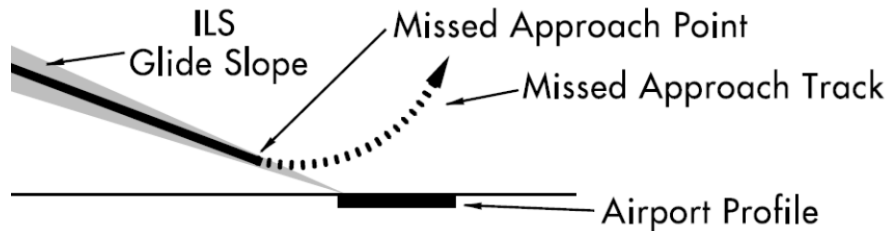


Missed Approach Point Study Guide

Retrieved from <http://captainslog.aero/?p=1429>

Introduction



Reading a missed approach procedure is a critical step toward briefing and flying a complete instrument approach to an airport. The missed approach point is the position where the pilot must immediately climb away from the airport if the landing criteria of FAR 91.175(c) are not met. There are two challenges involved in reading the missed approach point:

a. Location

Where is the missed approach point? The profile view depicts the missed approach point as the beginning of a dashed line, as shown above. It is generally located between the final approach fix and the airport. However, only one missed approach point is depicted, and each procedure may have two or three different missed approach points. Common locations for a missed approach point include the runway threshold, the primary NAVAID for the approach, and the intersection of the glide slope with the decision altitude.

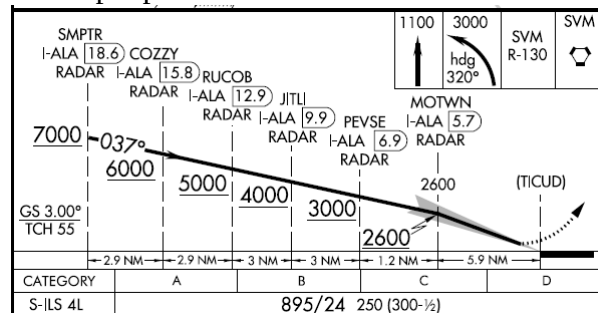
b. Identification

How does the pilot know when the aircraft has reached the missed approach point? The pilot must understand the aircraft position relative to the missed approach point while flying each instrument approach procedure. Because each procedure has a unique configuration, the indications and techniques used to identify the missed approach point may be unique as well. Common identifiers for a missed approach point include a named waypoint, a DME fix, and a time and speed table.

This study guide contains several scenarios that illustrate the most common types of instrument approach configurations. These can be used as examples for learning to read and identify the location of a missed approach point.

Scenario #1: ILS Approach

Example procedure: KDTW ILS Y RWY 4L



On an ILS, the missed approach point is that point at which the glide slope intersects the Decision Altitude (DA).

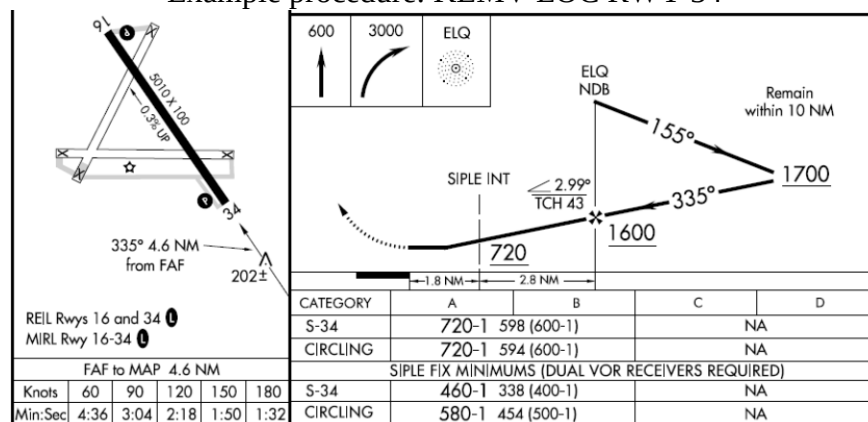
In this example, the climb to 1,100 ft is initiated upon reaching 895 ft and deciding to go missed.

In case of an early missed approach, the pilot would rely on DME or RADAR to approximate crossing the missed approach point before making the left turn.

The point depicted as (TICUD) is called a Computer Navigation Fix.

Scenario #2: LOC Approach without DME

Example procedure: KEMV LOC RWY 34



On the example LOC, the missed approach point can be identified only by flying a timed leg using a clock. The climb to 3,000 ft is initiated when the final approach time expires, and the right turn can be made at or beyond that point. In general, it is “inadvisable or impossible” to execute a normal landing from the missed approach point of a non-precision approach procedure. The missed approach point is the same for straight-in and circling approaches.

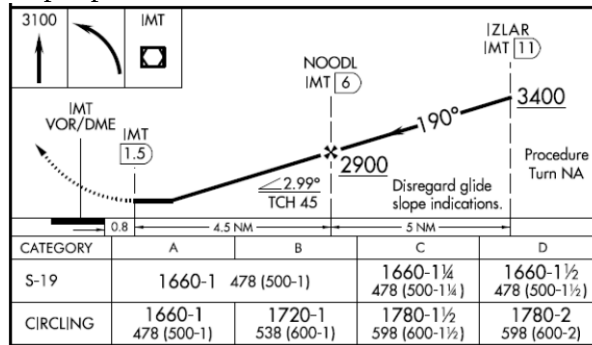
In case of an early missed approach, the pilot would maintain the approach speed and cross the missed approach point before making the right turn.

The profile for a LOC approach is essentially identical to VOR and NDB approaches. VOR and LOC approaches are relatively rare without DME, but they help to explain the following procedures that are more complex. NDB approaches usually do not have DME service.

A runway fix is sometimes depicted at the missed approach point, as in the KDET NDB RWY 15. This might serve as a quasi-DME for GPS equipped pilots.

Scenario #3: LOC Approach with DME

Example procedure: KIMT LOC/DME BC RWY 19



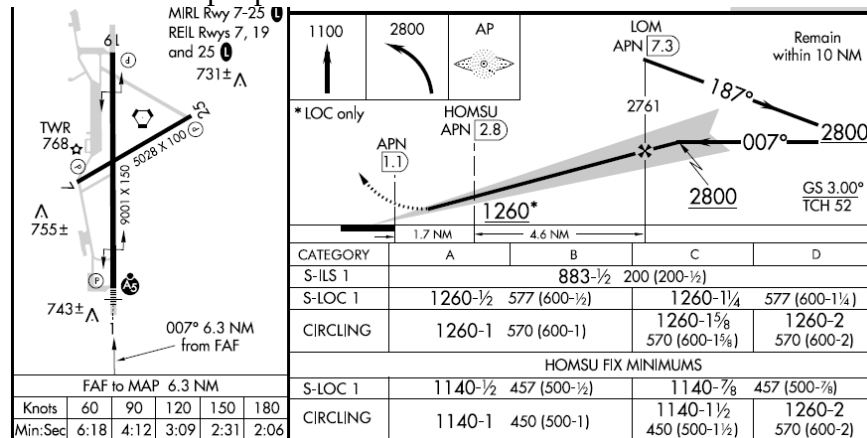
On the example LOC, the missed approach point is 1.5 DME from the IMT VOR/DME. The climb to 3,100 ft is initiated at or before 1.5 DME, and the left turn can be made at or beyond 1.5 DME. In general, it is “inadvisable or impossible” to execute a normal landing from the missed approach point of a non-precision approach procedure (the descent angle from 1.5 DME in this example would be 5.6 degrees). The missed approach point is the same for straight-in and circling approaches.

To use DME in identifying the missed approach point, the DME number must be published in the procedure, which is not always the case.

Not pictured in the excerpt above is the airport sketch from this procedure which states, “5.3 NM from FAF.” According to an FAA document (Control # 12-02-257) this is called the Airport Sketch Final Approach Course. It can be depicted six different ways and may or may not represent the location of a missed approach point. It is therefore incorrect, when briefing any procedure, to use the arrow in the airport sketch to identify the missed approach point.

