

EC-1

MI

10 NOV 16 to 05 JAN 17



Federal Aviation
Administration

TM

U.S. Terminal Procedures Publication

East Central (EC) Vol 1 of 3

Effective: 0901Z

10 NOV 2016

to: 0901Z

05 JAN 2017

Consult the Change Notice
(CN) effective 08 DEC 2016 for
revised Instrument Procedure
Charts for this volume



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CORRECTIONS, COMMENTS AND/OR PROCUREMENT

**FOR CHARTING ERRORS,
OR FOR CHANGES, ADDITIONS,
RECOMMENDATIONS ON
PROCEDURAL ASPECTS CONTACT:**

FAA, Aeronautical Information Services
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Silver Spring, MD 20910-3281
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FOR PROCUREMENT:

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Frequently asked questions (FAQ) are answered on our website at <http://www.faa.gov/go/ais>.
See the FAQs prior to contact via toll free number or email.

Request for the creation or revisions to Airport Diagrams should be in accordance with FAA Order 7910.4.

INOP COMPONENTS

INOPERATIVE COMPONENTS OR VISUAL AIDS TABLE

Landing minimums published on instrument approach procedure charts are based upon full operation of all components and visual aids associated with the particular instrument approach chart being used. Higher minimums are required with inoperative components or visual aids as indicated below. If more than one component is inoperative, each minimum is raised to the highest minimum required by any single component that is inoperative. ILS glide slope inoperative minimums are published on the instrument approach charts as localizer minimums. This table may be amended by notes on the approach chart. Such notes apply only to the particular approach category(ies) as stated. See legend page for description of components indicated below.

(1) ILS, PAR, RNAV (LPV line of minima) and GLS

| Inoperative Component or Aid | Approach Category | Increase Visibility |
|------------------------------|-------------------|---------------------|
| ALSF 1 & 2, MALSR, & SSALR | ABCD | ¼ mile |

(2) ILS with visibility minimum of 1,800 RVR

| | | |
|----------------------------|------|--------------|
| ALSF 1 & 2, MALSR, & SSALR | ABCD | To 4000 RVR |
| TDZL RCLS | ABCD | To 2400 RVR* |
| RVR | ABCD | To ½ mile |

*1800 RVR authorized with the use of FD or AP or HUD to DA.

(3) VOR, VOR/DME, TACAN, LOC, LOC/DME, LDA, LDA/DME, SDF, SDF/DME, GPS, ASR, RNAV (LNAV/VNAV, LP, LNAV lines of minima) and RNP

| Inoperative Visual Aid | Approach Category | Increase Visibility |
|----------------------------|-------------------|---------------------|
| ALSF 1 & 2, MALSR, & SSALR | ABCD | ½ mile |
| SSALS, MALS, & ODALS | ABC | ¼ mile |

(4) NDB

| | | |
|----------------------------|-----|--------|
| ALSF 1 & 2, MALSR, & SSALR | C | ½ mile |
| MALS, SSALS, ODALS | ABD | ¼ mile |
| | ABC | ¼ mile |

TERMS/LANDING MINIMA DATA

IFR LANDING MINIMA

The United States Standard for Terminal Instrument Procedures (TERPS) is the approved criteria for formulating instrument approach procedures. Landing minima are established for six aircraft approach categories (ABCDE and COPTER). In the absence of COPTER MINIMA, helicopters may use the CAT A minimums of other procedures.

LANDING MINIMA FORMAT

In this example airport elevation is 1179, and runway touchdown zone elevation is 1152.

| DA | Visibility (RVR 100's of feet) | Aircraft Approach Category | HAT/HATH | D |
|-----|--------------------------------|----------------------------|-------------------------|------------------------|
| DA | 1352/24 | B | 200 | (200-½) |
| DA | 1440/24 | 288 | (300-½) | 1440/50 288 (300-1) |
| MDA | 1540-1 361 (400-1) | 1640-1 461 (500-1) | 1640-1½ 461 (500-1½) | 1740-2 561 (600-2) |

Labels: DA, Visibility (RVR 100's of feet), Aircraft Approach Category, HAT/HATH, D, MDA, HAA, Visibility in Statute Miles.

Annotations: Straight-in ILS to Runway 27, Straight-in with Glide Slope Inoperative or not used to Runway 27, All weather minimums in parentheses not applicable to Civil Pilots, Military Pilots refer to appropriate regulations.

COPTER MINIMA ONLY

| CATEGORY | COPTER |
|----------|-------------------|
| H-176° | 680-½ 363 (400-½) |

Labels: Copter Approach Direction, Height of MDA/DA Above Landing Area (HAL), No circling minimums are provided.

NOTE: The **W** symbol indicates outages of the WAAS vertical guidance may occur daily at this location due to initial system limitations. WAAS NOTAMS for vertical outages are not provided for this approach. Use LNAV minima for flight planning at these locations, whether as a destination or alternate. For flight operations at these locations, when the WAAS avionics indicate that LNAV/VNAV or LPV service is available, then vertical guidance may be used to complete the approach using the displayed level of service. Should an outage occur during the procedure, reversion to LNAV minima may be required. As the WAAS coverage is expanded, the **W** will be removed.

RNAV minimums are dependent on navigation equipment capability, as stated in the applicable AFM, AFMS, or other FAA approved document. See AIM paragraph 5-4-5, AC 90-105 and AC 90-107 for detailed requirements for each line of minima.

COLD TEMPERATURE RESTRICTED AIRPORTS

NOTE: A **⊗** -12°C/10°F symbol and associated temperature indicates a cold temperature altitude correction is required at this airport when reported temperature is at or below the published restricted temperature. Advise ATC when altitude correction is made in the intermediate and/or missed approach segment. Reporting correction to ATC in final segment is not required. See following Cold Temperature Error Table to make manual corrections. See Notices to Airman Publication (NTAP) Graphic Notices General for complete list of published airports, temperature/s, segments and procedure information. www.faa.gov/air_traffic/publications/notices

COLD TEMPERATURE ERROR TABLE

HEIGHT ABOVE AIRPORT IN FEET

| REPORTED TEMP °C | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1500 | 2000 | 3000 | 4000 | 5000 |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| +10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 30 | 40 | 60 | 80 | 90 |
| 0 | 20 | 20 | 30 | 30 | 40 | 40 | 50 | 50 | 60 | 90 | 120 | 170 | 230 | 280 |
| -10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 150 | 200 | 290 | 390 | 490 |
| -20 | 30 | 50 | 60 | 70 | 90 | 100 | 120 | 130 | 140 | 210 | 280 | 420 | 570 | 710 |
| -30 | 40 | 60 | 80 | 100 | 120 | 140 | 150 | 170 | 190 | 280 | 380 | 570 | 760 | 950 |
| -40 | 50 | 80 | 100 | 120 | 150 | 170 | 190 | 220 | 240 | 360 | 480 | 720 | 970 | 1210 |
| -50 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 450 | 590 | 890 | 1190 | 1500 |

AIRCRAFT APPROACH CATEGORIES

Aircraft approach category indicates a grouping of aircraft based on a speed of VREF, if specified, or if VREF not specified, 1.3 VSO at the maximum certificated landing weight. VREF, VSO, and the maximum certificated landing weight are those values as established for the aircraft by the certification authority of the country of registry. Helicopters are Category A aircraft. An aircraft shall fit in only one category. However, if it is necessary to operate at a speed in excess of the upper limit of the speed range for an aircraft's category, the minimums for the category for that speed shall be used. For example, an airplane which fits into Category B, but is circling to land at a speed of 145 knots, shall use the approach Category D minimums. As an additional example, a Category A airplane (or helicopter) which is operating at 130 knots on a straight-in approach shall use the approach Category C minimums. See following category limits:

MANEUVERING TABLE

| Approach Category | A | B | C | D | E |
|-------------------|------|--------|---------|---------|---------|
| Speed (Knots) | 0-90 | 91-120 | 121-140 | 141-165 | Abv 165 |

TERMS/LANDING MINIMA DATA

TERMS/LANDING MINIMA DATA

CIRCLING APPROACH OBSTACLE PROTECTED AIRSPACE

The circling MDA provides vertical obstacle clearance during a circle-to-land maneuver. The circling MDA protected area extends from the threshold of each runway authorized for landing following a circle-to-land maneuver for a distance as shown in the tables below. The resultant arcs are then connected tangentially to define the protected area.

STANDARD CIRCLING APPROACH MANEUVERING RADIUS

Circling approach protected areas developed prior to late 2012 used the radius distances shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category. The approaches using standard circling approach areas can be identified by the absence of the **C** symbol on the circling line of minima.

| Circling MDA in feet MSL | Approach Category and Circling Radius (NM) | | | | |
|--------------------------|--|-------|-------|-------|-------|
| | CAT A | CAT B | CAT C | CAT D | CAT E |
| All Altitudes | 1.3 | 1.5 | 1.7 | 2.3 | 4.5 |

C EXPANDED CIRCLING APPROACH MANEUVERING AIRSPACE RADIUS

Circling approach protected areas developed after late 2012 use the radius distance shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category, and the altitude of the circling MDA, which accounts for true airspeed increase with altitude. The approaches using expanded circling approach areas can be identified by the presence of the **C** symbol on the circling line of minima.

| Circling MDA in feet MSL | Approach Category and Circling Radius (NM) | | | | |
|--------------------------|--|-------|-------|-------|-------|
| | CAT A | CAT B | CAT C | CAT D | CAT E |
| 1000 or less | 1.3 | 1.7 | 2.7 | 3.6 | 4.5 |
| 1001-3000 | 1.3 | 1.8 | 2.8 | 3.7 | 4.6 |
| 3001-5000 | 1.3 | 1.8 | 2.9 | 3.8 | 4.8 |
| 5001-7000 | 1.3 | 1.9 | 3.0 | 4.0 | 5.0 |
| 7001-9000 | 1.4 | 2.0 | 3.2 | 4.2 | 5.3 |
| 9001 and above | 1.4 | 2.1 | 3.3 | 4.4 | 5.5 |

Comparable Values of RVR and Visibility

The following table shall be used for converting RVR to ground or flight visibility. For converting RVR values that fall between listed values, use the next higher RVR value; do not interpolate. For example, when converting 1800 RVR, use 2400 RVR with the resultant visibility of 1/2 mile.

| RVR (feet) | Visibility (statute miles) | RVR (feet) | Visibility (statute miles) |
|------------|----------------------------|------------|----------------------------|
| 1600 | 1/4 | 4500 | 3/8 |
| 2400 | 1/2 | 5000 | 1 |
| 3200 | 5/8 | 6000 | 1 1/4 |
| 4000 | 3/4 | | |

RADAR MINIMA

| | RWY | GP/TCH/RPI | CAT | DA/ MDA-VIS | HAT/ HATH/ HAA | CEIL-VIS | CAT | DA/ MDA-VIS | HAT/ HATH/ HAA | CEIL-VIS |
|-----|-----|--------------|-------|----------------|----------------------|-------------|-----|----------------|----------------------|-------------|
| PAR | 10 | 2.5°/42/1000 | ABCDE | 195/16 | 100 | (100-1/4) | | | | |
| | 28 | 2.5°/48/1068 | ABCDE | 187/16 | 100 | (100-1/4) | | | | |
| ASR | 10 | | ABC | 560/40 | 463 | (500-3/4) | DE | 560/50 | 463 | (500-1) |
| | 28 | | AB | 600/50 | 513 | (600-1) | CDE | 600/60 | 513 | (600-1 1/4) |
| CIR | 10 | | AB | 560-1/4 | 463 | (500-1 1/4) | CDE | 560-1 1/2 | 463 | (500-1 1/2) |
| | 28 | | AB | 600-1 1/4 | 503 | (600-1 1/4) | CDE | 600-1 1/2 | 503 | (600-1 1/2) |

Visibility in Statute Miles ↙

↘ All minima in parentheses not applicable to Civil Pilots. Military Pilots refer to appropriate regulations.

Radars Minima:

1. Minima shown are the lowest permitted by established criteria. Pilots should consult applicable directives for their category of aircraft.
2. The circling MDA and weather minima to be used are those for the runway to which the final approach is flown- not the landing runway. In the above RADAR MINIMA example, a category C aircraft flying a radar approach to runway 10, circling to land on runway 28, must use an MDA of 560 feet with weather minima of 500-1 1/2.

NOTE: Military RADAR MINIMA may be shown with communications symbology that indicates emergency frequency monitoring capability by the radar facility as follows:

(E) VHF and UHF emergency frequencies monitored

(M) VHF emergency frequency (121.5) monitored

(U) UHF emergency frequency (243.0) monitored

Additionally, unmonitored frequencies which are available on request from the controlling agency may be annotated with an "x".

⚠ Alternate Minimums not standard. Civil users refer to tabulation. USA/USN/USAF pilots refer to appropriate regulations.

⚠ NA Alternate minimums are Not Authorized due to unmonitored facility or absence of weather reporting service.

⚠ Takeoff Minimums not standard and/or Departure Procedures are published. Refer to tabulation.

TERMS/LANDING MINIMA DATA

GENERAL INFO

GENERAL INFORMATION

This publication is issued every 56 days and includes Standard Instrument Approach Procedures (SIAPs), Standard Instrument Departures (SIDs), Standard Terminal Arrivals (STARs), IFR Takeoff Minimums and (Obstacle) Departure Procedures (ODPs), IFR Alternate Minimums, and Radar Instrument Approach Minimums for use by civil and military aviation. The organization responsible for SIAPs, Radar Minimums, SIDs, STARs and graphic ODPs is identified in parentheses in the top margin of the procedure; e.g., (FAA), (FAA-O), (USA), (USAF), (USN). SIAPs with the (FAA) and (FAA-O) designation are regulated under 14 CFR, Part 97. SIAPs with the (FAA-O) designation have been developed under Other Transaction Agreement (OTA) by private providers and have been certified by the FAA. See 14 CFR, Part 91.175 (a) and the AIM for further details. 14 CFR, Part 91.175 (g) and the Special Notices section of the Chart Supplement contains information on civil operations at military airports.

STANDARD TERMINAL ARRIVALS AND DEPARTURE PROCEDURES

The use of the associated codified STAR/DP and transition identifiers are requested of users when filing flight plans via teletype and are required for users filing flight plans via computer interface. It must be noted that when filing a STAR/DP with a transition, the first three coded characters of the STAR and the last three coded characters of the DP are replaced by the transition code. Examples: ACTON SIX ARRIVAL, file (AQN.AQN6); ACTON SIX ARRIVAL, EDNAS TRANSITION, file (EDNAS.AQN6). FREEHOLD THREE DEPARTURE, file (FREQ3.RBV), FREEHOLD THREE DEPARTURE, ELWOOD CITY TRANSITION, file (FREQ3.EWC).

RNAV DP and STAR. Effective March 15, 2007, these procedures, formerly identified as Type-A and Type-B, will be designated as RNAV 1 in accordance with amended Advisory Circular (AC) and ICAO terminology.

Refer to AC 90-100A U.S. TERMINAL AND EN ROUTE AREA NAVIGATION (RNAV) OPERATIONS and the Aeronautical Information Manual for additional guidance regarding these procedures.

Standard RNAV 1 Procedure Chart Notes

NOTE: RNAV 1

NOTE: DME/DME/IRU or GPS required

Some procedures may require use of GPS and will be identified by a "GPS required" note.

RNAV 1 Procedure Characteristics and Operations

1. Require use of an RNAV system with DME/DME/IRU, and/or GPS inputs.
2. Require use of a CDI, flight director, and/or autopilot, in lateral navigation mode, for flight guidance while operating on RNAV paths (track, course, or direct leg). Other methods providing an equivalent level of performance may be acceptable.
3. RNAV paths may start as low as 500 feet above airport elevation.

GENERAL INFO

GENERAL INFO

PILOT CONTROLLED AIRPORT LIGHTING SYSTEMS

Available pilot controlled lighting (PCL) systems are indicated as follows:

1. Approach lighting systems that bear a system identification are symbolized using negative symbology, e.g., \ominus , \ominus , \ominus .
2. Approach lighting systems that do not bear a system identification are indicated with a negative "L" beside the name. A star (*) indicates non-standard PCL, consult Chart Supplement, e.g., \ominus^* .

To activate lights, use frequency indicated in the communication section of the chart with a \ominus or the appropriate lighting system identification e.g., UNICOM 122.8 \ominus , \ominus , \ominus .

| KEY MIKE | FUNCTION |
|--------------------------|---|
| 7 times within 5 seconds | Highest intensity available |
| 5 times within 5 seconds | Medium or lower intensity (Lower REIL or REIL-off) |
| 3 times within 5 seconds | Lowest intensity available (Lower REIL or REIL-off) |

CHART CURRENCY INFORMATION

Date of Latest Revision 09365

The Date of Latest Revision identifies the Julian date the chart was added or last revised for any reason. The first two digits indicate the year, the last three digits indicate the day of the year (001 to 365/6) in which the latest revision of any kind has been made to the chart.



The FAA Procedure Amendment Number represents the most current amendment of a given procedure. The Procedure Amendment Effective Date represents the AIRAC cycle date on which the procedure amendment was incorporated into the chart. Updates to the amendment number & effective date represent procedural/criteria revisions to the charted procedure, e.g., course, fix, altitude, minima, etc.

NOTE: Inclusion of the "Procedure Amendment Effective Date" will be phased in as procedures are amended. As this occurs, the Julian date will be relocated to the upper right corner of the chart.

MISCELLANEOUS

- ★ Indicates a non-continuously operating facility, see Chart Supplement.
- For Civil (FAA) instrument procedures, "RADAR REQUIRED" in the planview of the chart indicates that ATC radar must be available to assist the pilot when transitioning from the en route environment. "Radar required" in the pilot briefing portion of the chart indicates that ATC radar is required on portions of the procedure outside the final approach segment, including the missed approach. Some military procedures also have equipment requirements such as "Radar Required", but do not conform to the same charting application standards used by the FAA. Distances in nautical miles (except visibility in statute miles and Runway Visual Range in hundreds of feet). Runway Dimensions in feet. Elevations in feet. Mean Sea Level (MSL). Ceilings in feet above airport elevation. Radials/bearings/headings/courses are magnetic. Horizontal Datum: Unless otherwise noted on the chart, all coordinates are referenced to North American Datum 1983 (NAD 83), which for charting purposes is considered equivalent to World Geodetic System 1984 (WGS 84).

Terrain is scaled within the neat lines (planview boundaries) and does not accurately underlie not-to-scale distance depictions or symbols.

GENERAL INFO

GENERAL INFO

ABBREVIATIONS

| | | | |
|---------------|--|------------|--|
| AAUP..... | Attention All Users Page | HAA..... | Height above Airport |
| ADF..... | Automatic Direction Finder | HAL..... | Height above Landing |
| ADIZ..... | Air Defense Identification Zone | HAT..... | Height above Touchdown |
| AFIS..... | Automatic Flight Information Service | HATH..... | Height Above Threshold |
| ALS..... | Approach Light System | HGS..... | Head-up Guidance System |
| ALSF..... | Approach Light System with Sequenced Flashing Lights | HIRL..... | High Intensity Runway Lights |
| AP..... | Autopilot System | HUD..... | Head-up Display |
| APCH..... | Approach | IAF..... | Initial Approach Fix |
| APP CON..... | Approach Control | ICAO..... | International Civil Aviation Organization |
| ARR..... | Arrival | IF..... | Intermediate Fix |
| ASOS..... | Automated Surface Observing System | IM..... | Inner Marker |
| ASR/PAR..... | Published Radar Minimums at this Airport | INOP..... | Inoperative |
| ASSC..... | Airport Surface Surveillance Systems | INT..... | Intersection |
| ATIS..... | Automatic Terminal Information Service | K..... | Knots |
| AUNICOM..... | Automated UNICOM | KLAS..... | Knots Indicated Airspeed |
| AWOS..... | Automated Weather Observing System | LAAS..... | Local Area Augmentation System |
| AZ..... | Azimuth | LDA..... | Localizer Type Directional Aid |
| BC..... | Back Course | Ldg..... | Landing |
| BND..... | Bound | LRL..... | Low Intensity Runway Lights |
| C..... | Circling | LNAV..... | Lateral Navigation |
| CAT..... | Category | LOC..... | Localizer |
| CCW..... | Counter Clockwise | LP..... | Localizer Performance |
| CDI..... | Course Deviation Indicator | LPV..... | Localizer Performance with Vertical Guidance |
| Chan..... | Channel | LR..... | Lead Radial. Provides at least 2 NM (Copter 1 NM) of lead to assist in turning onto the intermediate/final course. |
| CIFP..... | Coded Instrument Flight Procedures | MAA..... | Maximum Authorized Altitude |
| CIR..... | Circling | MALS..... | Medium Intensity Approach Light System |
| CLNC DEL..... | Clearance Delivery | MALSR..... | Medium Intensity Approach Light System with RAIL |
| CNF..... | Computer Navigation Fix | MAP..... | Missed Approach Point |
| CTAF..... | Common Traffic Advisory Frequency | MDA..... | Minimum Descent Altitude |
| CW..... | Clockwise | MIRL..... | Medium Intensity Runway Lights |
| DA..... | Decision Altitude | MM..... | Middle Marker |
| DER..... | Departure End of Runway | MRA..... | Minimum Reception Altitude |
| DH..... | Decision Height | N/A..... | Not Applicable |
| DME..... | Distance Measuring Equipment | NA..... | Not Authorized |
| DTHR..... | Displaced Threshold | NDB..... | Non-directional Radio Beacon |
| DVA..... | Diverse Vector Area | NFD..... | National Flight Database |
| ELEV..... | Elevation | NM..... | Nautical Mile |
| EMAS..... | Engineered Material Arresting System | NoPT..... | No Procedure Turn Required (Procedure Turn shall not be executed without ATC clearance) |
| FAF..... | Final Approach Fix | ODALS..... | Omnidirectional Approach Light System |
| FD..... | Flight Director System | ODP..... | Obstacle Departure Procedure |
| FM..... | Fan Marker | OM..... | Outer Marker |
| FMS..... | Flight Management System | PRM..... | Precision Runway Monitor |
| GBAS..... | Ground Based Augmentation System | | |
| GCO..... | Ground Communications Outlet | | |
| GLS..... | Ground Based Augmentation System Landing System | | |
| GP..... | Glidepath | | |
| GPI..... | Ground Point of Interception | | |
| GPS..... | Global Positioning System | | |
| GS..... | Glide Slope | | |

GENERAL INFO

GENERAL INFO

ABBREVIATIONS

| | |
|-------------|---|
| R..... | Radial |
| RA..... | Radio Altimeter setting height |
| RAIL..... | Runway Alignment Indicator Lights |
| RCLS..... | Runway Centerline Light System |
| REIL..... | Runway End Identifier Lights |
| RF..... | Radius-to-Fix |
| RLLS..... | Runway Lead-in Light System |
| RNAV..... | Area Navigation |
| RNP..... | Required Navigation Performance |
| RPI..... | Runway Point of Intercept(ion) |
| RRL..... | Runway Remaining Lights |
| Rwy..... | Runway |
| RVR..... | Runway Visual Range |
| S..... | Straight-in |
| SALS..... | Short Approach Light System |
| SSALR..... | Simplified Short Approach Light System with RAIL |
| SDF..... | Simplified Directional Facility |
| SM..... | Statute Mile |
| SOIA..... | Simultaneous Offset Instrument Approach |
| TAA..... | Terminal Arrival Area |
| TAC..... | TACAN |
| TCH..... | Threshold Crossing Height (height in feet Above Ground level) |
| TDZ..... | Touchdown Zone |
| TDZE..... | Touchdown Zone Elevation |
| TDZ/CL..... | Touchdown Zone and Runway Centerline Lighting |
| TDZL..... | Touchdown Zone Lights |
| THR..... | Threshold |
| THRE..... | Threshold Elevation |
| TODA..... | Takeoff Distance Available |
| TORA..... | Takeoff Run Available |
| TR..... | Track |
| VASI..... | Visual Approach Slope Indicator |
| VCOA..... | Visual Climb Over Airport |
| VDP..... | Visual Descent Point |
| VGSI..... | Visual Glide Slope Indicator |
| VNAV..... | Vertical Navigation |
| WAAS..... | Wide Area Augmentation System |
| WP/WPT..... | Waypoint (RNAV) |

EC-1, 10 NOV 2016 to 05 JAN 2017

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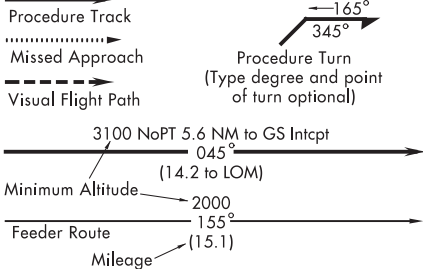
GENERAL INFO

LEGEND

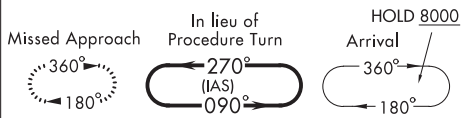
INSTRUMENT APPROACH PROCEDURES (CHARTS)

PLANVIEW SYMBOLS

TERMINAL ROUTES



HOLDING PATTERNS

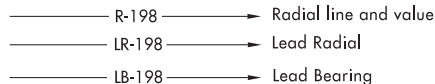
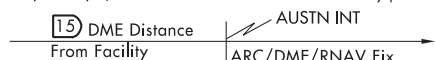


Holding pattern with max. restricted airspeed: (175K) applies to all altitudes. (210K) applies to altitudes above 6000' and including 14000'. Arrival Holding Pattern altitude restrictions will be indicated when they deviate from the adjacent leg. Limits will only be specified when they deviate from the standard. DME fixes may be shown.

FIXES/ATC REPORTING REQUIREMENTS



Computer Navigation Fix (CNF)
x (NAME) ("x" omitted when it conflicts with runway pattern)



ALTITUDES

| | |
|--------------------------------|--------------------------------------|
| <u>5500</u> Mandatory Altitude | 3000 Recommended Altitude |
| <u>2500</u> Minimum Altitude | <u>5000</u> Mandatory Block Altitude |
| <u>4300</u> Maximum Altitude | <u>3000</u> Altitude |

INDICATED AIRSPEED

| | | | |
|--------------------|------------------|------------------|----------------------|
| <u>175K</u> | 120K | 250K | 180K |
| Mandatory Airspeed | Minimum Airspeed | Maximum Airspeed | Recommended Airspeed |

RADIO AIDS TO NAVIGATION

110.1 Underline indicates No Voice transmitted on this frequency

Compulsory:



Non-Compulsory:



LOM/LMM (Compass locator at Outer Marker/Middle Marker)

Marker Beacon

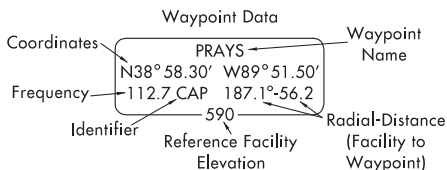
Marker beacons that are not specifically part of the procedure but underlie the final approach course are shown in screened color.

Localizer (LOC/LDA) Course
Right side shading- Front course; Left side shading- Back Course

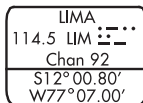
SDF Course

LOC/DME

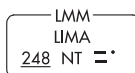
LOC/LDA/SDF Transmitter
(shown when installation is offset from its normal position off the end of the runway.)



Primary Navaid with Coordinate Values



Secondary Navaid



LEGEND

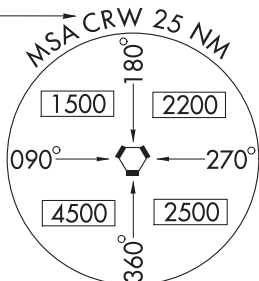
LEGEND

INSTRUMENT APPROACH PROCEDURES (CHARTS)

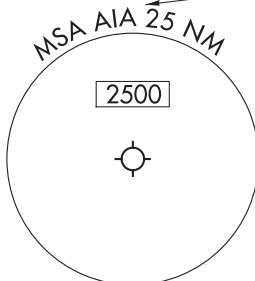
PLANVIEW SYMBOLS

MINIMUM SAFE ALTITUDE (MSA)

Facility Identifier

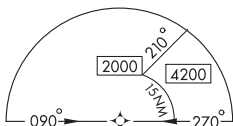


Airport Identifier

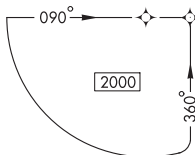


(arrows on distance circle identify sectors)

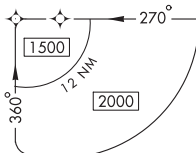
TERMINAL ARRIVAL AREA (TAA)



Straight-in Area

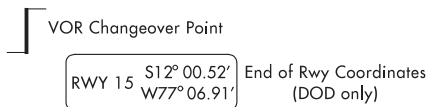


Right Base Area



Left Base Area

MISCELLANEOUS



- Distance not to scale
- International Boundary
- Air Defense Identification Zone

AIRPORTS

- Primary and Secondary (named in planview)
- Civil
- Seaplane Base

SPECIAL USE AIRSPACE

- R-352
- R-Restricted
- P-Prohibited
- W-Warning
- A-Alert

OBSTACLES

- Spot Elevation
- ▲ Obstacle
- ▲ Highest Obstacle
- Highest Spot Elevation
- ▲ Group of Obstacles
- ± Doubtful accuracy

LEGEND

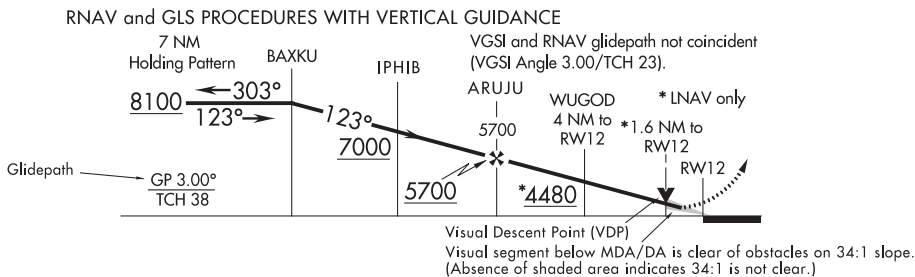
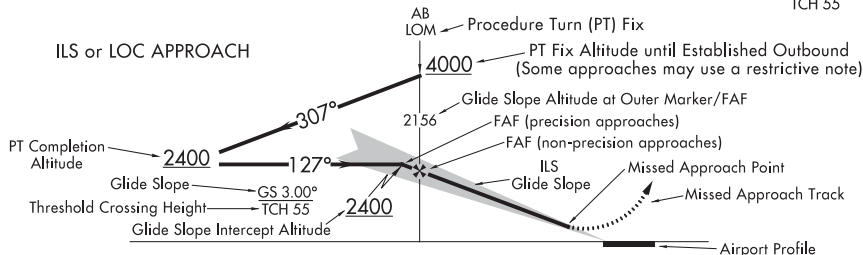
PROFILE VIEW

Three different methods are used to depict either electronic or vertical guidance: "GS", "GP", or "VDA".

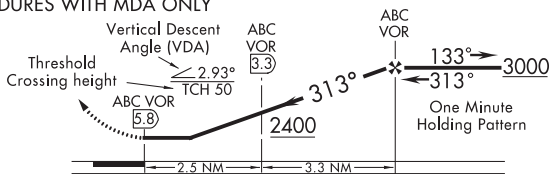
1. "GS" indicates that an Instrument Landing System (ILS) electronic glide slope (a ground antenna) provides vertical guidance. The profile section of ILS procedures depict a GS angle and TCH in the following format: $GS\ 3.00^\circ$.
TCH 55

2. "GP" on GLS and RNAV procedures indicates that either electronic vertical guidance (via Wide Area Augmentation System - WAAS or Ground Based Augmentation System - GBAS) or barometric vertical guidance is provided. GLS and RNAV procedures with a published decision altitude (DA/H) depict a GP angle and TCH in the following format: $GP\ 3.00^\circ$.
TCH 50

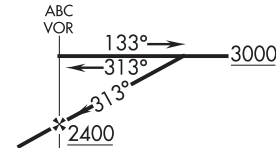
3. An advisory vertical descent angle (VDA) is provided on non-vertically guided conventional procedures and RNAV procedures with only a minimum descent altitude (MDA) to assist in preventing controlled flight into terrain. On Civil (FAA) procedures, this information is placed above or below the procedure track following the fix it is based on. Absence of a VDA or a note that the VDA is not authorized indicates that the prescribed obstacle clearance surface is not clear and the VDA must not be used below MDA. VDA is depicted in the following format: $\leq 3.00^\circ$.
TCH 55



NON-VERTICALLY GUIDED CONVENTIONAL PROCEDURES AND RNAV PROCEDURES WITH MDA ONLY



DESCENT FROM HOLDING PATTERN



| ALTITUDES | |
|--------------------------------|--------------------------------------|
| <u>5500</u> Mandatory Altitude | 3000 Recommended Altitude |
| <u>2500</u> Minimum Altitude | <u>5000</u> Mandatory Block Altitude |
| <u>4300</u> Maximum Altitude | <u>3000</u> Altitude |

PROFILE SYMBOLS

\swarrow 2400 Glide Slope/Glidepath Intercept Altitude and final approach fix for vertically guided approach procedures.

\blacktriangledown Visual Descent Point (VDP)

\dashrightarrow Visual Flight Path

Note: Facilities and waypoints are depicted as a solid vertical line while fixes and intersections are depicted as a dashed vertical line.

LEGEND

LEGEND STANDARD TERMINAL ARRIVAL (STAR) CHARTS DEPARTURE PROCEDURE (DP) CHARTS

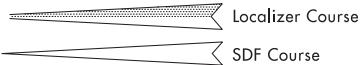
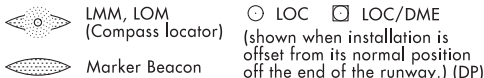
Applies to both STAR and DP Charts unless otherwise noted.

RADIO AIDS TO NAVIGATION

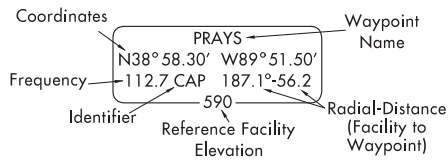
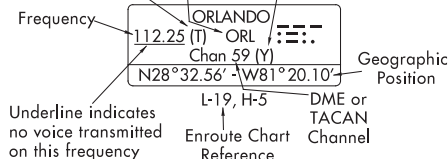
Compulsory:



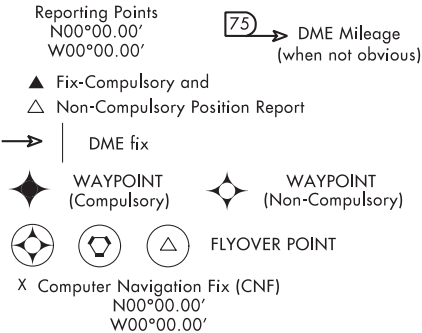
Non-Compulsory:



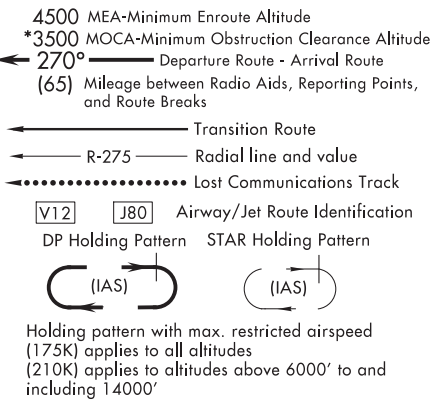
(T) indicates frequency protection range (STAR) (Y) TACAN must be placed in "Y" mode to receive distance information



FIXES/ATC REPORTING REQUIREMENTS



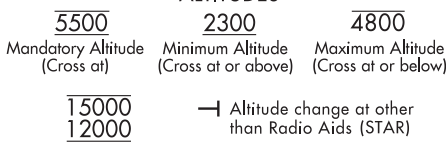
ROUTES



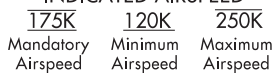
SPECIAL USE AIRSPACE



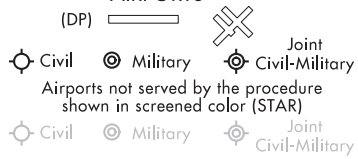
ALTITUDES



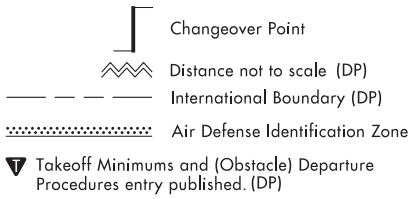
INDICATED AIRSPEED



AIRPORTS



MISCELLANEOUS



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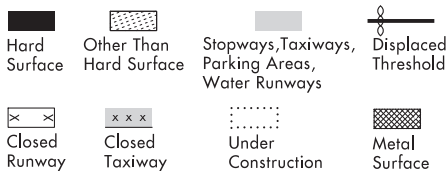
LEGEND

LEGEND

INSTRUMENT APPROACH PROCEDURES (CHARTS)

AIRPORT DIAGRAM/AIRPORT SKETCH

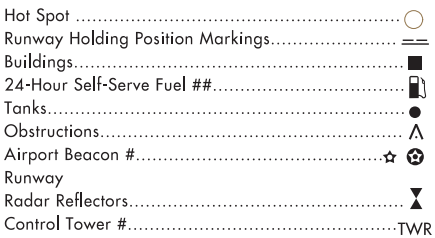
Runways



ARRESTING GEAR: Specific arresting gear systems; e.g., BAK12, MA-1A etc., shown on airport diagrams, not applicable to Civil Pilots. Military Pilots refer to appropriate DOD publications.



REFERENCE FEATURES



When Control Tower and Rotating Beacon are co-located, Beacon symbol will be used and further identified as TWR.

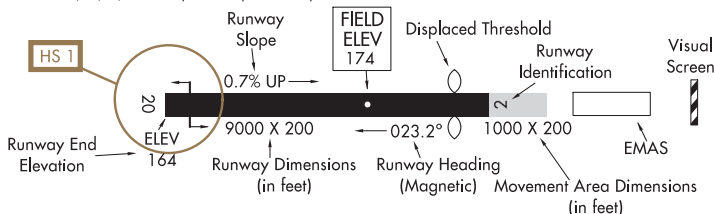
A fuel symbol is shown to indicate 24-hour self-serve fuel available, see appropriate Chart Supplement for information.

Runway length depicted is the physical length of the runway (end-to-end, including displaced thresholds if any) but excluding areas designated as stopways.

A **D** symbol is shown to indicate runway declared distance information available, see appropriate Chart Supplement for distance information.

Runway Weight Bearing Capacity/ or PCN Pavement Classification Number is shown as a codified expression.

Refer to the appropriate Supplement/Directory for applicable codes e.g., RWY 14-32 PCN 80 F/D/X/U S-75, D-185, 2S-175, 2D-325



SCOPE

Airport diagrams are specifically designed to assist in the movement of ground traffic at locations with complex runway/taxiway configurations. Airport diagrams are not intended to be used for approach and landing or departure operations. For revisions to Airport Diagrams: Consult FAA Order 7910.4.

Helicopter Alighting Areas (H) (+) (H) (A) (+)
 Negative Symbols used to identify Copter Procedures landing point..... (H) (+) (H) (A) (+)

Runway Threshold elevation.....THRE 123
 Runway TDZ elevation.....TDZE 123
 Runway Slope.....0.8% UP →
 (shown when runway slope is greater than or equal to 0.3%)
 ← 0.3% DOWN

NOTE:
 Runway Slope measured to midpoint on runways 8000 feet or longer.

U.S. Navy Optical Landing System (OLS) "OLS" location is shown because of its height of approximately 7 feet and proximity to edge of runway may create an obstruction for some types of aircraft.

Approach light symbols are shown in the Flight Information Handbook.

Airport diagram scales are variable.

True/magnetic North orientation may vary from diagram to diagram

Coordinate values are shown in 1 or 1/2 minute increments. They are further broken down into 6 second ticks, within each 1 minute increments.

Positional accuracy within ±600 feet unless otherwise noted on the chart.

