	3549 (2C)	1000		4600
ELEV:	3070		15. TERRAIN	321739.00N/1021327.00W	2979 (3000)		AS1000	4000

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	568		16. DRILLING RIG	315830.43N/1021316.38W	3071 (4D)	300	AC50	3440
CATEGORY B	1.5 NM	450	568		16. DRILLING RIG	315830.43N/1021316.38W	3071 (4D)	300	AC50	3440
CATEGORY C	1.7 NM	450	568		17. DRILLING RIG	315839.59N/1021335.15W	3078 (4D)	300	AC50	3440
CATEGORY D	2.3 NM	550	648		18. DRILLING RIG	315812.53N/1021447.92W	3163 (4D)	300	AC50	3520
CATEGORY E	4.5 NM	550	728		1. TOWER (48-002518)	315803.00N/1020707.00W	3234 (5D)	300	AC50	3600

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: MAF VORTAC

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (48-005355)	305/ 07.3	4048 (1A)	5100					

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
MIDLAND, TX	ELEVATION: 2872 AIRPORT NAME: MIDLAND INTL	MAF VORTAC	VOR/DME OR TACAN RWY 34L, AMDT 10	ASW

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE			3. ALTIMETER SETTING
MAF APP CON ZFW ARTCC MAF TOWER		N W S	OTHER: ASOS	SOURCE: KMAF
				DISTANCE: 0
		F A A		HOURS REMOTE OPERATION:
SATISFACTORY ON:		A / C		
X V H F X U H F H F	LOCATION: KMAF			ADJUSTMENT: 0

4. MONITOR STATUS	PRIMARY NAVAID: MAF VORTAC	
	MONITOR POINT: MOCC	
	HRS OPTN: CAT 1	24
	CAT 3	

5. APPROACH & RUNWAY LIGHTING		ALS
		(S) SALS
	X	MALS 28 (PCL) MALSR 10 (PCL)
	X	HIRL 10, 28, 34L, 16R
	X	MIRL 16L, 22, 04, 34R
	X	REIL 34L
		TDZ
		C/LINE
	X	OTHER (SPECIFY) PAPI-4L 34L, 16R VASI-4L 10, 28

6. RUNWAY MARKINGS	BASIC	BSC-G 16L, 34R
	ALL WEATHER	PIR-G 10, 28, 34L, 16R
	INSTRUMENT	NPI-G 22, 04
7. RUNWAY VISUAL RANGE	APPROACH	10
	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	X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY: JILL OLSON (BRIAN BERUBEE)	DATE: 03/19/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-353

PART C - REMARKS:

PARA 251, 34:1 PENETRATION.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

NO ADDITIONAL AIRSPACE REQUIRED.

40' VEGETATION APPLIED PER FPT

KMAF ASOS ON SVC A
REDUNDANT WEATHER REPORTING SOURCES ON APT

VGSI DATA: 3.00/50.1

TERPS VOL 1, VISUAL PORTION OF FINAL PENETRATION
34:1
2906 POLE (KMAFL013) 315541.67N/1021219.81W (8.11)
RW16L
20:1
2875 TREE (KMAF0047) 315649.00N/1021150.07W (7.70)
2880 ROAD (KMAF0035) 315650.86N/1021151.00W (3.12)

FPT NOTIFIED OF PENETRATION

RADIO FIX AND HOLDING DATA RECORD

NAME: ODDLE **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 315038.18N/1021303.19W **TYPE:** 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	MIDLAND	MAF	VORTAC	L	176.98	187.98	10.00	10.00	60761	4600	17500

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

REMARKS:
MIDLAND (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	HI-VOR/DME OR TACAN RWY 34L	1		KMAF	MIDLAND	TX (US)
IAP	VOR/DME OR TACAN RWY 34L	1		KMAF	MIDLAND	TX (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 8 **DATE OF REVISION:** 07/26/2012

REASON FOR REVISION:
REPOSITIONED FIX 40 FT NORTHEAST
ADDED DIST FROM FAC 1
RAISED MRA FROM 4400 TO 4600
UPDATED FIX USE

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (BRIAN BERUBEE)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZFW
ATC FACILITY: MAF APP CON/ATCT
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: PEMSE **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 321156.70N/1022618.72W **TYPE:** 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	MIDLAND	MAF	VORTAC	L	301.00	312.00	17.00	17.00		5000	17500