Scenario #4: ILS or LOC Approach with DME

Example procedure: KAPN ILS or LOC RWY 1



On an ILS, the missed approach point is that point at which the glide slope intersects the Decision Altitude (DA). This is depicted by “the beginning of the dotted missed approach course line” in profile view.

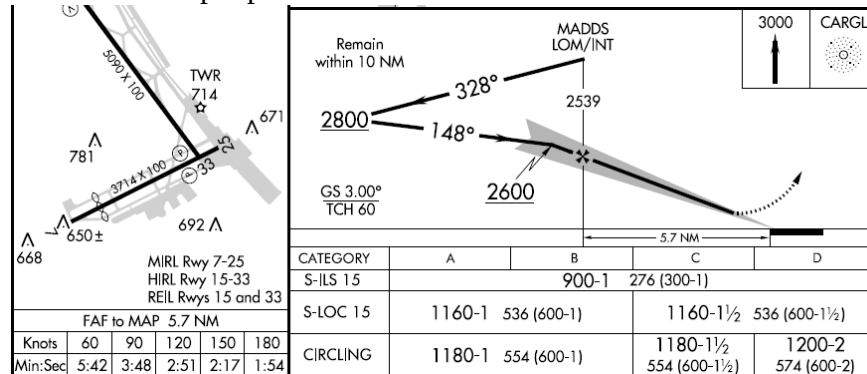
On the example LOC, the missed approach point is 1.1 DME from the APN VORTAC. The climb to 1,100 ft is initiated at or before 1.1 DME, and the left turn can be made at or beyond 1.1 DME. In general, it is “inadvisable or impossible” to execute a normal landing from the missed approach point of a non-precision approach procedure. If not equipped with DME or a GPS substitute, the missed approach point can be identified by flying a timed leg using a clock. The missed approach point is the same for straight-in and circling approaches, but is different from the ILS. The missed approach course for straight-in LOC or circling is not depicted in profile view.

A common mistake when briefing this type of procedure is to state that the missed approach point is 6.3 NM from the final approach fix, which is depicted four different ways in the profile view and airport sketch. The correct way to identify the missed approach point is by using 1.1 DME, which is 6.2 DME beyond the final approach fix. Notice they are not the same numbers.

This type of approach is named LDA if not aligned within 3° of the runway centerline. The lines of minima are named LDA/GS instead of S-ILS, and LDA instead of S-LOC. The profile is essentially identical, but LDA/GS is considered an APV type rather than a precision type.

Scenario #5: ILS or LOC Approach without DME

Example procedure: KDET ILS or LOC RWY 15



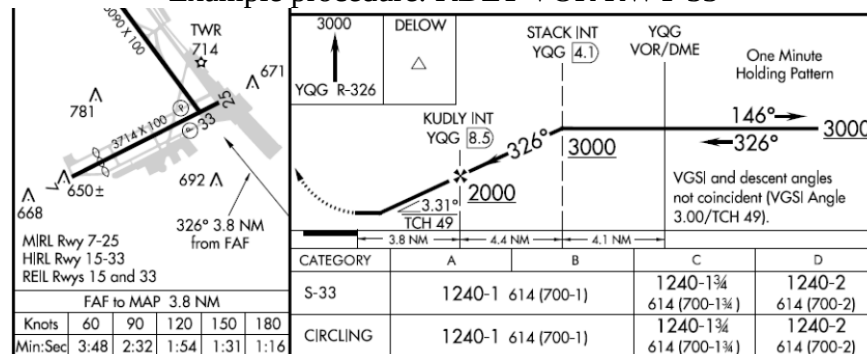
On an ILS, the missed approach point is that point at which the glide slope intersects the Decision Altitude (DA). This is depicted by “the beginning of the dotted missed approach course line” in profile view.

In case of an early missed approach, no turns are allowed prior to reaching the CARGL NDB.

On the example LOC, the missed approach point can be identified only by flying a timed leg using a clock. The missed approach point is the same for straight-in and circling approaches, but is different from the ILS. The missed approach course for straight-in LOC or circling is not depicted in profile view.

Scenario #6: VOR Approach with Incomplete DME Information

Example procedure: KDET VOR RWY 33



On the example VOR, the missed approach point can be identified only by flying a timed leg using a clock. The climb to 3,000 ft is initiated when the final approach time expires. In general, it is “inadvisable or impossible” to execute a normal landing from the missed approach point of a non-precision approach procedure. The missed approach point is the same for straight-in and circling approaches.

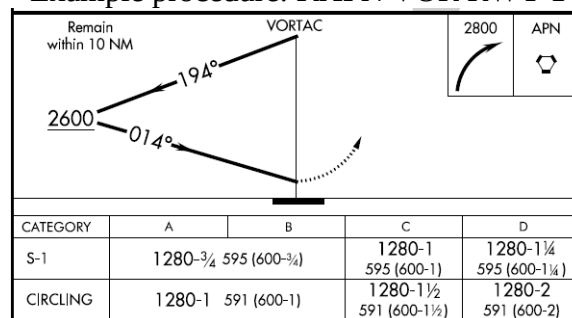
Also note this procedure requires a descent angle greater than 3 degrees.

A common mistake when briefing this type of procedure is to state that the missed approach point is 3.8 NM from the final approach fix, or 12.3 DME. The correct way to identify the missed approach point is by using the times depicted below the profile view. Notice the missed approach point DME is not depicted. In this example, DME is used only to identify the top of descent fix and the final approach fix.

The example procedure KACB VOR RWY 2 was deleted on 8 January 2015.

Scenario #7: VOR at the Airport

Example procedure: KAPN VOR RWY 1

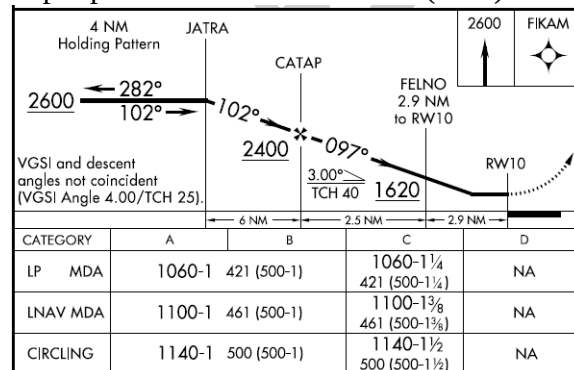


On the example VOR, the missed approach point is identified when the VOR direction flag changes to the FROM indication. The climb to 2,800 ft is initiated at or before the VOR, and the right turn can be made at or beyond the VOR.

Similarly, on an NDB approach, the ADF needle would indicate passing the NDB.

Scenario #8: RNAV without VNAV

Example procedure: KSLH RNAV (GPS) RWY 10



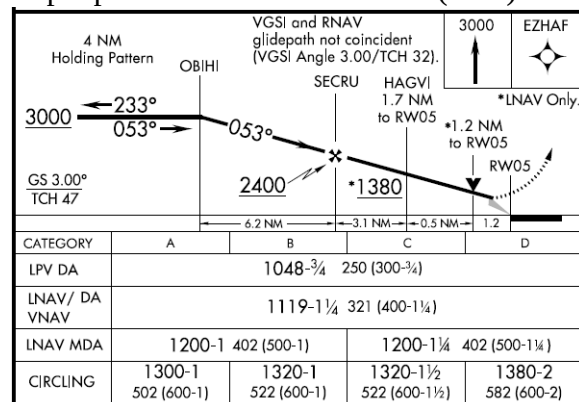
On an LNAV, the missed approach point is the last waypoint depicted in the profile view (RW10).

In case of an early missed approach, no turns are allowed prior to reaching the FIKAM waypoint.

LP is a slightly more precise RNAV guidance level provided by WAAS. The missed approach point is the same for LP, LNAV, and circling approaches.

Scenario #9: RNAV with VNAV

Example procedure: KADG RNAV (GPS) RWY 5



On an LPV or LNAV/VNAV, the missed approach point is that point at which the glide slope intersects the Decision Altitude (DA). In this example, there are two different DAs. The missed approach point for the “top-line” minima only is depicted by “the beginning of the dotted missed approach course line.” The missed approach course for LNAV/VNAV is not depicted in profile view.