NOTE:
 All new and revised airport diagrams are shown referenced to the World Geodetic System (WGS) (noted on appropriate diagram), and may not be compatible with local coordinates published in FLIP. (Foreign Only)

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LEGEND

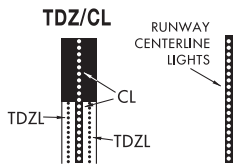
15344
LEGEND

INSTRUMENT APPROACH PROCEDURES (CHARTS)
APPROACH LIGHTING SYSTEM - UNITED STATES

Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, e.g., (A2), (V), etc.

A dot "•" portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., (A1). Negative symbology, e.g., (A3), (V) indicates Pilot Controlled Lighting (PCL).

RUNWAY TOUCHDOWN ZONE AND CENTERLINE LIGHTING SYSTEMS



AVAILABILITY of TDZ/CL will be shown by NOTE in SKETCH e.g. "TDZ/CL Rwy 15"

SHORT APPROACH LIGHTING SYSTEM



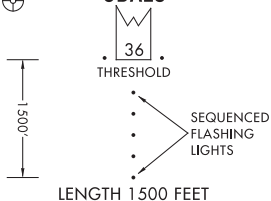
SALS/SALSF
(High Intensity)

SAME AS INNER 1500' OF ALSF-1

OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM



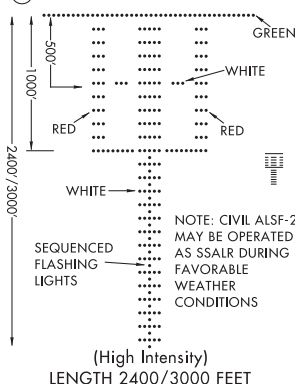
ODALS



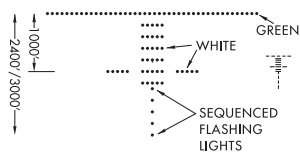
APPROACH LIGHTING SYSTEM



ALSF-2

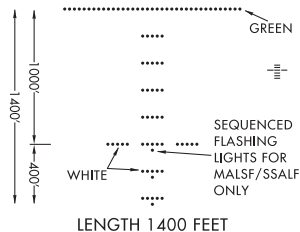


SSALR



(High Intensity)
LENGTH 2400/3000 FEET

MEDIUM INTENSITY (MALS and MALSF) OR SIMPLIFIED SHORT (SSALS and SSALF) APPROACH LIGHTING SYSTEMS



MEDIUM INTENSITY APPROACH LIGHTING SYSTEM
with Runway Alignment Indicator Lights



MALSR

SAME LIGHT CONFIGURATION AS SSALR.

VISUAL APPROACH SLOPE INDICATOR

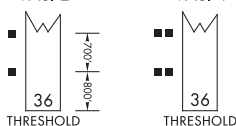
VASI

VISUAL APPROACH SLOPE INDICATOR WITH STANDARD THRESHOLD CLEARANCE PROVIDED.

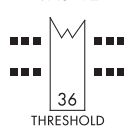
ALL LIGHTS WHITE — TOO HIGH
FAR LIGHTS RED — ON GLIDE SLOPE
NEAR LIGHTS WHITE — TOO LOW
ALL LIGHTS RED — TOO LOW

VASI 2

VASI 4



VASI 12



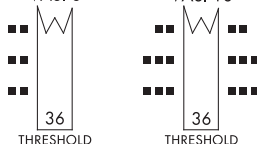
VISUAL APPROACH SLOPE INDICATOR

VASI

3-BAR, 6 OR 16 BOX, VISUAL APPROACH SLOPE INDICATOR THAT PROVIDES 2 GLIDE ANGLES AND 2 THRESHOLD CROSSING HEIGHTS.

VASI 6

VASI 16



LEGEND

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04330
LEGEND

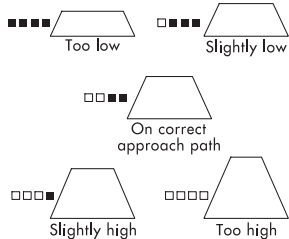
INSTRUMENT APPROACH PROCEDURES (CHARTS)
APPROACH LIGHTING SYSTEM - UNITED STATES

Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, (A₂), (V) etc.

A dot "•" portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., (A₁F). Negative symbology, e.g., (A₁), (V) indicates Pilot Controlled Lighting (PCL).

(P) **PRECISION APPROACH PATH INDICATOR**

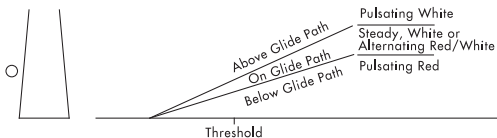
PAPI



Legend: □ White ■ Red

(V₂) **PULSATING VISUAL APPROACH SLOPE INDICATOR**

PVASI



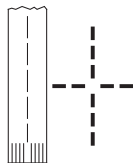
CAUTION: When viewing the pulsating visual approach slope indicators in the pulsating white or pulsating red sectors, it is possible to mistake this lighting aid for another aircraft or a ground vehicle. Pilots should exercise caution when using this type of system.

(V₁) **"T"-VISUAL APPROACH SLOPE INDICATOR**

"T"-VASI

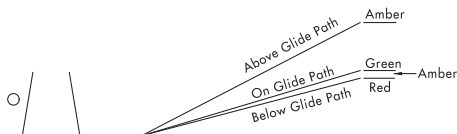


"T" ON BOTH SIDES OF RWY
ALL LIGHTS VARIABLE WHITE.
CORRECT APPROACH SLOPE-
ONLY CROSS BAR VISIBLE.
UPRIGHT "T"- FLY UP.
INVERTED "T"- FLY DOWN.
RED "T"- GROSS
UNDERSHOOT.



(V₄) **TRI-COLOR VISUAL APPROACH SLOPE INDICATOR**

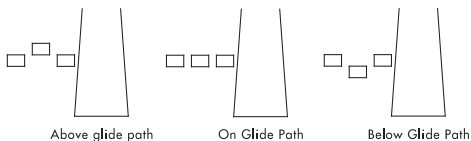
TRCV



CAUTION: When the aircraft descends from green to red, the pilot may see a dark amber color during the transition from green to red.

(V₅) **ALIGNMENT OF ELEMENTS SYSTEMS**

APAP



Painted panels which may be lighted at night.
To use the system the pilot positions the aircraft
so the elements are in alignment.

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LEGEND

FREQ PAIRING

FREQUENCY PAIRING TABLE

| TACAN CHANNEL | VHF FREQUENCY | TACAN CHANNEL | VHF FREQUENCY | TACAN CHANNEL | VHF FREQUENCY |
|---------------|---------------|---------------|---------------|---------------|---------------|
| 17Y | 108.05 | 40X | 110.30 | 88Y | 114.15 |
| 18X | 108.10 | 40Y | 110.35 | 89Y | 114.25 |
| 18Y | 108.15 | 41Y | 110.45 | 90Y | 114.35 |
| 19Y | 108.25 | 42X | 110.50 | 91Y | 114.45 |
| 20X | 108.30 | 42Y | 110.55 | 92Y | 114.55 |
| 20Y | 108.35 | 43Y | 110.65 | 93Y | 114.65 |
| 21Y | 108.45 | 44X | 110.70 | 94Y | 114.75 |
| 22X | 108.50 | 44Y | 110.75 | 95Y | 114.85 |
| 22Y | 108.55 | 45Y | 110.85 | 96Y | 114.95 |
| 23Y | 108.65 | 46X | 110.90 | 97Y | 115.05 |
| 24X | 108.70 | 46Y | 110.95 | 98Y | 115.15 |
| 24Y | 108.75 | 47Y | 111.05 | 99Y | 115.25 |
| 25Y | 108.85 | 48X | 111.10 | 100Y | 115.35 |
| 26X | 108.90 | 48Y | 111.15 | 101Y | 115.45 |
| 26Y | 108.95 | 49Y | 111.25 | 102Y | 115.55 |
| 27Y | 109.05 | 50X | 111.30 | 103Y | 115.65 |
| 28X | 109.10 | 50Y | 111.35 | 104Y | 115.75 |
| 28Y | 109.15 | 51Y | 111.45 | 105Y | 115.85 |
| 29Y | 109.25 | 52X | 111.50 | 106Y | 115.95 |
| 30X | 109.30 | 52Y | 111.55 | 107Y | 116.05 |
| 30Y | 109.35 | 53Y | 111.65 | 108Y | 116.15 |
| 31Y | 109.45 | 54X | 111.70 | 109Y | 116.25 |
| 32X | 109.50 | 54Y | 111.75 | 110Y | 116.35 |
| 32Y | 109.55 | 55Y | 111.85 | 111Y | 116.45 |
| 33Y | 109.65 | 56X | 111.90 | 112Y | 116.55 |
| 34X | 109.70 | 56Y | 111.95 | 113Y | 116.65 |
| 34Y | 109.75 | 80Y | 113.35 | 114Y | 116.75 |
| 35Y | 109.85 | 81Y | 113.45 | 115Y | 116.85 |
| 36X | 109.90 | 82Y | 113.55 | 116Y | 116.95 |
| 36Y | 109.95 | 83Y | 113.65 | 117Y | 117.05 |
| 37Y | 110.05 | 84Y | 113.75 | 118Y | 117.15 |
| 38X | 110.10 | 85Y | 113.85 | 119Y | 117.25 |
| 38Y | 110.15 | 86Y | 113.95 | | |
| 39Y | 110.25 | 87Y | 114.05 | | |

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FREQ PAIRING

INDEX

16315

INDEX OF TERMINAL CHARTS AND MINIMUMS

| NAME | PROC | SECT PG | NAME | PROC | SECT PG |
|--|------|---------|--|------|---------|
| ABRAMS MUNI | | | ANN ARBOR, MI | | |
| ---SEE GRAND LEDGE, MI | | | ANN ARBOR MUNI(ARB) | | |
| ADRIAN, MI | | | TAKEOFF MINIMUMS L | | |
| LENAWEE COUNTY(ADG) | | | ALTERNATE MINIMUMS M | | |
| TAKEOFF MINIMUMS L | | | HOT SPOT P | | |
| ALTERNATE MINIMUMS M | | | STARS CRUXX FIVE Z1 | | |
| IAPS RNAV (GPS) RWY 05 1 | | | GOHMA THREE Z4 | | |
| RNAV (GPS) RWY 23 2 | | | LLEEO TWO Z5 | | |
| NDB RWY 05 3 | | | SPRTRN THREE Z9 | | |
| ALLEGAN, MI | | | IAPS RNAV (GPS) RWY 06 16 | | |
| PADGHAM FIELD(35D) | | | RNAV (GPS) RWY 24 17 | | |
| TAKEOFF MINIMUMS L | | | VOR RWY 06 18 | | |
| IAPS RNAV (GPS) RWY 11 4 | | | VOR RWY 24 19 | | |
| RNAV (GPS) RWY 29 5 | | | AIRPORT DIAGRAM 20 | | |
| VOR RWY 29 6 | | | DPS AKRON FIVE 21 | | |
| ALMA, MI | | | ERRTH SIX 23 | | |
| GRATIOT COMMUNITY(AMN) | | | FORT WAYNE SIX 25 | | |
| TAKEOFF MINIMUMS L | | | MOONN SEVEN 27 | | |
| ALTERNATE MINIMUMS M | | | PALACE NINE 29 | | |
| IAPS RNAV (GPS) RWY 09 7 | | | RICHMOND EIGHT 31 | | |
| RNAV (GPS) RWY 18 8 | | | ROSEWOOD FIVE 33 | | |
| RNAV (GPS) RWY 27 9 | | | ST. CLAIR NINE 35 | | |
| VOR/DME RWY 18 10 | | | ANTRIM COUNTY | | |
| ALPENA, MI | | | ---SEE BELLAIRE, MI | | |
| ALPENA COUNTY RGNL(APN) | | | ATHELONE WILLIAMS MEMORIAL | | |
| TAKEOFF MINIMUMS L | | | ---SEE DAVISON, MI | | |
| ALTERNATE MINIMUMS M | | | BAD AXE, MI | | |
| IAPS ILS OR LOC RWY 01 11 | | | HURON COUNTY MEMORIAL(BAX) | | |
| RNAV (GPS) RWY 01 12 | | | TAKEOFF MINIMUMS L | | |
| RNAV (GPS) RWY 19 13 | | | ALTERNATE MINIMUMS M | | |
| VOR RWY 19 14 | | | IAPS RNAV (GPS) RWY 04 36 | | |
| AIRPORT DIAGRAM 15 | | | RNAV (GPS) RWY 17 37 | | |
| ANDREWS UNIVERSITY AIRPARK | | | RNAV (GPS) RWY 22 38 | | |
| ---SEE BERRIEN SPRINGS, MI | | | RNAV (GPS) RWY 35 39 | | |
| BALDWIN, MI | | | BALDWIN MUNI(7D3) | | |
| BALDWIN MUNI(7D3) | | | TAKEOFF MINIMUMS L | | |
| TAKEOFF MINIMUMS L | | | IAPS RNAV (GPS)-A 40 | | |
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| ALTERNATE MINIMUMS | | M | ALTERNATE MINIMUMS | | M |
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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

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INSTRUMENT APPROACH PROCEDURE CHARTS



IFR TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

Civil Airports and Selected Military Airports

ALL USERS: Airports that have Departure Procedures (DPs) designed specifically to assist pilots in avoiding obstacles during the climb to the minimum enroute altitude, and/or airports that have civil IFR takeoff minimums other than standard, are listed below. Takeoff Minimums and Departure Procedures apply to all runways unless otherwise specified. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

DPs specifically designed for obstacle avoidance are referred to as Obstacle Departure Procedures (ODPs) and are textually described below, or published separately as a graphic procedure. If the ODP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or the applicable military volume, as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not specifically assigned an ODP, SID, or radar vector as part of an IFR clearance, an ODP may be required to be flown for obstacle clearance, even though not specifically stated in the IFR clearance. When doing so in this manner, ATC should be informed when the ODP being used contains a specified route to be flown, restrictions before turning, and/or altitude restrictions.

Some ODPs, which are established solely for obstacle avoidance, require a climb in visual conditions to cross the airport, a fix, or a NAVAID in a specified direction, at or above a specified altitude. These procedures are called VCOA Over Airport (VCOA). To ensure safe and efficient operations, the pilot must verbally request approval from ATC to fly the VCOA when requesting their IFR clearance.

At some locations where an ODP has been established, a diverse vector area (DVA) may be created to allow radar vectors to be used in lieu of an ODP. DVA information will state that headings will be as assigned by ATC and climb gradients, when applicable, will be published immediately following the specified departure procedure.

Graphic DPs designed by ATC to standardize traffic flows, ensure aircraft separation and enhance capacity are referred to as "Standard Instrument Departures (SIDs)". SIDs also provide obstacle clearance and are published under the appropriate airport section. ATC clearance must be received prior to flying a SID.

CIVIL USERS NOTE: Title 14 Code of Federal Regulations Part 91 prescribes standard takeoff rules and establishes takeoff minimums for certain operators as follows: (1) For aircraft, other than helicopters, having two engines or less – one statute mile visibility. (2) For aircraft having more than two engines – one-half statute mile visibility. (3) For helicopters – one-half statute mile visibility. These standard minima apply in the absence of any different minima listed below.

MILITARY USERS NOTE: Civil (nonstandard) takeoff minima are published below. For military takeoff minima, refer to appropriate service directives.

| | | | |
|------|------------------|------|------------------|
| NAME | TAKEOFF MINIMUMS | NAME | TAKEOFF MINIMUMS |
|------|------------------|------|------------------|

ADRIAN, MI

LENAAWEE COUNTY (ADG)
 TAKEOFF MINIMUMS AND (OBSTACLE)
 DEPARTURE PROCEDURES
 ORIG 07130 (FAA)
 TAKEOFF MINIMUMS: **Rwys 11, 29**, NA-ATC.
 NOTE: **Rwy 5**, multiple trees beginning 1837' from DER, 149' left of centerline, up to 75' AGL/873' MSL. Multiple trees beginning 953' from DER, 146' right of centerline, up to 74' AGL/872' MSL. **Rwy 23**, tree 1231' from DER, 633' left of centerline, 55' AGL/849' MSL.

ALLEGAN, MI

PADGHAM FIELD (35D)
 TAKEOFF MINIMUMS AND (OBSTACLE)
 DEPARTURE PROCEDURES
 AMDT 2 10042 (FAA)
 TAKEOFF MINIMUMS: **Rwys 15, 33**, NA-Environmental.
 DEPARTURE PROCEDURE: **Rwy 11**, climb heading 103° to 1200 before turning right.
 NOTE: **Rwy 11**, multiple trees beginning 46' from DER, 10' left of centerline, up to 97' AGL/806' MSL. Multiple trees beginning 1' from DER, 2' right of centerline, up to 100' AGL/794' MSL. **Rwy 29**, multiple trees beginning 37' from DER, 4' left of centerline, up to 83' AGL/802' MSL. Multiple trees beginning 22' from DER, 20' right of centerline, up to 84' AGL/803' MSL.

ALMA, MI

GRATIOT COMMUNITY (AMN)
 TAKEOFF MINIMUMS AND (OBSTACLE)
 DEPARTURE PROCEDURES
 ORIG 10042 (FAA)
 TAKEOFF MINIMUMS: **Rwy 9**, 400-3 or std. w/ min. climb of 251' per NM to 1400.
 NOTE: **Rwy 9**, multiple trees beginning 841' from DER, 438' right of centerline, up to 58' AGL/817' MSL. Multiple trees beginning 1383' from DER, 380' left of centerline, up to 71' AGL/820' MSL. **Rwy 18**, multiple trees beginning 1067' from DER, 152' right of centerline, up to 70' AGL/829' MSL. Multiple trees beginning 923' from DER, 374' left of centerline, up to 70' AGL/824' MSL. **Rwy 27**, multiple trees beginning 306' from DER, 272' right of centerline, up to 81' AGL/840' MSL. Multiple trees beginning 1168' from DER, 593' left of centerline, up to 93' AGL/852' MSL. **Rwy 36**, multiple trees beginning 239' from DER, 3' right of centerline, up to 86' AGL/845' MSL. Multiple trees beginning 143' from DER, 38' left of centerline, up to 103' AGL/852' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

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ALPENA, MI

ALPENA COUNTY RGNL (APN)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

ORIG 09015 (FAA)

NOTE: **Rwy 1**, tree 2293' from DER, 525' left of centerline, 100' AGL/749' MSL. **Rwy 7**, trees beginning 858' from DER, 567' right of centerline up to 100' AGL/774' MSL. Trees beginning 1059' from DER, 166' left of centerline up to 100' AGL/769' MSL. **Rwy 19**, trees beginning 1789' from DER, 270' left of centerline up to 100' AGL/779' MSL. Trees beginning 1049' from DER, 777' right of centerline up to 100' AGL/789' MSL. Vent on cable 44' from DER, 147' left of centerline up to 25' AGL/685' MSL. **Rwy 25**, trees beginning 652' from DER, 53' left of centerline up to 100' AGL/755' MSL. Trees beginning 1021' from DER, 275' right of centerline up to 100' AGL/751' MSL.

ANN ARBOR, MI

ANN ARBOR MUNI (ARB)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 9 10322 (FAA)

TAKEOFF MINIMUMS: **Rwys 12, 30**, NA-Environmental.

NOTE: **Rwy 6**, building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL. Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL. Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL. Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL. **Rwy 24**, terrain 138' from DER, 475' right of centerline, 837' MSL. Multiple trees beginning 462' from DER, 486' right of centerline, 50' AGL/885' MSL. Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.

BAD AXE, MI

HURON COUNTY MEMORIAL (BAX)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 4 07354 (FAA)

NOTE: **Rwy 4**, vehicle on road 244' from DER, 531' left of centerline, 15' AGL/774' MSL. Tree 810' from DER, 43' left of centerline, 100' AGL/859' MSL. Vehicle on road 223' from DER, 470' right of centerline, 15' AGL/774' MSL. **Rwy 17**, vehicle on road 164' from DER, on centerline, 15' AGL/784' MSL. Bush 81' from DER, 497' right of centerline, 4' AGL/757' MSL. Railroad 695' from DER, 684' right of centerline, 23' AGL/792' MSL. Terrain beginning 222' from DER, 70' right of centerline, 0' AGL/757' MSL. Trees beginning 855' from DER, 392' right of centerline, up to 100' AGL/879' MSL. Pole 1135' from DER, 755' left of centerline, 35' AGL/798' MSL. Terrain beginning 44' from DER, 9' left of centerline, 0' AGL/765' MSL. Trees beginning 1693' from DER, 372' left of centerline, up to 100' AGL/859' MSL. **Rwy 22**, terrain beginning 3' from DER, 172' left of centerline, 0' AGL/765' MSL. Tree 2334' from DER, 422' left of centerline, 100' AGL/869' MSL. Terrain beginning 49' from DER, 165' right of centerline, 0' AGL/762' MSL. Railroad 41' from DER, 390' right of centerline, 23' AGL/782' MSL. **Rwy 35**, antenna on tower 355' from DER, 478' right of centerline, 34' AGL/793' MSL. Antenna 359' from DER, 477' right of centerline, 30' AGL/793' MSL. Vehicle on road 575' from DER, 412' right of centerline, 15' AGL/778' MSL. Trees beginning 1259' from DER, 53' right of centerline, up to 100' AGL/842' MSL. Trees beginning 1509' from DER, 375' left of centerline, up to 100' AGL/859' MSL. Tower 1085' from DER, 698' left of centerline, 63' AGL/822' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



BALDWIN, MI

BALDWIN MUNI (7D3)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

ORIG 84075 (FAA)

TAKEOFF MINIMUMS: **Rwys 5, 9, 23, 27**, 300-1.

BATTLE CREEK, MI

W. K. KELLOGG (BTL)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 3 11125 (FAA)

TAKEOFF MINIMUMS: **Rwys 5R, 23L, NA** - Environmental.

NOTE: **Rwy 5L**, trees beginning 1590' from DER, 484' right of centerline, up to 80' AGL/999' MSL. Vehicle on road 896' from DER, left and right of centerline, 17' AGL/956' MSL. **Rwy 13**, vehicles on road 480' from DER, on centerline, 15' AGL/945' MSL. Trees beginning 800' from DER, 3' right of centerline, up to 102' AGL/1021' MSL. Trees and fence beginning 193' from DER, 31' left of centerline, up to 101' AGL/1030' MSL. **Rwy 23R**, trees beginning 1995' from DER, 3' right of centerline, up to 103' AGL/1072' MSL. Trees beginning 2065' from DER, 25' left of centerline, up to 80' AGL/1049' MSL. **Rwy 31**, trees and tower beginning 1797' from DER, 2' right of centerline, up to 166' AGL/1058' MSL. Trees and railroad beginning 14' from DER, 116' left of centerline, up to 68' AGL/977' MSL.

BAY CITY, MI

JAMES CLEMENTS MUNI (3CM)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 6 13346 (FAA)

TAKEOFF MINIMUMS: **Rwys 9, 13, 18, 27, 31, 36**, NA - environmental.

DEPARTURE PROCEDURE: **Rwy 18**, climb heading 180° to 2000 before turning left. **Rwy 23**, climb heading 229° to 1200 before turning left.

NOTE: **Rwy 5**, road 260' from DER, left and right of centerline, up to 15' AGL/604' MSL. Tree 1171' from DER 277' left of centerline, 87' AGL/678' MSL. **Rwy 18**, bushes beginning 186' from DER, 151' right of centerline, 6' AGL/596' MSL. Trees beginning 350' from DER, 200' left of centerline, 10' AGL/597' MSL. Trees beginning 1368' from DER, 59' right of centerline, up to 80' AGL/673' MSL. Trees beginning 1768' from DER, 330' left of centerline, up to 95' AGL/699' MSL. Trees beginning 2353' from DER, 127' left of centerline, up to 110' AGL/680' MSL. **Rwy 23**, trees 1120' from DER, 130' right of centerline, 40' AGL/624' MSL. **Rwy 36**, trees beginning 103' from DER, 50' left of centerline, up to 27' AGL/621' MSL. Trees beginning 436' from DER, 162' right of centerline, up to 90' AGL/681' MSL. Pole 538' from DER, 434' left of centerline, up to 20' AGL/609' MSL. Trees beginning 1856' from DER, 17' left of centerline, up to 87' AGL/681' MSL.



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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



BEAVER ISLAND, MI

BEAVER ISLAND (SJX)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 98001 (FAA)

TAKEOFF MINIMUMS: **Rwys 9,27**, 300-1.

Rwys 5,14,23,32, NA.

BELLAIRE, MI

ANTRIM COUNTY (ACB)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 6 06215 (FAA)

TAKEOFF MINIMUMS: **Rwy 2**, 700-3 or std. w/ a min.
climb of 417' per NM to 1500.

DEPARTURE PROCEDURE: **Rwy 2**, climb heading
022° to 1200 before turning right. **Rwy 20**, climb
heading 202° to 1300 before turning left.

NOTE: **Rwy 2**, road 385' from DER, 528' right of
centerline, 15' AGL/646' MSL. Multiple trees beginning
2535' from DER, 96' left of centerline, up to 100'
AGL/884' MSL. Multiple trees beginning 406' from
DER, 235' right of centerline, up to 100' AGL/1147'
MSL. Tower 2.57 NM from DER, 3271' right of
centerline, 168' AGL/1198' MSL.

Rwy 20, multiple trees beginning 64' from DER, 204'
right of centerline up to 100' AGL/693' MSL. Multiple
buildings and antenna on tower beginning 2641' from
DER, 909' right of centerline, up to 121' AGL/721' MSL.
Multiple trees beginning 125' from DER, 220' left of
centerline, up to 100' AGL/720' MSL.

BENTON HARBOR, MI

SOUTHWEST MICHIGAN RGNL (BEH)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 7 11237 (FAA)

TAKEOFF MINIMUMS: **Rwy 32**, 200-1½ or std. w/min.
climb of 283' per NM to 900.

NOTE: **Rwy 10**, trees beginning 39' from DER, right and
left of centerline, up to 100' AGL/760' MSL. Pole 1036'
from DER, 551' right of centerline, 25' AGL/676' MSL.
Towers 4217' from DER, 221' left of centerline, 100'
AGL/755' MSL. **Rwy 14**, trees, buildings, poles, and
vehicles on road beginning 550' from DER, right and
left of centerline, up to 100' AGL/748' MSL. Tower
1979' from DER, 528' left of centerline, 65' AGL/713'
MSL. Stack 2200' from DER, 373' left of centerline, 40'
AGL/689' MSL. **Rwy 18**, vehicles on road, trees,
buildings, and poles beginning 15' from DER, right and
left of centerline, up to 100' AGL/732' MSL. Fence 190'
from DER, 263' left of centerline, 8' AGL/632' MSL.

Rwy 28, trees beginning 583' from DER, 590' right of
centerline, up to 100' AGL/662' MSL. Pole and rod 956'
from DER, 312' left of centerline, up to 50' AGL/663'
MSL. Trees beginning 1150' from DER, 634' left of
centerline, up to 100' AGL/698' MSL.

Rwy 32, trees and towers beginning 77' from DER,
right and left of centerline, up to 100' AGL/819' MSL.

Rwy 36, trees beginning 20' from DER, right and left of
centerline, up to 100' AGL/732' MSL. Bush 107' from
DER, 54' right of centerline, 15' AGL/634' MSL. Pole
1626' from DER, 817' right of centerline, 115' AGL/725'
MSL. Pole and tower 2661' from DER, 92' left of
centerline, 170' AGL/711' MSL.

BERRIEN SPRINGS, MI

ANDREW UNIVERSITY AIRPARK (C20)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 03023 (FAA)

TAKEOFF MINIMUMS: **Rwys 3, 13, 21**, NA. **Rwy 31**,
700-1½ or std. with a min. climb of 260' per NM to 1500.
NA at night.

NOTE: **Rwy 31**, tower 6789' northeast of DER, 565'
AGL/1224' MSL.

BIG RAPIDS, MI

ROBEN-HOOD (RQB)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 6 15008 (FAA)

TAKEOFF MINIMUMS: **Rwy 27**: 300-1½ or std. w/min.
climb of 400'/NM to 1200. **Rwy 32**: 200-1½ or std. w/
min. climb of 300'/NM to 1200.

NOTE: **Rwy 9**, REILs 40' from DER, left and right of
centerline, up to 5' AGL/946' MSL. Trees beginning 1880'
from DER, left and right of centerline, up to 100'
AGL/1013' MSL. Trees beginning 2938' from DER, left
and right of centerline, up to 100' AGL/1052' MSL. Trees
beginning 4403' from DER, 1496' left of centerline, up to
126' AGL/1091' MSL. **Rwy 14**, trees beginning 74' from
DER, 64' right of centerline, up to 74' AGL/992' MSL.
Pole 78' from DER, 451' left of centerline, 37' AGL/959'
MSL. Vehicles on road beginning 161' from DER, 494'
left of centerline, up to 15' AGL/938' MSL. Trees
beginning 177' from DER, 211' left of centerline, up to 81'
AGL/994' MSL. Trees beginning 787' from DER, 26' left
of centerline, up to 104' AGL/1007' MSL. Trees
beginning 834' from DER, 89' right of centerline, up to 71'
AGL/1003' MSL. Pole 1104' from DER, 452' left of
centerline, 36' AGL/958' MSL. Trees beginning 1824'
from DER, 151' left of centerline, up to 102' AGL/1005'
MSL. Trees beginning 2563' from DER, 53' right of
centerline, up to 91' AGL/1013' MSL. **Rwy 27**, tree 2'
from DER, 362' right of centerline, 5' AGL/1006' MSL.
REILs 99' from DER, left and right of centerline, up to 10'
AGL/991' MSL. Trees beginning 240' from DER, 473' left
of centerline, up to 40' AGL/1038' MSL. Trees beginning
745' from DER, 35' right of centerline, up to 132'
AGL/1104' MSL. Buildings, poles and trees beginning
1970' from DER, left and right of centerline, up to 94'
AGL/1121' MSL. Building 2754' from DER, 1168' right of
centerline, 30' AGL/1076' MSL. **Rwy 32**, ground, lights
and trees beginning 20' from DER, left and right of
centerline, up to 11' AGL/958' MSL. Trees beginning
1965' from DER, left and right of centerline, up to 68'
AGL/1033' MSL. Trees beginning 4265' from DER, left
and right of centerline, up to 104' AGL/1128' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



BOIS BLANC ISLAND, MI

BOIS BLANC ISLAND (6Y1)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

ORIG 14317 (FAA)

NOTE: **Rwy 10**, trees beginning abeam DER, 144' left of centerline, up to 100' AGL/759' MSL. Trees beginning abeam DER, 200' right of centerline, up to 100' AGL/759' MSL. Trees beginning 1738' from DER, left and right of centerline, up to 100' AGL/759' MSL. **Rwy 28**, trees beginning abeam DER, 217' left of centerline, up to 100' AGL/769' MSL. Trees beginning abeam DER, 266' right of centerline, up to 100' AGL/799' MSL. Vehicles on road beginning abeam DER, 170' left of centerline, up to 15' AGL/684' MSL. Vehicles on road beginning 440' from DER, crossing centerline from left to right, up to 15' AGL/684' MSL. Trees beginning 1590' from DER, left and right of centerline up to 100' AGL/799' MSL.

BOYNE CITY, MI

BOYNE CITY MUNI (N98)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

ORIG 12152 (FAA)

TAKEOFF MINIMUMS: **Rwy 9**, 600-3 w/ min. climb of 207' per NM to 1400, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1600' prior to DER, or std. w/min. climb of 500' per NM to 1400. **Rwy 27**, 300-½ w/ min. climb of 230' per NM to 1800.

DEPARTURE PROCEDURE: **Rwy 27**, climb heading 278° to 1900 before turning left.

NOTE: **Rwy 9**, trees beginning 9' from DER, 23' right of centerline, up to 100' AGL/1167' MSL. Trees beginning 38' from DER, 299' left of centerline, up to 100' AGL/1167' MSL. Navaid 13' from DER, 112' left of centerline, 24' AGL/661' MSL. Vehicles on roads beginning 102' from DER, crossing left to right of centerline, up to 15' AGL/680' MSL. T-L towers beginning 730' from DER, 177' right of centerline, up to 75' AGL/732' MSL. Poles beginning 735' from DER, 180' right of centerline, up to 98' AGL/1109' MSL. Sign 218' from DER, 146' right of centerline, 22' AGL/669' MSL. Ground beginning 5490' from DER, 1064' left of centerline, up to 1070' MSL. Catenary 1.3 NM from DER, 6' right of centerline, 936' MSL. **Rwy 27**, trees beginning 30' from DER, 437' right of centerline, up to 100' AGL/743' MSL. Trees beginning 65' from DER, 203' left of centerline, up to 100' AGL/743' MSL. Buildings beginning 30' from DER, 437' right of centerline, up to 47' AGL/691' MSL. Vehicles on roads beginning 65' from DER, 203' left of centerline, up to 15' AGL/676' MSL. Poles beginning 113' from DER, 515' left of centerline, up to 36' AGL/693' MSL. Antenna on building 118' from DER, 374' left of centerline, 37' AGL/694' MSL. Fence beginning 172' from DER, 67' left of centerline, up to 12' AGL/662' MSL. Antenna 765' from DER, 226' right of centerline, 36' AGL/683' MSL.

BOYNE FALLS, MI

BOYNE MOUNTAIN (BFA)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 4 14149 (FAA)

TAKEOFF MINIMUMS: **Rwy 17**, std w/min. climb of 490' per NM to 1400 or 1300-2½ for climb in visual conditions.

Rwy 35, std w/min. climb of 310' per NM to 1400 or 1300 -2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 17**, climb heading 175° to 1400 before proceeding on course, or for climb in visual conditions cross Boyne Mountain airport at or above 1900 before proceeding on course. When executing VCOA, notify ATC prior to departure. **Rwy 35**, climb heading 355° to 1400 before proceeding on course, or for climb in visual conditions cross Boyne Mountain airport at or above 1900 before proceeding on course. When executing VCOA, notify ATC prior to departure.

NOTE: **Rwy 17**, vehicles on road beginning 10' from DER, 93' right of centerline, up to 15' AGL/753' MSL. Trees beginning 13' from DER, 170' left of centerline, up to 100' AGL/854' MSL. Vehicles on road beginning 402' from DER, 16' left of centerline, up to 15' AGL/736' MSL. Trees beginning 529' from DER, 143' right of centerline, up to 100' AGL/838' MSL. Trees beginning 2915' from DER, 1028' right of centerline, up to 100' AGL/903' MSL. Trees beginning 2.4 NM from DER, left and right of centerline, up to 100' AGL/1231' MSL. **Rwy 35**, vehicles on road beginning 28' from DER, left and right of centerline, up to 15' AGL/720' MSL. Trees beginning 613' from DER, 599' left of centerline, up to 100' AGL/805' MSL. Trees beginning 1355' from DER, left and right of centerline, up to 100' AGL/805' MSL. Trees beginning 2319' from DER, 465' right of centerline, up to 100' AGL/797' MSL. Multiple trees beginning 1.6 NM from DER, left and right of centerline, up to 100' AGL/1069' MSL. Trees beginning 1.7 NM from DER, left and right of centerline, up to 100' AGL/1091' MSL. Trees beginning 1.8 NM from DER, left and right of centerline, up to 100' AGL/1124' MSL. Multiple trees beginning 1.9 NM from DER, left and right of centerline, up to 100' AGL/1127' MSL. Multiple trees beginning 2.1 NM from DER, left and right of centerline, up to 100' AGL/1161' MSL.

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CADILLAC, MI

WEXFORD COUNTY (CAD)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 7 09183 (FAA)

TAKEOFF MINIMUMS: **Rwys 18, 36**, NA-
Environmental.

DEPARTURE PROCEDURE: **Rwy 25**, climb heading
250° to 1800 before turning left.

NOTE: **Rwy 7**, trees beginning 783' from DER, 129'
right of centerline, up to 53' AGL/1348' MSL. Trees
beginning 849' from DER, 348' left of centerline, up to
74' AGL/1378' MSL. Poles beginning 1221' from DER,
596' left of centerline, up to 30' AGL/1336' MSL. Poles
beginning 1228' from DER, 366' right of centerline, up
to 38' AGL/1333' MSL. Train and tracks 1386' from
DER, 819' left of centerline, 23' AGL/1335' MSL. **Rwy
25**, bush 14' from DER, 275' right of centerline, 10'
AGL/1317' MSL. Vehicle and road 660' from DER, 623'
left of centerline, 15' AGL/1327' MSL.

CARO, MI

TUSCOLA AREA (CFS)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 2 16147 (FAA)

TAKEOFF MINIMUMS: **Rwys 13, 31** NA-
Environmental.

NOTE: **Rwy 6**, NAVAID 41' from DER, 83' left of
centerline, 702' MSL. Bush, tree, pole beginning 152'
from DER, 238' left of centerline, up to 715' MSL.
Trees beginning 665' from DER, 224' left of centerline,
up to 727' MSL. Tree 697' from DER, 674' right of
centerline, 753' MSL. Trees beginning 819' from DER,
11' right of centerline, up to 759' MSL. Tree 944' from
DER, 419' left of centerline, 766' MSL. Trees beginning
990' from DER, 97' left of centerline, up to 775' MSL.
Tree, building, pole, t-tower beginning 1278' from
DER, 204' right of centerline, up to 778' MSL. Trees, t-
tower, pole, tank, beginning 1615' from DER, 471' right
of centerline, up to 793' MSL. Tree 3612' from DER,
797' right of centerline, 800' MSL. **Rwy 24**, pole 21'
from DER, 330' left of centerline, up to 6' AGL/687'
MSL. Tree, NAVAID, pole beginning 35' from DER, 76'
left of centerline, up to 703' MSL. Trees beginning 178'
from DER, 472' left of centerline, up to 714' MSL.
Trees beginning 723' from DER, 565' left of centerline,
up to 730' MSL. Tree, pole, t-tower, catenary
beginning 948' from DER, 167' left of centerline, up to
737' MSL. Tree, catenary, pole, t-tower beginning
1243' from DER, 46' left of centerline, up to 741' MSL.
Trees beginning 1369' from DER, 25' right of
centerline, up to 770' MSL. Tree, t-tower, pole
beginning 2360' from DER, 108' right of centerline, up
to 808' MSL.

CHARLEVOIX, MI

CHARLEVOIX MUNI (CVX)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 4 05020 (FAA)

TAKEOFF MINIMUMS: **Rwys 4, 22**, N/A.

NOTES: **Rwy 9**, terrain beginning at DER, left and right
of centerline up to 660' MSL. **Rwy 27**, terrain
beginning at DER, left and right of centerline up to 693'
MSL.

CHARLOTTE, MI

FITCH H BEACH (FPK)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 2 92065 (FAA)

TAKEOFF MINIMUMS: **Rwys 2, 14, 20, 32**, 300-1.
DEPARTURE PROCEDURE: **Rwy 20**, climb runway
heading to 1500 before turning.

CHEBOYGAN, MI

CHEBOYGAN COUNTY (SLH)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 3 86156 (FAA)

TAKEOFF MINIMUMS: **Rwys 10, 16**, 300-1.

CLARE, MI

CLARE MUNI (48D)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 2 13262 (FAA)

TAKEOFF MINIMUMS: **Rwy 9**, 300-1 or std. w/min. climb
of 371' per NM to 1100.