REMARKS:
MIDLAND (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	VOR/DME OR TACAN RWY 34L	1		KMAF	MIDLAND	TX (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 07/26/2012

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (BRIAN BERUBEE)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZFW
ATC FACILITY: MAF APP CON/ATCT
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: QUADZ **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 320937.78N/1015429.08W **TYPE:** 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	MIDLAND	MAF	VORTAC	L	046.76	057.76	17.00	17.00		4800	17500

REMARKS:
MIDLAND (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V546	1				TX (US)
IAP	VOR/DME OR TACAN RWY 34L	1		KMAF	MIDLAND	TX (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 07/26/2012

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (BRIAN BERUBEE)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZFW
ATC FACILITY: MAF APP CON/ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: ROVCO **STATE:** TX **COUNTRY:** US

LATITUDE/LONGITUDE: 314341.34N/1021411.43W **TYPE:** 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	MIDLAND	MAF	VORTAC	L	176.98	187.98	17.00	17.00		4800	17500

REMARKS:
MIDLAND (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	VOR/DME OR TACAN RWY 34L	1		KMAF	MIDLAND	TX (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 07/26/2012

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (BRIAN BERUBEE)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZFW
ATC FACILITY: MAF APP CON/ATCT
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: MERGE **STATE:** TX **COUNTRY:** US

INFO ONLY

LATITUDE/LONGITUDE: 321706.22N/1020846.50W **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	MIDLAND	MAF	VORTAC	L	356.74	007.74	16.66	16.66		4400	17500
2	BIG SPRING	BGS	VORTAC	L	249.04	260.04		34.22		4400	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	N	MAF	VORTAC	356.74	176.74	L	1		4500	6000	7	7
2	N	MAF	VORTAC	356.74	176.74	L	1-1 1/2		4800	17500	15	22

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (48-013424)	321741.81N/1021007.13W	3320	2C
2	310	TOWER (48-004448)	322347.00N/1015726.00W	3635	5D

REASON FOR NONSTANDARD HOLDING:
PAT 1 ATC REQUEST
PAT 2 ATC REQUEST

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
HOLDING PAT 1 USED FOR CAT A-D PROCEDURES, PAT 2 USED FOR PROCEDURES WITH CAT E.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V16	1, 2				(US)
EN ROUTE	V81	1, 2	1			(US)
IAP	RNAV (GPS) RWY 34			K2F5	LAMESA	TX (US)
IAP	HI-VOR/DME OR TACAN RWY 34L	1, 2	2	KMAF	MIDLAND	TX (US)
IAP	RADAR-1	1, 2	2	KMAF	MIDLAND	TX (US)
IAP	VOR/DME OR TACAN RWY 34L	1, 2	2	KMAF	MIDLAND	TX (US)
IAP	VOR -A	1, 2	1	KMDD	MIDLAND	TX (US)
IAP	VOR/DME RWY 25	1, 2	1	KMDD	MIDLAND	TX (US)
IAP	RNAV (GPS) RWY 20			KODO	ODESSA	TX (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 9 **DATE OF REVISION:** 07/29/2010

REASON FOR REVISION:
1. DELETED FAC 3 BREWE.
2. RAISED FAC 1 AND 2 MRA FROM 4000 TO 4400.
3. ADDED FAC 1 AND 2 DIST FROM FAC IN NM.
4. ADDED REMARK, PRECIPITOUS TERRAIN EVALUATION COMPLETED.
5. MOVED REMARK, HOLDING LIMITED TO ESTABLISHED PATTERNS, TO HOLDING RESTRICTIONS.
6. SPLIT PAT 1 INTO PAT 1 200K HOLDING AND PAT 2 310K HOLDING, ALTITUDES, TEMPLATES, AND OBSTACLES CHANGED.
7. DELETED REMARK,ALL AIRSPEEDS EVALUATED, BUT 310 KTS IDENTIFIED DUE TO TYPE OF AIRCRAFT WHICH MAY USE THE HOLDING FIX.
8. ADDED REMARK, HOLDING PAT 1 USED FOR CAT A-D PROCEDURES, PAT 2 USED FOR PROCEDURES WITH CAT E.

DEVELOPED BY: **DATE:** 01/11/2010 **OFFICE:** AVN-120 **NAME:** JOSE ALFONSO (DAVID SAUER)

APPROVED BY: **DATE:** 04/27/2010 **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZFW
ATC FACILITY: MAF APP CON
OTHER:

QUALITY CHECKED 3