In case of an early missed approach, no turns are allowed prior to reaching the EZHAF waypoint.

On an LNAV, the missed approach point is the last waypoint depicted in the profile view (RW05). In this example, it is difficult to distinguish between the missed approach point and the visual descent point (VDP). A pilot would initiate the climb to 3,000 ft between the VDP and RW05. Since no turns are allowed and by definition it is impossible to make a normal landing beyond the VDP, there is no reason to wait for RW05.

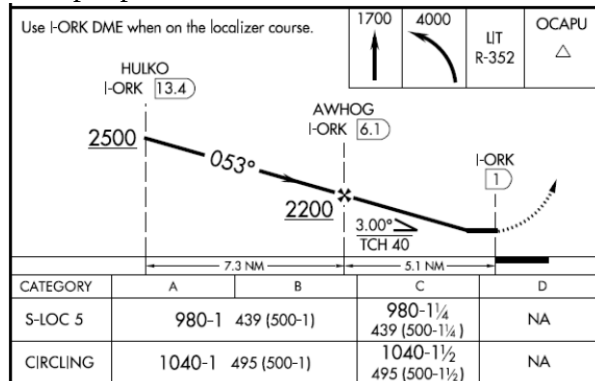
The missed approach point is the same for LNAV and circling approaches, but is different from the LPV and LNAV/VNAV. In other words, the example procedure has three different missed approach points. The missed approach course for LNAV is not depicted in profile view.

Scenario #10: LOC/VOR Approach

This is a technicality mentioned in the FAA handbooks. A missed approach point might be defined by a cross-radial from a second NAVAID, and identified during the approach using a second receiver. However, this is extremely rare and I have yet to find any example of this in a non-military procedure. Cross radials are more commonly used to identify a final approach fix. Reference KNFW ILS or LOC RWY 17.

Scenario #11: LOC/DME with RNAV Substitution

Example procedure: KORK LOC/DME RWY 5



LOC/DME procedures rarely include timed legs or a named fix or intersection to identify the missed approach point. On the example LOC, the missed approach point may be identified only by using DME. Because general aviation aircraft are increasingly dependent on GPS distance information and may not have DME transceivers, the pilot must determine whether the avionics are “suitable” for this procedure. This includes procedures titled “ILS or LOC/DME” which are

relatively common. RNAV substitution for the DME is allowed per AC 90-108 to “determine aircraft position relative to or distance from a ... DME fix.” Notice it also says, “Pilots must extract waypoints, NAVAIDs, and fixes by name.”



The attached photo of a GNS 430 receiver shows that the I-ORK facility can be identified by name when manually entered as IORK. The small blue square symbol next to the cursor indicates this is a DME facility. Note the DME antenna is located beyond and offset from the final approach path for this procedure. GNS 430 is capable of displaying the distance to this facility, but it will not load the 1 DME fix via the procedures menu for non-overlay approach information. As described in AIM 1-1-18(n)(11), “a DME fix will not be in the waypoint sequence on the GPS receiver unless there is a published name assigned to it.”

Scenario #12: ASR Approach

RADAR identification of the missed approach point is provided for ASR approach procedures. However, the location of the missed approach point is not published. Air Traffic Control uses the following phrase to specify the location:

“Missed approach point is (distance) miles from the runway.”

During the approach, ATC uses this phrase to identify the point:

“Over missed approach point. If runway not in sight, execute missed approach.”

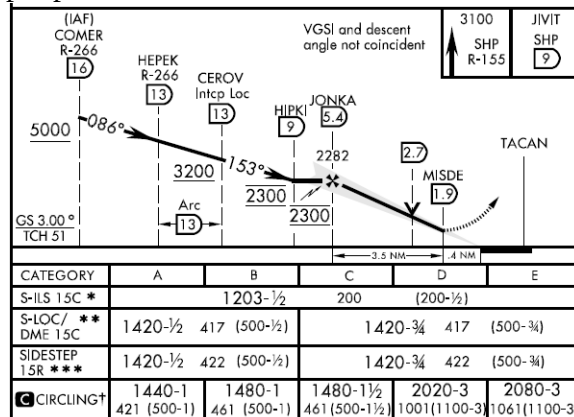
Scenario #13: PAR Approach

On a PAR procedure, the missed approach point is the intersection of the PAR glide path and a published decision altitude. The terms Decision Altitude (DA) and Decision Height (DH) have the same meaning in this case, and both are MSL altitudes. RADAR identification of the missed approach point is provided using the following phrase:

“At decision height.”

Scenario #14: Unusual Approaches

Example procedure: KSPS ILS or LOC/DME RWY 15C



Can you fly this ILS profile? Are you sure? Take a close look at it. What do all those symbols mean? If the glideslope is out of service, how will you identify the missed approach point? Maybe you are equipped for this, but maybe not!

This study guide does not describe all real world situations. There are exotic procedures involving mountainous terrain, restricted airspace, Cat II & III, SDF, IGS, RNP, PRM, and many others. It is always the pilot's responsibility to understand the procedure before attempting it.

ILS Y RWY 4L
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing left turn to 3000 on heading 320° and SVM VORTAC R-130 to SVM VORTAC and hold.

MISSED APCH FIX

SALEM
SVM $\frac{114.3}{114.3}$
Chap. 80

—LOM—
YIPPS
359 YI 2.5--

DETROIT
113.4 DXO 
Chan 81

(TICUD)

MOTWN
I-ALA 5.7
RADAR

PEVSE
I-ALA 6.9

ITLI
A 9.9

A radar chart with a scale from 0 to 10 miles. A target is indicated by a solid circle at the 10-mile mark, labeled '00' for 00 degrees.

LA 12.9
RADAR

DOZZY
A 15.8

A diagram showing a radar screen with a target labeled (IAF) and a radar beam labeled RADAR.

18.6

RADAR REQUIRED

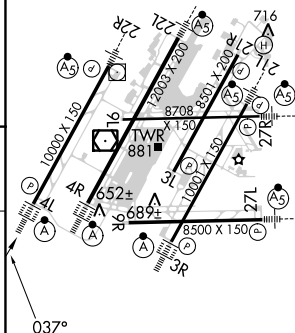
LOCALIZER 111.75
I-ALA :::
Chan 54 (Y)
LOC offset 2.52°

Δ¹³⁰⁵

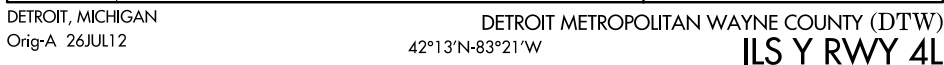
ALTERNATE MISSED

YIPPS
YI $\frac{\cdot\cdot}{\cdot\cdot}$ $\frac{\cdot\cdot}{\cdot\cdot}$ $\frac{\cdot\cdot}{\cdot\cdot}$ $\frac{\cdot\cdot}{\cdot\cdot}$
359

ELEV	645	D	TDZE	645
------	-----	----------	------	-----



TDZ/CL Rwy 4L, 4R and 3R
REIL Rwy 3L, 9L, 9R and 21R
HIRL all runways



LOC I-EMV	APP CRS	Rwy Idg	5010
108.75	335°	TDZE	122
		Apt Elev	126

LOC RWY 34

EMPORIA-GREENSVILLE RGNL (EMV)