NOTE: **Rwy 4**, bush 24' from DER, 131' left of centerline,
8' AGL/859' MSL. Trees beginning 495' from DER, 431'
right of centerline, up to 56' AGL/897' MSL. Pole and
trees beginning 728' from DER, 629' left of centerline, up
to 55' AGL/906' MSL. Tree 1158' from DER, 166' left of
centerline, 48' AGL/889' MSL. Trees beginning 1693'
from DER, 607' right of centerline, up to 67' AGL/908'
MSL. Trees beginning 1668' from DER, 111' left of
centerline, up to 114' AGL/955' MSL. **Rwy 9**, vehicle on
road 7' from DER, 92' left of centerline, 15' AGL/834'
MSL. Vehicle on road 229' from DER, crossing
centerline, 15' AGL/834' MSL. Buildings beginning 394'
from DER, 275' right of centerline, up to 30' AGL/849'
MSL. Trees beginning 81' from DER, 417' right of
centerline, up to 45' AGL/864' MSL. Trees beginning
1894' from DER, crossing centerline, up to 130' AGL/989'
MSL. **Rwy 22**, terrain 38' from DER, 486' right of
centerline, 828' MSL. Light 39' from DER, 111' right of
centerline, 4' AGL/829' MSL. Light 40' from DER, 111'
left of centerline, 4' AGL/828' MSL. Windsock 373' from
DER, 559' right of centerline, 34' AGL/855' MSL. Trees
beginning 1033' from DER, crossing centerline, up to
129' AGL/934' MSL. **Rwy 27**, building 290' from DER,
574' right of centerline, 20' AGL/851' MSL. Antenna 329'
from DER, 399' right of centerline, 32' AGL/863' MSL.
Building 434' from DER, 552' right of centerline, 21'
AGL/852' MSL. Vehicle on road 532' from DER, 516'
right of centerline, 15' AGL/854' MSL. Trees beginning
566' from DER, 238' right of centerline, up to 98'
AGL/918' MSL. Trees beginning 411' from DER, 212' left
of centerline, up to 95' AGL/906' MSL. Trees beginning
1261' from DER, 462' right of centerline, up to 124'
AGL/932' MSL. Trees beginning 2372' from DER, 230'
left of centerline, up to 109' AGL/930' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

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COLDWATER, MI

BRANCH COUNTY MEMORIAL (OEB)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 4 08101 (FAA)

TAKEOFF MINIMUMS: **Rwys 16, 34**, NA -
Environmental.

NOTE: **Rwy 4**, vehicles on road and trees beginning 5' from DER, 92' right of centerline, up to 100' AGL/1059' MSL. Vehicles on road and trees beginning 347' from DER, 317' left of centerline, up to 100' AGL/1,059' MSL. **Rwy 7**, trees beginning 1246' from DER, 430' left of centerline, up to 100' AGL/1059' MSL. Vehicles on road and trees beginning 154' from DER, 315' right of centerline, up to 100' AGL/1039' MSL. Pole 336' from DER, 274' right of centerline, 18' AGL/977' MSL. **Rwy 22**, trains on railroad and trees beginning 769' from DER, 986' left to 945' right of centerline, up to 100' AGL/1099' MSL. **Rwy 25**, vehicles on road and trees beginning 1171' from DER, 394' left of centerline, up to 100' AGL/1,059' MSL. Trees beginning 732' from DER, 95' right of centerline, up to 100' AGL/1034' MSL.

DAVISON, MI

ATHELONE WILLIAMS MEMORIAL (6G0)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 2 97338 (FAA)

TAKEOFF MINIMUMS: **Rwys 8, 26**, 300-1.

DETROIT, MI

COLEMAN A YOUNG MUNI (DET)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 7 10322 (FAA)

TAKEOFF MINIMUMS: **Rwy 25**, std. with a minimum climb of 215' per NM to 1400, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

DEPARTURE PROCEDURE: **Rwy 33**, climb heading 328° to 1800 before turning left.

NOTE: **Rwy 7**, multiple poles, lights and trees, stack and antenna beginning 132' from DER, from 405' left to 314' right of centerline, up to 60' AGL/687' MSL. **Rwy 15**, trees, antenna on building, and OB light on building beginning 299' from DER, 289' right of centerline, up to 68' AGL/692' MSL. Trees and rod, antenna, pipe and floodlight on buildings beginning 450' from DER, 221' left of centerline, up to 78' AGL/692' MSL. Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL, building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL. **Rwy 25**, railroad, construction lights on buildings and stacks, trees and stack beginning 1' from DER, 12' left of centerline, up to 76' AGL/703' MSL. Trees and light beginning 334' from DER, 132' right of centerline, up to 58' AGL/685' MSL. Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL. Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL. **Rwy 33**, trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL. Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL. Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.

DETROIT, MI (CON'T)

DETROIT METROPOLITAN/WAYNE COUNTY
(DTW)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 1 10322 (FAA)

NOTE: **Rwy 3R**, headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL. **Rwy 3L**, tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL. **Rwy 4R**, trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL. Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL. **Rwy 4L**, transmission towers beginning 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL. Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL. **Rwy 9R**, trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL. **Rwy 9L**, trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL. Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL. **Rwy 21R**, tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL. Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL. **Rwy 21L**, trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL. Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL. **Rwy 22R**, trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL. Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL. **Rwy 22L**, bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL. Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL. Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL. **Rwy 27R**, trees beginning 2998' from DER, 949' left of centerline, up to 100' AGL/754' MSL. Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL. Multiple trees beginning 3289' from DER, 1239' right of centerline, up to 100' AGL/774' MSL. **Rwy 27L**, trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL. Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.

WILLOW RUN (YIP)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 10A 15120 (FAA)

TAKEOFF MINIMUMS: **Rwy 27**, 300-1½ or std. w/min. climb of 206' per NM to 1000, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

NOTE: **Rwy 5R**, trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL. Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL. **Rwy 5L**, trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL. **Rwy 23R**, sign 73' from DER, 255' left of centerline, 10' AGL/718' MSL. Vehicle on road 587' from DER, 294' right of centerline, 15' AGL/732' MSL. Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL. Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL. **Rwy 23L**, sign 44' from DER, 499' right of centerline, 8' AGL/718' MSL. Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL. Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL. **Rwy 27**, tree and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL. Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL. Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL. Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



DETROIT/GROSSE ILE, MI

GROSSE ILE MUNI (ONZ)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 5 12236 (FAA)

TAKEOFF MINIMUMS: **Rwy 35**, 800-1½ or std. w/min.
climb of 500' per NM to 1100.

DEPARTURE PROCEDURE: **Rwy 4**, climb heading
037° to 1200 before turning left. **Rwy 35**, climb
heading 006° to 1800 before turning left.

NOTE: **Rwy 4**, trees and bushes beginning 12' from
DER, left and right of centerline, up to 82' AGL/672'
MSL. Building 493' from DER, 630' left of centerline,
32' AGL/626' MSL. Trees beginning 515' from DER,
left and right of centerline, up to 78' AGL/673' MSL.
Pole 585' from DER, 350' right of centerline, 74'
AGL/613' MSL. Trees beginning 1033' from DER, left
and right of centerline, up to 74' AGL/713' MSL. **Rwy 17**,
trees and bushes abeam DER, 378' right of
centerline, up to 47' AGL/622' MSL. Fence beginning
121' from DER, 218' right of centerline, 12' AGL/588'
MSL. Trees 148' from DER, left and right of centerline,
up to 68' AGL/643' MSL. Trees 2311' from DER, 764'
left of centerline, up to 97' AGL/672' MSL. **Rwy 22**,
trees abeam DER, 100' left of centerline, up to 12'
AGL/587' MSL. Bushes abeam DER, 40' right of
centerline, up to 15' AGL/590' MSL. Fence 387' from
DER, 518' right of centerline, 12' AGL/587' MSL. Trees
369' from DER, 385' right of centerline, up to 47'
AGL/622' MSL. Trees 1037' from DER, 63' right of
centerline, up to 106' AGL/686' MSL. Trees 1539' from
DER, 51' right of centerline, up to 111' AGL/691' MSL.
Rwy 35, fence 60' from DER, crossing centerline, 10'
AGL/591' MSL. Trees abeam DER, 196' left of
centerline, up to 85' AGL/663' MSL. Buildings abeam
DER, 430' left of centerline, up to 40' AGL/612' MSL.
Buildings 310' from DER, 400' left of centerline, up to
25' AGL/613' MSL. Buildings 450' from DER, 515' right
of centerline, up to 19' AGL/614' MSL. Trees beginning
504' from DER, 199' left of centerline, up to 100'
AGL/675' MSL. Vehicle on road, 690' from DER,
crossing centerline, 15' AGL/619' MSL. Chimney 694'
from DER, 359' left of centerline, 35' AGL/619' MSL.
Poles 843' from DER, left and right of centerline, up to
47' AGL/628' MSL. Trees beginning 1029' from DER,
left and right of centerline, up to 60' AGL/678' MSL.

DOWAGIAC, MI

DOWAGIAC MUNI (C91)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 5 10210 (FAA)

TAKEOFF MINIMUMS: **Rwys 4, 21**, NA-Environmental.
NOTE: **Rwy 9**, building, 258' from DER, 549' right of
centerline, 26' AGL/778' MSL. Multiple poles beginning
372' from DER, 432' right of centerline, up to 42'
AGL/795' MSL. Antenna, 459' from DER, 367' right of
centerline, 35' AGL/787' MSL. Antenna, 615' from
DER, 341' right of centerline, 35' AGL/775' MSL.
Multiple poles beginning 654' from DER, 341' left of
centerline, up to 48' AGL/779' MSL. Trees beginning
667' from DER, 21' left of centerline, up to 77'
AGL/839' MSL. Trees beginning 864' from DER, 7'
right of centerline, up to 121' AGL/879' MSL. **Rwy 27**,
trees beginning 21' from DER, 33' right of centerline,
up to 93' AGL/828' MSL. Trees beginning 154' from
DER, 112' left of centerline, up to 111' AGL/837' MSL.

DRUMMOND ISLAND, MI

DRUMMOND ISLAND (DRM)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 1 12152 (FAA)

TAKEOFF MINIMUMS: **Rwys 1,19**, NA - environmental.
Rwy 8, 300-1 or std. w/min. climb of 449' per NM to 1000.
NOTE: **Rwy 8**, fence beginning 72' from DER, left and
right of centerline, up to 5' AGL/664' MSL. Vehicle on
road beginning 199' from DER, left and right of
centerline, up to 15' AGL/675' MSL. Buildings beginning
11' from DER, left and right of centerline, up to 20'
AGL/679' MSL. Poles 123' from DER, 182' left of
centerline, up to 30' AGL/689' MSL. Trees beginning 91'
from DER, left and right of centerline, up to 100'
AGL/860' MSL. **Rwy 26**, trees beginning 42' from DER,
left and right of centerline, up to 100' AGL/809' MSL.
Buildings beginning 102' from DER, 87' left of centerline,
up to 20' AGL/669' MSL.

EAST TAWAS, MI

IOSCO COUNTY (6D9)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 1 13206 (FAA)

NOTE: **Rwy 8**, trees beginning at DER, 400' left and right
of centerline, up to 100' AGL/704' MSL. Vehicles on
roadway 17' from DER, 306' left of centerline, up to 15'
AGL/619' MSL. Train 113' from DER, 510' right of
centerline, up to 23' AGL/627' MSL. **Rwy 26**, trees
beginning at DER, 100' left and right of centerline, up to
100' AGL/714' MSL.

ESCANABA, MI

DELTA COUNTY (ESC)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 09127 (FAA)

TAKEOFF MINIMUMS: **Rwy 36**, 400-2¼ or std. w/min.
climb of 261' per NM to 1100.
NOTE: **Rwy 9**, vehicles on roadway at DER, 272' right of
centerline, 15' AGL/607' MSL. Trees beginning 1013'
from DER, 444' left of centerline, up to 100' AGL/690'
MSL. Trees beginning 1185' from DER, 55' right of
centerline, up to 100' AGL/690' MSL. **Rwy 18**, buildings
1' from DER, 480' right of centerline, up to 26' AGL/616'
MSL. Fences 139' from DER, 402' right of centerline, up
to 9' AGL/599' MSL. Pole 255' from DER, 563' right of
centerline, 20' AGL/618' MSL. Trees beginning 329' from
DER, 18' left of centerline, up to 100' AGL/664' MSL.
Trees beginning 375' from DER, 19' right of centerline,
up to 100' AGL/673' MSL. **Rwy 36**, tower 1.87 NM from
DER, 2362' left of centerline, 293' AGL/915' MSL.
Vehicles on roadway beginning 41' from DER, 40' right of
centerline, 15' AGL/621' MSL. Trees beginning 349' from
DER, 555' right of centerline, up to 100' AGL/697' MSL.
Trees beginning 366' from DER, 2' left of centerline, up to
100' AGL/700' MSL.

FLINT, MI

BISHOP INTL (FNT)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 5 02052 (FAA)

NOTE: **Rwy 18**, trees 1200' from DER, 500' right of
centerline, 65' AGL/863' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



FRANKFORT, MI

FRANKFORT DOW MEMORIAL FIELD
(FKS)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 3 11069 (FAA)

TAKEOFF MINIMUMS: **Rwy 15**, 400-2¼ or std. w/min. climb of 300' per NM to 1100. **Rwy 33**, 500-2¼ or 300-1 w/ min. climb of 600' per NM to 1200.

DEPARTURE PROCEDURE: **Rwy 15**, climb heading 143° to 1500 before turning left. **Rwy 33**, climb heading 323° to 1200 before turning.

NOTE: **Rwy 15**, vehicles on roadway, beginning 13' from DER, right and left of centerline, up to 15' AGL/654' MSL. Trees beginning 33' from DER, 507' right of centerline, 100' AGL/706' MSL. Trees beginning 345' from DER, 293' left of centerline, 100' AGL/756' MSL. Trees beginning 1.2 NM from DER, 1030' left of centerline, 100' AGL/969' MSL. Tree 1.9 NM from DER, 903' right of centerline, 100' AGL/936' MSL. Tree 2.2 NM from DER, 15' left of centerline, 100' AGL/953' MSL. **Rwy 33**, vehicles on roadway, beginning 6' from DER, right and left of centerline, up to 15' AGL/687' MSL. Trees beginning 316' from DER, 323' right of centerline, 100' AGL/805' MSL. Trees beginning 470' from DER, 256' left of centerline, 100' AGL/838' MSL. Trees beginning 2759' from DER, 1219' right of centerline, 100' AGL/1035' MSL. Tree 1.3 NM from DER, 379' left of centerline, 100' AGL/1002' MSL.

FREMONT, MI

FREMONT MUNI (FFX)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 09351 (FAA)

TAKEOFF MINIMUMS: **Rwy 27**, 300-1¼ or std. w/ a min climb of 211' per NM to 1100, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, TAKEOFF must occur no later than 1400' prior to DER.

NOTE: **Rwy 9**, trees beginning 947' from DER, on centerline, up to 100' AGL/866' MSL. **Rwy 18**, trees beginning 1055' from DER, 763' right of centerline, up to 100' AGL/859' MSL. Pole 1140' from DER, 617' right of centerline, 27' AGL/784' MSL. Trees beginning 2276' from DER, 1029' left of centerline, up to 100' AGL/847' MSL. **Rwy 27**, trees beginning 816' from DER, 635' right of centerline, up to 100' AGL/876' MSL. Trees beginning 2640' from DER on centerline, up to 100' AGL/876' MSL. Trees beginning 1.18 NM from DER, 1830' right of centerline, up to 100' AGL/960' MSL.

Rwy 36, terrain 81' from DER, 484' left of centerline, 774' MSL. Transmission poles beginning 1157' from DER, 728' left to 497' right of centerline, up to 40' AGL/817' MSL. Catenary 1564' from DER, 41' right of centerline, 37' AGL/814' MSL. Trees beginning 1584' from DER, 577' left to 412' right of centerline, up to 67' AGL/844' MSL.

GAYLORD, MI

GAYLORD RGNL (GLR)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 09127 (FAA)

NOTE: **Rwy 9**, trees beginning 917' from DER, 318' right of centerline, up to 57' AGL/1387' MSL. Trees beginning 918' from DER, 357' left of centerline, up to 79' AGL/1407' MSL. Ceilometer 166' from DER, 258' left of centerline, 4' AGL/1334' MSL. **Rwy 18**, power line pylon 2125' from DER, 917' right of centerline, 79' AGL/1398' MSL. Bushes beginning 18' from DER, 255' left of centerline, up to 21' AGL/1338' MSL. **Rwy 27**, trees beginning 2870' from DER, 345' right of centerline, up to 83' AGL/1403' MSL. Tree 2906' from DER, 234' left of centerline, 75' AGL/1395' MSL. **Rwy 36**, trees and bush beginning 79' from DER, 191' left of centerline, up to 54' AGL/1374' MSL.

GLADWIN, MI

CHARLES ZETTEL MEMORIAL (GDW)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 3 11293 (FAA)

TAKEOFF MINIMUMS: **Rwy 27**, 400-2 or std. with min. climb of 341' per NM to 1300.

Rwys 15, 33, NA - Environmental.

DEPARTURE PROCEDURE: **Rwy 27**, climb heading 272° to 1500 before turning left.

NOTE: **Rwy 9**, trees beginning 42' from DER left and right of centerline, up to 82' AGL/850' MSL. **Rwy 27**, vehicle on 108' from DER, across centerline, 15' AGL/789' MSL. Trees beginning 736' from DER, left and right of centerline, up to 111' AGL/991' MSL. Tank 5787' from DER, 1118' right of centerline, 170' AGL/996' MSL. Tower 1.5 NM from DER, 1250' right of centerline, 187' AGL/1080' MSL. Tower 1.6 NM from DER, 1390' right of centerline, 199' AGL/1118' MSL.

GRAND HAVEN, MI

GRAND HAVEN MEMORIAL AIRPARK
(3GM)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 5 12040 (FAA)

TAKEOFF MINIMUMS: **Rwy 27**, 300-1¼ or std. w/min. climb of 231' per NM to 900.

NOTE: **Rwy 9**, trees beginning 23' from DER, left and right of centerline, up to 96' AGL/705' MSL. Terrain beginning 47' from DER, 322' left of centerline, up to 594' MSL. Wire 22' from DER, 1064' left of centerline, 22' AGL/620' MSL. **Rwy 18**, tree 204' from DER, 553' right of centerline, 69' AGL/678' MSL. **Rwy 27**, building 7' from DER, 472' left of centerline, 18' AGL/619' MSL. Trees beginning 25' from DER, 604' right and left of centerline, up to 112' AGL/746' MSL. **Rwy 36**, stack 2732' from DER, 430' left of centerline, 128' AGL/735' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



GRAND LEDGE, MI

ABRAMS MUNI (4D0)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 3 12096 (FAA)

TAKEOFF MINIMUMS: **Rwys 18, 36**, NA, - ATC.

Rwy 27, 300-1 or std. w/min. climb of 306' per NM to 1100.

NOTE: **Rwy 9**, trees beginning 75' from DER, left and right of centerline, up to 114' AGL/954' MSL. Terrain beginning 82' from DER, 242' right of centerline, up to 852' MSL. Pole 1433' from DER, 61' left of centerline, 45' AGL/877' MSL. Navoids beginning 30' from DER, left and right of centerline, up to 2' AGL/841' MSL.

Rwy 27, vehicle on road 59' from DER, 359' right of centerline, 15' AGL/846' MSL. Fence 70' from DER, 405' left of centerline, 4' AGL/836' MSL. Navaid 587' from DER, 490' left of centerline, 15' AGL/852' MSL. Buildings beginning 740' from DER, 326' right of centerline, up to 34' AGL/878' MSL. Buildings beginning 771' from DER, 555' left of centerline, up to 21' AGL/859' MSL. Flagpole 819' from DER, 601' right of centerline, 25' AGL/869' MSL. Trees beginning 827' from DER, left and right of centerline, up to 88' AGL/932' MSL. Power poles beginning 868' from DER, left and right of centerline, up to 24' AGL/871' MSL. Tank 4595' from DER, 478' left of centerline, 169' AGL/1004' MSL. Vertical structure, 4597' from DER, 470' left of centerline, 171' AGL/1006' MSL. Elevator 4646' from DER, 555' left of centerline, 162' AGL/997' MSL.

GRAND RAPIDS, MI

GERALD R FORD INTL (GRR)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 2 09183(FAA)

NOTE: **Rwy 8L**, vehicle on road 20' from DER, 156' left of centerline, 15' AGL/794' MSL. Trees beginning 1419' from DER, 740' left of centerline, up to 100' AGL/859' MSL. **Rwy 17**, trees beginning 1382' from DER, 134' left of centerline, up to 100' AGL/929' MSL. Trees beginning 1389' from DER, 819' right of centerline, up to 100' AGL/899' MSL. **Rwy 26R**, terrain beginning 102' from DER, 381' right of centerline, up to 808' MSL. **Rwy 35**, vehicle on road 742' from DER, 675' left of centerline, up to 15' AGL/804' MSL. Trees beginning 2002' from DER, 715' left of centerline, up to 100' AGL/869' MSL. Trees beginning 1339' from DER, 7' right of centerline, up to 100' AGL/879' MSL.

GRAYLING, MI

GRAYLING AAF (GOV)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 3 10154 (FAA)

NOTE: **Rwy 5**, tree 1192' from DER, 275' right of centerline, 56' AGL/1215' MSL. Tree 1684' from DER, 600' left of centerline, 56' AGL/1225' MSL. **Rwy 14**, tree 435' from DER, 402' right of centerline, 57' AGL/1216' MSL. Antenna 3937' from DER, 1179' right of centerline, 136' AGL/1279' MSL. **Rwy 23**, trees beginning 1438' from DER, 29' right of centerline, up to 100' AGL/1269' MSL. **Rwy 32**, trees beginning 1611' from DER, 50' left of centerline, up to 66' AGL/1216' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



GREENVILLE, MI

GREENVILLE MUNI (6D6)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 2A 11153 (FAA)

TAKEOFF MINIMUMS: **Rwys 1, 19**, NA, environmental. NOTE: **Rwy 10**, trees and poles beginning 128' from DER, 25' left of centerline, up to 100' AGL/925' MSL. Trees and poles beginning 5' from DER, 5' right of centerline, up to 84' AGL/923' MSL. **Rwy 28**, trees and building beginning 34' from DER, 26' right of centerline, up to 87' AGL/942' MSL. Trees beginning 87' from DER, 6' left of centerline, up to 79' AGL/958' MSL.

HANCOCK, MI

HOUGHTON COUNTY MEMORIAL (CMX)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 3 11349 (FAA)

TAKEOFF MINIMUMS: **Rwy 25**, 400-2½ or std. w/min. climb of 205' per NM to 1600 or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER. **Rwy 31**, 300-1½ or std. w/min. climb of 245' per NM to 1400 or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 2200' prior to DER.

NOTE: **Rwy 7**, vehicles on roadway beginning 27' from DER, left and right of centerline, up to 15' AGL/1094' MSL. Trees beginning 445' from DER, 236' left of centerline, up to 59' AGL/1120' MSL. Trees beginning 1491' from DER, 240' right of centerline, up to 61' AGL/1122' MSL. **Rwy 13**, trees beginning 133' from DER, 513' left of centerline, up to 80' AGL/1139' MSL. **Rwy 25**, vehicles on roadway beginning 27' from DER, left and right of centerline, up to 15' AGL/1094' MSL. Trees beginning 386' from DER, 397' left of centerline, up to 84' AGL/1145' MSL. Trees beginning 1769' from DER, 405' right of centerline, up to 77' AGL/1178' MSL. **Rwy 31**, trees beginning 1625' from DER, 77' right of centerline, up to 100' AGL/1299' MSL. Trees beginning 1814' from DER, 496' left of centerline, up to 81' AGL/1202' MSL.

HARBOR SPRINGS, MI

HARBOR SPRINGS (MGN)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 2 08073 (FAA)

TAKEOFF MINIMUMS: **Rwy 28**, 300-1½ or std. w/ min. climb of 295' per NM to 2000.

DEPARTURE PROCEDURE: **Rwy 10**, Climb heading 101° to 1400 before proceeding on course. **Rwy 28**, Climb heading 281° to 2000 before turning right.

NOTE: **Rwy 10**, trees beginning abeam DER, 350' right of centerline, up to 100' AGL/788' MSL. Vehicle and road beginning 188' from DER, left to right of centerline, up to 15' AGL/736' MSL. Trees beginning 1671' from DER, 720' left of centerline, up to 100' AGL/821' MSL. **Rwy 28**, trees beginning abeam DER, 398' left of centerline, up to 100' AGL/723' MSL. Trees beginning abeam DER, 313' right of centerline, up to 100' AGL/936' MSL. Vehicle and road beginning abeam DER, left to right of centerline, up to 15' AGL/720' MSL.



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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



HART/SHELBY, MI

OCEANA COUNTY (C04)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 15344 (FAA)

TAKEOFF MINIMUMS: **Rwy 15, 33**, NA-Environmental.

Rwy 9, 300-1 or std. w/min. climb of 265' per NM to 1200.

DEPARTURE PROCEDURE: **Rwy 27**, climb heading 268° to 1500 before turning right.

NOTE: **Rwy 9**, terrain beginning 74' from DER, 196' right of centerline, up to 908' MSL. Terrain beginning 54' from DER, 314' left of centerline, up to 904' MSL. Trees beginning 257' from DER, 41' right of centerline, up to 114' AGL/1056' MSL. Vehicle on road 787' from DER, 654' left of centerline, 15' AGL/926' MSL. Trees beginning 895' from DER, 10' left of centerline, up to 100' AGL/1017' MSL. Transmission line tower 1809' from DER, 400' left of centerline, 41' AGL/958' MSL. **Rwy 27**, terrain beginning 10' from DER, 181' right of centerline, up to 970' MSL. Trees beginning 115' from DER, 455' left of centerline, up to 61' AGL/976' MSL. Trees beginning 468' from DER, 467' right of centerline, up to 56' AGL/971' MSL. Vehicles on road beginning 446' from DER, left and right of centerline, up to 15' AGL/939' MSL. Building 677' from DER, 595' left of centerline, 21' AGL/941' MSL. Irrigation equipment 1163' from DER, 657' right of centerline, 13' AGL/947' MSL. Terrain beginning 1876' from DER, 335' left of centerline, up to 974' MSL. Trees beginning 1992' from DER, 12' left of centerline, up to 93' AGL/1067' MSL. Trees beginning 2033' from DER, 9' right of centerline, up to 64' AGL/1048' MSL. Poles and transmission line towers beginning 2323' from DER, 480' right of centerline, up to 60' AGL/1034' MSL. Trees beginning 4343' from DER, 589' left of centerline, up to 84' AGL/1063' MSL.

HASTINGS, MI

HASTINGS (9D9)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 5 13066 (FAA)

TAKEOFF MINIMUMS: **Rwys 9, 18, 27, 36** NA-Environmental. **Rwy 12**, 300-1½ or std. w/min climb of 240' per NM to 1100.

NOTE: **Rwy 12**, ground, 11' from DER, 434' right of centerline, 798' MSL. Trees, beginning 29' from DER, left and right of centerline, up to 100' AGL/ 880' MSL. Vehicles on road beginning 114' from DER, 233' left of centerline, up to 15' AGL/ 812' MSL. Tower, 1.13 NM from DER, 2233' right of centerline, 159' AGL/ 1009' MSL. **Rwy 30**, trees beginning 19' from DER, left and right of centerline, up to 100' AGL/ 879' MSL. Antenna on building 22' from DER, 482' right of centerline, 14' AGL/ 814' MSL. Vehicles on road beginning 776' from DER, left and right of centerline, up to 15' AGL/824' MSL.

HILLSDALE, MI

HILLSDALE MUNI (JYM)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 1 13206 (FAA)

NOTE: **Rwy 10**, trees beginning 73' from DER 25' right of centerline, up to 110' AGL/1277' MSL. Tree 1188' from DER, 413' left of centerline, 82' AGL/1261' MSL. Vehicles on road beginning 1125' from DER, 722' right of centerline, up to 15' AGL/1214' MSL. **Rwy 28**, trees beginning 147' from DER, 38' right of centerline, up to 117' AGL/1216' MSL. Trees beginning 1052' from DER, 575' left of centerline, up to 116' AGL/1275' MSL.

HOLLAND, MI

WEST MICHIGAN RGNL (BIV)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 1 09183 (FAA)

NOTE: **Rwy 8**, vehicles on road beginning 48' from DER, 500' right of centerline, up to 15' AGL/694' MSL. Trees beginning 1828' from DER, 829' left of centerline, up to 72' AGL/741' MSL. **Rwy 26**, vehicles on road beginning 86' from DER, 517' left of centerline, up to 15' AGL/714' MSL, pole 805' from DER, 475' left of centerline, 35' AGL/734' MSL, trees 1056' from DER, 468' left of centerline, up to 41' AGL/740' MSL.

HOUGHTON LAKE, MI

ROSCOMMON COUNTY-BLODGETT MEMORIAL (HTL)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 1 07298 (FAA)

TAKEOFF MINIMUMS: **Rwy 9**, 200-1¼, or std. w/ min. climb of 237' per NM to 1400. **Rwys 18, 36**, NA-ATC. DEPARTURE PROCEDURE: **Rwy 27**, climb heading 274° to 2600 before turning south.

NOTE: **Rwy 9**, multiple trees beginning 2330' from DER, on centerline, up to 71' AGL/1216' MSL. Multiple trees beginning 5927' from DER 275' left of centerline, up to 100' AGL/1299' MSL. Terrain beginning 31' from DER, 215' right of centerline, up to 0' AGL/1165' MSL. Terrain beginning 43' from DER, 84' left of centerline, up to 0' AGL/1162' MSL. **Rwy 27**, multiple trees beginning 791' from DER, on centerline, up to 90' AGL/1239' MSL. Fence and road beginning 323' from DER, on centerline, up to 15' AGL/1164' MSL. Terrain beginning 100' from DER, 171' right of centerline, up to 0' AGL/1165' MSL. Terrain beginning 112' from DER, 128' left of centerline, up to 0' AGL/1162' MSL.

HOWELL, MI

LIVINGSTON COUNTY SPENCER J HARDY (OZW)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 3 06215 (FAA)

NOTE: **Rwy 31**, multiple trees and light pole beginning 138' from DER, 334' right of centerline, up to 88' AGL/1030' MSL. Multiple trees beginning 914' from DER, 483' left of centerline, up to 83' AGL/1012' MSL. **Rwy 13**, tree 1776' from DER, 696' right of centerline, 70' AGL/1009' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



IONIA, MI

IONIA COUNTY (Y70)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

ORIG 83230 (FAA)

DEPARTURE PROCEDURE: **Rwys 9, 18, 27, 36**, climb runway heading to 1400 before turning.

IRON MOUNTAIN-KINGSFORD, MI

FORD (IMT)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 5 09071 (FAA)

TAKEOFF MINIMUMS: **Rwy 13**, 300-1 or std. w/ min. climb of 590' per NM to 1400. **Rwy 31**, 300-1¼ or std. w/ min. climb of 260' per NM to 1400.DEPARTURE PROCEDURE: **Rwy 1**, climb heading 010° to 1700 before turning right. **Rwy 13**, climb heading 134° to 1900 before turning left.NOTE: **Rwy 1**, trees and bushes beginning 526' from DER, 292' right of centerline, up to 79' AGL/1259' MSL. Antenna, trees and bushes beginning 378' from DER, 192' left of centerline, up to 76' AGL/1276' MSL. **Rwy 13**, tree 1276' from DER, 312' right of centerline, 88' AGL/1188' MSL. Trees and poles beginning 547' from DER, 100' left of centerline, up to 86' AGL/1306' MSL. **Rwy 19**, trees beginning 992' from DER, 245' right of centerline, up to 56' AGL/1192' MSL. Trees beginning 1229' from DER, 376' left of centerline, up to 48' AGL/1183' MSL. **Rwy 31**, trees 1711' from DER, 113' right of centerline, 66' AGL/1186' MSL. Bush 165' from DER, 161' right of centerline, 11' AGL/1131' MSL. Trees beginning 66' from DER, 182' left of centerline, up to 95' AGL/1315' MSL.

IRONWOOD, MI

GOGEBIC-IRON COUNTY (IWD)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 6 09127 (FAA)

DEPARTURE PROCEDURE: **Rwy 9**, climb heading 090° to 2300 before turning right. **Rwy 27**, climb heading 270° to 1700 before turning left.NOTE: **Rwy 9**, trees beginning 61' from DER, 544' left of centerline, up to 31' AGL/1244' MSL. Tree 1853' from DER, 972' left of centerline, 100' AGL/1346' MSL. **Rwy 27**, vehicle on road 287' from DER, 2' right of centerline, 15' AGL/1237' MSL. Tree 1946' from DER, 952' right of centerline, 69' AGL/1283' MSL. Tree 2817' from DER, 588' left of centerline, 74' AGL/1304' MSL.

JACKSON, MI

JACKSON COUNTY-REYNOLDS FIELD (JXN)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 5 09295 (FAA)

NOTE: **Rwy 6**, antenna 3131' from DER, 1331' left of centerline, 75' AGL/1075' MSL. **Rwy 14**, tank 2617' from DER, 373' left of centerline, 107' AGL/1107' MSL. Antenna 3102' from DER, 597' left of centerline, 111' AGL/1111' MSL. Trees beginning 1137' from DER, 8' left of centerline, up to 84' AGL/1083' MSL. Trees and poles beginning 518' from DER, 13' right of centerline, up to 114' AGL/1113' MSL. Road plus vehicle 541' from DER, 245' right of centerline, 15' AGL/1015' MSL. **Rwy 24**, trees and poles beginning 367' from DER, 48' left of centerline, up to 80' AGL/1079' MSL. Buildings beginning 125' from DER, 372' left of centerline, 23' AGL/1022' MSL. Fence beginning 88' from DER, 247' right of centerline, 10' AGL/1002' MSL. Road plus vehicle 306' from DER, 3' right of centerline, 15' AGL/1007' MSL. Trees beginning 1231' from DER, 232' right of centerline, up to 62' AGL/1051' MSL. Localizer obstruction light 140' from DER, on centerline, 10' AGL/999' MSL. **Rwy 32**, trees and poles beginning 169' from DER, 69' left of centerline, up to 104' AGL/1093' MSL. Fence beginning 475' from DER, 148' left of centerline, up to 10' AGL/985' MSL. Trees beginning 94' from DER, 5' right of centerline, up to 103' AGL/1092' MSL. Fence beginning 278' from DER, 367' right of centerline, up to 10' AGL/999' MSL.

KALAMAZOO, MI

KALAMAZOO/BATTLE CREEK INTL (AZO)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 9 07242 (FAA)

NOTE: **Rwy 5**, light pole 906' from DER, 511' left of centerline, 25' AGL/879' MSL. Multiple trees beginning 1433' from DER, 90' left of centerline, up to 65' AGL/914' MSL. Multiple towers beginning 2399' from DER, 331' right of centerline, up to 119' AGL/970' MSL. Multiple trees beginning 156' from DER, 163' right of centerline, up to 78' AGL/917' MSL. **Rwy 9**, multiple trees beginning 588' from DER, on centerline, up to 104' AGL/958' MSL. Antenna 2187' from DER, 222' right of centerline, 69' AGL/928' MSL. Tree 677' from DER, 214' right of centerline, 45' AGL/899' MSL. **Rwy 17**, railroad 587' from DER, 613' left of centerline, 17' AGL/885' MSL. Tree 691' from DER, 583' right of centerline, 57' AGL/894' MSL. **Rwy 23**, multiple trees beginning 937' from DER, 50' left of centerline, up to 72' AGL/956' MSL. Multiple poles and hangar beginning 22' from DER, 331' right of centerline, up to 24' AGL/905' MSL. Multiple trees beginning 943' from DER, 144' right of centerline, up to 107' AGL/986' MSL. **Rwy 27**, road 543' from DER, on centerline, 15' AGL/890' MSL. Multiple trees beginning 414' from DER, 292' left of centerline, up to 23' AGL/972' MSL. Multiple light poles and towers beginning 521' from DER, 18' right of centerline, up to 180' AGL/1015' MSL. Multiple trees beginning 1012' from DER, 23' right of centerline, up to 75' AGL/969' MSL. **Rwy 35**, multiple trees beginning 2319' from DER, 163' left of centerline, up to 75' AGL/934' MSL. Multiple trees beginning 1961' from DER, 753' right of centerline, up to 77' AGL/936' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



LAKEVIEW, MI

LAKEVIEW-GRIFFITH FIELD (13C)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 98281 (FAA)

TAKEOFF MINIMUMS: **Rwy 28**, 300-1 or std. with a
min. climb of 400' per NM to 1200.

NOTE: **Rwy 10**, 1018' tree 50' from DER, 490' right of
centerline.

LAMBERTVILLE, MI

TOLEDO SUBURBAN (DUH)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 1 80360 (FAA)

TAKEOFF MINIMUMS: **Rwys 9, 27**, 300-1.

LANSING, MI

CAPITAL REGION INTL (LAN)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 14 14317 (FAA)

DEPARTURE PROCEDURE: **Rwys 10L, 10R**, climb
runway heading to 2000 before turning south.

Rwys 6, 24, 28L, 28R, climb runway heading to 1500
before turning southeast.

NOTE: **Rwy 6**, trees beginning 1441' from DER, 321'
left of centerline, up to 102' AGL/942' MSL. Trees
beginning 2536' from DER, 7' right of centerline, up to
107' AGL/947' MSL. Trees beginning 2711' from DER,
126' left of centerline, up to 107' AGL/956' MSL.

Rwy 10L, tree 350' from DER, 394' left of centerline,
86' AGL/916' MSL. Fence 525' from DER, 148' right of
centerline, 17' AGL/864' MSL. Trees beginning 883'
from DER, 198' left of centerline, up to 90' AGL/920'
MSL. Trees beginning 1698' from DER, 368' right of
centerline, up to 104' AGL/934' MSL. **Rwy 10R**, pole
111' from DER, 290' right of centerline, 41' AGL/871'
MSL. MALSR 155' from DER, 4' right of centerline, 18'
AGL/866' MSL. Pole 575' from DER, 290' right of
centerline, 35' AGL/865' MSL. Trees beginning 700'
from DER, 551' right centerline, up to 84' AGL/924'
MSL. Trees beginning 1077' from DER, 599' left of
centerline, up to 98' AGL/928' MSL. Trees beginning
1831' from DER, left and right of centerline, up to 93'
AGL/956' MSL. **Rwy 24**, trees beginning 549' from
DER, 114' left of centerline, up to 68' AGL/918' MSL.

Poles beginning 830' from DER, 358' left of centerline,
up to 41' AGL/893' MSL. Trees beginning 1107' from
DER, 81' right of centerline, up to 89' AGL/919' MSL.
Trees beginning 1271' from DER, 386' left of
centerline, up to 104' AGL/937' MSL. **Rwy 28L**, trees
beginning 1690' from DER, 862' right of centerline, up
to 83' AGL/923' MSL. Trees beginning 1782' from
DER, 786' left of centerline, up to 100' AGL/959' MSL.

Rwy 28R, rod on ASR 987' from DER, 516' right of
centerline, 104' AGL/954' MSL. Trees beginning 1853'
from DER, 902' right of centerline, up to 100' AGL/939'
MSL. Tree 2209' from DER, 221' left of centerline, 79'
AGL/919' MSL.

LAPEER, MI

DUPONT-LAPEER (D95)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 3 86156 (FAA)

TAKEOFF MINIMUMS: **Rwys 9, 27**, 300-1.

LINDEN, MI

PRICES (9G2)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 5 13346 (FAA)

NOTE: **Rwy 9**, trees beginning 446' from DER, left and
right of centerline, up to 100' AGL/1009' MSL. **Rwy 27**,
trees beginning 18' from DER, 103' left of centerline, up
to 100' AGL/1019' MSL. Trees beginning 30' from DER,
204' right of centerline, up to 100' AGL/1009' MSL.

LUDINGTON, MI

MASON COUNTY (LDM)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 6 92233 (FAA)

TAKEOFF MINIMUMS: **Rwys 1, 19, 26**, 300-1.

MACKINAC ISLAND, MI

MACKINAC ISLAND (MCD)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 2 12236 (FAA)

TAKEOFF MINIMUMS: **Rwy 8**, 300-1 or std. w/min. climb
of 608' per NM to 1000.

NOTE: **Rwy 8**, trees and building beginning 69' from
DER. 16' left of centerline, up to 100' AGL/841' MSL.
Trees beginning 34' from DER, 34' right of centerline, up
to 100' AGL/896' MSL. Fence 49' from DER, 295' right of
centerline, 8' AGL/741' MSL. Vehicle on road 525' from
DER, 610' right of centerline, 15' AGL/774' MSL. **Rwy 26**,
trees beginning 8' from DER, 193' left of centerline,
up to 100' AGL/829' MSL. Vehicle on road 36' from DER,
334' left of centerline, 15' AGL/744' MSL. Trees
beginning at DER, 196' right of centerline, up to 100'
AGL/829' MSL. Fence 53' from DER, 202' right of
centerline, 8' AGL/727' MSL. Building 129' from DER,
498' right of centerline, 28' AGL/747' MSL. Vehicle on
road 354' from DER, 20' right of centerline, 15'
AGL/734' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



MANISTEE, MI

MANISTEE CO-BLACKER (MBL)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 7 14149 (FAA)

TAKEOFF MINIMUMS: **Rwy 1**, 300-1 or std. w/min.
climb of 380' per NM to 900.