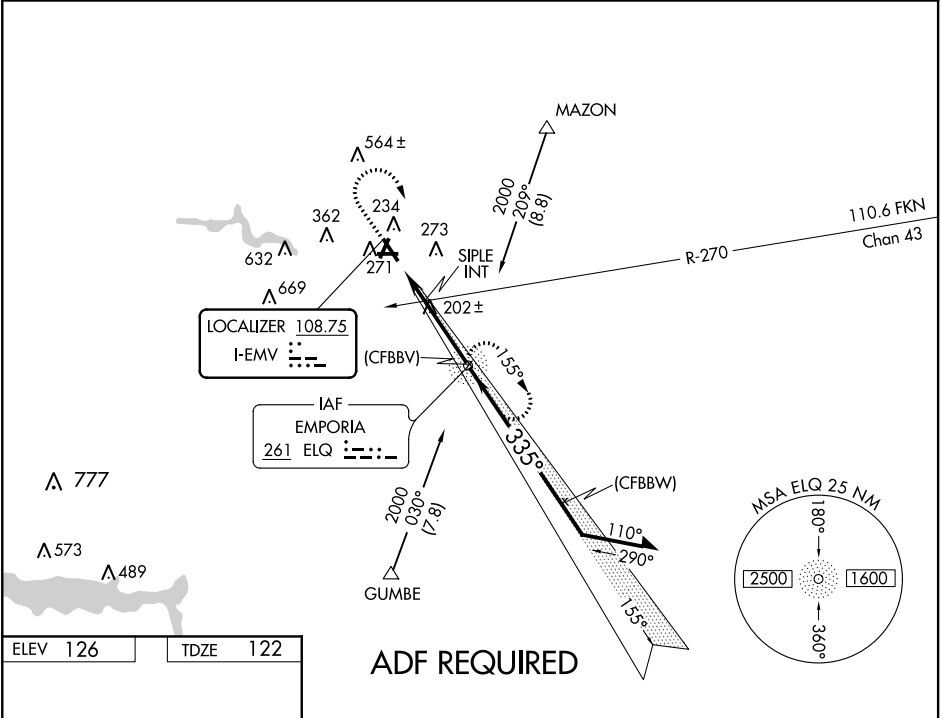
▼

▲ NA

When local alimeter setting not received, use Ahoskie alimeter setting and increase all MDA 80 feet.

MISSED APPROACH: Climb to 600 then climbing right turn to 3000 direct ELQ NDB and hold, continue climb-in-hold to 3000.

AWOS-3 124.175	WASHINGTON CENTER 132.025 269.4	UNICOM 123.0 (CTAF) 1
-------------------	------------------------------------	--------------------------



ELEV 126	TDZE 122
----------	----------

q

3

1

2

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

98

99

100

REIL Rwy 16 and 34 1
MIRL Rwy 16-34 1

FAF to MAP 4.6 NM

Knots	60	90	120	150	180
Min:Sec	4:36	3:04	2:18	1:50	1:32

600

3000

ELQ

ELQ NDB

Remain within 10 NM

SIPLE INT

2.99°

TCH 43

720

1600

1700

155°

335°

1.8 NM

2.8 NM

CATEGORY	A	B	C	D
S-34	720-1 598 (600-1)			NA
CIRCLING	720-1 594 (600-1)			NA
SIPLE FIX MINIMUMS (DUAL VOR RECEIVERS REQUIRED)				
S-34	460-1 338 (400-1)			NA
CIRCLING	580-1 454 (500-1)			NA

EMPORIA, VIRGINIA

Amclt 1A 03APR14

36°41'N - 77°29'W

EMPORIA-GREENSVILLE RGNL (EMV)

LOC RWY 34

LOC I-IMT 111.5	APP CRS 190°	Rwy Idg TDZE 1182 Apt Elev 1182
---------------------------	------------------------	---

LOC/DME BC RWY 19

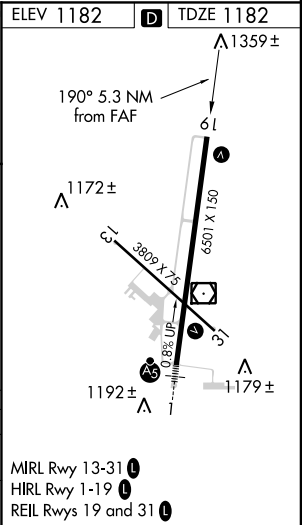
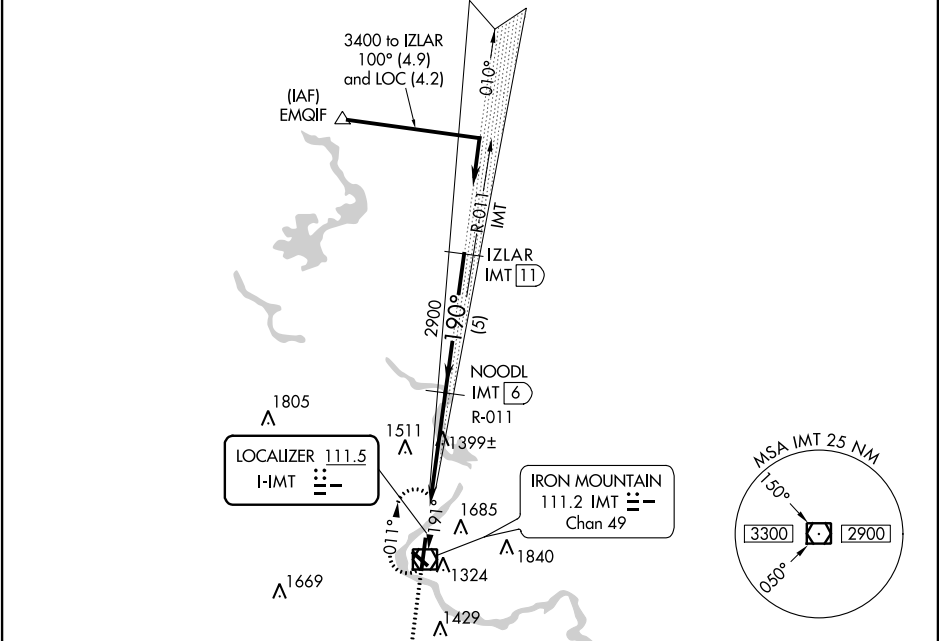
FORD (IMT)

⚠

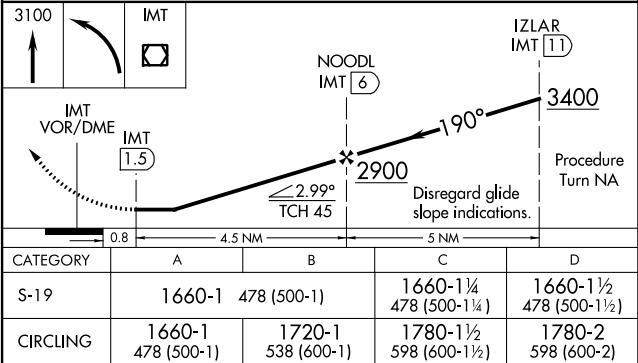
Circling NA northeast of Rwy 19 and 31. DME from IMT VOR/DME. Simultaneous reception of I-IMT and IMT DME required. Helicopter visibility reduction below 1 SM NA. Rwy 19 Straight-in and Circling and Circling to Rwy 31 NA at night.

MISSED APPROACH:
Climb to 3100 then left turn direct IMT VOR/DME and hold.

ASOS 119.025	MINNEAPOLIS CENTER 121.25 322.5	UNICOM 122.8 (CTAF) 0
------------------------	---	--



BACK COURSE



EC-1, 03 APR 2014 to 01 MAY 2014

EC-1, 03 APR 2014 to 01 MAY 2014

ILS or LOC RWY 1
ALPENA COUNTY RGNL (APN)

MALSR

MISSED APPROACH: Climb to 1100 then climbing left turn to 2800 direct AP LOM and hold

ALPENA
APN
108.8
Chan 25

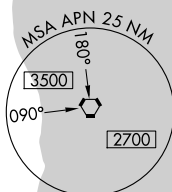
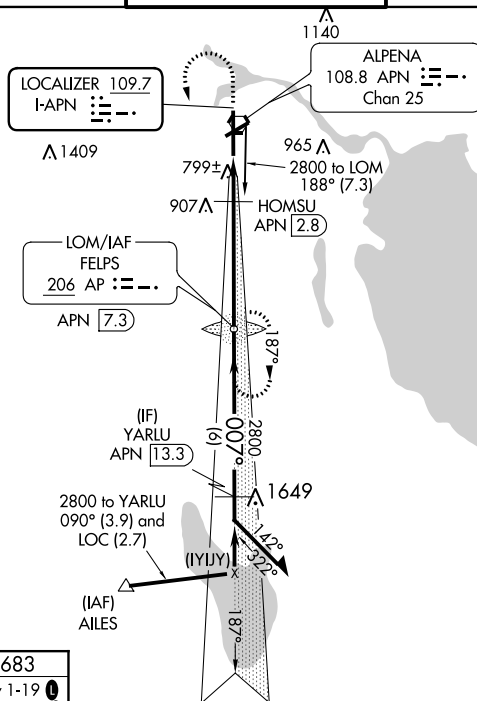