DEPARTURE PROCEDURE: **Rwy 1**, climb heading
007° to 1400 before turning right.

NOTE: **Rwy 1**, vehicle on road 484' from DER, 158' right
of centerline, 15' AGL/632' MSL. Building 3301' from
DER, 1095' right of centerline, 33' AGL/727' MSL.
Trees beginning 1076' from DER, 127' left of
centerline, up to 110' AGL/808' MSL. **Rwy 10**, vehicle
on road, 101' from DER, 393' left of centerline, 15'
AGL/636' MSL. Trees beginning 3326' from DER,
1146' left of centerline, 85' AGL/712' MSL. **Rwy 19**,
trees beginning 79' from DER, 50' left of centerline, up
to 100' AGL/678 MSL. Trees beginning 1005' from
DER, 365' right of centerline, up to 85' AGL/675' MSL.
Trees 5393' from DER, 1185' left of centerline, up to
100' AGL/758' MSL. **Rwy 28**, trees beginning 21' from
DER, 58' left of centerline, up to 93' AGL/687' MSL.
Vehicle on road 146' from DER, 356' right of centerline,
up to 15' AGL/630' MSL. Trees beginning 2195' from
DER, 57' right of centerline, up to 93' AGL/678' MSL.

MARLETTE, MI

MARLETTE (77G)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 11125 (FAA)

NOTE: **Rwy 1**, trees beginning 21' from DER, right and
left of centerline, up to 100' AGL/950' MSL. Rising terrain
beginning 112' from DER, 432' left of centerline, up to
907' MSL. **Rwy 9**, trees beginning 10' from DER, 149'
left of centerline, up to 100' AGL/979' MSL. Vehicle on
road 882' from DER, right and left of centerline, up to 17'
AGL/906' MSL. Building 1035' from DER, 588' right of
centerline, 30' AGL/919' MSL. **Rwy 19**, trees beginning
abeam DER, 149' left of centerline, up to 100' AGL/979'
MSL. Vehicles on road 882' from DER, 730' right of
centerline, up to 17' AGL/906' MSL. Building 1035' from
DER, 588' right of centerline, 30' AGL/919' MSL. **Rwy 27**,
vehicles on road 559' from DER, right and left of
centerline. Trees beginning 660' from DER, right and left
of centerline, up to 100' AGL/984' MSL.

MARQUETTE, MI

SAWYER INTL (SAW)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 10098 (FAA)

NOTE: **Rwy 19**, trees beginning 2582' from DER, left and
right of centerline, up to 100' AGL/1269' MSL.

MARSHALL, MI

BROOKS FIELD (RMY)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 13122 (FAA)

NOTE: **Rwy 10**, trees beginning 31' from DER, 37' right of
centerline, up to 100' AGL/1012' MSL. Trees beginning
168' from DER, 15' left of centerline, up to 100'
AGL/1035' MSL. Fence beginning 211' from DER, 457'
right of centerline, up to 13' AGL/953' MSL. **Rwy 28**,
vehicles on roadway 535' from DER, left and right of
centerline, up to 15' AGL/954' MSL. Trees beginning
1222' from DER, 572' right of centerline, up to 100'
AGL/1039' MSL. Trees beginning 1665' from DER, 408'
left of centerline, up to 100' AGL/1039' MSL.

MASON, MI

MASON JEWETT FIELD (TEW)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 2A 10154 (FAA)

NOTE: **Rwy 10**, trees, pole, and vehicle on road
beginning 109' from DER, 57' right of centerline, up to
100' AGL/1023' MSL. Poles and vehicles on road 276'
from DER, 245' left of centerline, up to 35' AGL/944'
MSL.

MANISTIQUE, MI

SCHOOLCRAFT COUNTY (ISQ)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 11349 (FAA)

NOTE: **Rwy 1**, trees beginning 511' from DER, 54' left of
centerline, up to 100' AGL/779' MSL. Trees beginning
753' from DER, 372' right of centerline, up to 100'
AGL/779' MSL. Vehicle on road beginning 360' from
DER, 587' right of centerline, up to 15' AGL/694' MSL.
Power line beginning 446' from DER, 611' right of
centerline, up to 30' AGL/709' MSL. Transmission lines
beginning 4758' from DER, left and right of centerline,
up to 114' AGL/803' MSL. **Rwy 10**, trees beginning 92'
from DER, 263' right of centerline, up to 100' AGL/769'
MSL. Trees beginning 30' from DER, 165' left of
centerline, up to 100' AGL/769' MSL. Trees beginning
1131' from DER, left and right of centerline, up to 100'
AGL/769' MSL. **Rwy 19**, trees beginning 50' from
DER, left and right of centerline, up to 100' AGL/779'
MSL. Vehicle on road beginning abeam DER, 506' left
of centerline, up to 15' AGL/694' MSL. Aircraft tail on
taxiway abeam DER, 127' right of centerline, up to 19'
AGL/698' MSL. Hangar 380' from DER, 540' right of
centerline, 20' AGL/699' MSL. Buildings beginning 474'
from DER, 220' left of centerline, up to 20' AGL/699'
MSL. Vehicle on road 658' from DER, left and right of
centerline, up to 15' AGL/694' MSL. Power lines 707'
from DER, left and right of centerline, up to 30'
AGL/709' MSL. Billboards and buildings beginning 744'
from DER, left and right of centerline, up to 20'
AGL/699' MSL. Drive-in theater beginning 857' from
DER, 510' right of centerline, up to 100' AGL/779' MSL.
Rwy 28, trees beginning 41' from DER, 376' right of
centerline, up to 100' AGL/784' MSL. Poles beginning
1174' from DER, 488' left of centerline, up to 82'
AGL/761' MSL. Trees beginning 1254' from DER, 159'
left of centerline, up to 100' AGL/779' MSL.
Transmission lines beginning 4321' from DER, left and
right of centerline, up to 112' AGL/796' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



MENOMINEE, MI

MENOMINEE-MARINETTE TWIN COUNTY
(MNM)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 3 09239 (FAA)

NOTE: **Rwy 3**, trees and bush beginning 196' from DER, 340' left of centerline, up to 100' AGL/719' MSL. Multiple trees beginning 1568' from DER, 702' right of centerline, up to 100' AGL/759' MSL. **Rwy 14**, multiple trees, poles, and building beginning 451' from DER, 85' left of centerline, up to 135' AGL/735' MSL. Multiple trees and pole beginning 651' from DER, 171' right of centerline, up to 100' AGL/704' MSL. **Rwy 21**, multiple trees beginning 932' from DER, 469' left of centerline, up to 77' AGL/677' MSL. Multiple trees beginning 1808' from DER, 701' right of centerline, up to 65' AGL/685' MSL. **Rwy 32**, multiple trees beginning 64' from DER, 71' left of centerline, up to 100' AGL/739' MSL. Multiple trees beginning 875' from DER, 15' right of centerline, up to 100' AGL/759' MSL.

MIDLAND, MI

JACK BARSTOW (IKW)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 09183 (FAA)

NOTE: **Rwy 6**, trees beginning 56' from DER, 493' right of centerline, up to 25' AGL/655' MSL. Trees beginning 920' from DER, 47' left of centerline, up to 20' AGL/660' MSL. Trees beginning 1144' from DER, from right to left of centerline, up to 100' AGL/754' MSL. Pole 1495' from DER, 331' right of centerline, 37' AGL/672' MSL. **Rwy 18**, trees beginning 339' from DER, 279' left of centerline, up to 100' AGL/729' MSL. Trees beginning 358' from DER, 306' right of centerline, up to 100' AGL/724' MSL. **Rwy 24**, vehicles on road beginning 225' from DER, from right to left of centerline, up to 15' AGL/634' MSL. Trees beginning 510' from DER, 103' right of centerline, up to 100' AGL/710' MSL. Trees beginning 787' from DER, 152' left of centerline, up to 100' AGL/709' MSL. **Rwy 36**, trees beginning 105' from DER, 200' right of centerline, up to 100' AGL/744' MSL. Trees beginning 147' from DER, 242' left of centerline, up to 100' AGL/729' MSL.

MONROE, MI

CUSTER (TTF)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 6 08213

NOTE: **Rwy 21**, Trees and light poles beginning 81' from DER, 9' right of centerline, up to 122' AGL/736' MSL. Trees and light poles beginning 243' from DER, 218' left of centerline, up to 98' AGL/707' MSL. Road and vehicle beginning 1954' from DER, on centerline, 15' AGL/626' MSL.

MOUNT PLEASANT, MI

MOUNT PLEASANT MUNI (MOP)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 5 09239 (FAA)

TAKEOFF MINIMUMS: **Rwys 5, 23**, NA-Environmental. NOTE: **Rwy 9**, trees beginning 420' from DER, 512' right of centerline, up to 86' AGL/845' MSL. Trees beginning 420' from DER, 266' left of centerline, up to 23' AGL/836' MSL. **Rwy 27**, trees beginning 1115' from DER, 39' right of centerline, up to 99' AGL/858' MSL. Trees beginning 1025' from DER, 3' left of centerline, up to 108' AGL/867' MSL.

MUSKEGON, MI

MUSKEGON COUNTY (MKG)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 10 09015 (FAA)

NOTE: **Rwy 6**, tree 1700' from DER, 600' right of centerline, 25' AGL/672' MSL. Multiple trees beginning 1980' from DER, 300' left of centerline, up to 75' AGL/709' MSL. **Rwy 14**, pole 1040' from DER, 700' left of centerline, 25' AGL/655' MSL. Multiple poles beginning 1500' from DER, 880' right of centerline, up to 50' AGL/677' MSL. Tree 1900' from DER, 940' left of centerline, 79' AGL/709' MSL. **Rwy 24**, bush 124' from DER, 480' left of centerline, 19' AGL/630' MSL. Tree 500' from DER, 300' right of centerline, 42' AGL/649' MSL. Tree 1210' from DER, 450' left of centerline, 42' AGL/653' MSL. Antenna 1220' from DER, 500' right of centerline, 43' AGL/654' MSL. Multiple trees beginning 2200' from DER, 50' left of centerline, up to 86' AGL/697' MSL. **Rwy 32**, tree 1040' from DER, 740' right of centerline, 65' AGL/659' MSL. Tree 1190' from DER, 500' left of centerline, 65' AGL/663' MSL. Tree 1270' from DER, 800' left of centerline, 89' AGL/690' MSL.

NEW HUDSON, MI

OAKLAND SOUTHWEST (Y47)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 2 88350 (FAA)

TAKEOFF MINIMUMS: **Rwys 7, 25**, 300-1.

NEWBERRY, MI

LUCE COUNTY (ERY)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 10210 (FAA)

TAKEOFF MINIMUMS: **Rwys 4, 22**, NA-Environmental.

NOTE: **Rwy 11**, trees beginning 15' from DER, 112' right of centerline, up to 79' AGL/919' MSL. Trees beginning 1207' from DER, 10' left of centerline, up to 119' AGL, 969' MSL. **Rwy 29**, ground 1' from DER, 221' right of centerline, 0' AGL/872' MSL. Tree 1' from DER, 431' right of centerline, 12' AGL/872' MSL. Trees and antenna on building beginning 88' from DER, 13' left of centerline, up to 84' AGL/954' MSL. Trees, vehicle on road, and antenna on building beginning 561' from DER, 28' right of centerline, up to 89' AGL/959' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



NILES, MI

JERRY TYLER MEMORIAL (3TR)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 6 11125 (FAA)

TAKEOFF MINIMUMS: **Rwy 22**, NA-obstacles.

NOTE: **Rwy 4**, vehicles on road beginning 192' from DER, crossing left to right of centerline, up to 15' AGL/754' MSL. Trees beginning 360' from DER, 276' right of centerline, up to 100' AGL/849' MSL. Building 410' from DER, 225' left of centerline, 30' AGL/759' MSL. **Rwy 15**, trees beginning 470' from DER, 461' left of centerline, up to 100' AGL/869' MSL. Trees beginning 568' from DER, 187' right of centerline, up to 100' AGL/869' MSL. **Rwy 33**, vehicles on road beginning 198' from DER, crossing right to left of centerline, up to 15' AGL/764' MSL. Building 705' from DER, 604' left of centerline, 30' AGL/779' MSL.

ONTONAGON, MI

ONTONAGON COUNTY-SCHUSTER FIELD (OGM)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 2 12152 (FAA)

TAKEOFF MINIMUMS: **Rwy 17**, 300-1¼ or std. w/ a climb gradient of 390' per NM to 1000.

NOTE: **Rwy 35**, hanger 70' from DER, 467' right of centerline up to 50' AGL/689' MSL. Vehicle on road 225' from DER, 367' right of centerline up to 17' AGL/664' MSL. Trees beginning abeam DER, 537' right of centerline, up to 100' AGL/756' MSL. Trees 80' from DER, 179' left of centerline, up to 100' AGL/756' MSL. Sailing boat 3128' from DER, on centerline, up to 100' AGL/719' MSL. **Rwy 17**, trees beginning 439' from DER, 423' left of centerline up to 100' AGL/901' MSL. Trees beginning 354' from DER, 243' right of centerline, up to 100' AGL/851' MSL.

OSCODA, MI

OSCODA-WURTHSMITH (OSC)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

ORIG 08157 (FAA)

NOTE: **Rwy 6**, Trees beginning 3096' from DER, 967' left of centerline up to 100' AGL/719' MSL. **Rwy 24**, Trees beginning 2192' from DER, 578' right of centerline up to 100' AGL/739' MSL. Trees beginning 1415' from DER, 559' left of centerline, up to 100' AGL/739' MSL.

OWOSSO, MI

OWOSSO COMMUNITY (RNP)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 4 08213 (FAA)

TAKEOFF MINIMUMS: **Rwys 6, 18, 24, 36**, NA - Environmental.

NOTE: **Rwy 11**, bush 187' from DER, 158' right of centerline, 3' AGL/742' MSL. Trees beginning 1136' from DER, 630' left of centerline, up to 75' AGL/814' MSL. Trees and pole beginning 1111' from DER, 596' right of centerline, up to 90' AGL/829' MSL. Power line with towers beginning 2029' from DER, left and right of centerline, 90' AGL/829' MSL. **Rwy 29**, bush 212' from DER, 436' right of centerline, 11' AGL/741' MSL. Vent, trees, and a building beginning 266' from DER, 46' left of centerline, up to 100' AGL/836' MSL. Trees and a pole beginning 1184' from DER, 244' right of centerline, up to 60' AGL/815' MSL.

PELLSTON, MI

PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 4 09183 (FAA)

TAKEOFF MINIMUMS: **Rwy 23**, std. w/ a min. climb of 260' per NM to 1800, or 1000-2½ for climb in visual conditions. **Rwy 32**, std. w/ a min. climb of 290' per NM to 1100, or 1000-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwys 23, 32**, for climb in visual conditions: cross Pellston Rgnl airport of Emmet County at or above 1000.

NOTE: **Rwy 5**, vehicle on road 411' from DER, 588' left of centerline, 15' AGL/738' MSL. Trees beginning 1070' from DER, 12' left of centerline, up to 100' AGL/838' MSL. Railroad 810' from DER, 672' right of centerline, 23' AGL/744' MSL. Trees beginning 1001' from DER, 288' right of centerline, up to 100' AGL/821' MSL. **Rwy 14**, trees beginning 1290' from DER, 814' left of centerline, up to 100' AGL/805' MSL. **Rwy 23**, vehicle on road 14' from DER, 463' left of centerline, 15' AGL/720' MSL. Trees beginning 476' from DER, 53' left of centerline, up to 100' AGL/805' MSL. Trees beginning 953' from DER, 240' right of centerline, up to 100' AGL/820' MSL. Tree 2.97 NM from DER, 2771' right of centerline, 100' AGL/1297' MSL. **Rwy 32**, bush 107' from DER, 309' right of centerline, 4' AGL/722' MSL. Vehicle on road 1213' from DER, 809' right of centerline, 15' AGL/752' MSL. Terrain 2127' from DER, 715' right of centerline, 775' MSL. Trees beginning 4336' from DER, 315' right of centerline, up to 100' AGL/872' MSL. Trees beginning 1932' from DER, 20' left of centerline, up to 100' AGL/996' MSL.

PLYMOUTH, MI

CANTON-PLYMOUTH-METTETAL (1D2)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

TAKEOFF MINIMUMS: **Rwys 18, 36**, 300-1.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

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PONTIAC, MI

OAKLAND COUNTY INTL (PTK)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 6 10322 (FAA)

TAKEOFF MINIMUMS: **Rwys 18, 36**, NA-
Environmental.

NOTE: **Rwy 9R**, antenna on hanger 870' from DER, 732' right of centerline, 36' AGL/1006' MSL. Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL. Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL. **Rwy 9L**, hangars beginning 203' from DER, 510' left of centerline, 30' AGL/1000' MSL. Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL. **Rwy 27R**, vehicle on road 416' from DER, 24' right of centerline, 15' AGL/992' MSL. Trees beginning 451' from DER, 2' right of centerline, up to 62' AGL/1041' MSL. Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL. **Rwy 27L**, vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL. Vehicle on road 417' from DER, 574 right of centerline, 15' AGL/992' MSL. Trees beginning 452' from DER, 552' right of centerline, 23' AGL/1002' MSL. Trees beginning 565' from DER, 521' left of centerline, up to 76' AGL/1046' MSL.

PORT HURON, MI

ST. CLAIR COUNTY INTL (PHN)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 6 11237 (FAA)

NOTE: **Rwy 4**, trees beginning 1196' from DER, 140' right of centerline, up to 115' AGL/764' MSL. Trees and bush beginning 13' from DER, 80' left of centerline, up to 115' AGL/779' MSL. **Rwy 10**, trees and building beginning 150' from DER, 2' right of centerline, up to 115' AGL/769' MSL. Trees beginning 329' from DER, 161' left of centerline, up to 115' AGL/769' MSL. **Rwy 22**, trees beginning 2376' from DER, 171' right of centerline, up to 103' AGL/738' MSL. Trees beginning 2138' from DER, 612' left of centerline, up to 101' AGL/737' MSL. **Rwy 28**, trees beginning 192' from DER, 361' right of centerline, up to 115' AGL/759' MSL. Trees beginning 667' from DER, 112' left of centerline, up to 114' AGL/749' MSL.

RAY, MI

RAY COMMUNITY (57D)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 15008 (FAA)

TAKEOFF MINIMUMS: **Rwys 18, 36**, NA - ATC.

NOTE: **Rwy 9**, road 60' from DER, left to right of centerline, 15' AGL/645' MSL. Tree 119' from DER, 181' right of centerline, 25' AGL/655' MSL. Trees beginning 353' from DER, 204' left of centerline, up to 100' AGL/729' MSL. Trees beginning 2067' from DER, 137' left of centerline, up to 100' AGL/729' MSL. **Rwy 27**, trees beginning 158' from DER, 232' right of centerline, up to 100' AGL/729' MSL. Trees 184' from DER, 131' left of centerline, up to 100' AGL/729' MSL. Trees 920' from DER, 233' right of centerline, up to 100' AGL/729' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

ROGERS CITY, MI

PRESQUE ISLE COUNTY (PZQ)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 2 12124 (FAA)

NOTE: **Rwy 9**, trees beginning 348' from DER, 378' left of centerline, up to 100' AGL/759' MSL. Pole 730' from DER, 620' right of centerline, 43' AGL/723' MSL. Trees beginning 899' from DER, 708' right of centerline, up to 100' AGL/789' MSL. Tower 1021' from DER, 68' right of centerline, 44' AGL/716' MSL. **Rwy 27**, trees beginning 940' from DER, 289' left of centerline, up to 100' AGL/799' MSL. Trees beginning 977' from DER, 11' right of centerline, up to 56' AGL/739' MSL.

ROMEO, MI

ROMEO STATE (D98)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 5 13122 (FAA)

NOTE: **Rwy 18**, pole 239' from DER, 395' right of centerline, 30' AGL/760' MSL. Trees along and vehicles on road 342' from DER, left and right of centerline, up to 15' AGL/741' MSL. Line of trees beginning 401' from DER, 498' right of centerline, up to 65' AGL/770' MSL. Trees beginning 420' from DER, 228' left of centerline, up to 75' AGL/793' MSL. Pole 500' from DER, 337' left of centerline, 45' AGL/759' MSL. **Rwy 36**, pole on building 118' from DER, 444' left of centerline, 37' AGL/772' MSL. Buildings beginning 228' from DER, 322' right of centerline, up to 25' AGL/754' MSL. Building 303' from DER, 454' left of centerline, 23' AGL/758' MSL. Vehicles on road beginning 410' from DER, 159' left of centerline, up to 15' AGL/760' MSL. Trees beginning 639' from DER, 654' left of centerline, up to 70' AGL/809' MSL. Catenary beginning 774' from DER, left and right of centerline, up to 43' AGL/782' MSL. Poles 887' from DER, 170' right of centerline, up to 35' AGL/770' MSL. Trees beginning 2747' from DER, left and right of centerline, up to 100' AGL/841' MSL.

SAGINAW, MI

MBS INTL (MBS)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 86240 (FAA)

DEPARTURE PROCEDURE: **Rwys 5, 23**, climb runway heading to 1100 before turning.

SAGINAW COUNTY H W BROWNE (HYX)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 8 12208 (FAA)

DEPARTURE PROCEDURE: **Rwy 5**, climb on heading 049° to 1900 before turning left. **Rwy 9**, climb on heading 094° to 1600 before turning left. **Rwy 23**, climb on heading 229° to 1300 before proceeding on course. **Rwy 27**, climb on heading 275° to 1300 before proceeding on course.

NOTE: **Rwy 5**, Vehicles on road beginning 14' from DER, left and right of centerline, up to 15' AGL/614' MSL. Power lines 463' from DER, 161' right of centerline, 35' AGL/634' MSL. **Rwy 9**, Power lines beginning 1036' from DER, 631' left of centerline, up to 33' AGL/632' MSL. **Rwy 23**, Vehicles on road beginning 25' from DER, left and right of centerline, up to 15' AGL/619' MSL. Trees beginning 83' from DER, 343' left of centerline, up to 50' AGL/654' MSL. Power lines beginning 136' from DER, 275' left of centerline, up to 35' AGL/639' MSL.



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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



ST IGNACE

MACKINAC COUNTY (83D)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 11125 (FAA)

TAKEOFF MINIMUMS: **Rwy 25**, 300-1 or std. w/min. climb of 430' per NM to 900.

NOTE: **Rwy 7**, vehicles on road beginning 10' from DER, 322' right of centerline, up to 15' AGL/627' MSL. Trees beginning 70' from DER, 363' right of centerline, up to 85' AGL/686' MSL. Poles beginning 117' from DER, 381' left of centerline, up to 54' AGL/629' MSL. Vehicles on road beginning 310' from DER, left and right of centerline, up to 15' AGL/631' MSL. Poles beginning 602' from DER, 328' right of centerline, up to 54' AGL/644' MSL. Ships beginning 3099' from DER, left and right of centerline, up to 155' AGL/735' MSL. **Rwy 25**, trees beginning 20' from DER, left and right of centerline, up to 85' AGL/809' MSL. Vehicles on road 366' from DER, left and right of centerline, up to 17' AGL/663' MSL. Poles beginning 919' from DER, left and right of centerline, up to 62' AGL/682' MSL.

SAULT STE MARIE, MI

CHIPPEWA COUNTY INTL (CIU)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG-A 15064 (FAA)

NOTE: **Rwy 10**, poles beginning 156' from DER, 518' left and 439' right of centerline up to 45' AGL/839' MSL. Buildings beginning 379' from DER, 532' right of centerline, up to 55' AGL/848' MSL. Building 416' from DER, 503' left of centerline, 31' AGL/823' MSL. Trees beginning 348' from DER, 456' right of centerline, up to 100' AGL/899' MSL. Tank 1475' from DER, 75' right of centerline, 49' AGL/842' MSL. **Rwy 16**, trees beginning 3645' from DER, extending from 1018' right of centerline to 1221' left of centerline, up to 100' AGL/899' MSL. **Rwy 28**, vertical structure, 11' from DER, 4' right of centerline, 2' AGL/794' MSL. Natural high point, 33' from DER, 355' left of centerline, 0' AGL/793' MSL. Vehicle on road, 412' from DER, 510' left of centerline, up to 15' AGL/804' MSL. Trees beginning 520' from DER, extending from 581' left of centerline to 827' right of centerline, up to 100' AGL/879' MSL.

SAULT STE MARIE MUNI/SANDERSON FIELD (ANJ)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

ORIG 11237 (FAA)

NOTE: **Rwy 14**, trees, poles, and road beginning 25' from DER, 56' left of centerline, up to 54' AGL/763' MSL. Trees and poles beginning 5' from DER, 49' right of centerline, up to 65' AGL/774' MSL. **Rwy 32**, tree 200' from DER, 330' left of centerline, 24' AGL/723' MSL. Trees beginning 91' from DER, 300' right of centerline, up to 24' AGL/723' MSL.

SELFRIDGE ANGB (KMTC),

MT. CLEMENS, MI

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 3A, 14149

TAKE-OFF MINIMUMS: **Rwy 1**, Standard. **Rwy 19**, Standard with a minimum climb of 234 ft/NM to 1500.

TAKE-OFF OBSTACLES: **Rwy 19**, Numerous trees beginning 1872' from DER, 269' left of centerline, up to 100' AGL/693' MSL. Numerous trees beginning 3007' from DER, 57' right of centerline, up to 100' AGL/704' MSL. **Rwy 1**, Numerous trees beginning 2290' from DER, 800' left of centerline, up to 100' AGL/689' MSL. Numerous trees beginning 2308' from DER, 539' right of centerline, up to 100' AGL/683' MSL.

SOUTH HAVEN, MI

SOUTH HAVEN AREA RGNL (LWA)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 4 13178 (FAA)

NOTE: **Rwy 5**, trees beginning 1440' from DER, 94' left of centerline, up to 93' AGL/773' MSL. Poles beginning 1272' from DER, 122' right of centerline, up to 43' AGL/713' MSL. Trees beginning 1812' from DER, 137' right of centerline, up to 81' AGL/771' MSL. **Rwy 23**, pole 520' from DER, 582' left of centerline, 53' AGL/703' MSL. Building 185' from DER, 334' left of centerline, 20' AGL/670' MSL. Trees beginning 436' from DER, 428' left of centerline, up to 81' AGL/731' MSL. Trees beginning 1172' from DER, 133' right of centerline, up to 89' AGL/739' MSL.

SPARTA, MI

PAUL C MILLER-SPARTA (8D4)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 2 10126 (FAA)

NOTE: **Rwy 7**, multiple trees beginning 564' from DER, 105' right of centerline, up to 97' AGL/827' MSL. Tree 782' from DER, 379' left of centerline, 47' AGL/784' MSL. **Rwy 25**, multiple trees beginning 507' from DER, 47' right of centerline, up to 81' AGL/841' MSL. Tree 117' from DER, 218' left of centerline, 47' AGL/817' MSL. Tree 656' from DER, 464' left of centerline, 67' AGL/822' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



STURGIS, MI

KIRSCH MUNI (IRS)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 3A 14177 (FAA)

TAKEOFF MINIMUMS: **Rwy 6**, 300-2 or std. w/ min.
climb of 243' per NM to 1200.

DEPARTURE PROCEDURE: **Rwy 18**, climb heading
184° to 1400 before turning left.

NOTE: **Rwy 6**, trees beginning 1476' from DER, 137' left of centerline, up to 60' AGL/1102' MSL. Trees beginning 1945' from DER, 155' right of centerline, up to 60' AGL/984' MSL. Obstruction light on pole 1120' from DER, 401' right of centerline, 50' AGL/957' MSL. Obstruction light on pole 1193' from DER, 236' right of centerline, 50' AGL/957' MSL. Vehicle on road 504' from DER, 289' right of centerline, up to 15' AGL/953' MSL. **Rwy 18**, trees beginning 1687' from DER, 149' right of centerline, up to 60' AGL/971' MSL. Pole 1495' from DER, 842' left of centerline, 70' AGL/979' MSL. **Rwy 24**, vehicles on road beginning 81' from DER, 74' right of centerline, up to 15' AGL/926' MSL. Trees beginning 123' from DER, 136' right of centerline, up to 13' AGL/926' MSL. Trees beginning 798' from DER, 251' right of centerline, up to 78' AGL/991' MSL. Trees beginning 1981' from DER, 112' left of centerline, up to 71' AGL/984' MSL. Transmission line tower with power lines, 915' from DER, 291' right of centerline, 29' AGL/938' MSL. **Rwy 36**, trees beginning 99' from DER, left and right of centerline, up to 60' AGL/1014' MSL.

TECUMSEH, MI

MEYERS-DIVER'S (3TE)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 2 96004 (FAA)
TAKEOFF MINIMUMS: **Rwy 9**, 300-1.

THREE RIVERS, MI

THREE RIVERS MUNI DR. HAINES (HAI)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 11349 (FAA)

NOTE: **Rwy 5**, vehicles on road beginning 1' from DER, 221' left of centerline, up to 15' AGL/839' MSL. Trees beginning 1' from DER, left and right of centerline, up to 100' AGL/929' MSL. Airplane on tarmac 2' from DER, 394' right of centerline, 40' AGL/864' MSL. Building 1094' from DER, 537' right of centerline, 25' AGL/849' MSL. **Rwy 9**, vehicles on road 484' from DER, 624' left of centerline, up to 15' AGL/839' MSL. Trees beginning 104' from DER, left and right of centerline, up to 100' AGL/934' MSL. Buildings beginning 1258' from DER, left and right of centerline, up to 25' AGL/859' MSL. **Rwy 23**, rising terrain beginning 25' from DER, 497' left of centerline, 826' MSL. Vehicles on roads beginning 258' from DER, right and left of centerline, up to 15' AGL/844' MSL. Trees beginning 128' from DER, 125' right of centerline, up to 100' AGL/924' MSL. Buildings beginning 256' from DER, 144' right of centerline, up to 25' AGL/849' MSL. **Rwy 27**, vehicles on road 369' from DER, 595' right of centerline, up to 15' AGL/834' MSL. Building 892' from DER, 678' right of centerline, 25' AGL/844' MSL. Trees beginning 544' from DER, left and right of centerline, up to 100' AGL/924' MSL.

TRAVERSE CITY, MI

CHERRY CAPITAL (TVC)

TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
AMDT 11 13346 (FAA)

TAKEOFF MINIMUMS: **Rwy 10**, standard w/min. climb of 288' per NM to 1400 or 1400-2½ for climb in visual conditions. **Rwy 18**, std. w/min. climb of 216' per NM to 1400, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1800' prior to DER, or 1400-2½ for climb in visual conditions. **Rwy 28**, std. min. climb of 342' per NM to 2100, or 1400-2½ for climb in visual conditions. **Rwy 36**, 400- 2½ or std. w/min. climb of 202' per NM to 1100, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1200' prior to DER.

DEPARTURE PROCEDURE: **Rwy 10**, for climb in visual conditions, cross Cherry Capital airport at or above 1900 before proceeding on course. When executing VCOA, notify ATC prior to departure. **Rwy 18**, climb heading 185° to 1400 before turning, or for climb in visual conditions, cross Cherry Capital airport at or above 1900 before proceeding on course. When executing VCOA, notify ATC prior to departure. **Rwy 28**, for climb in visual conditions, cross Cherry Capital airport at or above 1900 before proceeding on course. When executing VCOA, notify ATC prior to departure. **Rwy 36**, climb heading 005° to 1400 before turning left.

NOTE: **Rwy 10**, trees beginning 1233' from DER, 741' left and 868' right of centerline, up to 100' AGL/696' MSL. Trees beginning 1.4 NM from DER, 1822' right of centerline, up to 100' AGL/932' MSL. **Rwy 18**, fence 229' from DER, 556' left of centerline, 13' AGL/636' MSL. Trees beginning 622' from DER, across centerline, up to 100' AGL/1009' MSL. Poles beginning 857' from DER, 414' right of centerline, 24' AGL/667' MSL. Pole 967' from DER, 654' left of centerline, 23' AGL/655' MSL. Transmission line tower 1.9 NM from DER, 3319' left of centerline, 121' AGL/920' MSL. **Rwy 28**, trees beginning 1272' from DER, 9' left and 16' right of centerline, up to 100' AGL/707' MSL. Poles beginning 1274' from DER, 726' left of centerline, up to 25' AGL/665' MSL. Poles beginning 1078' from DER, 620' right of centerline, up to 27' AGL/657' MSL. Transmission lines beginning 1275' from DER, 744' left and 632' right of centerline, up to 25' AGL/665' MSL. **Rwy 36**, poles beginning 734' from DER, 256' left of centerline, up to 72' AGL/687' MSL. Trees beginning 757' from DER, 4' left and right of centerline, up to 100' AGL/938' MSL. Poles beginning 868' from DER, 299' right of centerline, up to 41' AGL/655' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



TROY, MI

OAKLAND/TROY (VLL)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 4A 14037 (FAA)

TAKEOFF MINIMUMS: **Rwy 27**, std. w/min. climb of 476' per NM to 1500.

DEPARTURE PROCEDURE: **Rwy 9**, climb heading 096° to 1400 before turning right. **Rwy 27**, climb heading 276° to 1500 before turning left.

NOTE: **Rwy 9**, building 78' from DER, 370' left of centerline, 30' AGL/729' MSL. Buildings and air con on building beginning 314' from DER, 64' right of centerline, up to 47' AGL/745' MSL. Trees beginning 1495' from DER, left and right of centerline, up to 100' AGL/799' MSL. **Rwy 27**, trees beginning 21' from DER, 8' right of centerline, up to 103' AGL/843' MSL. Buildings beginning 1422' from DER, 19' right of centerline, up to 59' AGL/799' MSL. Vehicles on road beginning 3' from DER, 41' left of centerline, up to 17' AGL/746' MSL. Trees beginning 176' from DER, 20' left of centerline, up to 105' AGL/845' MSL. Buildings beginning 72' from DER, 468' left of centerline, up to 158' AGL/784' MSL. Poles beginning 426' from DER, 11' right of centerline, up to 111' AGL/851' MSL. Poles beginning 146' from DER, 19' left of centerline, up to 91' AGL/831' MSL. Railroad 1682' from DER, 428' left of centerline, up to 30' AGL/770' MSL. Power line with catenary balls, 1888' from DER, left and right of centerline, up to 80' AGL/820' MSL. Tower 2456' from DER, 867' right of centerline, up to 132' AGL/872' MSL. Buildings beginning 1.08 NM from DER, 3' left of centerline, up to 178' AGL/940' MSL.

WEST BRANCH, MI

WEST BRANCH COMMUNITY (Y31)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 3 11069 (FAA)

TAKEOFF MINIMUMS: **Rwy 27**, std. w/min. climb of 313' per NM to 1600 or 1000-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 27**, for climb in visual conditions cross West Branch Community Airport at or above 1700 before proceeding on course.

NOTE: **Rwy 27**, trees beginning 42' from DER, 7' right of centerline, up to 100' AGL/ 984' MSL. Trees beginning 538' from DER, 194' left of centerline, up to 100' AGL/ 1094' MSL. **Rwy 9**, trees beginning 24' from DER, 181' left of centerline, up to 100' AGL/959' MSL. Trees beginning 30' from DER, 208' right of centerline, up to 100' AGL/ 959' MSL.

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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





INSTRUMENT APPROACH PROCEDURE CHARTS



IFR ALTERNATE AIRPORT MINIMUMS

Standard alternate minimums for non-precision approaches and approaches with vertical guidance [NDB, VOR, LOC, TACAN, LDA, SDF, VOR/DME, ASR, RNAV (GPS) or RNAV (RNP)] are 800-2. Standard alternate minimums for precision approaches (ILS, PAR, or GLS) are 600-2. Airports within this geographical area that require alternate minimums other than standard or alternate minimums with restrictions are listed below. NA - means alternate minimums are not authorized due to unmonitored facility, absence of weather reporting service, or lack of adequate navigation coverage. Civil pilots see FAR 91. IFR Alternate Minimums: Ceiling and Visibility Minimums not applicable to USA/USN/USAF. Pilots must review the IFR Alternate Minimums Notes for alternate airfield suitability.

NAME ALTERNATE MINIMUMS

ADRIAN, MI

LENAWEE
COUNTY (ADG) RNAV (GPS) Rwy 5
RNAV (GPS) Rwy 23
NA when local weather not available.

ALMA, MI

GRATIOT
COMMUNITY (AMN) RNAV (GPS) Rwy 9
RNAV (GPS) Rwy 27
NA when local weather not available.

ALPENA, MI

ALPENA COUNTY
RGNL (APN) RNAV (GPS) Rwy 1
NA when local weather not available.

ANN ARBOR, MI

ANN ARBOR
MUNI (ARB) RNAV (GPS) Rwy 6
RNAV (GPS) Rwy 24
VOR Rwy 6
VOR Rwy 24
NA when local weather not available.

BAD AXE, MI

HURON COUNTY
MEMORIAL (BAX) RNAV (GPS) Rwy 4
RNAV (GPS) Rwy 17
RNAV (GPS) Rwy 22
RNAV (GPS) Rwy 35
NA when local weather not available.

NAME ALTERNATE MINIMUMS

BATTLE CREEK, MI

W.K. KELLOGG (BTL) ILS or LOC Rwy 23R¹³
NDB Rwy 23R³
RADAR-¹²
RNAV (GPS) Rwy 5L³
RNAV (GPS) Rwy 23R³
RNAV (GPS) Rwy 31³

¹NA when control tower closed.
²NA when Kalamazoo control tower closed.
³NA when local weather not available.

BEAVER ISLAND, MI

BEAVER
ISLAND (SJX) RNAV (GPS) Rwy 27
NA when local weather not available.

BELLAIRE, MI

ANTRIM
COUNTY (ACB) RNAV (GPS) Rwy 2
NA when local weather not available.
Category D, 900-2¾.

BENTON HARBOR, MI

SOUTHWEST MICHIGAN
RGNL (BEH) RNAV (GPS) Rwy 10
RNAV (GPS) Rwy 28
VOR Rwy 28
NA when local weather not available.

BIG RAPIDS, MI

ROBEN-HOOD (RQB) RNAV (GPS) Rwy 27¹
VOR/DME-A²
NA when local weather not available.
¹Category D, 900-2¾.
²Categories A, B, 900-2; Category C, 900-2½;
Category D, 900-2¾.

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NAME ALTERNATE MINIMUMS

CADILLAC, MI

WEXFORD
COUNTY (CAD) RNAV (GPS) Rwy 7
RNAV (GPS) Rwy 25
NA when local weather not available.

CARO, MI

TUSCOLA AREA (CFS) RNAV (GPS) Rwy 6
RNAV (GPS) Rwy 24
VOR/DME-A
NA when local weather not available.

CHARLEVOIX, MI

CHARLEVOIX
MUNI (CVX)..... RNAV (GPS) Rwy 9
NA when local weather not available.

CHARLOTTE, MI

FITCH H BEACH (FPK)..... RNAV (GPS) Rwy 20
VOR Rwy 20
NA when local weather not available.

CHEBOYGAN, MI

CHEBOYGAN
COUNTY (SLH) RNAV (GPS) Rwy 10
RNAV (GPS) Rwy 28
VOR Rwy 10
NA when local weather not available.

COLDWATER, MI

BRANCH COUNTY
MEMORIAL (OEB) RNAV (GPS) Rwy 7
RNAV (GPS) Rwy 25
VOR Rwy 7
VOR/DME Rwy 25
NA when local weather not available.

DETROIT, MI

COLEMAN A
YOUNG MUNI (DET)..... ILS or LOC Rwy 15²
ILS or LOC Rwy 33¹
NDB Rwy 15²
RNAV (GPS) Rwy 15²
RNAV (GPS) Rwy 33²
VOR Rwy 33²

¹ILS, 700-2.

²NA when local weather not available.

NAME ALTERNATE MINIMUMS

DETROIT, MI (CON'T)

WILLOW RUN (YIP)..... ILS or LOC Rwy 23L³
RNAV (GPS) Rwy 5L¹²
RNAV (GPS) Rwy 5R¹²
RNAV (GPS) Rwy 9¹²
RNAV (GPS) Rwy 23L²
RNAV (GPS) Rwy 23R¹²
VOR-A¹²

¹NA when local weather not available.

²Category D, 800-2¼.

³ILS Category D, 700-2¼.

DETROIT/GROSSE ILE, MI

GROSSE ILE MUNI (ONZ)..... NDB Rwy 4¹
RNAV (GPS) Rwy 4²
RNAV (GPS) Rwy 22²
VOR-A²

NA when local weather not available.

¹Category A, B, 1000-2; Category C, 1000-2¾;
Category D, 1000-3.

²Category A, B, 900-2; Category C, 900-2½;
Category D, 900-2¾.

DRUMMOND ISLAND, MI

DRUMMOND
ISLAND (DRM)..... RNAV (GPS) Rwy 8
RNAV (GPS) Rwy 26
NA when local weather not available.

ESCANABA, MI

DELTA COUNTY (ESC)..... ILS or LOC Rwy 9¹³
LOC/DME BC Rwy 27²
RNAV (GPS) Rwy 9²
RNAV (GPS) Rwy 27²
RNAV (GPS) Rwy 36²³
VOR Rwy 36²

¹ILS, Category C, 700-2; Category D, 900-2¼.

LOC, Category D, 900-2¼.

²Category D, 900-2¾.

³NA when local weather not available.

FLINT, MI

BISHOP INTL (FNT)..... ILS or LOC Rwy 9¹
ILS or LOC Rwy 27¹²
RADAR-1¹
RNAV (GPS) Rwy 27²

¹NA when control tower closed.

²NA when local weather not available.

FRANKFORT, MI

FRANKFORT DOW MEMORIAL
FIELD (FKS)..... RNAV (GPS) Rwy 15¹
RNAV (GPS) Rwy 33¹
VOR/DME-A²

NA when local weather not available.

¹Category C, 900-2¾.

²Categories A, B, 900-2; Category C, 900-2¾.

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ALTERNATE MINS

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NAME ALTERNATE MINIMUMS

FREMONT, MI
 FREMONT MUNI (FFX)..... **RNAV (GPS) Rwy 18**
 RNAV (GPS) Rwy 36
 VOR Rwy 18
 VOR Rwy 36

NA when local weather not available.

GAYLORD, MI
 GAYLORD RGNL (GLR) **RNAV (GPS) Rwy 27**
 VOR Rwy 27

Category D, 800-2½.

NA when local weather not available.

GRAND RAPIDS, MI
 GERALD R
 FORD INTL (GRR) **ILS or LOC Rwy 8R¹**
 ILS or LOC Rwy 26L¹
 ILS or LOC Rwy 35^{1,2,3}
 RADAR-1³

RNAV (GPS) Rwy 8L¹

RNAV (GPS) Rwy 8R¹

RNAV (GPS) Rwy 17¹

RNAV (GPS) Rwy 26L¹

RNAV (GPS) Rwy 26R¹

RNAV (GPS) Rwy 35¹

VOR Rwy 17¹

¹NA when local weather not available.

²ILS, Categories A, B, C, 700-2; Category D, 700-2½. LOC, Category D, 800-2½.

³NA when control tower is closed.

GRAYLING, MI
 GRAYLING AAF (GOV)..... **RNAV (GPS) Rwy 14**
 NA when local weather not available.

HANCOCK, MI
 HOUGHTON COUNTY
 MEMORIAL (CMX) **ILS or LOC Rwy 31^{1,2}**
 LOC/DME BC Rwy 13^{2,3}
 RNAV (GPS) Rwy 7^{2,4}
 RNAV (GPS) Rwy 13^{2,4}
 RNAV (GPS) Rwy 25^{2,4}
 RNAV (GPS) Rwy 31³
 VOR Rwy 25³

¹ILS, Category D, 700-2½; LOC, Category D, 800-2½.

²NA when local weather not available.

³Category D, 800-2½.

⁴Category D, 900-2½.

HARBOR SPRINGS, MI
 HARBOR
 SPRINGS (MGN)..... **RNAV (GPS) Rwy 10**
 RNAV (GPS) Rwy 28

NA when local weather not available.

Category B, 900-2.

NAME ALTERNATE MINIMUMS

HILLSDALE, MI
 HILLSDALE
 MUNI (JYM) **RNAV (GPS) Rwy 10**
 RNAV (GPS) Rwy 28
 VOR-A

NA when local weather not available.

HOLLAND, MI
 WEST MICHIGAN
 RGNL (BIV) **RNAV (GPS) Rwy 8**
 RNAV (GPS) Rwy 26

NA when local weather not available.

HOUGHTON LAKE, MI
 ROSCOMMON COUNTY-BLODGETT
 MEMORIAL (HTL) **RNAV (GPS) Rwy 9**
 RNAV (GPS) Rwy 27

NA when local weather not available.

HOWELL, MI
 LIVINGSTON COUNTY SPENCER
 J HARDY (OZW) **RNAV (GPS) Rwy 13**
 RNAV (GPS) Rwy 31
 VOR Rwy 31

NA when local weather not available.

IRON MOUNTAIN-KINGSFORD, MI
 FORD (IMT) **RNAV (GPS) Rwy 1**
 RNAV (GPS) Rwy 19
 VOR Rwy 31

NA when local weather not available.

IRONWOOD, MI
 GOGEBIC-IRON
 COUNTY (IWD)..... **RNAV (GPS) Rwy 9**
 RNAV (GPS) Rwy 27
 VOR/DME Rwy 9

NA when local weather not available.

Category A, B, 900-2; Category C, 900-2½;

Category D, 1000-3.

JACKSON, MI
 JACKSON COUNTY-REYNOLDS
 FIELD (JXN)..... **ILS or LOC Rwy 24^{1,2}**
 RNAV (GPS) Rwy 6³
 RNAV (GPS) Rwy 14³
 RNAV (GPS) Rwy 24³
 RNAV (GPS) Rwy 32³
 VOR Rwy 6³
 VOR Rwy 14³
 VOR Rwy 32³

¹NA when control tower closed.

²ILS, Category D, 700-2.

³NA when local weather not available.

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NAME ALTERNATE MINIMUMS

KALAMAZOO, MI
 KALAMAZOO/BATTLE CREEK
 INTL (AZO) **ILS or LOC Rwy 35¹**
 RADAR-1¹
 RNAV (GPS) Rwy 5²
 RNAV (GPS) Rwy 17²
 RNAV (GPS) Rwy 23²

¹NA when control tower closed.
²NA when local weather not available.

LANSING, MI
 CAPITAL REGION
 INTL (LAN) **ILS or LOC Rwy 10R¹**
 ILS or LOC Rwy 28L¹
 RNAV (GPS) Rwy 28L²

¹ILS, Category C, 800-2; Category D, 900-3;
 LOC, Category D, 900-3.
²Category D, 900-3.

LAPEER, MI
 DUPONT-LAPEER (D95) ... **RNAV (GPS) Rwy 18**
 RNAV (GPS) Rwy 36
 NA when local weather not available.

LUDINGTON, MI
 MASON COUNTY (LDM) **RNAV (GPS) Rwy 8**
 RNAV (GPS) Rwy 26
 NA when local weather not available.

MACHINAC ISLAND, MI
 MACHINAC
 ISLAND (MCD) **RNAV (GPS) Rwy 8**
 RNAV (GPS) Rwy 26
 VOR/DME-A
 NA when local weather not available.

MANISTEE, MI
 MANISTEE CO-
 BLACKER (MBL) **RNAV (GPS) Rwy 10**
 RNAV (GPS) Rwy 28
 VOR Rwy 10
 NA when local weather not available
 Category D, 800-2¼.

MANISTIQUE, MI
 SCHOOLCRAFT
 COUNTY (ISQ) **RNAV (GPS) Rwy 10**
 RNAV (GPS) Rwy 28
 VOR Rwy 28
 NA when local weather not available.

NAME ALTERNATE MINIMUMS

MARQUETTE, MI
 SAWYER INTL (SAW) **ILS or LOC Rwy 1¹**
 RNAV (GPS) Rwy 1²
 RNAV (GPS) Rwy 19²

¹LOC, NA.
²NA when local weather not available.

MARSHALL, MI
 BROOKS FIELD (RMV) **RNAV (GPS) Rwy 28**
 VOR/DME-A
 NA when local weather not available.

MASON, MI
 MASON JEWETT
 FIELD (TEW) **RNAV (GPS) Rwy 10**
 RNAV (GPS) Rwy 28
 VOR-A
 NA when local weather not available.

MENOMINEE, MI
 MENOMINEE-MARINETTE
 TWIN COUNTY (MNM) **RNAV (GPS) Rwy 3**
 RNAV (GPS) Rwy 21¹
 RNAV (GPS) Rwy 32¹
 VOR-A¹

NA when local weather not available.
¹Category D, 900-2¾.

MIDLAND, MI
 JACK BARSTOW (IKW) **RNAV (GPS) Rwy 6**
 RNAV (GPS) Rwy 24
 VOR-A
 NA when local weather not available.

MONROE, MI
 CUSTER (TTF) **RNAV (GPS) Rwy 3**
 RNAV (GPS) Rwy 21
 VOR Rwy 21
 NA when local weather not available.

MOUNT PLEASANT, MI
 MOUNT PLEASANT
 MUNI (MOP) **RNAV (GPS) Rwy 9**
 RNAV (GPS) Rwy 27
 VOR Rwy 27
 NA when local weather not available.

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ALTERNATE MINS

16315

M4

EC-1





ALTERNATE MINS

16315

M5



NAME ALTERNATE MINIMUMS

MUSKEGON, MI

MUSKEGON COUNTY (MKG)..... ILS or LOC Rwy 24¹
ILS or LOC Rwy 32¹
LOC BC Rwy 14¹
RNAV (GPS) Rwy 6
RNAV (GPS) Rwy 14
RNAV (GPS) Rwy 24

NA when local weather not available.

¹NA when control tower closed.

NEWBERRY, MI

LUCE COUNTY (ERY) RNAV (GPS) Rwy 11
RNAV (GPS) Rwy 29

NA when local weather not available.

OSCODA, MI

OSCODA-WURTSMITH (OSC)..... RNAV (GPS) Rwy 6
RNAV (GPS) Rwy 24

NA when local weather not available.

OWOSSO, MI

OWOSSO COMMUNITY (RNP)..... RNAV (GPS) Rwy 11
RNAV (GPS) Rwy 29
VOR/DME Rwy 29

NA when local weather not available.

PELLSTON, MI

PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN) ILS or LOC Rwy 32¹
RNAV (GPS) Rwy 5²
RNAV (GPS) Rwy 23³
RNAV (GPS) Rwy 32³
VOR Rwy 23³

NA when local weather not available.

¹ILS, Category D, 700-2½. LOC, Category D, 800-2½.

²Categories A,B, 900-2; Category C, 900-2½; Category D, 900-2¾.

³Category D, 800-2¾.

PONTIAC, MI

OAKLAND COUNTY INTL (PTK) ILS or LOC Rwy 9R¹²
LOC BC Rwy 27L¹
RNAV (GPS) Rwy 9R³
RNAV (GPS) Rwy 27L³
VOR Rwy 9R³
VOR Rwy 27L³

¹NA when control tower closed.

²ILS, LOC, Categories A, B, C, D, 700-2.

³NA when local weather not available.

NAME ALTERNATE MINIMUMS

PORT HURON, MI

ST CLAIR COUNTY INTL (PHN) RNAV (GPS) Rwy 4
RNAV (GPS) Rwy 22

NA when local weather not available.

SAGINAW, MI

MBS INTL (MBS) ILS or LOC Rwy 5¹
ILS or LOC Rwy 23²
RNAV (GPS) Rwy 5³
RNAV (GPS) Rwy 14³
RNAV (GPS) Rwy 23³
RNAV (GPS) Rwy 32³
VOR Rwy 5⁴
VOR Rwy 14⁴
VOR Rwy 32⁴

¹NA when control tower closed.

²DME or radar required; NA when control tower closed.

³NA when local weather not available.

⁴NA for NON-DME equipped aircraft when control tower closed.

SAGINAW COUNTY H W

BROWNE (HYX) ILS or LOC/DME Rwy 27
RNAV (GPS) Rwy 9¹
RNAV (GPS) Rwy 27
VOR/DME-A

NA when local weather not available.

¹Category C, 800-2¾.

SAULT STE MARIE, MI

CHIPPEWA COUNTY INTL (CIU)..... ILS or LOC Rwy 16¹
RNAV (GPS) Rwy 10
RNAV (GPS) Rwy 16
RNAV (GPS) Rwy 28
RNAV (GPS) Rwy 34

NA when local weather not available.

¹ILS, Category E, 600-2; LOC, Category E, 800-2.

SAULT STE MARIE, MI (CON'T)

SAULT STE MARIE MUNI/SANDERSON FIELD (ANJ)..... RNAV (GPS) Rwy 14
RNAV (GPS) Rwy 32
VOR Rwy 32

NA when local weather not available.

SOUTH HAVEN, MI

SOUTH HAVEN AREA RGNL (LWA) RNAV (GPS) Rwy 5
RNAV (GPS) Rwy 23
VOR Rwy 23

NA when local weather not available.

Category D, 900-2¾.

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ALTERNATE MINS

16315

M5

EC-1





16315

| NAME | ALTERNATE MINIMUMS | NAME | ALTERNATE MINIMUMS |
|--------------------------------|--|------|--------------------|
| SPARTA, MI | | | |
| PAUL C MILLER- SPARTA (8D4) | RNAV (GPS) Rwy 7 RNAV (GPS) Rwy 25 VOR-A | | |

NA when local weather not available.

| | | | |
|--------------------|--|--|--|
| STURGIS, MI | | | |
| KIRSCH MUNI (IRS) | RNAV (GPS) Rwy 18 RNAV (GPS) Rwy 36 | | |

NA when local weather not available.

Category D, 800-2¼.

| | | | |
|-------------------------|----------------------------------|--|--|
| THREE RIVERS, MI | | | |
| THREE RIVERS MUNI DR | | | |
| HAINES (HAI) | RNAV (GPS) Rwy 27 VOR-A | | |

NA when local weather not available.

| | | | |
|--------------------------|---|--|--|
| TRAVERSE CITY, MI | | | |
| CHERRY | | | |
| CAPITAL (TVC) | ILS or LOC Rwy 28 ¹³ RNAV (GPS) Rwy 10 ² RNAV (GPS) Rwy 18 ⁴ RNAV (GPS) Rwy 28 ⁴ RNAV (GPS) Rwy 36 ⁴ VOR-A ³ | | |

NA when local weather not available.

¹NA when control tower closed.

²Categories A, B, 1200-2; Categories C, D, 1200-3.

³Categories A, B, 900-2; Category C, 900-2½; Category D, 1100-3.

⁴Category C, 900-2½; Category D, 1100-3.

| | | | |
|--------------------|---------------------------------|--|--|
| TROY, MI | | | |
| OAKLAND/TROY (VLL) | RNAV (GPS) Rwy 9 VOR-A | | |

NA when local weather not available.

| | | | |
|------------------------|--|--|--|
| WEST BRANCH, MI | | | |
| WEST BRANCH | | | |
| COMMUNITY (Y31) | RNAV (GPS) Rwy 9 ¹ RNAV (GPS) Rwy 27 | | |

NA when local weather not available.

¹Category C, 800-2¼; Category D, 800-2½.

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RADAR MINS


16147

RADAR INSTRUMENT APPROACH MINIMUMS

**BATTLE CREEK, MI
W. K. KELLOGG (BTL)**

Amdt 2, 13DEC90 (16147) (FAA)

ELEV 952

RADAR-1 119.2 239.25  

| | <u>RWY</u> | <u>GP/TCH/RPI</u> | <u>CAT</u> | <u>HAT/ HAT_h</u> | | | <u>CAT</u> | <u>HAT/ HAT_h</u> | | |
|----------|------------|-------------------|------------|---------------------------------|------------|-----------------|------------|---------------------------------|------------|-----------------|
| | | | | <u>DA/ MDA-VIS</u> | <u>HAA</u> | <u>CEIL-VIS</u> | | <u>DA/ MDA-VIS</u> | <u>HAA</u> | <u>CEIL-VIS</u> |
| CIRCLING | A | | | 1420-1 | 468 | (500-1) | B | 1440-1 | 488 | (500-1) |
| | C | | | 1480-1½ | 528 | (600-1½) | D | 1520-2 | 568 | (600-2) |
| | E | | | 1740-2¾ | 788 | (800-2¾) | | | | |



When Kalamazoo control tower closed, procedure not authorized.

When Battle Creek control tower closed, use Kalamazoo altimeter setting and increase all MDA's 60 feet and Category E visibility ¼ mile.

FLINT, MI

Amdt 8A, 02MAR06 (16147) (FAA)

ELEV 782

BISHOP INTL (FNT)RADAR-1 118.8 257.9  

| | <u>RWY</u> | <u>GP/TCH/RPI</u> | <u>CAT</u> | <u>HAT/ HAT_h</u> | | | <u>CAT</u> | <u>HAT/ HAT_h</u> | | |
|----------|------------|-------------------|------------|---------------------------------|------------|-----------------|------------|---------------------------------|------------|-----------------|
| | | | | <u>DA/ MDA-VIS</u> | <u>HAA</u> | <u>CEIL-VIS</u> | | <u>DA/ MDA-VIS</u> | <u>HAA</u> | <u>CEIL-VIS</u> |
| ASR | 36 | | ABC | 1180-1 | 398 | (400-1) | D | 1180-1¼ | 398 | (400-1¼) |
| | 27 | | ABC | 1240-¾ | 470 | (500-¾) | D | 1240-1 | 470 | (500-1) |
| | 18 | | AB | 1300-1 | 523 | (600-1) | C | 1300-1½ | 523 | (600-1½) |
| | | | D | 1300-1¾ | 523 | (600-1¾) | | | | |
| CIRCLING | | | AB | 1300-1 | 518 | (600-1) | C | 1300-1½ | 518 | (600-1½) |
| | | | D | 1340-2 | 558 | (600-2) | | | | |



CAUTION: Brightly lighted parking lot 4000' E of approach end of Rwy 27 can easily be confused for Rwy 27.

For inoperative MALSR, increase ASR Rwy 27 Categories A and B visibility to 1.

GRAND RAPIDS, MI

Amdt 10C, 26AUG10 (16147) (FAA)

ELEV 794

GERALD R FORD INTL (GRR)RADAR-1 128.4 257.6  

| | <u>RWY</u> | <u>GP/TCH/RPI</u> | <u>CAT</u> | <u>HAT/ HAT_h</u> | | | <u>CAT</u> | <u>HAT/ HAT_h</u> | | |
|----------|------------|-------------------|------------|---------------------------------|------------|-----------------|------------|---------------------------------|------------|-----------------|
| | | | | <u>DA/ MDA-VIS</u> | <u>HAA</u> | <u>CEIL-VIS</u> | | <u>DA/ MDA-VIS</u> | <u>HAA</u> | <u>CEIL-VIS</u> |
| ASR | 26L | | ABC | 1100/24 | 310 | (400-½) | D | 1100/50 | 310 | (400-1) |
| | 26R | | AB | 1280-1 | 493 | (500-1) | C | 1280-1¼ | 493 | (500-1¼) |
| | | | D | 1280-1½ | 493 | (500-1½) | | | | |
| | 8R | | AB | 1200-½ | 406 | (500-½) | C | 1200-¾ | 406 | (500-¾) |
| | | | D | 1200-1 | 406 | (500-1) | | | | |
| | 8L | | AB | 1220-1 | 433 | (500-1) | C | 1220-1¼ | 433 | (500-1¼) |
| | | D | 1220-1½ | 433 | (500-1½) | | | | | |
| CIRCLING | | | AB | 1280-1 | 486 | (500-1) | C | 1280-1½ | 486 | (500-1½) |
| | | | D | 1360-2 | 566 | (600-2) | | | | |

When control tower closed, ASR not authorized.

EC-1

RADAR INSTRUMENT APPROACH MINIMUMS

RADAR MINS

16147

RADAR MINS

16147

RADAR INSTRUMENT APPROACH MINIMUMS

KALAMAZOO, MI

Amdt 9B, 03APR14 (16147) (FAA)

ELEV 874

KALAMAZOO/BATTLE CREEK INTL (AZO)

RADAR-1 121.2 239.25 ▽ ▲

| | RWY | GP/TCH/RPI | CAT | DA/ | HAT/ | CEIL-VIS | CAT | DA/ | HAT/ | CEIL-VIS |
|----------|-----|------------|-----|---------|---------|----------|-----|---------|------|----------|
| | | | | MDA-VIS | HAA | | | MDA-VIS | HAA | |
| ASR | 35 | | | AB | 1320/24 | 452 | C | 1320/40 | 452 | (500-¾) |
| | | | | D | 1320/50 | 452 | | | | |
| | 17 | | | AB | 1320-1 | 453 | C | 1320-1¼ | 453 | (500-1¼) |
| | | | | D | 1320-1½ | 453 | | | | |
| CIRCLING | | | | AB | 1380-1 | 506 | C | 1380-1½ | 506 | (600-1½) |
| | | | | D | 1440-2 | 566 | | | | |

When control tower closed, ASR NA.

Night Landing: Rwy 5, 9, 23, 27 NA.

LANSING, MI

Amdt 15, 27AUG09 (16147) (FAA)

ELEV 861

CAPITAL REGION INTL (LAN)

RADAR-1 118.65 133.475 226.4 ▽

| | RWY | GP/TCH/RPI | CAT | DA/ | HAT/ | CEIL-VIS | CAT | DA/ | HAT/ | CEIL-VIS |
|----------|-----|------------|-----|---------|---------|----------|-----|---------|------|----------|
| | | | | MDA-VIS | HAA | | | MDA-VIS | HAA | |
| ASR | 10R | | | ABC | 1260/24 | 399 | D | 1260/50 | 399 | (400-1) |
| | | | | AB | 1260-1 | 403 | | | | |
| | 24 | | | AB | 1320/24 | 469 | C | 1320/40 | 469 | (500-¾) |
| | | | | D | 1320/50 | 469 | | | | |
| | 28L | | | AB | 1320-1 | 462 | C | 1320-1¼ | 462 | (500-1¼) |
| | | | | D | 1320-1½ | 462 | | | | |
| CIRCLING | | | | AB | 1380-1 | 519 | C | 1380-1½ | 519 | (600-1½) |
| | | | | D | 1440-2 | 579 | | | | |

For inoperative MALS, increase S-10R CAT D visibility to RVR 6000.

Visibility reduction by helicopters NA for Rwy 6, and Rwy 24.

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RADAR INSTRUMENT APPROACH MINIMUMS

RADAR MINS

16147

RADAR MINS

16147


RADAR INSTRUMENT APPROACH MINIMUMS

MUSKEGON, MI

Amdt 15, 03JUN10 (16147) (FAA)

ELEV 629

MUSKEGON COUNTY (MKG)

RADAR-1 119.8 290.35 (N OF V2) 133.825 290.35 (S OF V2) 

| | <u>RWY</u> | <u>GP/TCH/RPI</u> | <u>CAT</u> | <u>DA/</u> <u>MDA-VIS</u> | <u>HAT/</u> <u>HATh/</u> <u>HAA</u> | <u>CEIL-VIS</u> | <u>CAT</u> | <u>DA/</u> <u>MDA-VIS</u> | <u>HAT/</u> <u>HATh/</u> <u>HAA</u> | <u>CEIL-VIS</u> |
|----------|------------|-------------------|------------|------------------------------|---|-----------------|------------|------------------------------|---|-----------------|
| ASR | 32 | | AB | 1100/24 | 471 | (500-½) | C | 1100/40 | 471 | (500-¾) |
| | | | D | 1100/50 | 471 | (500-1) | | | | |
| | 24 | | ABC | 1040-¾ | 413 | (500-¾) | D | 1040-1 | 413 | (500-1) |
| | | | AB | 1080-1 | 453 | (500-1) | C | 1080-1¼ | 453 | (500-1¼) |
| | 14 | | D | 1080-1½ | 453 | (500-1½) | | | | |
| | | | AB | 1140-1 | 517 | (600-1) | C | 1140-1½ | 517 | (600-1½) |
| 6 | | D | 1140-1¾ | 517 | (600-1¾) | | | | | |
| | | | | | | | | | | |
| CIRCLING | | | AB | 1140-1 | 511 | (600-1) | C | 1140-1½ | 511 | (600-1½) |
| | | | D | 1200-2 | 571 | (600-2) | | | | |

Procedure NA when Muskegon Approach Control closed.

For inoperative MALSR increase S-24 visibility CAT A, B, and D ¼ mile.

Visibility reduction by helicopters NA.

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EC-1

RADAR INSTRUMENT APPROACH MINIMUMS

RADAR MINS

16147

13346

LAND AND HOLD-SHORT OPERATIONS (LAHSO)

LAHSO is an acronym for "Land and Hold-Short Operations." These operations include landing and holding short of an intersection runway, an intersecting taxiway, or other predetermined points on the runway other than a runway or taxiway. Measured distance represents the available landing distance on the landing runway, in feet.

Specific questions regarding these distances should be referred to the air traffic manager of the facility concerned. The Aeronautical Information Manual contains specific details on hold-short operations and markings.

| CITY/AIRPORT | LDG RWY | HOLD-SHORT POINT | AVBL LDG DIST |
|--|----------|------------------|--------------------------|
| BATTLE CREEK, MI W.K. KELLOGG (BTL) | 05L | 13-31 | 7,000 feet |
| DETROIT, MI COLEMAN A. YOUNG MUNI (DET) | 15 | 07-25 | 4,900 feet |
| FLINT, MI BISHOP INTL (FNT) | 09 36 | 18-36 09-27 | 4,100 feet 6,300 feet |
| TRAVERSE CITY, MI CHERRY CAPITAL (TVC) | 18 28 | 10-28 18-36 | 2,850 feet 5,950 feet |

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16147

HOT SPOTS

An "airport surface hot spot" is a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

A "hot spot" is a runway safety related problem area on an airport that presents increased risk during surface operations. Typically it is a complex or confusing taxiway/taxiway or taxiway/runway intersection. The area of increased risk has either a history of or potential for runway incursions or surface incidents, due to a variety of causes, such as but not limited to: airport layout, traffic flow, airport marking, signage and lighting, situational awareness, and training. Hot spots are depicted on airport diagrams as open circles or polygons designated as "HS 1", "HS 2", etc. and tabulated in the list below with a brief description of each hot spot. Hot spots will remain charted on airport diagrams until such time the increased risk has been reduced or eliminated.

| CITY/AIRPORT | HOT SPOT | DESCRIPTION* |
|---|----------|--|
| ANN ARBOR, MI ANN ARBOR MUNI (ARB) | HS 1 | Int of Twy A1/A not visible from the control twr. |
| | HS 2 | Twy A crosses turf Rwy 12-30. |
| DETROIT, MI DETROIT METROPOLITAN WAYNE COUNTY (DTW) | HS 1 | Rwy 04R-22L and Rwy 09L-27R. |
| | HS 2 | Rwy 03L-21R and Rwy 09L-27R. |
| | HS 3 | Twy F and Rwy 03L-21R. |
| DETROIT, MI WILLOW RUN (YIP) | HS 1 | Complex rwys/twy int. |
| | HS 2 | Twy E1 to Rwy 27 or Rwy 23L wrong rwy departure risk. |
| FLINT, MI BISHOP INTL (FNT) | HS 1 | Int of Twy C and Rwy 18-36. |
| | HS 2 | Deicing Pad. Twy C and Rwy 09-27. |
| GRAND RAPIDS, MI GERALD R FORD INTL (GRR) | HS 1 | Pilot confusion risk int Twy A, Twy M Twy A2 near Rwy 08R-26L. |
| | HS 2 | Pilot confusion risk int Twy A, Twy F, Twy B, Twy A1 near Rwy 08R-26L. |
| | HS 3 | Pilot confusion risk int Twy B, Twy V, Twy B4 near Rwy 17-35. |
| JACKSON, MI JACKSON COUNTY- REYNOLDS FIELD (JXN) | HS 1 | Twy F and Rwy 06 end |
| KALAMAZOO, MI KALAMAZOO/BATTLE CREEK INTL (AZO) | HS 1 | Complex rwy/twy int. |

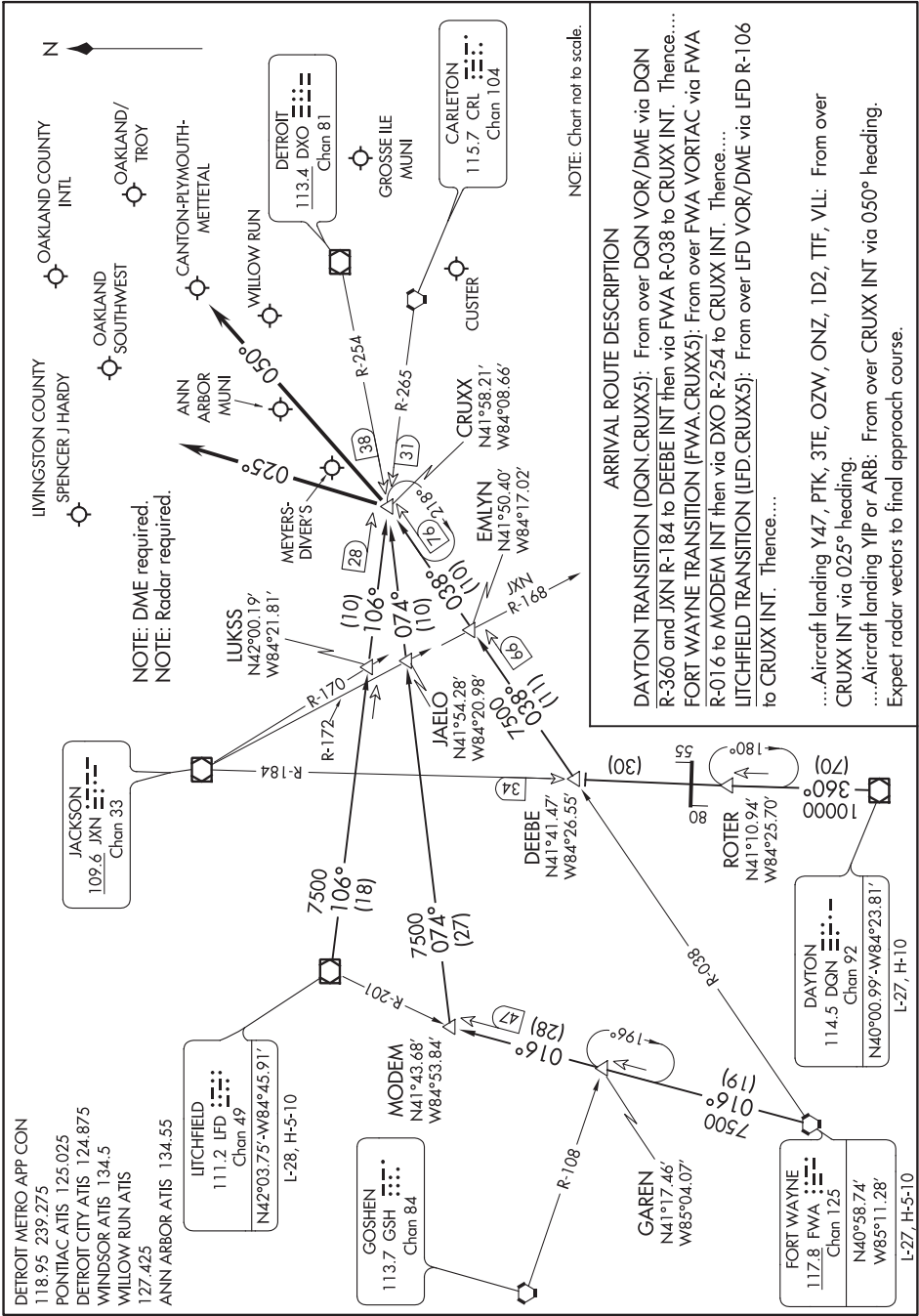
*See appropriate Chart Supplement HOT SPOT table for additional information.

16147

CRUXX FIVE ARRIVAL

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DETROIT METRO APP CON
118.95 239.275
PONTIAC ATIS 125.025
DETROIT CITY ATIS 124.875
WINDSOR ATIS 134.5
WILLOW RUN ATIS
127.425
ANN ARBOR ATIS 134.55



NOTE: DME required.
NOTE: Radar required.

ARRIVAL ROUTE DESCRIPTION

DAYTON TRANSITION (DQN.CRUXX5): From over DQN VOR/DME via DQN R-360 and JXN R-184 to DEEBE INT then via FWA R-038 to CRUXX INT. Thence...
 FORT WAYNE TRANSITION (FWA.CRUXX5): From over FWA VORTAC via FWA R-016 to MODEM INT then via DXO R-254 to CRUXX INT. Thence...
 LITCHFIELD TRANSITION (LFD.CRUXX5): From over LFD VOR/DME via LFD R-106 to CRUXX INT. Thence....

....Aircraft landing Y47, PTK, 3TE, OZW, ONZ, 1D2, TTF, VLL: From over CRUXX INT via 025° heading.
Aircraft landing YIP or ARB: From over CRUXX INT via 050° heading.
 Expect radar vectors to final approach course.

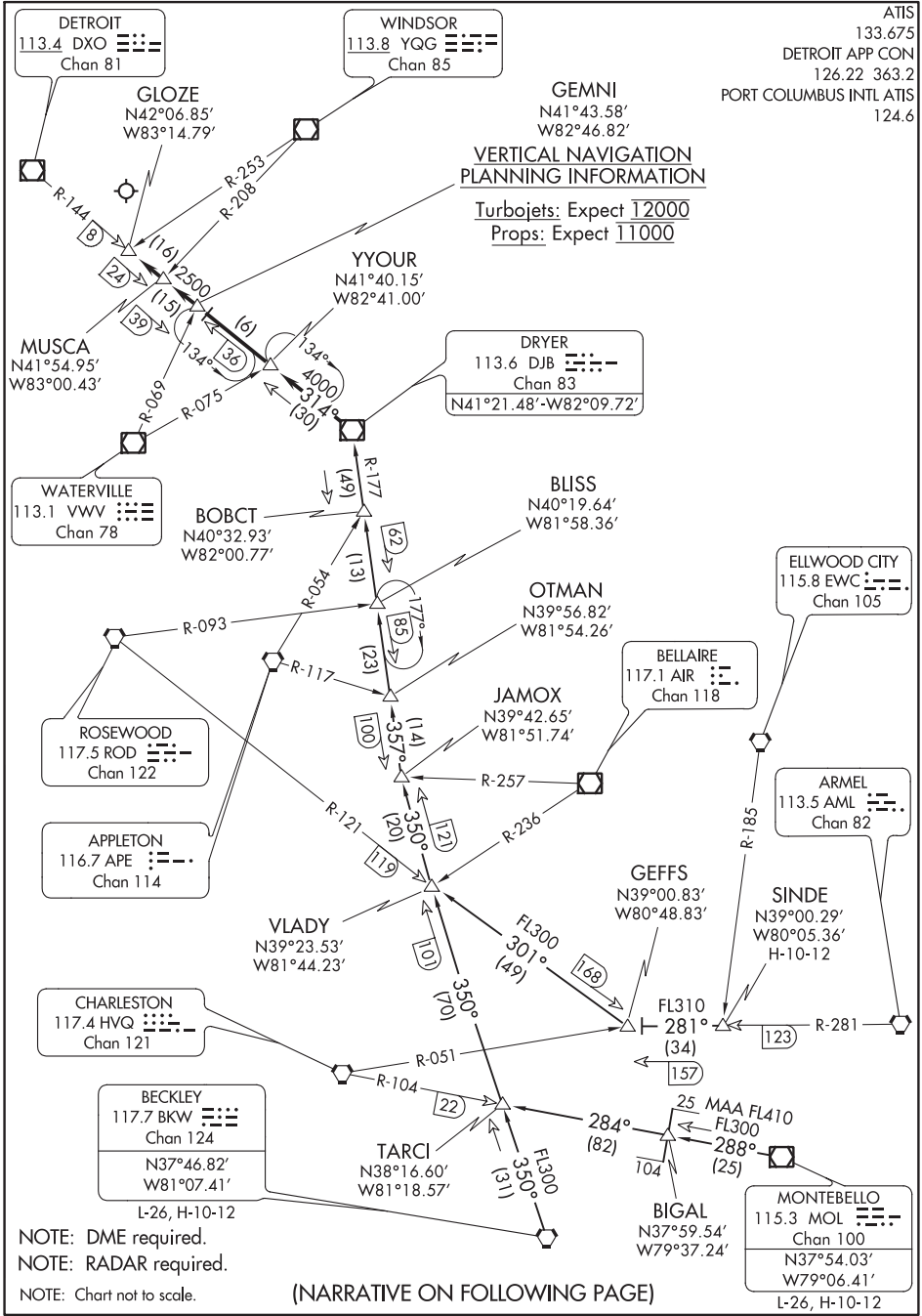
EC-1, 10 NOV 2016 to 05 JAN 2017

CRUXX FIVE ARRIVAL

GEMNI FOUR ARRIVAL

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
ST-119 (FAA)

DETROIT, MICHIGAN



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

GEMNI FOUR ARRIVAL

(DJB.GEMNI4) 20AUG15

DETROIT, MICHIGAN
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

GEMNI FOUR ARRIVAL

ARRIVAL ROUTE DESCRIPTION

BECKLEY TRANSITION (BKW.GEMNI4): From over BKW VORTAC on BKW R-350 to JAMOX INT, then on DJB R-177 to DJB VOR/DME. Thence. . . .

MONTEBELLO TRANSITION (MOL.GEMNI4): From over MOL VOR/DME on MOL R-288 to BIGAL INT, then on HVQ R-104 to TARCI INT, then on BKW R-350 to JAMOX INT, then on DJB R-177 to DJB VOR/DME. Thence. . . .

SINDE TRANSITION (SINDE.GEMNI4): From over SINDE INT on AML R-281 to GEFFS INT, then on ROD R-121 to VLADY INT, then on BKW R-350 to JAMOX INT, then on DJB R-177 to DJB VOR/DME. Thence. . . .