Diagram illustrating a combined LOM and APN. The diagram shows a navigation route starting from a point 1.7 NM from the APN (1.1), passing through the LOM (7.3) at 2761, and ending at the APN (1.1). The route is marked with a dashed line and a solid line. The distance from the start to the LOM is 1.7 NM, and from the LOM to the APN is 4.6 NM. The bearing from the start to the LOM is 1260*, and from the LOM to the APN is 187°. The bearing from the APN to the LOM is 007°. The diagram also shows a bearing of 2800 from the LOM to the APN. The diagram includes a compass rose showing North (N), East (E), South (S), and West (W). The diagram also includes a scale bar for 1.7 NM and 4.6 NM. The diagram includes a note: "Remain within 10 NM". The diagram includes a note: "GS 3.00° TCH 52".

CATEGORY	A	B	C	D
S-ILS 1	883-1/2 200 (200-1/2)			
S-LOC 1	1260-1/2 577 (600-1/2)	1260-1 1/4 577 (600-1 1/4)		1260-2 570 (600-1 1/2)
CIRCLING	1260-1 570 (600-1)	1260-1 5/8 570 (600-1 5/8)		1260-2 570 (600-2)

HOMSU FIX MINIMUMS

S-LOC 1	1140-1/2 457 (500-1/2)	1140-7/8 457 (500-7/8)
CIRCLING	1140-1 450 (500-1)	1140-1 1/2 450 (500-1 1/2)

LOC I-DET	APP CRS	Rwy Idg	5090
111.3	148°	TDZE	624
		Apt Elev	626

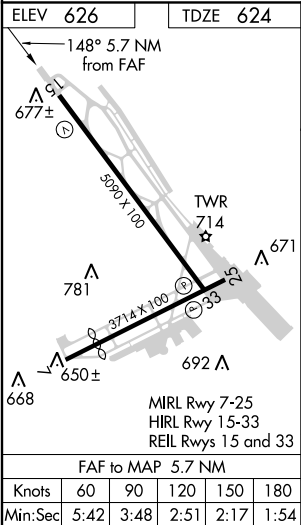
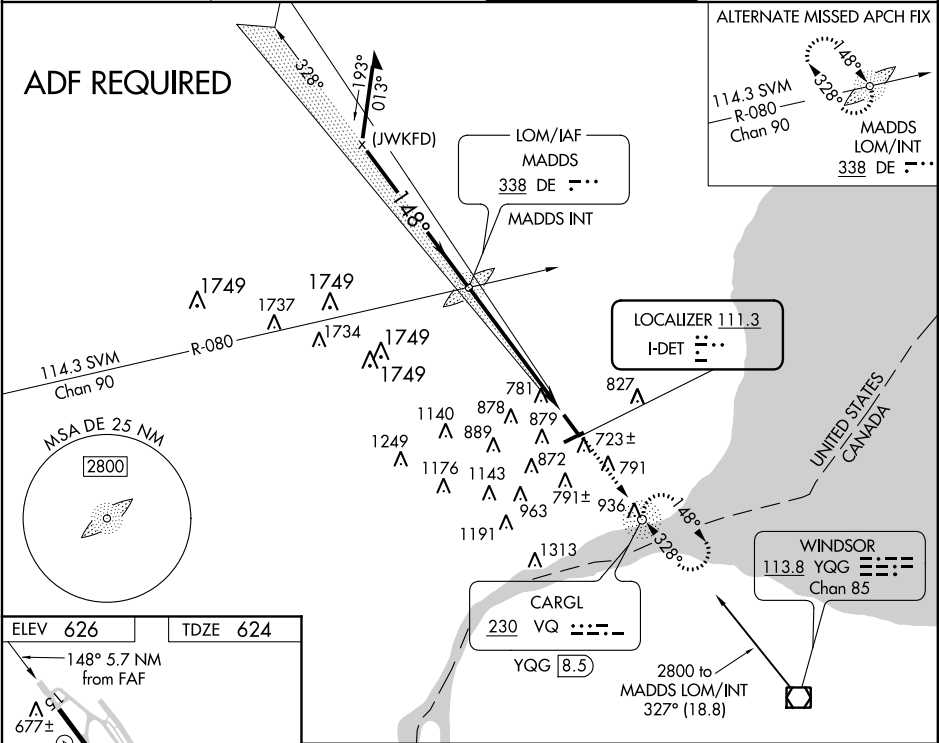
ILS or LOC RWY 15

COLEMAN A. YOUNG MUNI (DET)

⚠ Circling to Rwy 7 NA at night. When VGSi inop, Circling Rwy 25 NA at night. When VGSi inop, Straight-In/Circling Rwy 15 procedure NA at night. Visibility reduction by helicopters NA. When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase all DA 48 feet and all MDA 60 feet; increase S-LOC 15 Cat C/D and Circling Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 3000 direct CARGL NDB/YQG 8.5 DME and hold, continue climb-in-hold.

ATIS	DETROIT APP CON	DETROIT CITY TOWER	GND CON
124.875	126.85 363.2	121.3 257.8	121.85



Remain within 10 NM

3000

CARGL

CATEGORY	A	B	C	D
S-ILS 15		900-1	276 (300-1)	
S-LOC 15	1160-1	536 (600-1)	1160-1½	536 (600-1½)
CIRCLING	1180-1	554 (600-1)	1180-1½	574 (600-2)

EC-1, 11 DEC 2014 to 08 JAN 2015

EC-1, 11 DEC 2014 to 08 JAN 2015

VOR/DME YQG	APP CRS	Rwy Idg	5090
113.8	326°	TDZE	626
Chan 85		Apt Elev	626

VOR RWY 33

COLEMAN A. YOUNG MUNI (DET)

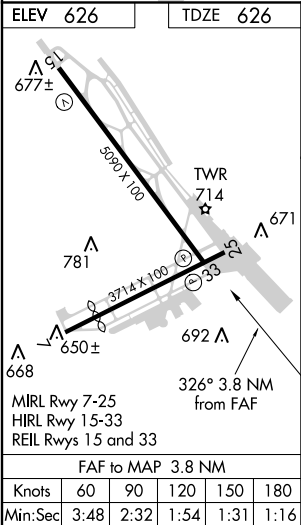
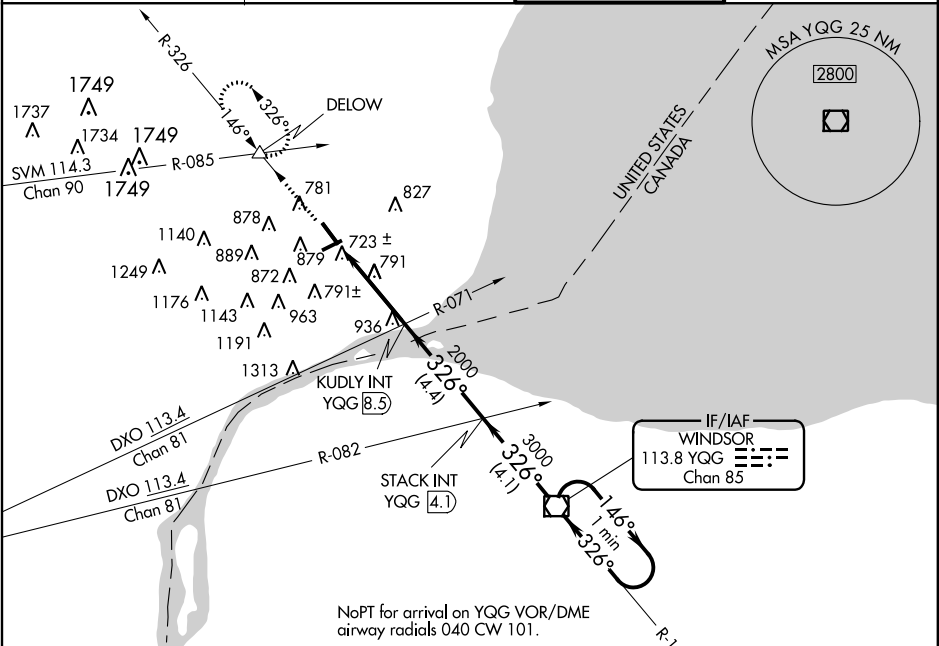
⚠

Visibility reduction by helicopters NA. When local altimeter setting not received, use Detroit Metro Wayne County altimeter setting and increase all MDA 60 feet and increase Cat C and D visibility ¼ mile.