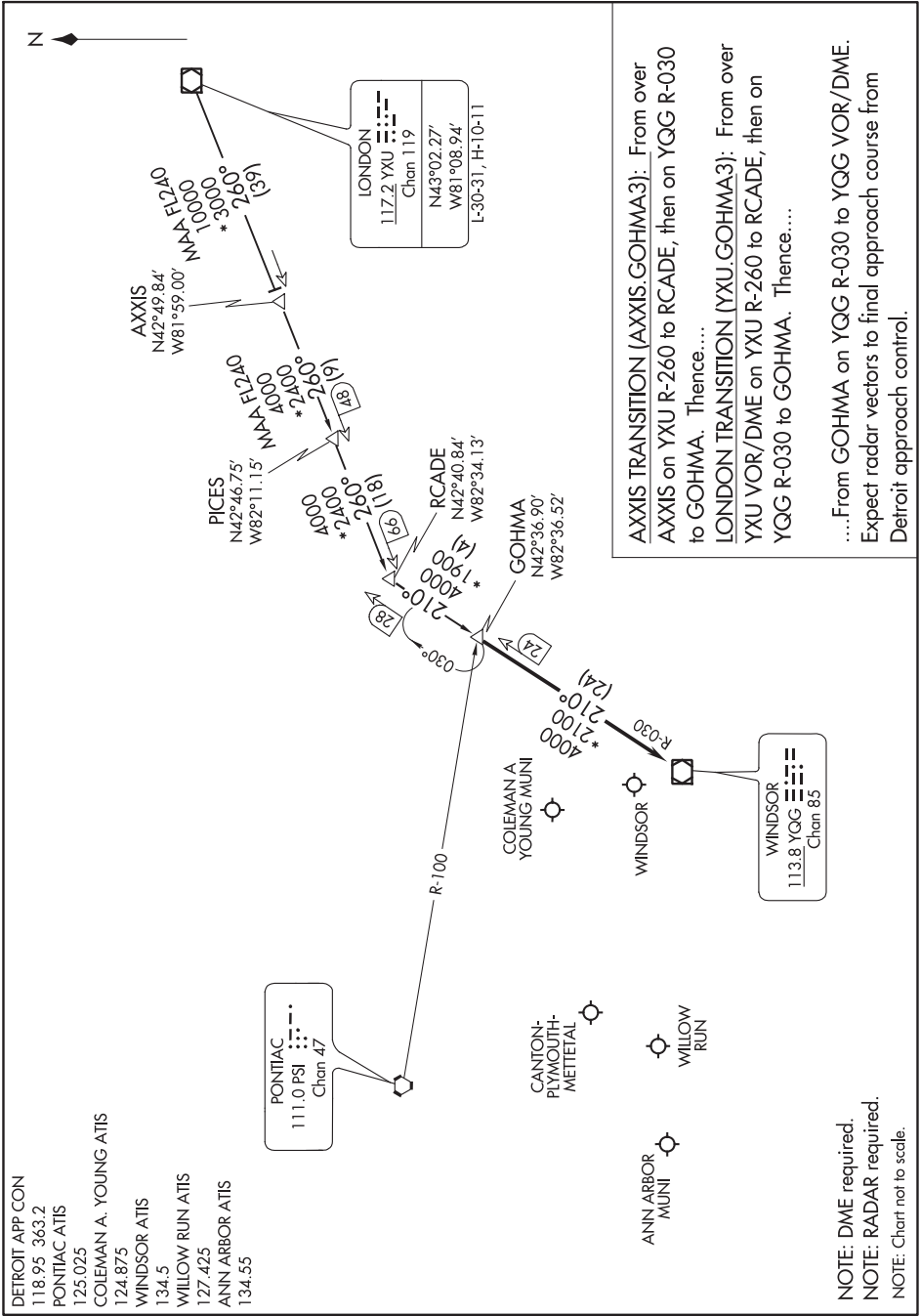
. . . .From DJB VOR/DME via R-314 to YYOUR INT/30 DME, then on DJB R-314 to GEMNI INT/36 DME, then on DXO VOR/DME R-144 to MUSCA INT/24 DME, then on DXO VOR/DME R-144 to GLOZE INT/8 DME. Expect radar vectors to final approach course.

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GOHMA THREE ARRIVAL

EC-1, 10 NOV 2016 to 05 JAN 2017



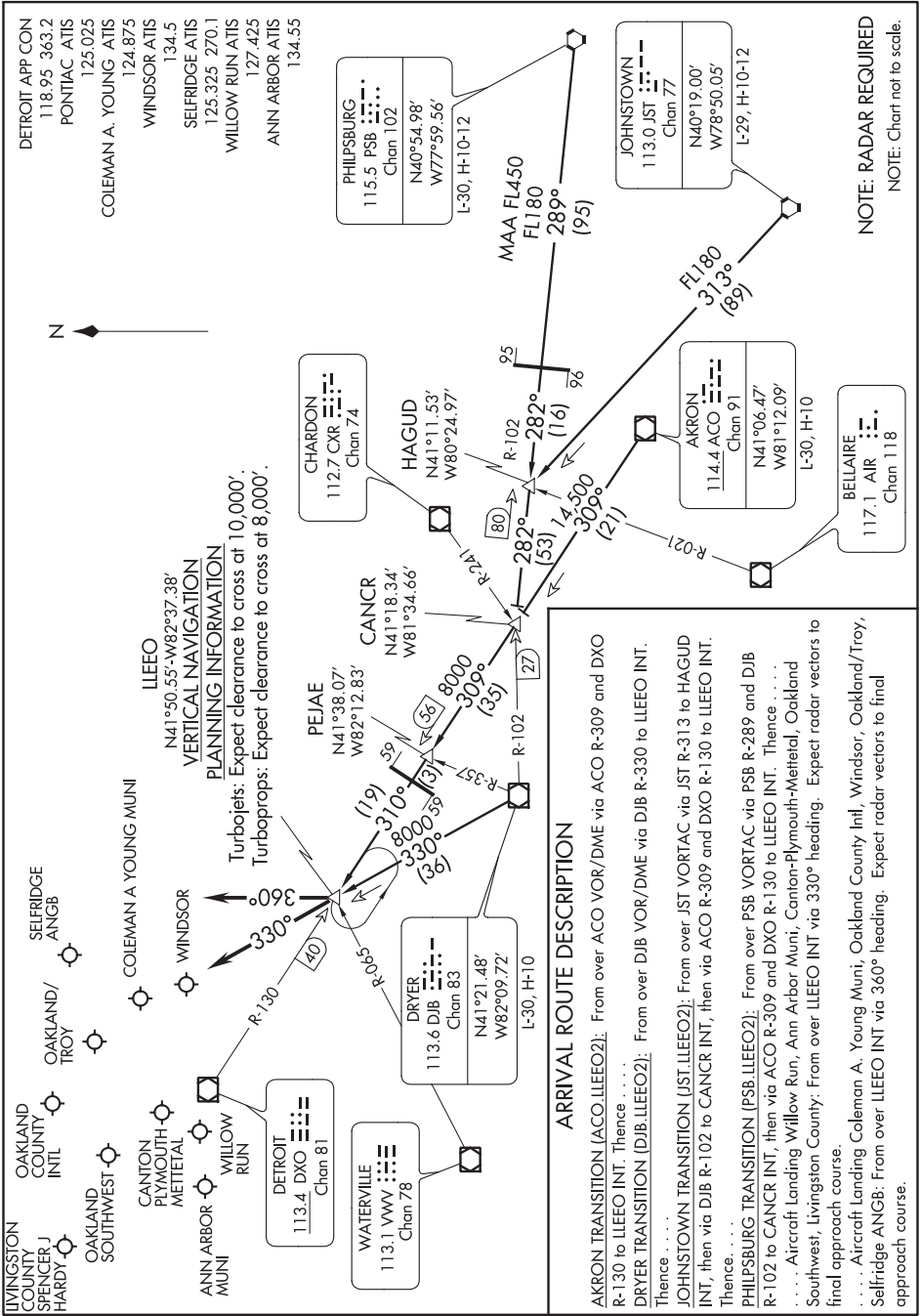
EC-1, 10 NOV 2016 to 05 JAN 2017

GOHMA THREE ARRIVAL

LLEEO TWO ARRIVAL

DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017



LLEEO TWO ARRIVAL

DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017


MIZAR THREE ARRIVAL

ST-119 (FAA)

DETROIT METROPOLITAN WAYNE COUNTY
DETROIT, MICHIGAN


DETROIT APP CON
124.975 363.2
ATIS 133.675

RAZIM
N41°58.15'
W83°47.55'


DETROIT
113.4 DXO 
Chan 81

VERTICAL NAVIGATION
PLANNING INFORMATION
TURBOJETS/TURBOPROPS:
When landing Rwy 3,
expect to cross at or
below 10,000 feet.

JACKSON
109.6 JXN 
Chan 33

LITCHFIELD
111.2 LFD 
Chan 49
N42°03.75'
W84°45.91'
L-28, H-5-10

NAKES
N41°40.17'
W84°26.52'

FORT WAYNE
117.8 FWA 
Chan 125
N40°58.74'-W85°11.28'
L-27, H-5-10

RANDL
N41°45.70'
W84°12.32'


CARLETON
115.7 CRL 
Chan 104

MIZAR
N41°49.55'
W84°02.39'

VERTICAL NAVIGATION
PLANNING INFORMATION
Turbojets: Expect to cross at 12,000 feet.
Turboprops: Expect to cross at 11,000 feet.

ROTER
N41°10.94'
W84°25.71'

TORRR
N40°44.50'
W84°24.98'

DAYTON
114.5 DGN 
Chan 92
N40°00.98'-W84°23.81'
L-27, H-10

NOTE: DQN Transition for use by
CVG/DAY/SDF/LEX Terminal Area
Departures at or below FL230 only
and ATC use as assigned.

NOTE: DME REQUIRED
NOTE: Chart not to scale.

DAYTON TRANSITION (DQN.MIZAR3): From over DQN VOR/DME via DQN R-360 and JXN R-184 to NAKES INT, then via CRL VORTAC R-246 to MIZAR DME. Thence. . . .
FORT WAYNE TRANSITION (FWA.MIZAR3): From over FWA VORTAC via FWA R-039 to NAKES INT, then via CRL R-246 to MIZAR DME. Thence. . . .
LITCHFIELD TRANSITION (LFD.MIZAR3): From over LFD VOR/DME via LFD R-131 to RANDL INT, then via CRL R-246 to MIZAR DME. Thence. . . .
. . . . From over MIZAR DME via DXO VOR/DME R-239 to RAZIM DME. Expect radar vectors to final approach course.

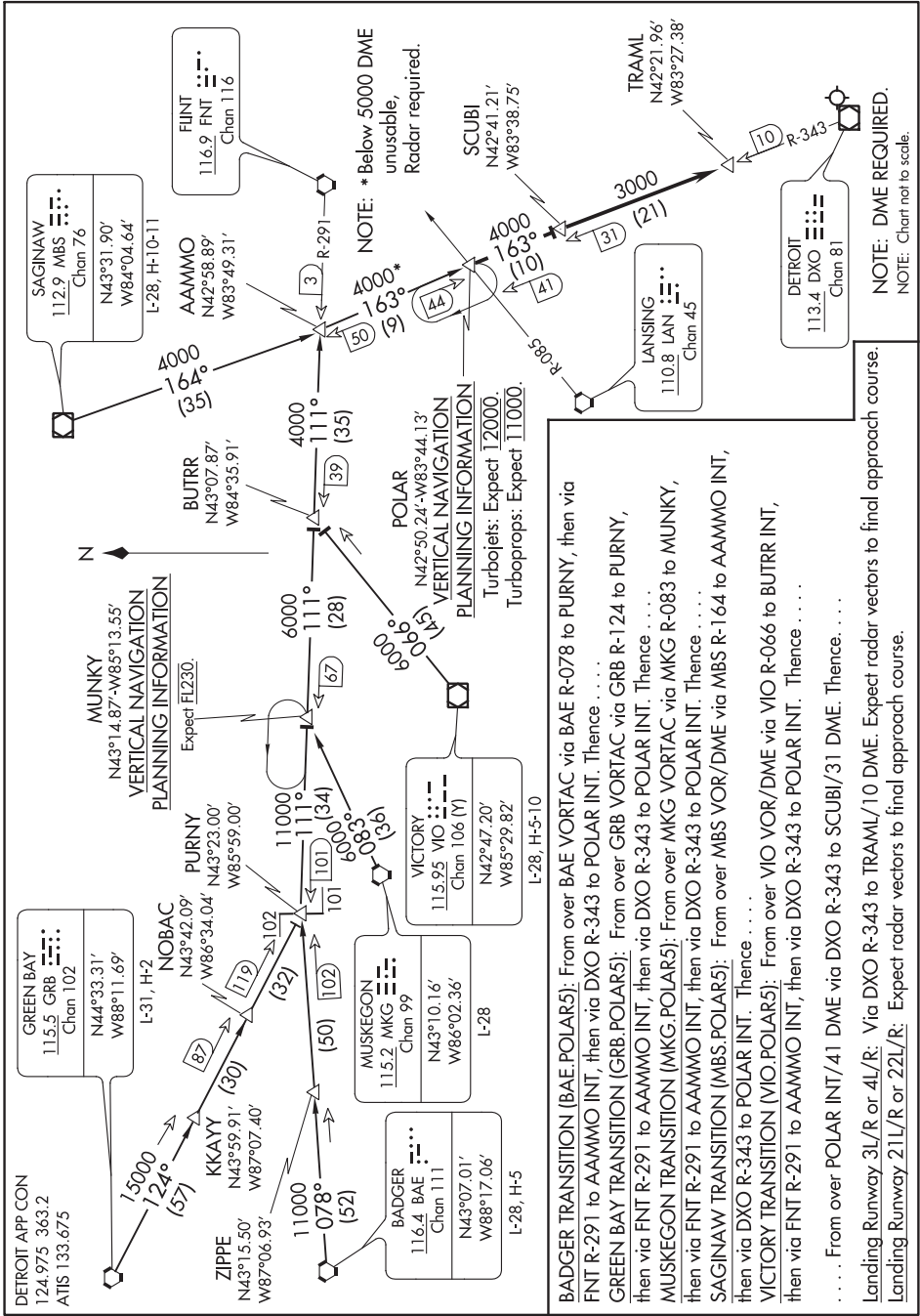
MIZAR THREE ARRIVAL

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

POLAR FIVE ARRIVAL

EC-1, 10 NOV 2016 to 05 JAN 2017



POLAR FIVE ARRIVAL

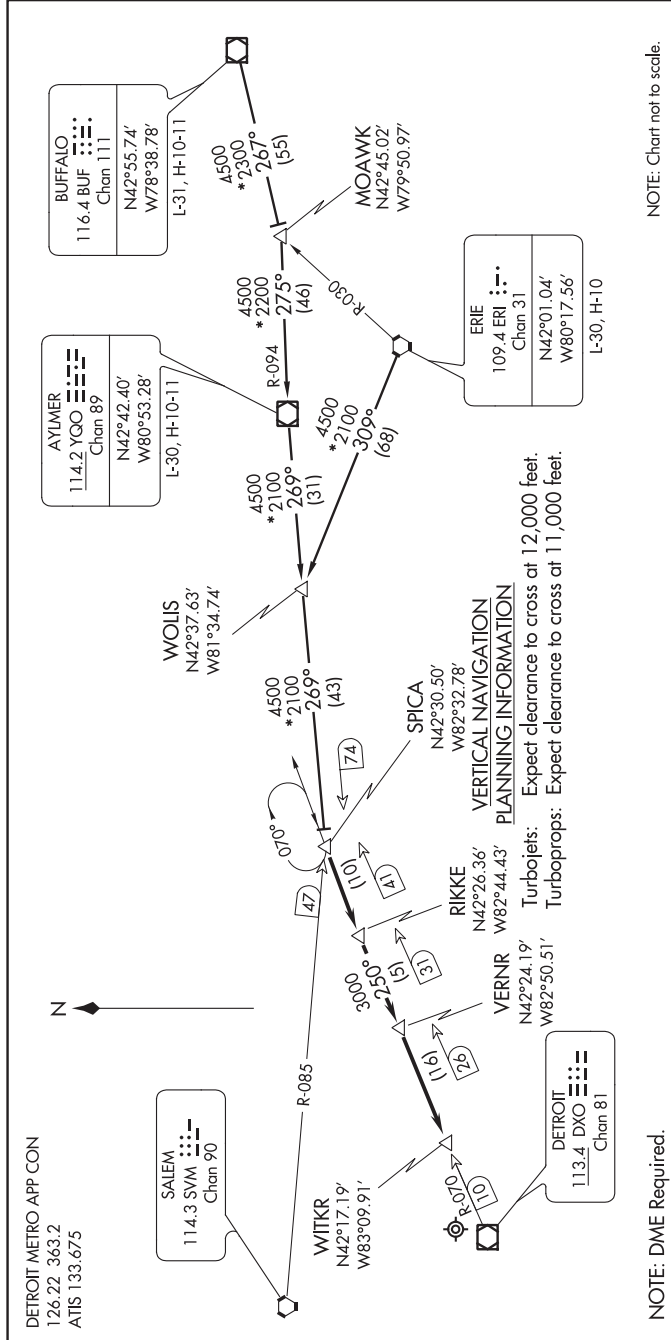
EC-1, 10 NOV 2016 to 05 JAN 2017

SPICA TWO ARRIVAL

ST-119 (FAA)

DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017



AYLMER TRANSITION (YGO.SPICA2): From over YGO VOR/DME via YGO R-269 to SPICA 74 DME FIX. Thence

BUFFALO TRANSITION (BUF.SPICA2): From over BUF VOR/DME via BUF R-267 to MOAWK INT, then via YGO R-094 to YGO VOR/DME, then via YGO R-269 to SPICA 74 DME FIX. Thence

ERIE TRANSITION (ERI.SPICA2): From over ERI VORTAC via ERI R-309 to WOLIS INT, then via YGO R-269 to SPICA 74 DME FIX. Thence

. From over SPICA 74 DME FIX:
Landing Runway 21L/R or 22L/R via DXO R-070 to VERNR 26 DME FIX. Thence
Landing Runway 3L/R or 4L/R via DXO R-070 to WITKR 10 DME FIX. Thence
. Expect radar vectors to final approach course.

EC-1, 10 NOV 2016 to 05 JAN 2017

(SPRTN.SPRTN3) 15064

SPRTN THREE ARRIVAL

DETROIT, MICHIGAN

DETROIT APP CON

127.5 239.275

WILLOW RUN ATIS 127.425

PONTIAC ATIS 125.025

COLEMAN A. YOUNG ATIS 124.875

WINDSOR ATIS 134.5

SELFRIDGE ATIS 125.325 270.1

SPRTN

N42°42.52'-W84°00.23'

VERTICAL NAVIGATION

PLANNING INFORMATION

TURBOJETS/TURBOPROPS:

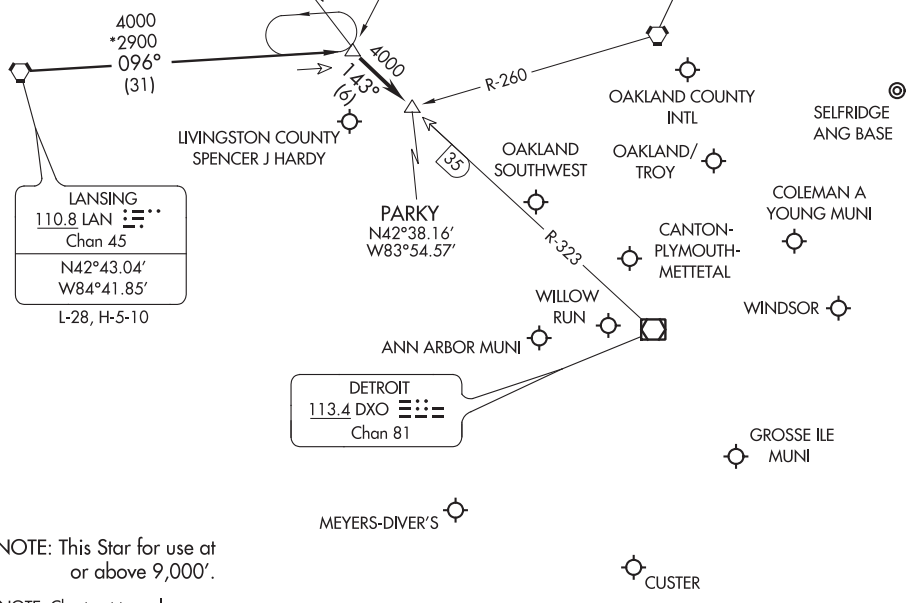
Expect clearance to cross at 9000'.

FLINT
116.9 FNT
Chan 116

PONTIAC
111.0 PSI
Chan 47

LANSING
110.8 LAN
Chan 45
N42°43.04'
W84°41.85'
L-28, H-5-10

DETROIT
113.4 DXO
Chan 81



NOTE: This Star for use at or above 9,000'.

NOTE: Chart not to scale.

LANSING TRANSITION (LAN.SPRTN3): From over LAN VORTAC via LAN R-096 to SPRTN INT. Thence
 Aircraft landing: DET, PTK, VLL, D98, MTC, ARB, YIP, ONZ, 1D2, TTF, Y47, OZW, 3TE, YQG: From over SPRTN INT via DXO R-323 to PARKY INT. Thence
 Expect radar vectors to final approach course.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

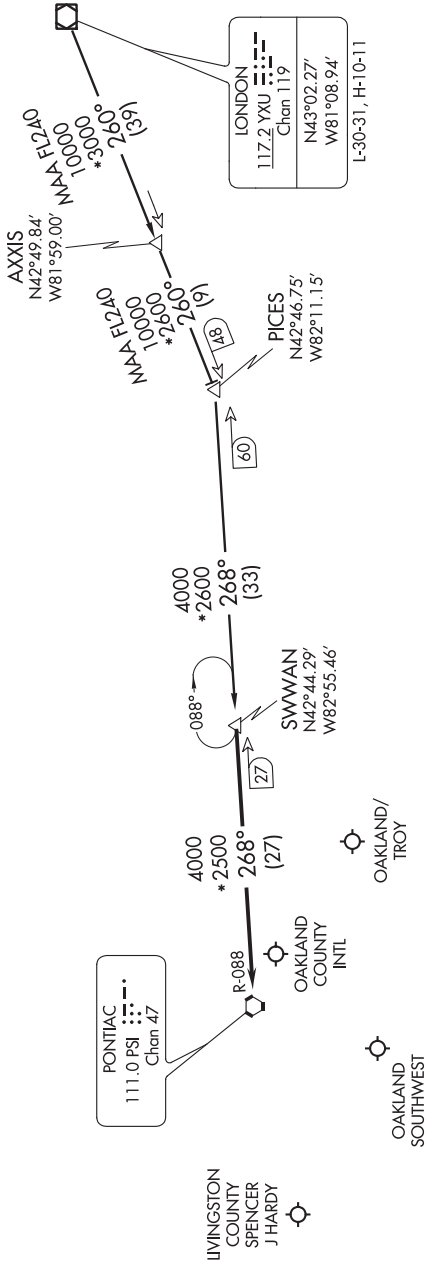
SPRTN THREE ARRIVAL

(SPRTN.SPRTN3) 15064

DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT APP CON
 127.5 363.2
 PONTIAC ATIS
 125.025



ARRIVAL ROUTE DESCRIPTION

AXIS TRANSITION (AXIS.SWWAN2): From over **AXIS INT** via **YXU R-260** to **PICES**, then via **PSI R-088** to **SWWAN**. Thence....
LONDON TRANSITION (YXU.SWWAN2): From over **YXU VORTAC** via **YXU R-260** to **PICES**, then via **PSI R-088** to **SWWAN**. Thence....
From **SWWAN** on **PSI R-088** to **PSI VORTAC**. Expect radar vectors to final approach course from **Detroit** approach control.



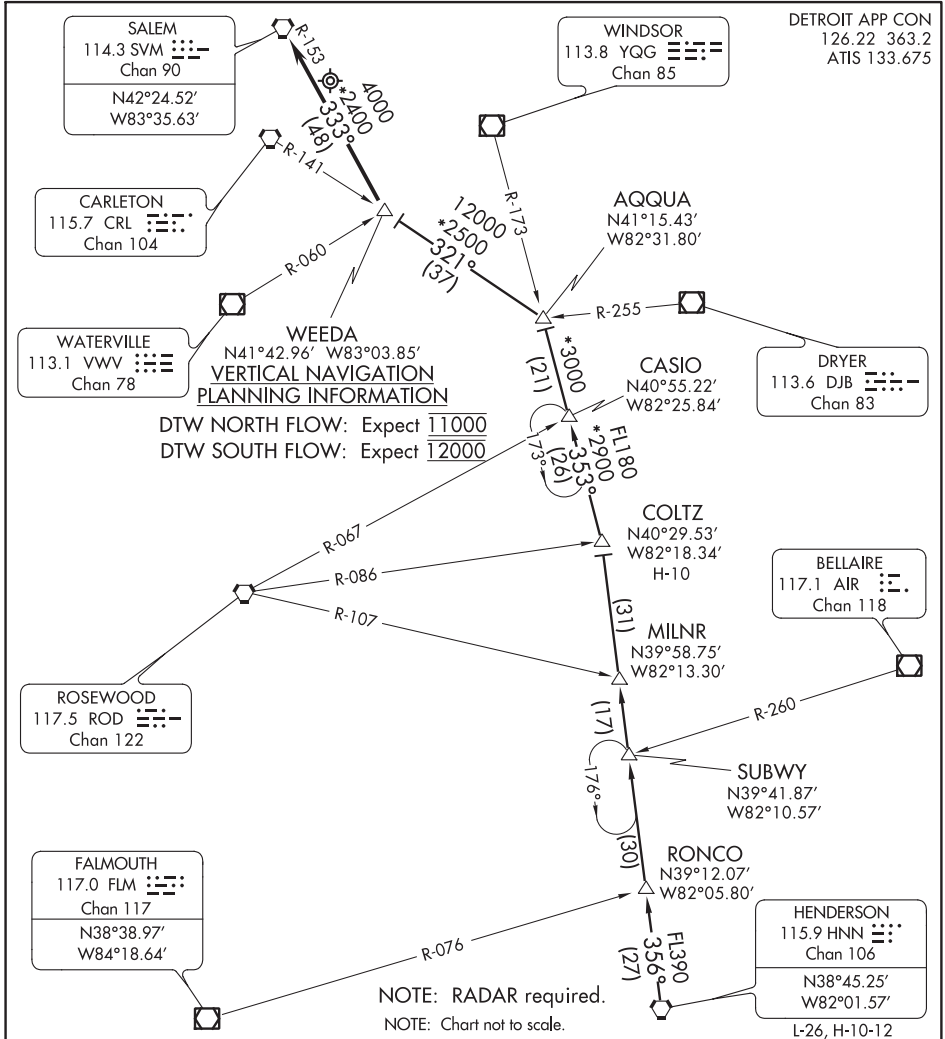
NOTE: DME required.
 NOTE: Radar required.
 NOTE: Chart not to scale.

EC-1, 10 NOV 2016 to 05 JAN 2017

WEEDA TWO ARRIVAL

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
ST-119 (FAA) DETROIT, MICHIGAN

DETROIT APP CON
126.22 363.2
ATIS 133.675



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ARRIVAL ROUTE DESCRIPTION

HENDERSON TRANSITION (HNN.WEEDA2): From over HNN VORTAC on HNN R-356 to COLTZ INT, then on YQG R-173 to AQQUA INT, then on CRL R-141 to WEEDA INT. Thence. . . .

COLTZ TRANSITION (COLTZ.WEEDA2): From over COLTZ INT then on YQG R-173 to AQQUA INT, then on CRL R-141 to WEEDA INT. Thence. . . .

. . . . From WEEDA on SVM R-153 to SVM VORTAC. Expect Radar vectors to final approach course.

WEEDA TWO ARRIVAL

INTENTIONALLY

LEFT

BLANK

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

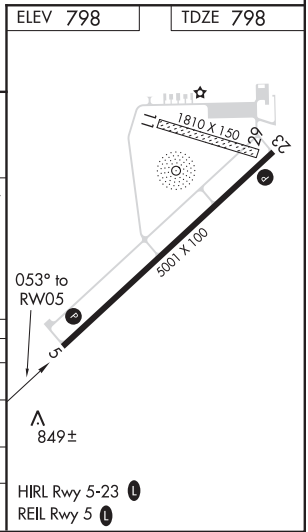
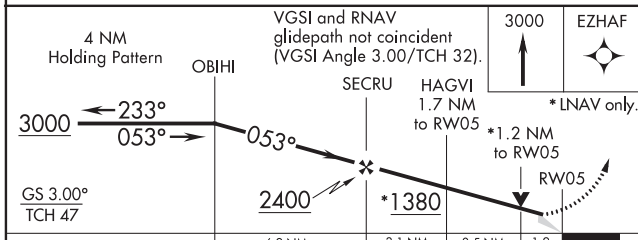
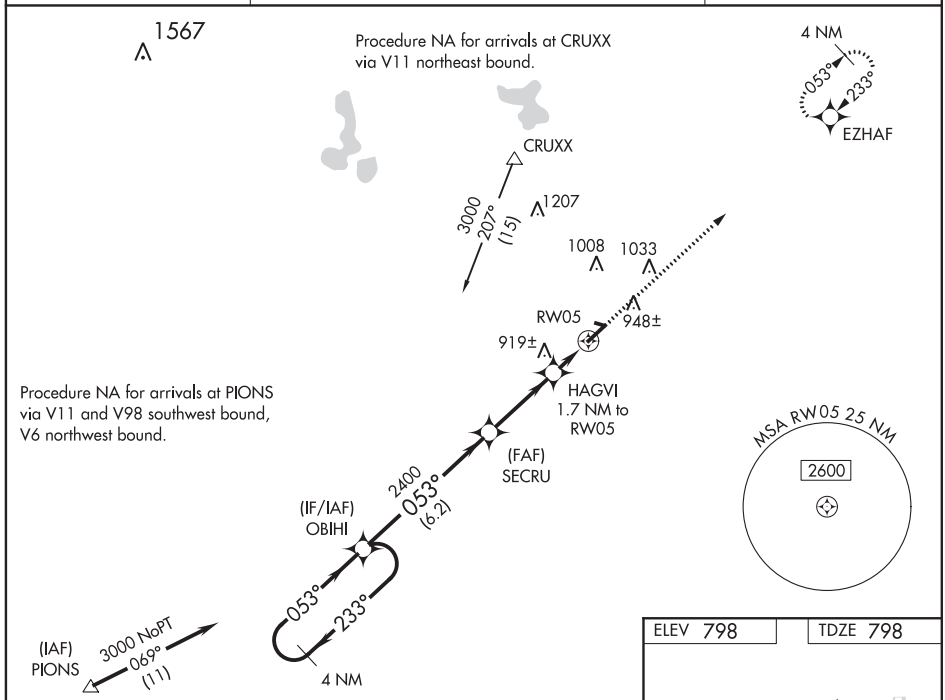
RNAV (GPS) RWY 5

LENAAWEE 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) |
|------------------------|--|-------------------------------|



| CATEGORY | A | B | C | D |
|---------------|-----------------------|-----------------------|-------------------------|-----------------------|
| LPV DA | | 1048-¾ | 250 (300-¾) | |
| LNAV/ DA VNAV | | 1119-1¼ | 321 (400-1¼) | |
| LNAV MDA | 1200-1 | 402 (500-1) | 1200-1¼ | 402 (500-1¼) |
| CIRCLING | 1300-1 502 (600-1) | 1320-1 522 (600-1) | 1320-1½ 522 (600-1½) | 1380-2 582 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ADRIAN, MICHIGAN

AL-5555 (FAA)

15120

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5001 |
| 233° | TDZE | 798 |
| | Apt Elev | 798 |

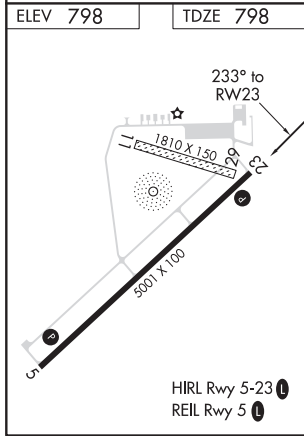
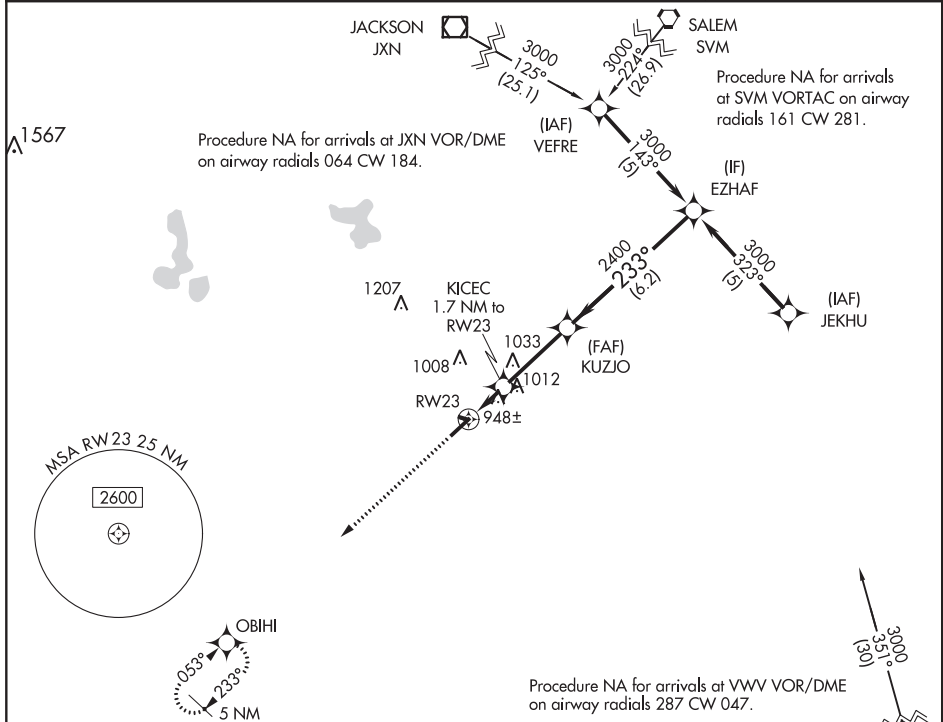
RNAV (GPS) RWY 23

LENAWEE COUNTY (ADG)

▼ If local altimeter setting not received, use Ann Arbor Muni altimeter setting and increase all MDAs 80 feet.
▲ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 3000 direct OBIHI and hold.

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



| | | | | | |
|----------|-----------------------|--|-------------------------|-------------------------|--|
| | OBIHI | VGSi and descent angles not coincident (VGSi Angle 3.00/TCH 32). | | | |
| | | EZHAF | | | |
| | | Procedure Turn NA | | | |
| CATEGORY | A | B | C | D | |
| LNAV MDA | 1260-1 | 462 (500-1) | 1260-1¼ 462 (500-1¼) | 1260-1½ 462 (500-1½) | |
| CIRCLING | 1300-1 502 (600-1) | 1320-1 522 (600-1) | 1320-1½ 522 (600-1½) | 1380-2 582 (600-2) | |

ADRIAN, MICHIGAN
Orig 10MAY07

41°52'N-84°05'W

LENAWEE COUNTY (ADG)

RNAV (GPS) RWY 23

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ADRIAN, MICHIGAN

AL-5555 (FAA)

15120

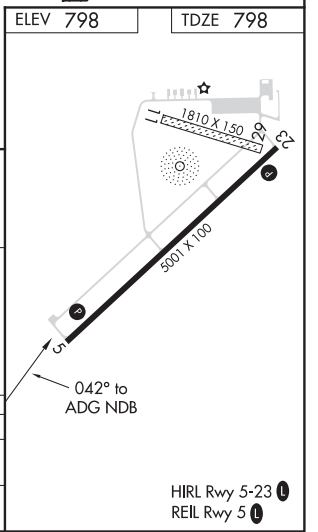
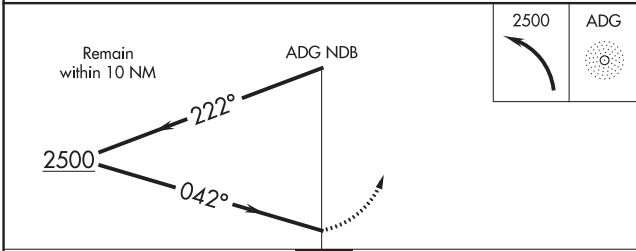
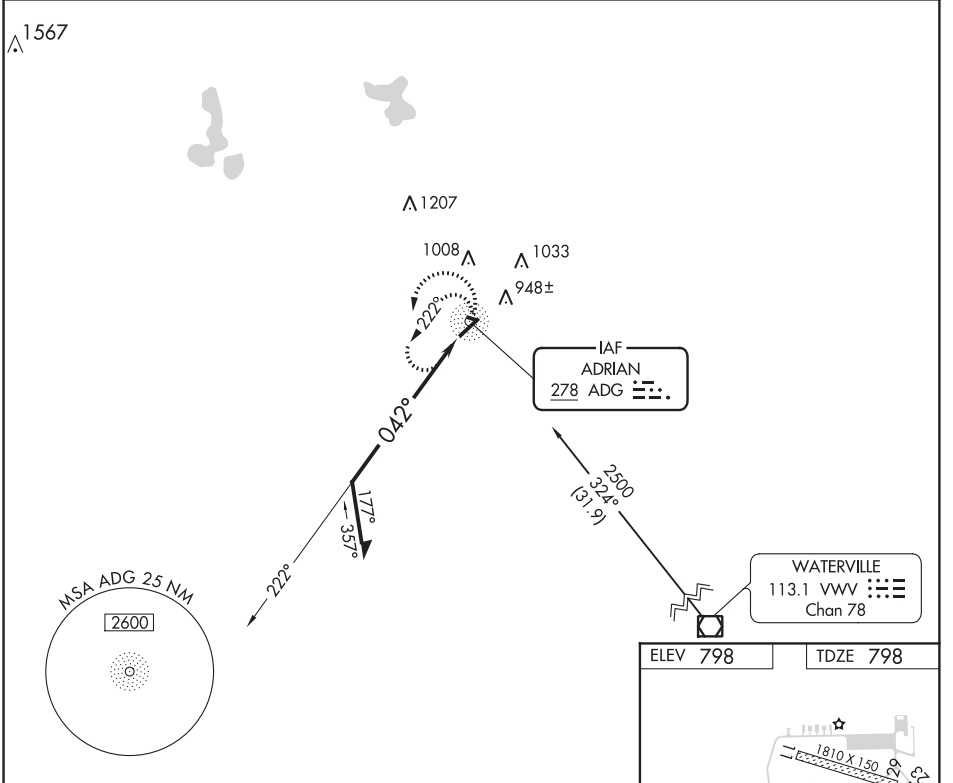
| | | |
|-----------------------|------------------------|------------------------|
| ADG NDB 278 | APP CRS 042° | Rwy Idg 5001 |
| | | TDZE 798 |
| | | Apt Elev 798 |

NDB RWY 5

LENAWEE COUNTY (ADG)

| | |
|-------------------|--|
| <p>▽ ▲ NA</p> | <p>MISSED APPROACH: Climbing left turn to 2500 in ADG NDB holding pattern.</p> |
|-------------------|--|

| | | |
|--------------------------------|--|---|
| <p>ASOS 118.375</p> | <p>TOLEDO APP CON 134.35 317.55</p> | <p>UNICOM 122.8 (CTAF) ①</p> |
|--------------------------------|--|---|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| S-5 | 1380-1 | 582 (600-1) | 1380-1½ 582 (600-1½) | 1380-1¾ 582 (600-1¾) |
| CIRCLING | 1380-1 | 582 (600-1) | 1380-1½ 582 (600-1½) | 1380-2 582 (600-2) |

ADRIAN, MICHIGAN
Orig 30DEC99

41°52'N-84°05'W

LENAWEE COUNTY (ADG)
NDB RWY 5

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ALLEGAN, MICHIGAN

AL-5465 (FAA)

14037

| | |
|------------------------|------------------------|
| APP CRS 103° | Rwy Idg 4300 |
| | TDZE 706 |
| | Apt Elev 706 |

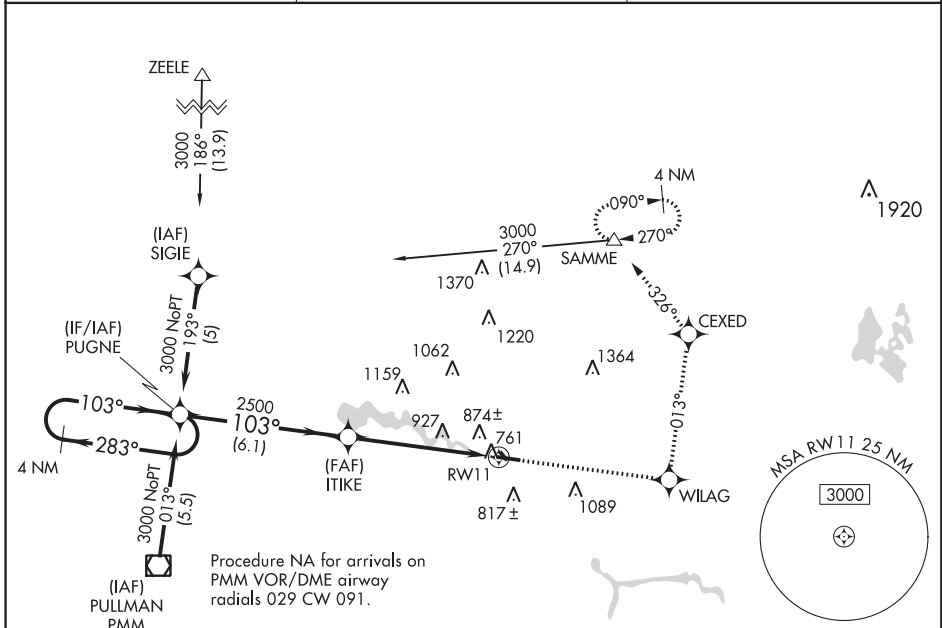
RNAV (GPS) RWY 11

PADGHAM FIELD (35D)

⚠ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Use Holland altimeter setting, when not received use Grand Rapids altimeter setting and increase all MDA 40 feet, increase Circling at C visibility ¼ mile.