⚠

MISSED APPROACH: Climb to 3000 via YQG VOR/DME R-326 to DELOW INT and hold, continue climb-in-hold to 3000.

ATIS	DETROIT APP CON	DETROIT CITY TOWER	GND CON
124.875	126.85 363.2	121.3 257.8	121.85



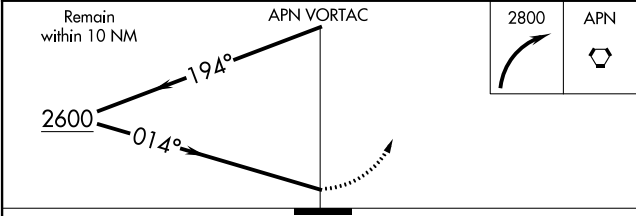
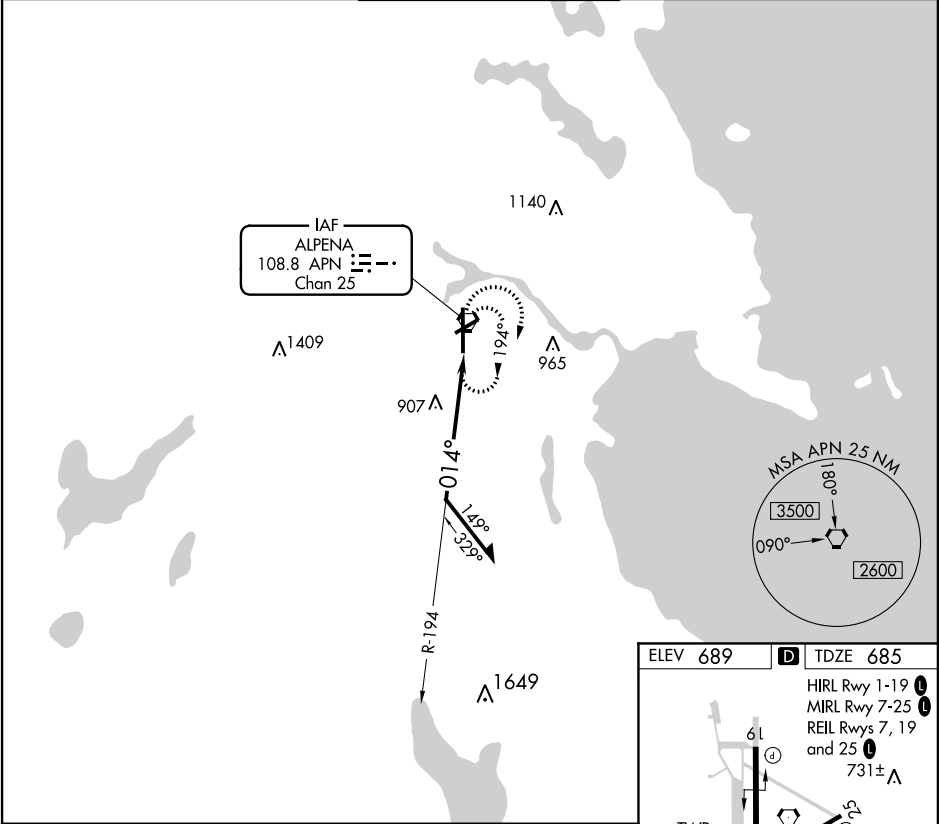
ELEV 626	TDZE 626
677±	781
650±	668
692	671
MIRL Rwy 7-25	HIRL Rwy 15-33
REIL Rwy 15 and 33	
FAF to MAP 3.8 NM	
Knots	60 90 120 150 180
Min:Sec	3:48 2:32 1:54 1:31 1:16

3000	DELOW	STACK INT	YQG	One Minute
YQG R-326	△	YQG 4.1	VOR/DME	Holding Pattern
KUDLY INT	YQG 8.5	3000	146°	3000
326°	326°	326°	326°	326°
3.31°	TCH 49	4.4 NM	4.1 NM	
3.8 NM				
CATEGORY	A	B	C	D
S-33	1240-1 614 (700-1)	1240-1 614 (700-1)	1240-2 614 (700-2)	1240-2 614 (700-2)
CIRCLING	1240-1 614 (700-1)	1240-1 614 (700-1)	1240-2 614 (700-2)	1240-2 614 (700-2)

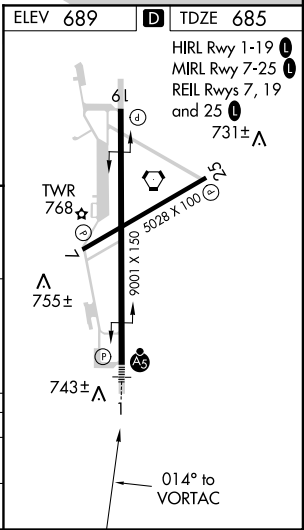
VORTAC APN 108.8 Chan 25	APP CRS 014°	Rwy Idg TDZE Apt Elev 9001 685 689
--	------------------------	--

VOR RWY 1
ALPENA COUNTY RGNL (APN)

			MISSED APPROACH: Climbing right turn to 2800 in APN VORTAC holding pattern.	
ASOS 120.675	ALPENA APP CON ★ 128.425 379.3	ALPENA TOWER ★ 121.35 (CTAF) 318.1	GND CON 121.9 275.8	UNICOM 122.95



CATEGORY	A	B	C	D
S-1	1280-3/4 595 (600-3/4)		1280-1 595 (600-1)	1280-1 1/4 595 (600-1 1/4)
CIRCLING	1280-1 591 (600-1)		1280-1 1/2 591 (600-1 1/2)	1280-2 591 (600-2)



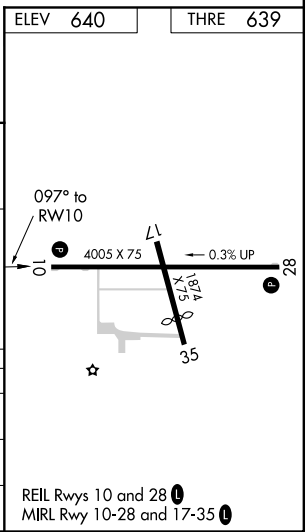
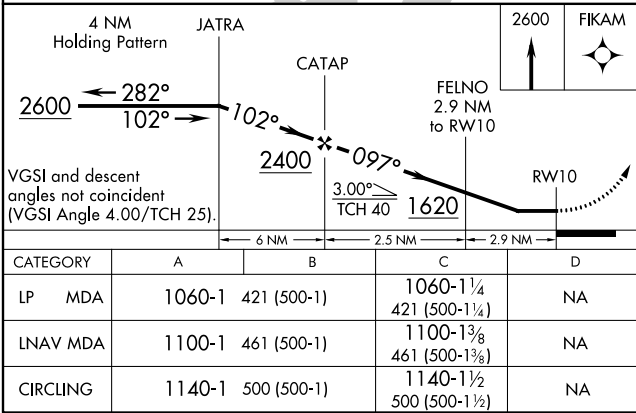
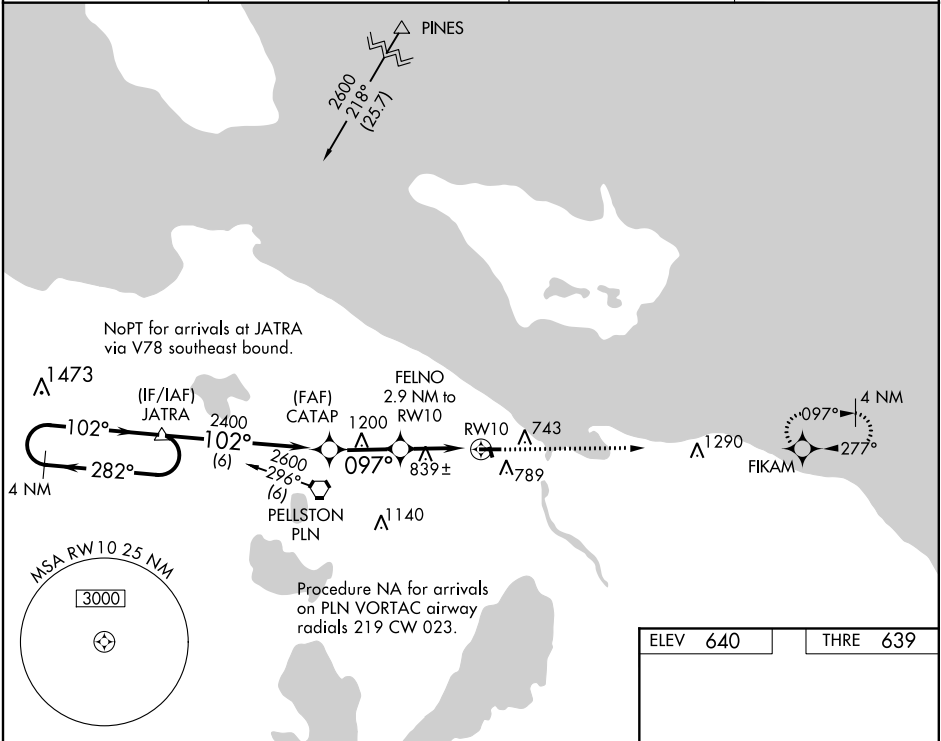
T

A

When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 60 feet, increase LP and LNAV Cat C visibility 1/8 mile.
When VGSI inop, Straight-in/Circling Rwy 10 procedure NA at night.
DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 2600 direct FIKAM and hold.

AWOS-3 118.175	MINNEAPOLIS CENTER 134.6 354.05	UNICOM 122.8 (CTAF)	122.5 0
-------------------	------------------------------------	------------------------	---------



WAAS CH 42603 W05A	APP CRS 053°	Rwy Idg TDZE Apt Elev	5001 798 798
--	------------------------	-----------------------------	---

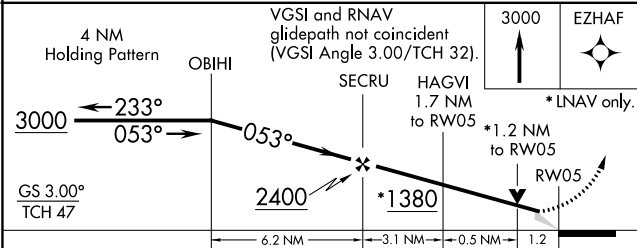
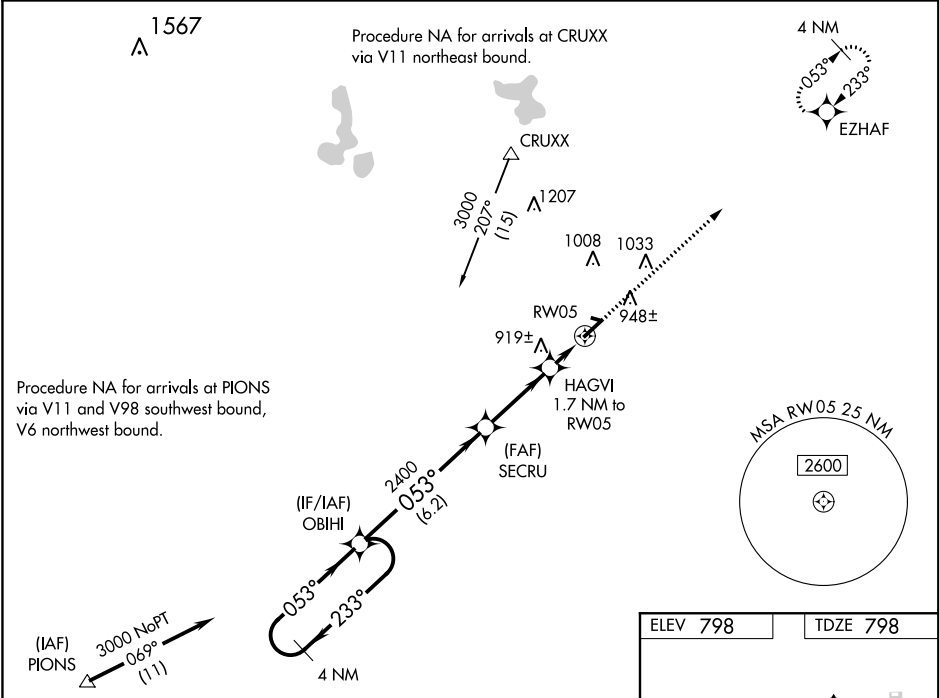
RNAV (GPS) RWY 5
LENAWEE COUNTY (ADG)

▼
▲

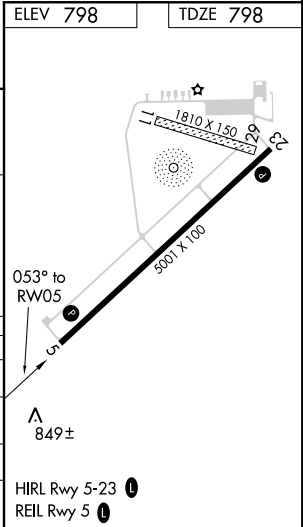
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP -0.3 NA. When local altimeter setting not received, use Ann Arbor Muni altimeter setting and increase all DAs 66 feet and all MDAs 80 feet, and increase LPV all Cats, LNAV Cat D and Circling Cat C visibility ¼ mile. Baro-VNAV and VDP NA when using Ann Arbor Muni altimeter setting.

MISSED APPROACH: Climb to 3000 direct EZHAF and hold.

ASOS 118.375	TOLEDO APP CON 134.35 317.55	UNICOM 122.8 (CTAF) 0
------------------------	--	---------------------------------



CATEGORY	A	B	C	D
LPV DA	1048-3/4 250 (300-3/4)			
LNAV/ DA VNAV	1119-1 1/4 321 (400-1 1/4)			
LNAV MDA	1200-1 402 (500-1)		1200-1 1/4 402 (500-1 1/4)	
CIRCLING	1300-1 502 (600-1)	1320-1 522 (600-1)	1320-1 1/2 522 (600-1 1/2)	1380-2 582 (600-2)