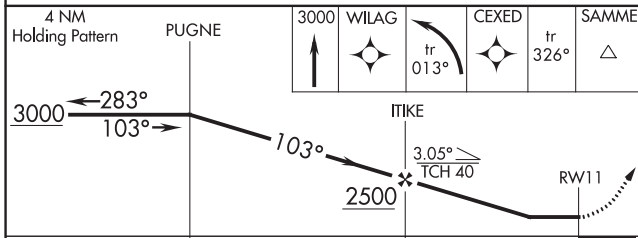
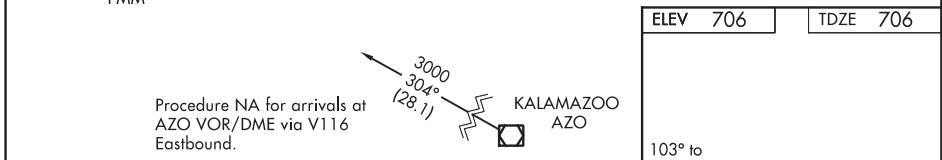
MISSED APPROACH: Climb to 3000 direct WILAG and left turn on track 013° to CEXED and on track 326° to SAMME and hold.

| | | |
|--------------------------------|---|---------------------------------|
| HOLLAND ASOS 119.025 | GRAND RAPIDS APP CON* 128.4 257.6 | UNICOM 122.8 (CTAF) 0 |
|--------------------------------|---|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|----------|----------|
| ELEV 706 | TDZE 706 |
|----------|----------|

REIL Rwy 11 and 29 **0**
MIRL Rwy 11-29 **0**

| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|----|
| INAV MDA | 1220-1 | 514 (600-1) | 1220-1½ 514 (600-1½) | NA |
| CIRCLING | 1280-1 | 574 (600-1) | 1280-1½ 574 (600-1½) | NA |

ALLEGAN, MICHIGAN
Orig-A 11MAR10

42°32'N-85°49'W

PADGHAM FIELD (35D)

RNAV (GPS) RWY 11

| | |
|------------------------|------------------------|
| APP CRS 283° | Rwy Idg 4300 |
| | TDZE 705 |
| | Apt Elev 706 |

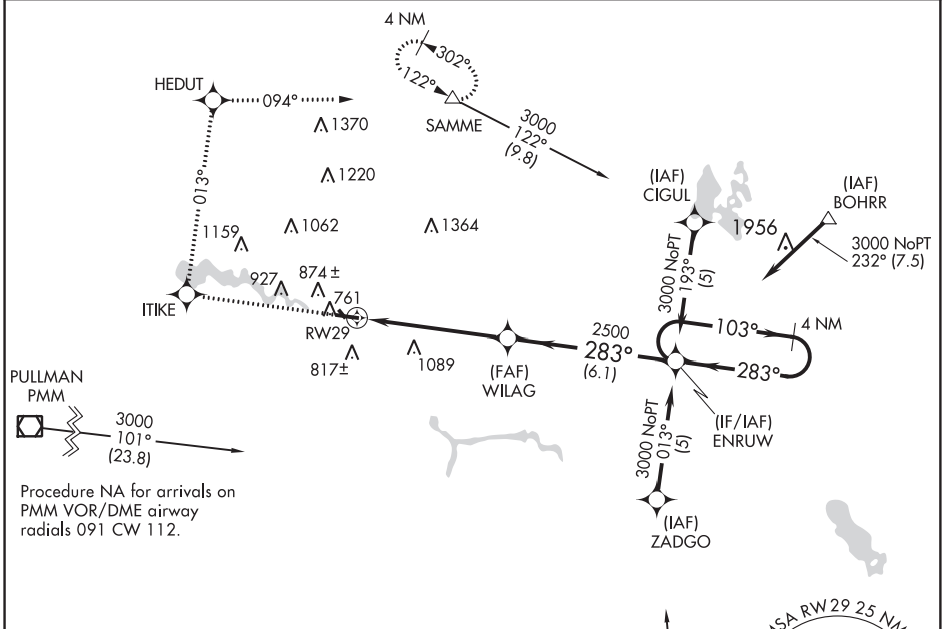
RNAV (GPS) RWY 29

PADGHAM FIELD (35D)

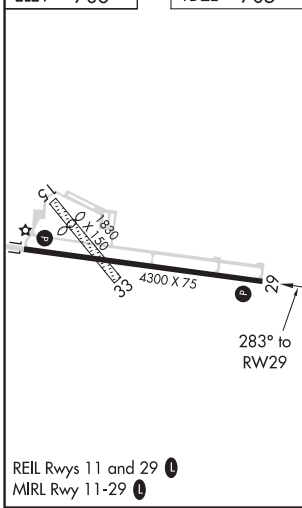
NA DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Use Holland altimeter setting, when not received use Grand Rapids altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climb to 3000 direct ITIKE and right turn via track 013° to HEDUT and via track 094° to SAMME and hold.

| | | |
|--------------------------------|---|--|
| HOLLAND ASOS 119.025 | GRAND RAPIDS APP CON* 128.4 257.6 | UNICOM 122.8 (CTAF) 0 |
|--------------------------------|---|--|



| | |
|----------|----------|
| ELEV 706 | TDZE 705 |
|----------|----------|



| | | | | |
|------------|---------|-------------|-----------------------|----------------------|
| 3000 ITIKE | HEDUT | SAMME | ENRUW | 4 NM Holding Pattern |
| ↑ | tr 013° | tr 094° | | |
| | | | | |
| CATEGORY | A | B | C | D |
| LNAV MDA | 1380-1 | 675 (700-1) | 1380-2 675 (700-2) | NA |
| CIRCLING | 1380-1 | 674 (700-1) | 1380-2 674 (700-2) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 90228 W09A | APP CRS 095° | Rwy Idg TDZE Apt Elev | 5004 753 754 |
|--|------------------------|-----------------------------|---|

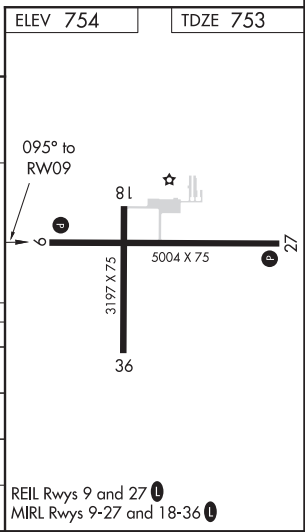
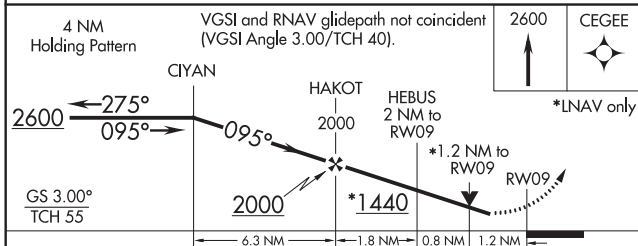
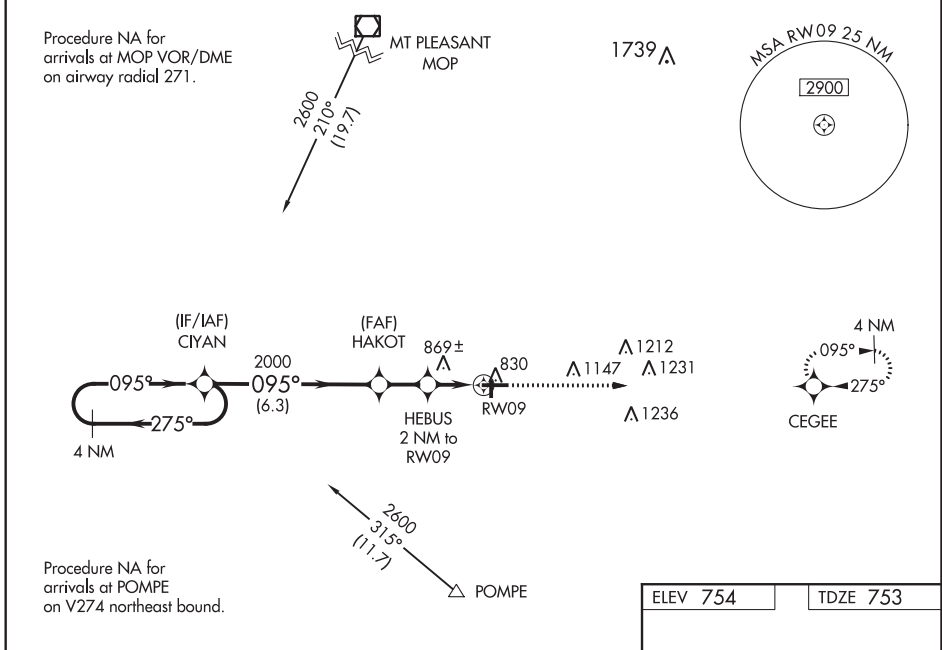
RNAV (GPS) RWY 9

GRATIOT COMMUNITY (AMN)

⚠ Night landing: Rwy 18, 36 NA. Baro-VNAV NA when using Mount Pleasant altimeter setting. For uncompensated Baro-VNAV systems, LNAV/NAV NA below -16°C (4°F) or above 39°C (102°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Mount Pleasant altimeter setting and increase all DA 42 feet and VNAV all Cats visibility 1/8 mile, increase all MDA 60 feet, and LNAV Cat C and D visibility 1/4 mile. VDP NA when using Mount Pleasant altimeter setting.

MISSED APPROACH:
Climb to 2600 direct CEGEE and hold.

| | | | |
|--------------------------|--|---------------------------|---------------------------------|
| AWOS-3 124.175 | SAGINAW APP CON * 126.45 235.625 | CLNC DEL 119.25 | UNICOM 122.8 (CTAF) 0 |
|--------------------------|--|---------------------------|---------------------------------|



| CATEGORY | A | B | C | D |
|---------------|----------------------------|----------------------------|----------------------------|--------------------|
| LPV DA | 1028-1 275 (300-1) | | | |
| LNAV/ VNAV DA | 1156-1 3/8 403 (400-1 3/8) | | | |
| LNAV MDA | 1160-1 407 (500-1) | 1160-1 1/8 407 (500-1 1/8) | | |
| CIRCLING | 1180-1 426 (500-1) | 1220-1 466 (500-1) | 1220-1 1/2 466 (500-1 1/2) | 1320-2 566 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ALMA, MICHIGAN

AL-5620 (FAA)

15120

| | | |
|------------------------|-----------------------------|---|
| APP CRS 185° | Rwy Idg TDZE Apt Elev | 3197 754 754 |
|------------------------|-----------------------------|---|

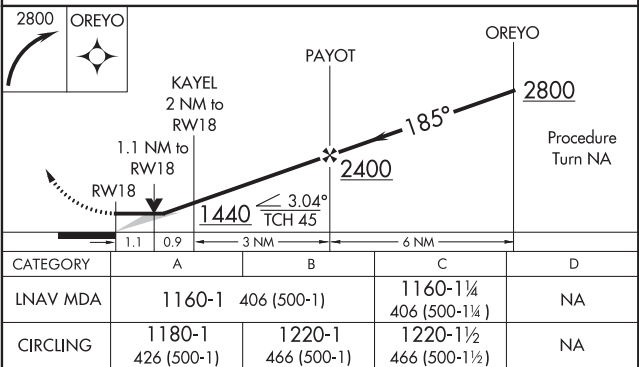
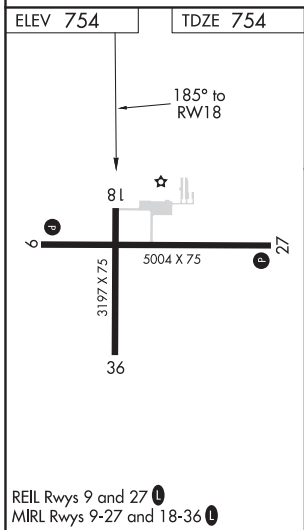
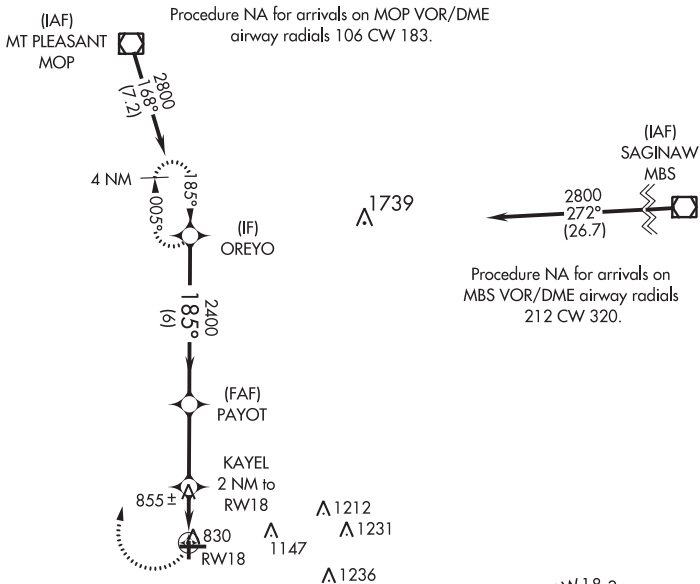
RNAV (GPS) RWY 18

GRATIOT COMMUNITY (A.MN)

NA GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. Straight-in minimums NA at night. Circling NA at night to Rwy 18 and 36.

MISSED APPROACH: Climbing right turn to 2800 direct OREYO WP and hold.

| | | | |
|--------------------------|--|---------------------------|--|
| AWOS-3 124.175 | SAGINAW APP CON ★ 126.45 235.625 | CLNC DEL 119.25 | UNICOM 122.8 (CTAF) U |
|--------------------------|--|---------------------------|--|



ALMA, MICHIGAN
Orig 25DEC03

43°19'N-84°41'W

GRATIOT COMMUNITY (A.MN)

RNAV (GPS) RWY 18

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 58028 W27A | APP CRS 275° | Rwy Idg TDZE 753 Apt Elev 754 | 5004 |
|--|------------------------|---|-------------|

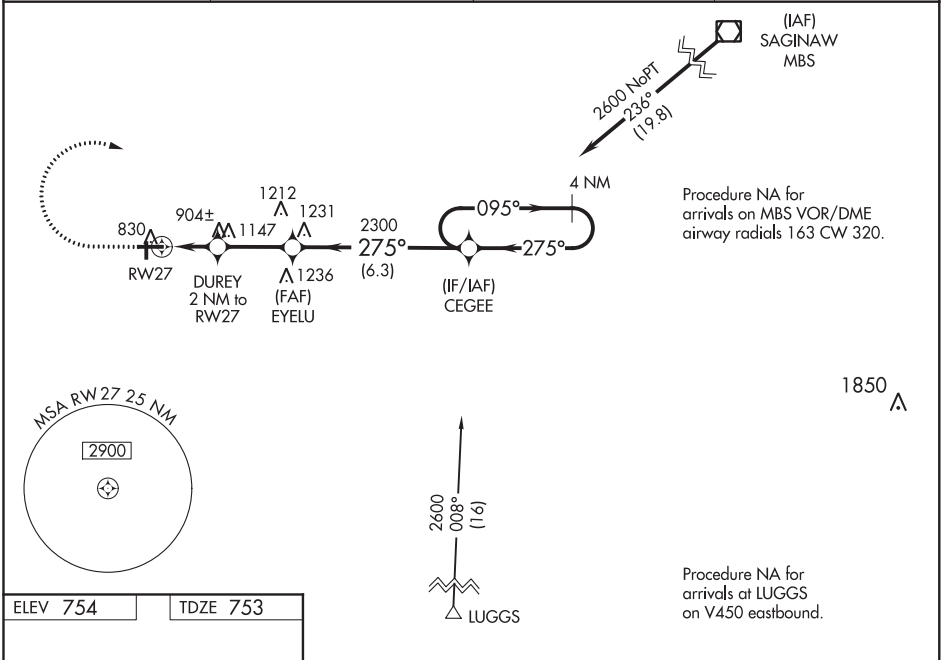
RNAV (GPS) RWY 27

GRATIOT COMMUNITY (AMN)

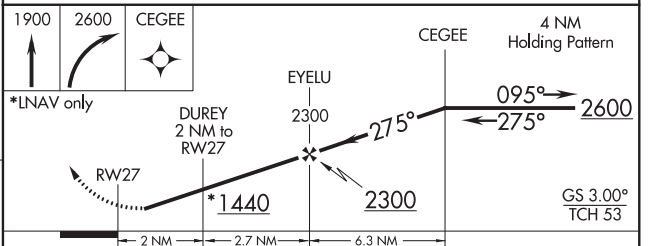
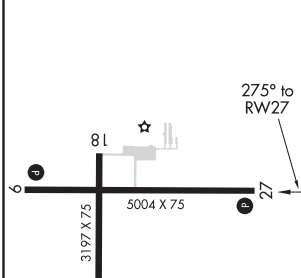
⚠ Circling to Rwy 18, 36 NA at night. Baro-VNAV NA when using Mount Pleasant altimeter setting.
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 39°C (102°F).
 When VGSI inoperative, Straight-in/Circling Rwy 27 procedure NA at night. DME/DME RNP-0.3 NA.
 When local altimeter setting not received, use Mount Pleasant altimeter setting and increase all DA 42 feet and LNAV/VNAV all Cats visibility 1/8 mile, increase all MDA 60 feet, and LNAV Cat C and D visibility 1/4 mile. Visibility reduction by helicopters NA.

MISSED APPROACH:
 Climb to 1900 then climbing right turn 2600 direct CEGEE and hold.

| | | | |
|--------------------------|--|---------------------------|--|
| AWOS-3 124.175 | SAGINAW APP CON * 126.45 235.625 | CLNC DEL 119.25 | UNICOM 122.8 (CTAF) 📻 |
|--------------------------|--|---------------------------|--|



| | |
|----------|----------|
| ELEV 754 | TDZE 753 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|------------------------------------|--|--|
| LPV DA | | 1003-1 | 250 (300-1) | |
| LNAV/VNAV DA | | 1152-1 ³ / ₈ | 399 (400-1 ³ / ₈) | |
| LNAV MDA | 1160-1 | 407 (500-1) | 1160-1 ¹ / ₈ | 407 (500-1 ¹ / ₈) |
| CIRCLING | 1180-1 426 (500-1) | 1220-1 466 (500-1) | 1220-1 ¹ / ₂ 466 (500-1 ¹ / ₂) | 1320-2 566 (600-2) |

REIL Rwy 9 and 27 **📻**
 MIRL Rwy 9-27 and 18-36 **📻**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

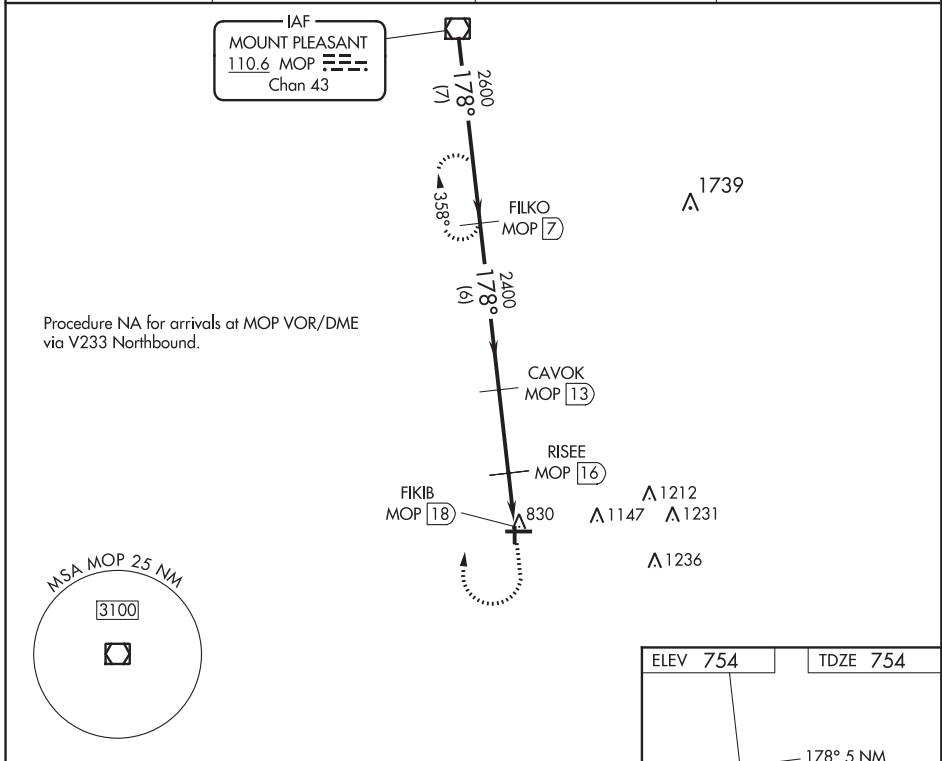
| | | |
|---|------------------------|---|
| VOR/DME MOP 110.6 Chan 43 | APP CRS 178° | Rwy Idg 3197 TDZE 754 Apt Elev 754 |
|---|------------------------|---|

VOR/DME RWY 18

GRATIOT COMMUNITY (AMN)

| | |
|--|---|
| ⚠ NA Night landing: Rwy 18, 36 NA. Helicopter visibility reduction below 1 SM NA. | MISSED APPROACH: Climb to 1200, then climbing right turn to 2600 via MOP R-178 to FILKO/7 DME and hold. |
|--|---|

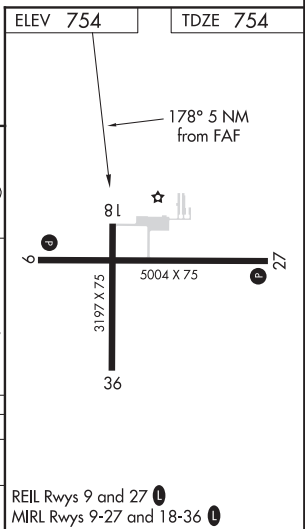
| | | | |
|--------------------------|--|---------------------------|--|
| AWOS-3 124.175 | SAGINAW APP CON ★ 126.45 235.625 | CLNC DEL 119.25 | UNICOM 122.8 (CTAF) Ⓛ |
|--------------------------|--|---------------------------|--|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | | |
|--|-----------------------|-----------------------|-------------------------|--------------|
| MOP VOR/DME 3000 178° 2600 2400 3.03° TCH 50 1420 | FILKO MOP 7 | CAVOK MOP 13 | RISEE MOP 16 | FIKIB MOP 18 |
| | 1200 | 2600 | FILKO MOP 7 | |
| Procedure Turn NA | 7 NM | 6 NM | 3 NM | 2 NM |
| CATEGORY | A | B | C | D |
| S-18 | 1140-1 | 386 (400-1) | 1140-1¼ 386 (400-1¼) | NA |
| CIRCLING | 1180-1 426 (500-1) | 1220-1 466 (500-1) | 1220-1½ 466 (500-1½) | NA |



REIL Rwy 9 and 27 **Ⓛ**
MRL Rwy 9-27 and 18-36 **Ⓛ**

| | | | |
|---------------------------|------------------------|-----------------------------|---|
| LOC I-APN 109.7 | APP CRS 007° | Rwy Idg TDZE Apt Elev | 9001 685 690 |
|---------------------------|------------------------|-----------------------------|---|

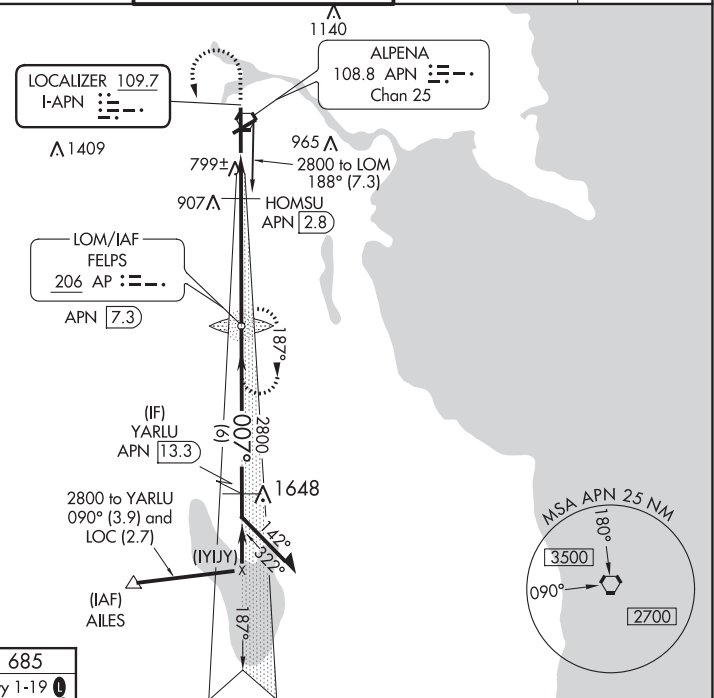
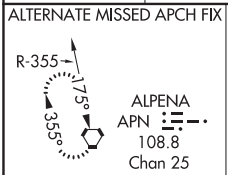
ILS or LOC RWY 1

ALPENA COUNTY RGNL (APN)

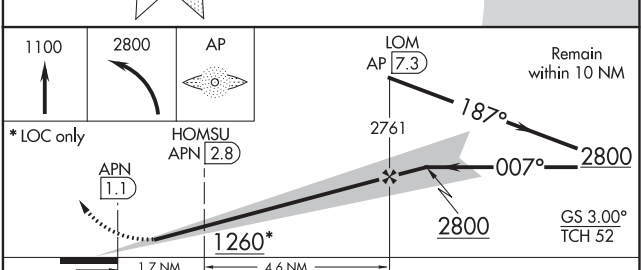
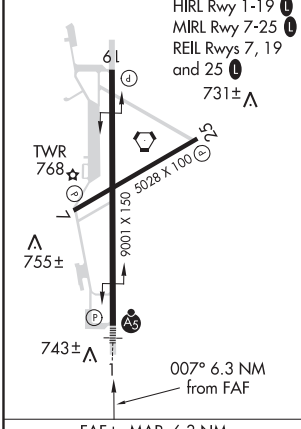
NA For inoperative MALSR, increase S-LOC 1 Cat C/D visibility to 1 1/8 mile. ADF required.

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

| | | | | |
|------------------------|--|--|-------------------------------|-------------------------|
| 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 |
|------------------------|--|--|-------------------------------|-------------------------|



| | | |
|----------|----------|----------|
| ELEV 690 | D | TDZE 685 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|--------------------|-----------------------|---------------|-----------------------------|-----------------------|
| S-ILS 1 | 885-1/2 200 (200-1/2) | | | |
| S-LOC 1 | 1260-1/2 | 575 (600-1/2) | 1260-1/4 | 575 (600-1/4) |
| CIRCLING | 1260-1 | 570 (600-1) | 1260-15/8 570 (600-15/8) | 1260-2 570 (600-2) |
| HOMSU FIX MINIMUMS | | | | |
| S-LOC 1 | 1140-1/2 | 455 (500-1/2) | 1140-7/8 | 455 (500-7/8) |
| CIRCLING | 1140-1 | 450 (500-1) | 1140-1/2 | 1260-2 570 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ALPENA, MICHIGAN

AL-718 (FAA)

16315

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 50310 W01A | APP CRS 007° | Rwy Idg TDZE Apt Elev | 9001 685 690 |
|--|------------------------|-----------------------------|---|

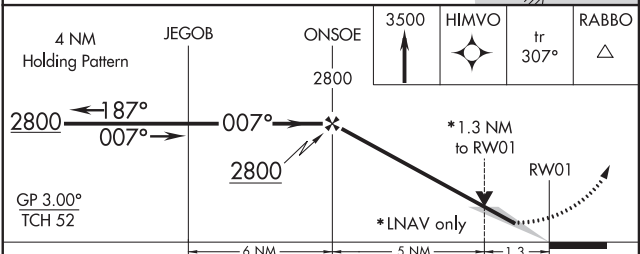
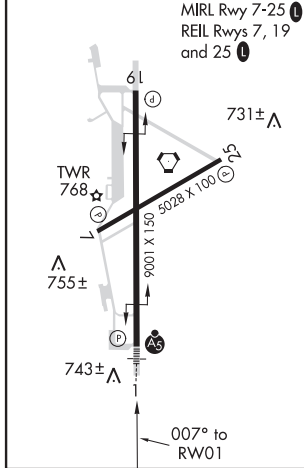
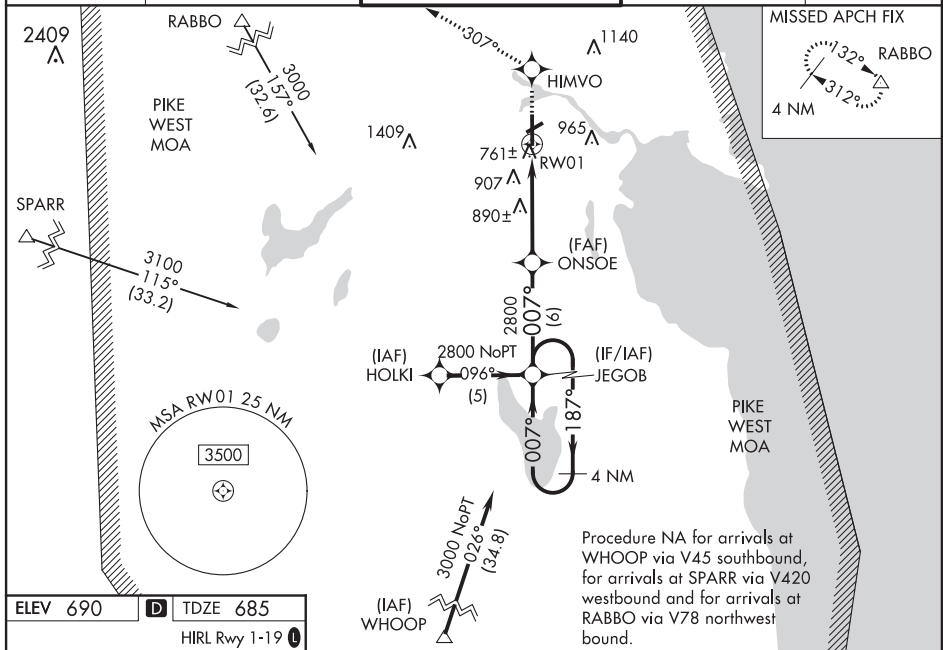
RNAV (GPS) RWY 1

ALPENA COUNTY RGNL (APN)

⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 48°C (118°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Rogers City altimeter setting and increase all DA 55 feet and all MDA 60 feet and increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibilities ½ mile. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inoperative MALSR, increase LPV all Cats visibility to 1.

MALSRL
MISSED APPROACH:
Climb to 3500 direct HIMVO and via 307° track to RABBO and hold.

| | | | | |
|------------------------|--|--|-------------------------------|-------------------------|
| ASOS 120.675 | ALPENA APP CON * 128.425 379.3 | ALPENA TOWER * 121.35 (CTAF) 0 318.1 | GND CON 121.9 275.8 | UNICOM 122.95 |
|------------------------|--|--|-------------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|---------------------------|-----------------------|
| LPV DA | | 974-½ | 289 (300-½) | |
| LNAV/DA VNAV | | 1029-¾ | 344 (400-¾) | |
| LNAV MDA | 1160-½ | 475 (500-½) | 1160-¾ 475 (500-¾) | 1160-1 475 (500-1) |
| CIRCLING | 1160-1 | 470 (500-1) | 1160-1 ½ 470 (500-1 ½) | 1260-2 570 (600-2) |

ALPENA, MICHIGAN
Orig-B 02APR15

45°05'N-83°34'W

ALPENA COUNTY RGNL (APN) RNAV (GPS) RWY 1

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 53717 W19A | APP CRS 187° | Rwy ldg TDZE Apt Elev | 9001 683 690 |
|--|------------------------|-----------------------------|---|

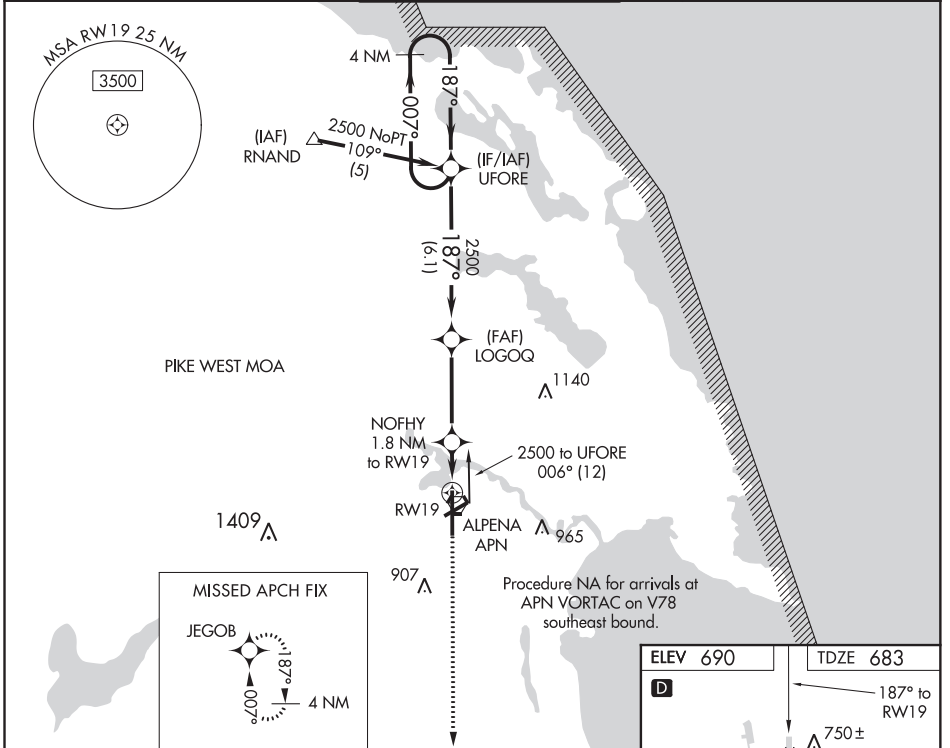
RNAV (GPS) RWY 19

ALPENA COUNTY RGNL (APN)

⚠ 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.
❄ -32°C
 Visibility reduction by helicopters NA.