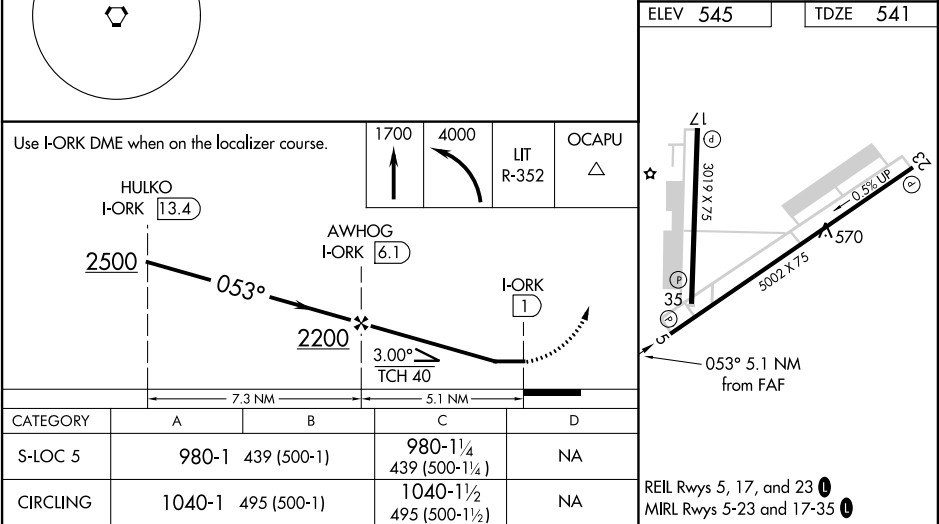
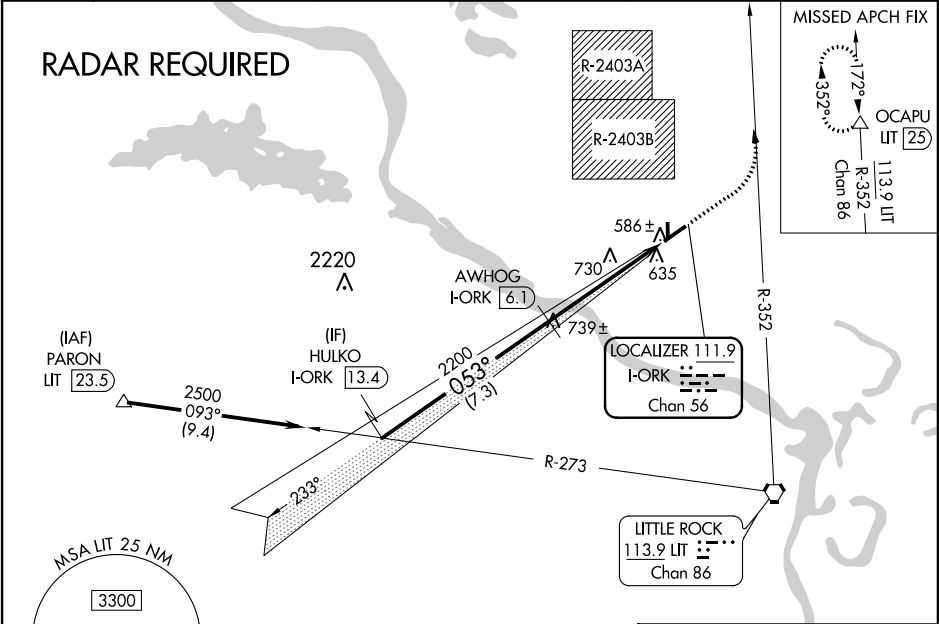
LOC/DME I-ORK 111.9 Chan 56	APP CRS 053°	Rwy Idg 5002 TDZE 541 Apt Elev 545
---	------------------------	---

LOC/DME RWY 5
NORTH LITTLE ROCK MUNI (ORK)

NA Use Bill and Hillary Clinton National/Adams Field altimeter setting, if not received use Searcy altimeter setting and increase all MDAs 60 feet.
Circling NA for Cat C north of Rwy 5-23 when R-2403B active. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 1700 then climbing left turn to 4000 on IIT VORTAC R-352 to OCAPU/25 DME and hold.

LITTLE ROCK APP CON 119.5 306.2	CLNC DEL 121.6	UNICOM 122.8 (CTAF) 0
---	--------------------------	---------------------------------



WICHITA FALLS, TEXAS

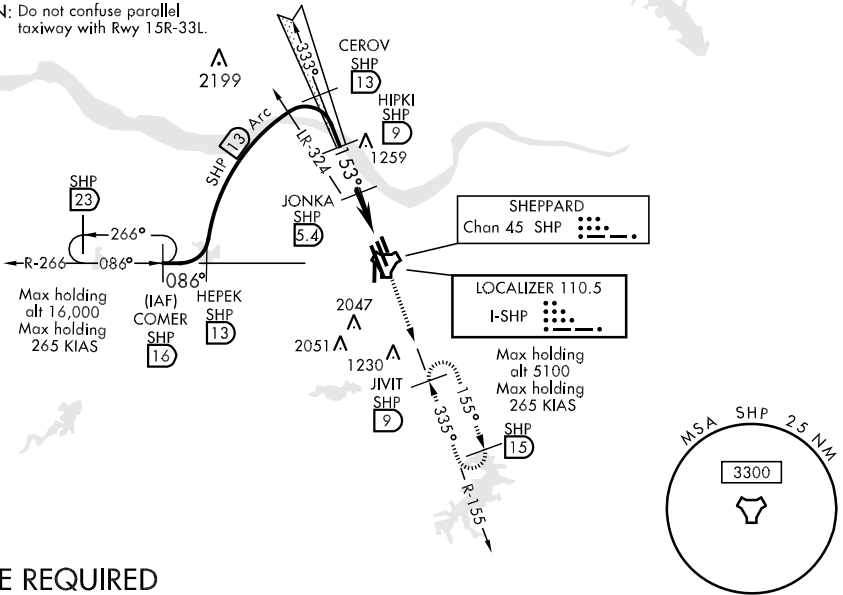
ILS or LOC/DME RWY 15C

LOC I-SHP 110.5	APCH CRS 153°	Rwy ldg 15C 10,003 15R 13,100 THRE 15C 1003 15R 998 Arpt Elev 1019	AL-454 [USAF]	WICHITA FALLS/SHEPPARD AFB/ WICHITA FALLS MUNI (KSPS)		
▽ * When ALS inop, increase all CATs vis to ¾ mile. ** When ALS inop, increase CAT AB vis to 1 mile, CAT CDE vis to 1½ miles.			ALS-1 Rwy 15C	MALSR Rwy 15R	MISSED APPROACH: Climb and maintain 3100, intercept SHP TACAN R-155 to SHP R-155/9 DME (JVIT) and hold.	
ATIS ★ 132.05 269.9	SHEPPARD APP CON 118.2 269.025	SHEPPARD TOWER ★ 119.75 0 279.525 (CTAF)	GND CON 125.5 289.4	CLNC DEL 121.2 282.225	ASOS	ASR

*** When ALS inop, increase CAT AB vis to 1 mile,
CAT CDE vis to 1½ miles.

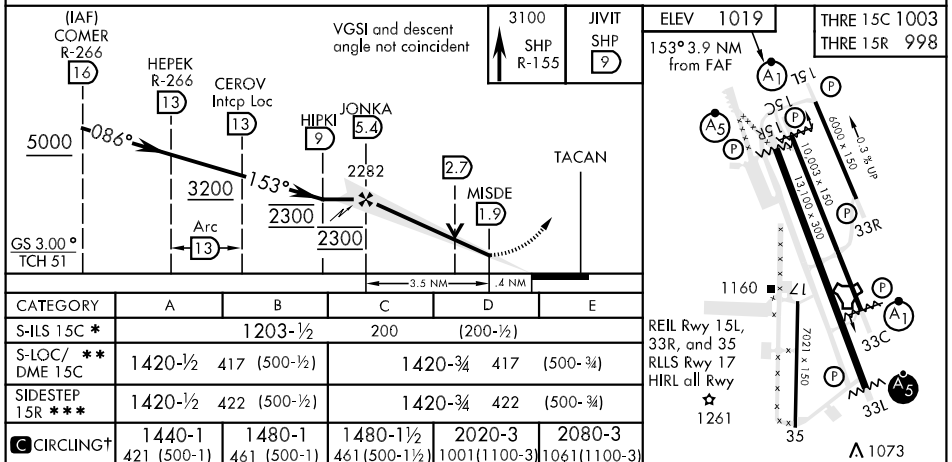
† Circling not authorized W of Rwy 15R-33L.

CAUTION: Do not confuse parallel
taxiway with Rwy 15R-33L.



DME REQUIRED

EMERG SAFE ALT 100 NM 4600



WICHITA FALLS, TEXAS 33°59'N-98°30'W

WICHITA FALLS/SHEPPARD AFB/WICHITA FALLS MUNI (KSPS)

Amdt 8 09JAN14

ILS or LOC/DME RWY 15C