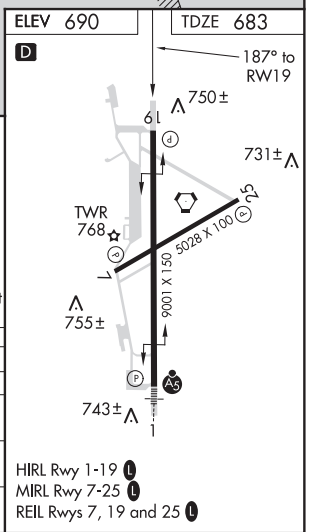
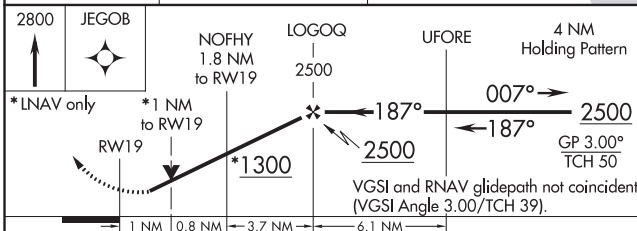
MISSED APPROACH: Climb to 2800 direct JEGOB and hold.

| | | | | |
|------------------------|--|---|-------------------------------|-------------------------|
| 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 |
|------------------------|--|---|-------------------------------|-------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | | | |
|--------------|-----------------------|-----------------------|-------------------------------|-----------------------|
| CATEGORY | A | B | C | D |
| LPV DA | | 933-3/4 | 250 (300-3/4) | |
| LNAV/VNAV DA | | 1020-1 1/4 | 337 (400-1 1/4) | |
| LNAV MDA | | 1020-1 | 337 (400-1) | |
| CIRCLING | 1120-1 430 (500-1) | 1140-1 450 (500-1) | 1140-1 1/2 450 (500-1 1/2) | 1240-2 550 (600-2) |

ALPENA, MICHIGAN

AL-718 (FAA)

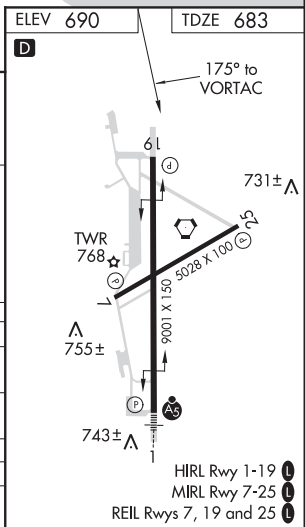
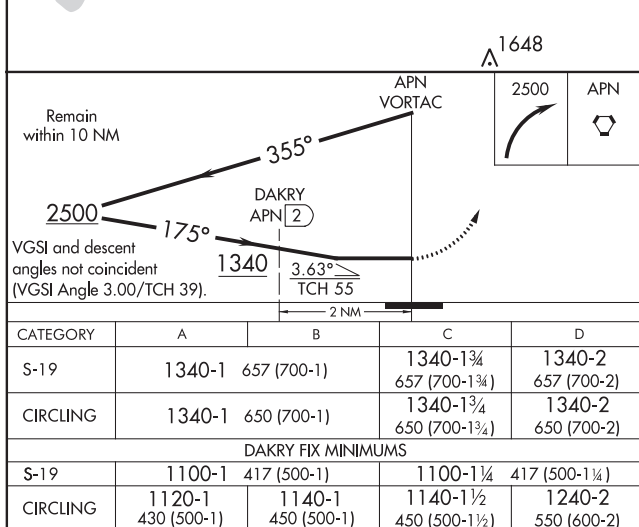
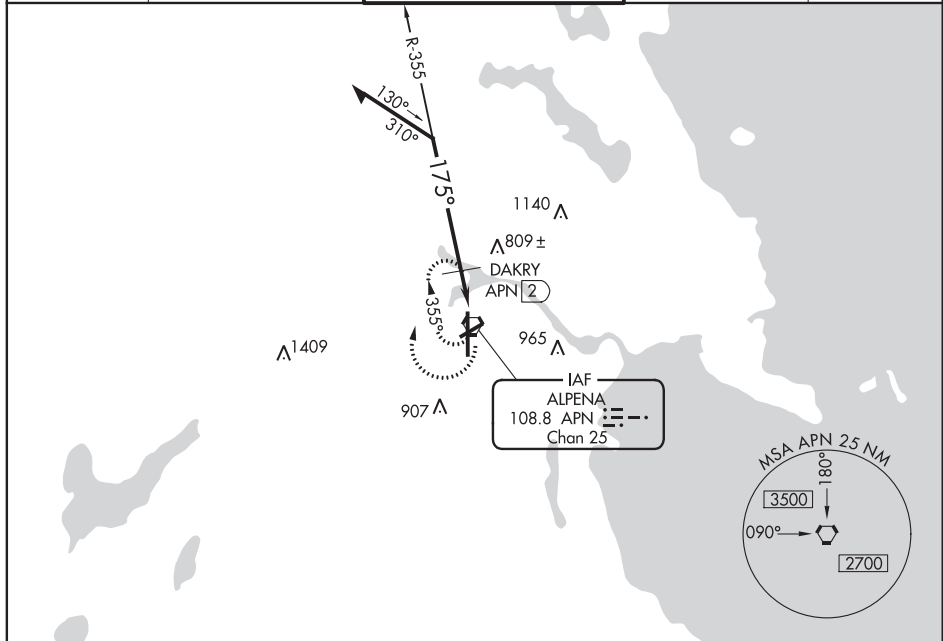
16315

| | | | |
|---------------------------------------|------------------------|-----------------------------|---|
| VORTAC APN 108.8 Chan 25 | APP CRS 175° | Rwy Idg TDZE Apt Elev | 9001 683 690 |
|---------------------------------------|------------------------|-----------------------------|---|

VOR RWY 19
ALPENA COUNTY RGNL (APN)

| | | | | |
|-------|---|---|--|--|
| -32°C | Visibility reduction by helicopters NA. | MISSED APPROACH: Climbing right turn to 2500 in APN VORTAC holding pattern. | | |
|-------|---|---|--|--|

| | | | | |
|------------------------|--|--|-------------------------------|-------------------------|
| ASOS 120.675 | ALPENA APP CON ★ 128.425 379.3 | ALPENA TOWER ★ 121.35 (CTAF) 0 318.1 | GND CON 121.9 275.8 | UNICOM 122.95 |
|------------------------|--|--|-------------------------------|-------------------------|



ALPENA, MICHIGAN
Amdt 15 03JUN10

45°05'N-83°34'W

ALPENA COUNTY RGNL (APN)
VOR RWY 19

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

- HIRL Rwy 1-19
- MRL Rwy 7-25
- REIL Rwys 7, 19 and 25

16035

AIRPORT DIAGRAM

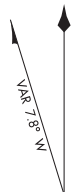
AL-718 (FAA)

ALPENA COUNTY RGNL (APN)
ALPENA, MICHIGAN

ASOS
120.675
ALPENA TOWER ★
121.35 318.1
GND CON
121.9 275.8

D

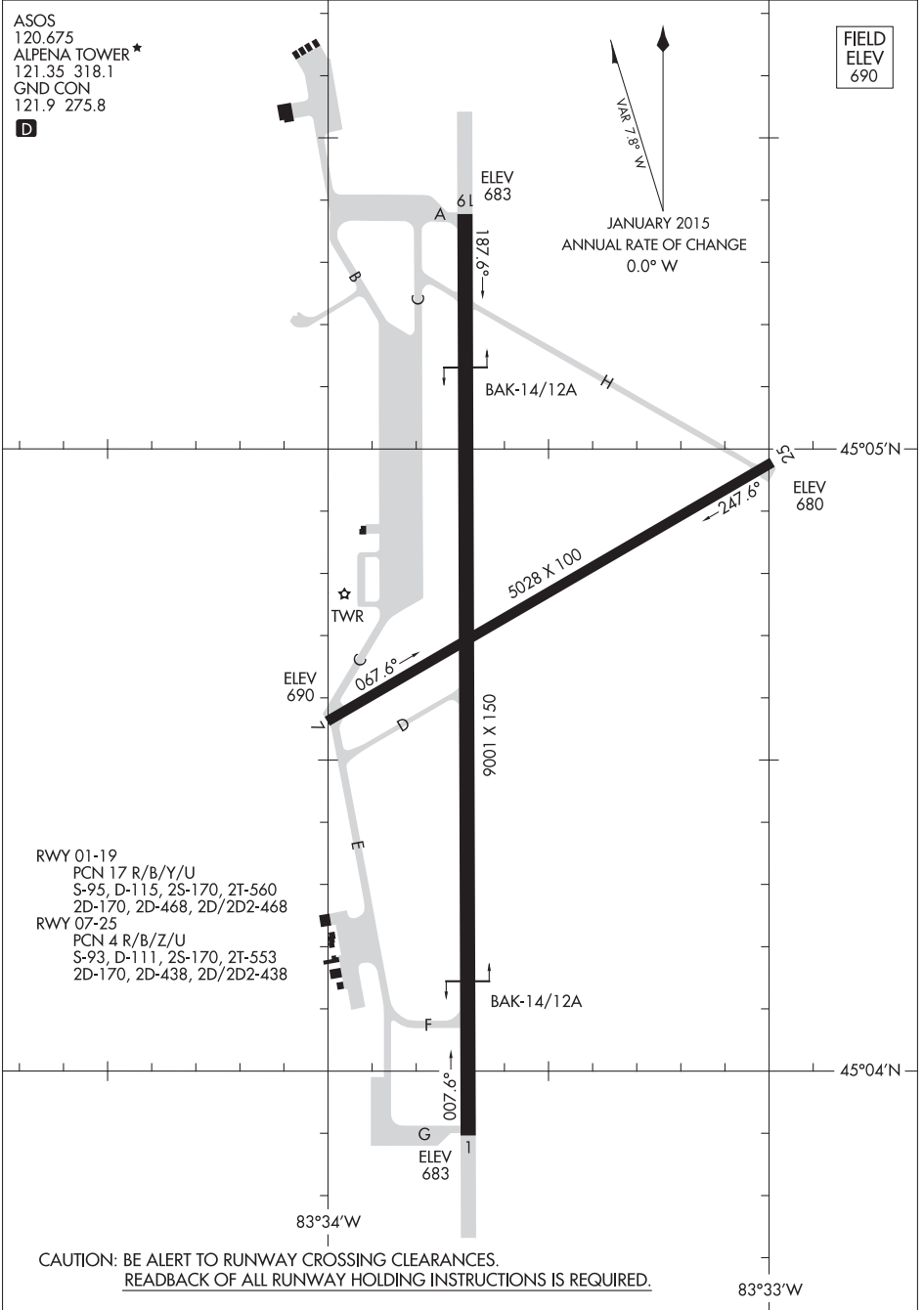
FIELD
ELEV
690



JANUARY 2015
ANNUAL RATE OF CHANGE
0.0° W

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



RWY 01-19
PCN 17 R/B/Y/U
S-95, D-115, 2S-170, 2T-560
2D-170, 2D-468, 2D/2D2-468
RWY 07-25
PCN 4 R/B/Z/U
S-93, D-111, 2S-170, 2T-553
2D-170, 2D-438, 2D/2D2-438

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READEBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AIRPORT DIAGRAM

16035

ALPENA, MICHIGAN
ALPENA COUNTY RGNL (APN)

ANN ARBOR, MICHIGAN

AL-5506 (FAA)

15344

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 77601 W06A | APP CRS 059° | Rwy Idg TDZE Apt Elev | 3505 831 839 |
|--|------------------------|-----------------------------|---|

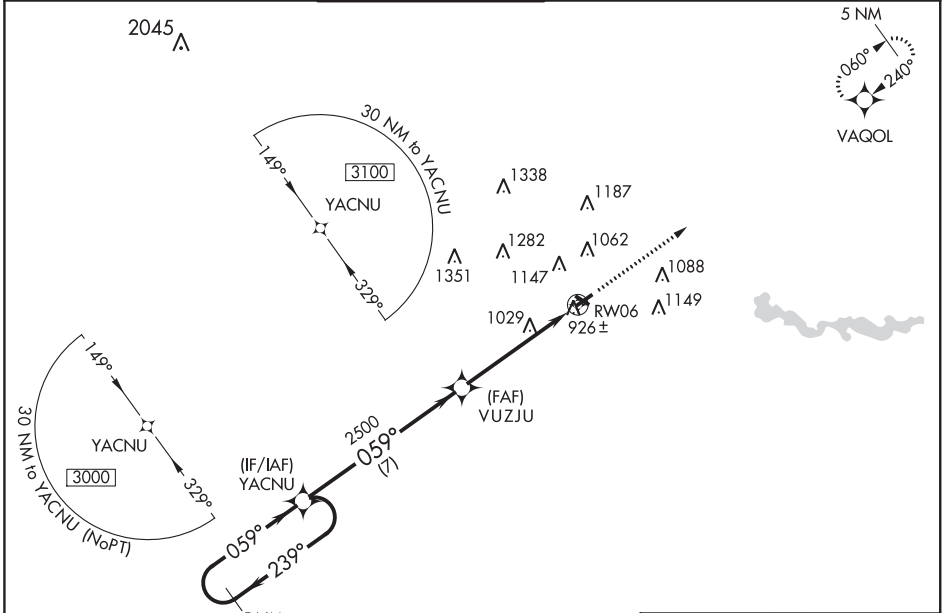
RNAV (GPS) RWY 6

ANN ARBOR MUNI (ARB)

⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 38°C (100°F). DME/DME RNP-0.3 NA. VDP and Baro-VNAV NA when using Willow Run altimeter setting. When local altimeter setting not received, use Willow Run altimeter setting and increase all DA/MDA 40 feet, increase LNAV Cats C and D visibility 1/8 mile, and increase Circling Cats C and D visibility 1/4 mile.

MISSED APPROACH: Climb to 3000 direct VAQOL and hold.

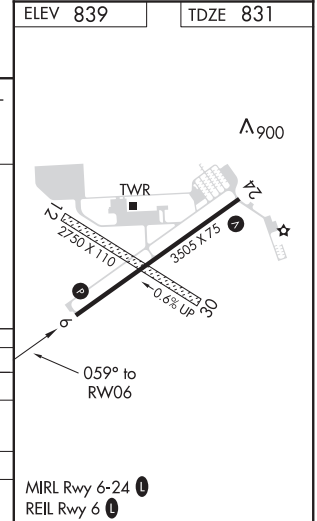
| | | | | | |
|-----------------------|--|--|-------------------------|--------------------------|------------------------|
| ATIS 134.55 | DETROIT APP CON 118.95 363.2 | ANN ARBOR TOWER * 120.3 (CTAF) 0 | GND CON 121.6 | CLNC DEL 121.6 | UNICOM 123.0 |
|-----------------------|--|--|-------------------------|--------------------------|------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|--------|---------------------|----------------------------|
| ELEV 839 | | TDZE 831 | |
| 5 NM Holding Pattern | | VAQOL | |
| YACNU | | 3000 | |
| VUZJU | | *LNAV only. | |
| RW06 | | *1.6 NM to RW06 | |
| GP 3.00° TCH 40 | | RW06 | |
| VGS1 and RNAV glidepath not coincident. | | VAQOL | |
| 7 NM | | 3.5 NM | |
| 1.6 NM | | VAQOL | |
| A | | B | |
| C | | D | |
| CATEGORY | A | B | C |
| LPV DA | | 1081-1 | 250 (300-1) |
| LNAV/VNAV DA | | 1097-1 | 266 (300-1) |
| LNAV MDA | 1360-1 | 529 (600-1) | 1360-1 1/2 529 (600-1 1/2) |
| CIRCLING | 1500-1 | 661 (700-1) | 1500-2 661 (700-2) |
| MIRL Rwy 6-24 Δ | | REIL Rwy 6 Δ | |



ANN ARBOR, MICHIGAN
Amdt 2B 08JAN15

42°13'N-83°45'W

ANN ARBOR MUNI (ARB) RNAV (GPS) RWY 6

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 61120 W24A | APP CRS 240° | Rwy Idg TDZE Apt Elev | 3505 831 839 |
|--|------------------------|-----------------------------|---|

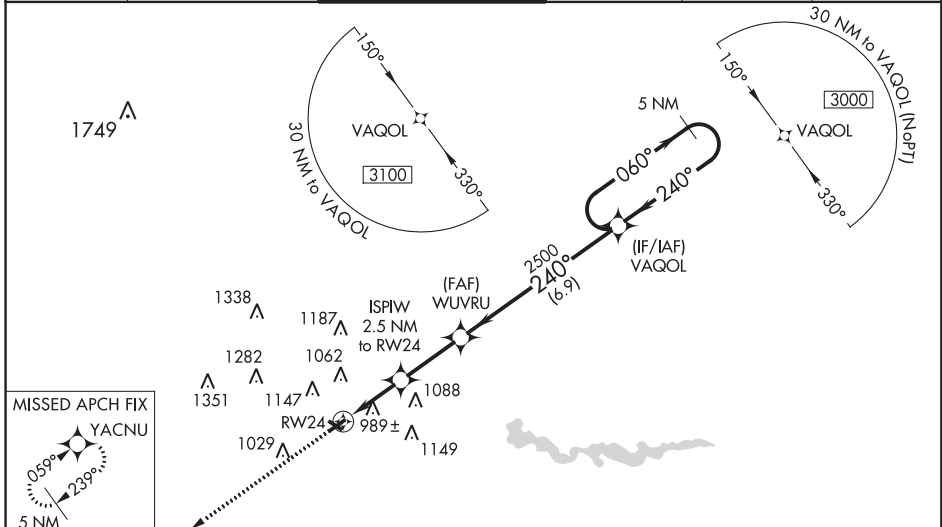
RNAV (GPS) RWY 24

ANN ARBOR MUNI (A.R.B.)

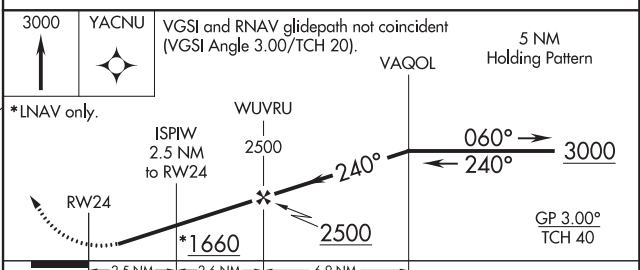
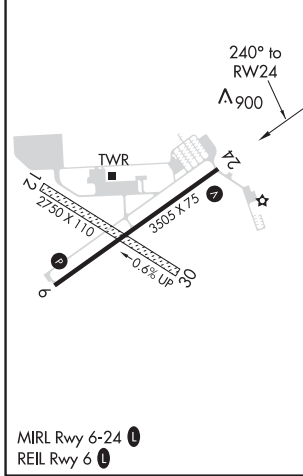
⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM not authorized. Inoperative table does not apply to LPV, LNAV/VNAV, LNAV Cats A/B. When local altimeter setting not received, use Willow Run altimeter setting and increase all DA/MDA 40 feet, increase LNAV Cats C/D visibility 1/8 mile, and increase Circling Cats C/D visibility 1/4 mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 38°C (100°F). Baro-VNAV NA when using Willow Run altimeter setting. For inoperative ODALS increase LNAV Cats C/D visibility to 1/8. For inoperative ODALS when using Willow Run altimeter setting increase LNAV/VNAV visibility all Cats to 1/8 and LNAV Cats C/D visibility to 1/8.

MISSED APPROACH:
Climb to 3000 direct
YACNU and hold.

| | | | | | |
|-----------------------|--|---|-------------------------|--------------------------|------------------------|
| ATIS 134.55 | DETROIT APP CON 118.95 363.2 | ANN ARBOR TOWER * 120.3 (CTAF) ☪ | GND CON 121.6 | CLNC DEL 121.6 | UNICOM 123.0 |
|-----------------------|--|---|-------------------------|--------------------------|------------------------|



| | |
|-----------------|-----------------|
| ELEV 839 | TDZE 831 |
|-----------------|-----------------|



| | A | B | C | D |
|--------------|--------|-------------|--------------|--------------|
| CATEGORY | | | | |
| LPV DA | | 1081-1 | 250 (300-1) | |
| LNAV/VNAV DA | | 1155-1 | 324 (400-1) | |
| LNAV MDA | 1300-1 | 469 (500-1) | 1300-1¼ | 469 (500-1¼) |
| CIRCLING | 1500-1 | 661 (700-1) | 1500-1¾ | 1500-2 |
| | | | 661 (700-1¾) | 661 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ANN ARBOR, MICHIGAN

AL-5506 (FAA)

15344

| | | | |
|--|------------------------|-----------------------------|---|
| VORTAC SVM 114.3 Chan 90 | APP CRS 035° | Rwy Idg TDZE Apt Elev | 3505 831 839 |
|--|------------------------|-----------------------------|---|

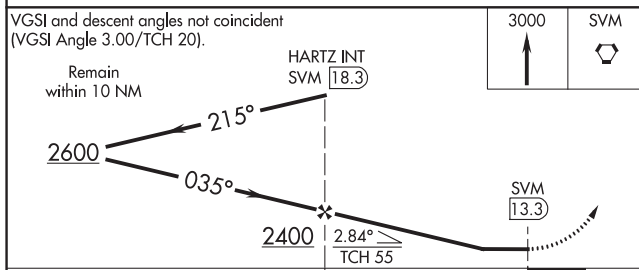
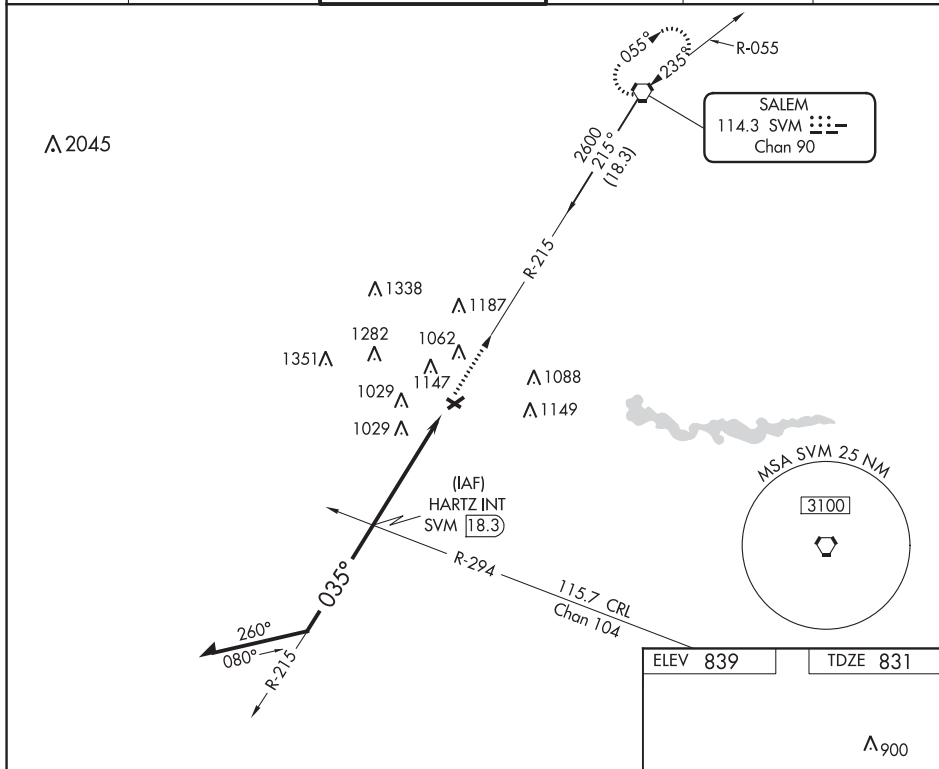
VOR RWY 6

ANN ARBOR MUNI (A.R.B.)

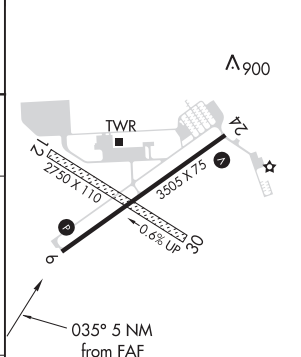
⚠ When local altimeter setting not received, use Willow Run altimeter setting and increase all MDA 40 feet and Cat C/D visibility 1/8 mile and Circling Cat C/D visibility 1/4 mile. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 3000 direct SVM VORTAC and hold.

| | | | | | |
|-----------------------|--|--|-------------------------|--------------------------|------------------------|
| ATIS 134.55 | DETROIT APP CON 118.95 363.2 | ANN ARBOR TOWER ★ 120.3 (CTAF) 0 | GND CON 121.6 | CLNC DEL 121.6 | UNICOM 123.0 |
|-----------------------|--|--|-------------------------|--------------------------|------------------------|



| | |
|----------|----------|
| ELEV 839 | TDZE 831 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------|----------------------|
| S-6 | 1360-1 529 (600-1) | | 1360-1½ 529 (600-1½) | 1360-1½ 529 (600-1½) |
| CIRCLING | 1500-1 661 (700-1) | | 1500-1¾ 661 (700-1¾) | 1500-2 661 (700-2) |

| | | | | |
|-----------------|------|------|------|------|
| REIL Rwy 6 0 | | | | |
| MIRL Rwy 6-24 0 | | | | |
| FAF to MAP 5 NM | | | | |
| Knots | 60 | 90 | 120 | 150 |
| Min:Sec | 5:00 | 3:20 | 2:30 | 2:00 |

ANN ARBOR, MICHIGAN
Amdt 13D 26JUN14

42°13'N-83°45'W

ANN ARBOR MUNI (A.R.B.) VOR RWY 6

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

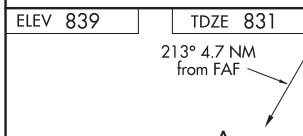
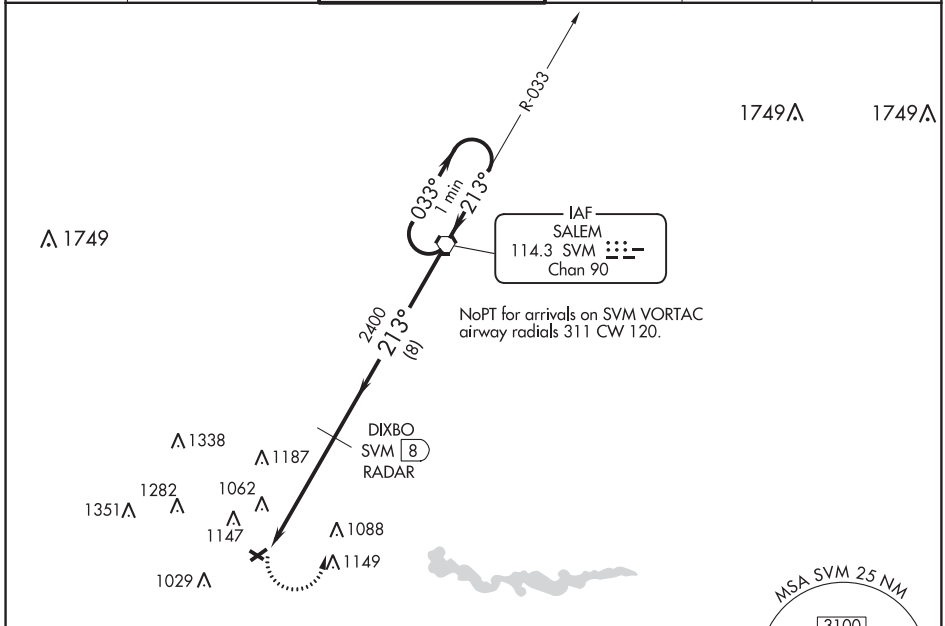
| | | | |
|--|------------------------|-----------------------------|---|
| VORTAC SVM 114.3 Chan 90 | APP CRS 213° | Rwy Idg TDZE Apt Elev | 3505 831 839 |
|--|------------------------|-----------------------------|---|

VOR RWY 24
ANN ARBOR MUNI (A.R.B.)

⚠ Inoperative table does not apply. When local altimeter setting not received, use Willow Run altimeter setting and increase all MDA 40 feet and Circling Cat C/D visibility 1/4 mile. Helicopter visibility reduction below 1 SM not authorized.

MISSED APPROACH: Climbing left turn to 3000 direct SVM VORTAC and hold.

| | | | | | |
|-----------------------|--|---|-------------------------|--------------------------|------------------------|
| ATIS 134.55 | DETROIT APP CON 118.95 363.2 | ANN ARBOR TOWER ★ 120.3 (CTAF) 0 | GND CON 121.6 | CLNC DEL 121.6 | UNICOM 123.0 |
|-----------------------|--|---|-------------------------|--------------------------|------------------------|



| | |
|----------------------|--------------------------|
| ELEV 839 | TDZE 831 |
| 213° 4.7 NM from FAF | |
| MIRL Rwy 6-24 0 | |
| REIL Rwy 6 0 | |
| FAF to MAP 4.7 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 4:42 3:08 2:21 1:53 1:34 |

DME or RADAR REQUIRED

3000 SVM VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 20). One Minute Holding Pattern

DIXBO SVM RADAR SVM VORTAC

033° → 2700

← 213°

2400

3.02° TCH 55

4.7 NM 8 NM

| CATEGORY | A | B | C | D |
|----------|--------|-------------|--|--|
| S-24 | 1460-1 | 629 (700-1) | 1460-1 ³ / ₄ 629 (700-1 ³ / ₄) | 1460-1 ³ / ₄ 629 (700-1 ³ / ₄) |
| CIRCLING | 1500-1 | 661 (700-1) | 1500-1 ³ / ₄ 661 (700-1 ³ / ₄) | 1500-2 661 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

ANN ARBOR MUNI (ARB)
ANN ARBOR, MICHIGAN

AL-5506 (FAA)

ATIS
134.55
ANN ARBOR TOWER ★
120.3
GND CON
121.6
CLNC DEL
121.6

FIELD
ELEV
839

JANUARY 2015
ANNUAL RATE OF CHANGE
0.0° W

900 A FIRE STATION

ADMINISTRATION/
TERMINAL/FBO

TWR
BASE
BLDG

FBO

HS 1

HS 2

42°13.5' N

ELEV
839

129.1°

2750 X 110

3505 X 75

ELEV
826

241.4°

ELEV
831

061.4°

0.6% UP

ELEV
822

309.1°

RWY 06-24
S-45, D-70

42°13.0' N

83°45.0' W

83°44.5' W

CAUTION: BE ALERT TO RUNWAY CROSSING INSTRUCTIONS.
READEBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

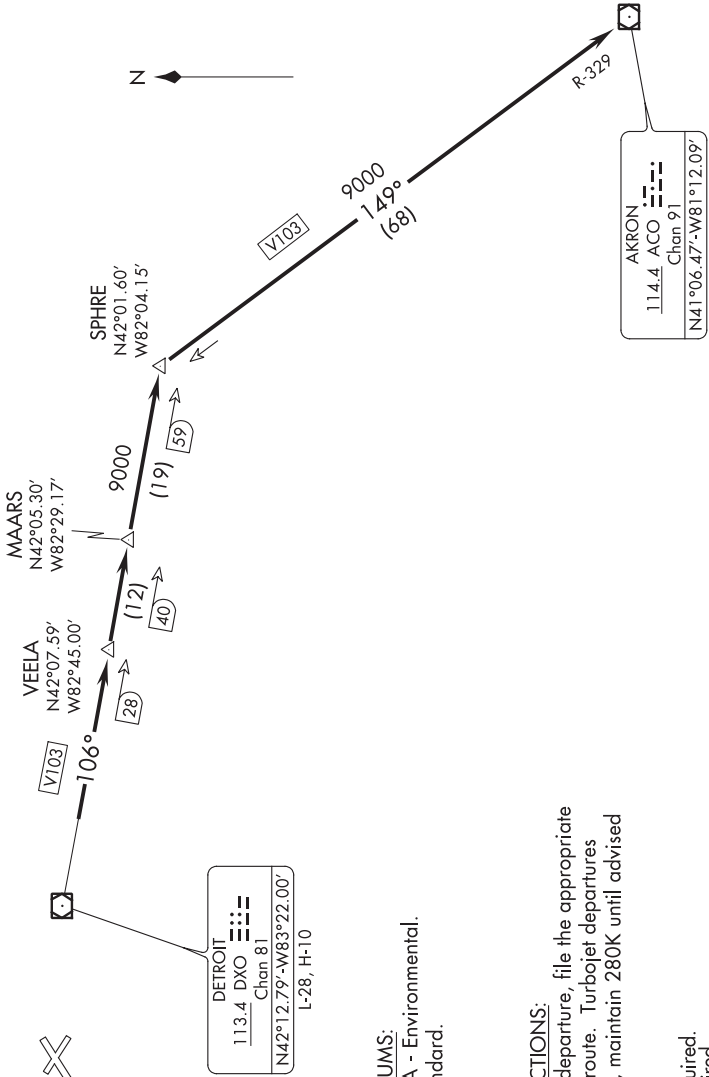
ANN ARBOR, MICHIGAN
ANN ARBOR MUNI (ARB)

AKRON FIVE DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

TOP ALTITUDE:
3000

ATIS 134.55
CLNC DEL 121.6
GND CON 121.6
ANN ARBOR TOWER *
120.3 (CTAF)
DETROIT DEP CON
118.95 239.275



TAKEOFF MINIMUMS:
Rwys 12, 30: NA - Environmental.
Rwys 6, 24: Standard.

SPECIAL INSTRUCTIONS:
When using this departure, file the appropriate depicted fix and route. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Radar required.
NOTE: DME required
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

AKRON FIVE DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 6/24: Climb on assigned heading for radar vectors, thence....

....to intercept DXO VOR/DME R-106 to SPHRE INT, then on ACO R-329 to ACO VOR/DME. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 6: Building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL.
Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL.
Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL.
Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL.
- Rwy 24: Terrain 138' from DER, 475' right of centerline, 837' MSL.
Multiple trees beginning 462' from DER, 486' right of centerline, up to 50' AGL/885' MSL.
Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.

ERRTH SIX DEPARTURE

SL-5506 (FAA)

ANN ARBOR MUNI (ARB)

ANN ARBOR, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

TOP ALTITUDE:
3000

SPECIAL INSTRUCTIONS:

Turbopjet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwys 12, 30: NA - Environmental.
Rwys 6, 24: Standard.

ATIS 134.55
CUNC DEL 121.6
GND CON 121.6
ANN ARBOR TOWER *
120.3 (CTAF)
DETROIT DEP CON
118.95 239.275

WINDSOR
113.8 YOG
Chan 85

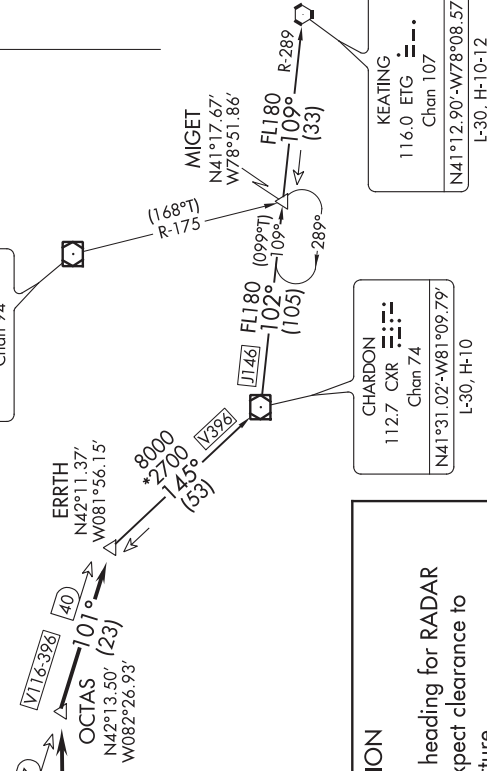


JAMESTOWN
114.7 JHW
Chan 94



DETROIT
113.4 DXO
Chan 81
N42°12.79'-W83°22.00'

NOTE: DME required.
NOTE: RADAR required.



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 6 and 24: Climb on assigned heading for RADAR vectors to join the assigned SID. Maintain 3000', expect clearance to filed altitude/flight level ten (10) minutes after departure.

KEATING TRANSITION (ERRTH6.ETG): From over ERRTH to CXR VOR/DME, then on CXR R-102 and ETG R-289 to MIDGET, then on ETG R-289 to ETG VORTAC.

CHARDON TRANSITION (ERRTH6.CXR): From over ERRTH to CXR VOR/DME.

(NOTES CONTINUED ON FOLLOWING PAGE)

NOTE: Chart not to scale.

TAKEOFF OBSTACLES:

- Rwy 6: Building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL. Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL. Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL. Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL.
- Rwy 24: Terrain 138' from DER, 475' right of centerline, 837' MSL. Multiple trees beginning 462' from DER, 486' right of centerline, up to 50' AGL/885' MSL. Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FORT WAYNE SIX DEPARTURE

ATIS 134.55
 CLNC DEL 121.6
 GND CON 121.6
 ANN ARBOR TOWER ★
 120.3 (CTAF)
 DETROIT DEP CON
 118.95 239.275

**TOP ALTITUDE:
3000**

SPECIAL INSTRUCTIONS:

Jets only.
 When using this departure, file the appropriate depicted fix and route.
 Departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwys 6, 24: Standard.
 Rwys 12, 30: NA - Environmental.

DETROIT
 113.4 DXO
 Chan 81
 N42°12.79'-W83°22.00'
 L-28, H-10

FORT WAYNE
 117.8 FWA
 Chan 125
 N40°58.74'-W85°11.28'
 L-27, H-5-10

ILLIE
 N41°14.91'
 W84°07.96'

WATERVILLE
 113.1 VVV
 Chan 78

FLAG CITY
 108.2 FBC
 Chan 19

NOTE: Radar required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FORT WAYNE SIX DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 6/24: Climb on assigned heading for radar vectors, thence....

....to intercept DXO VOR/DME R-217 to ILLIE INT, then on FWA R-071 to FWA VORTAC. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 6: Building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL.
Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL.
Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL.
Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL.
- Rwy 24: Terrain 138' from DER, 475' right of centerline, 837' MSL.
Multiple trees beginning 462' from DER, 486' right of centerline, up to 50' AGL/885' MSL.
Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 6/24: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

DUNKIRK TRANSITION (MOONN7.DKK): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on DKK R-267 to DKK VORTAC.

JAMESTOWN TRANSITION (MOONN7.JHW): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on JHW R-282 to JHW VOR/DME.

LONDON TRANSITION (MOONN7.YXU): From over MOONN on SVM R-095 to BROKK, then on YXU R-212 to YXU VOR/DME.

TAKEOFF OBSTACLES:

- Rwy 6: Building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL.
Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL.
Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL.
Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL.
- Rwy 24: Terrain 138' from DER, 475' right of centerline, 837' MSL.
Multiple trees beginning 462' from DER, 486' right of centerline, up to 50' AGL/885' MSL.
Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

**TOP ALTITUDE:
3000**

SPECIAL INSTRUCTIONS:

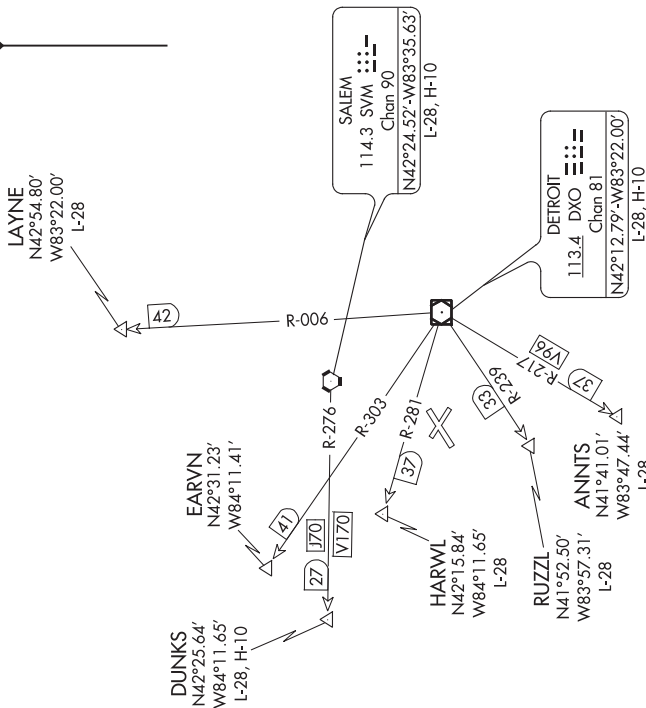
When using this departure, file the appropriate depicted departure fix and route. Aircraft landing/overflying Lansing (LAN) or overflying Flint (FNT) at 10000' or below, file via EARVN. Aircraft landing Flint (FNT) at 10000' or below, file via LAYNE. Aircraft landing/overflying Toledo (TOL) at 10000 or below, file via RUZZL. Aircraft over HARWL must file FL 220 and below. Aircraft landing Cincinnati (CVG) must file via ANNNTS. PROPS NA over ANNNTS. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

ATIS 134.55
 CLNC DEL 121.6
 GND CON 121.6
 ANN ARBOR TOWER *
 120.3 (CTAF)
 DETROIT DEP CON
 118.95 239.275

TAKEOFF MINIMUMS:

Rwys 12, 30: NA - Environmental.
 Rwys 6, 24: Standard.

NOTE: ATC requested only.
 NOTE: DME required.
 NOTE: RADAR required.



NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 6/24: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

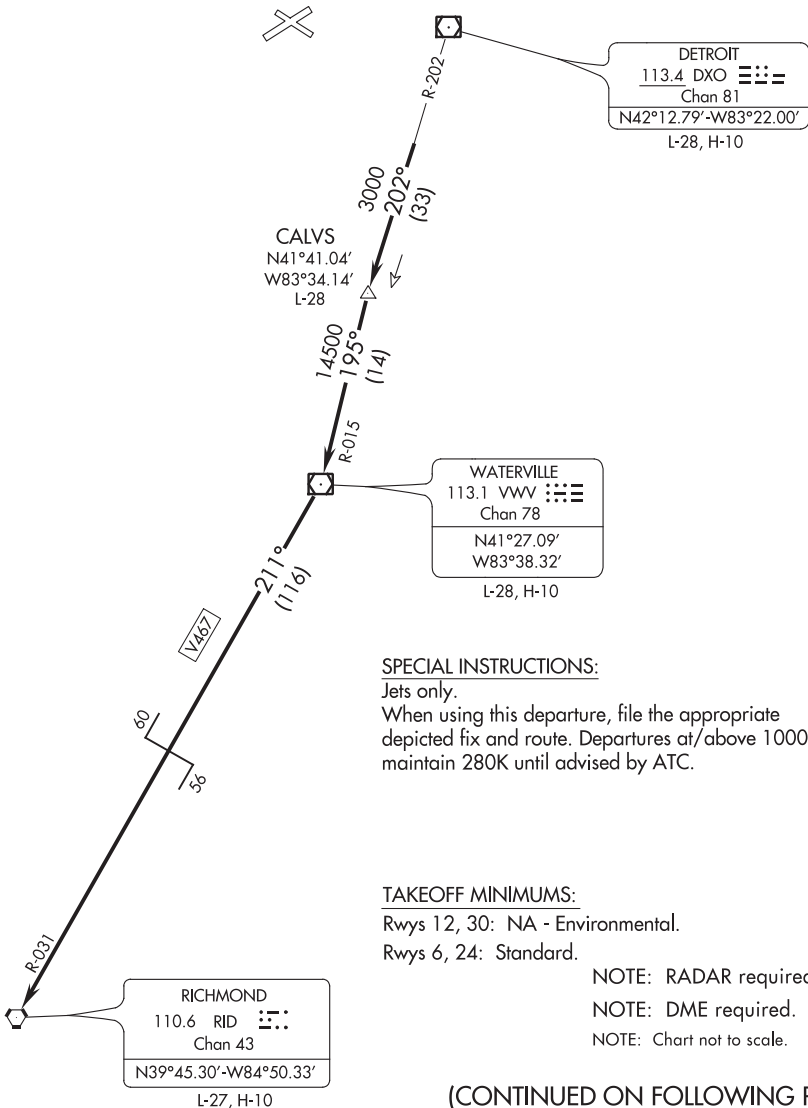
TAKEOFF OBSTACLE NOTES:

- Rwy 6: Building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL. Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL. Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL. Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL.
- Rwy 24: Terrain 138' from DER, 475' right of centerline, 837' MSL. Multiple trees beginning 462' from DER, 486' right of centerline, up to 50' AGL/885' MSL. Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.

RICHMOND EIGHT DEPARTURE

ATIS 134.55
CLNC DEL 121.6
GND CON 121.6
ANN ARBOR TOWER *
120.3 (CTAF)
DETROIT DEP CON
118.95 239.275

**TOP ALTITUDE:
3000**



SPECIAL INSTRUCTIONS:

Jets only.
When using this departure, file the appropriate depicted fix and route. Departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwys 12, 30: NA - Environmental.
Rwys 6, 24: Standard.

- NOTE: RADAR required.
- NOTE: DME required.
- NOTE: Chart not to scale.

(CONTINUED ON FOLLOWING PAGE)

RICHMOND EIGHT DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

RICHMOND EIGHT DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 6/24: Climb on assigned heading for RADAR vectors, thence....

....to intercept DXO VOR/DME R-202 to CALVS, then on VWV R-015 to VWV VOR/DME, then right turn on VWV R-211 and RID R-031 to RID VORTAC.

TAKEOFF OBSTACLES:

- Rwy 6: Building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL.
Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL.
Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL.
Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL.
- Rwy 24: Terrain 138' from DER, 475' right of centerline, 837' MSL.
Multiple trees beginning 462' from DER, 486' right of centerline, up to 50' AGL/885' MSL.
Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.

ROSEWOOD FIVE DEPARTURE

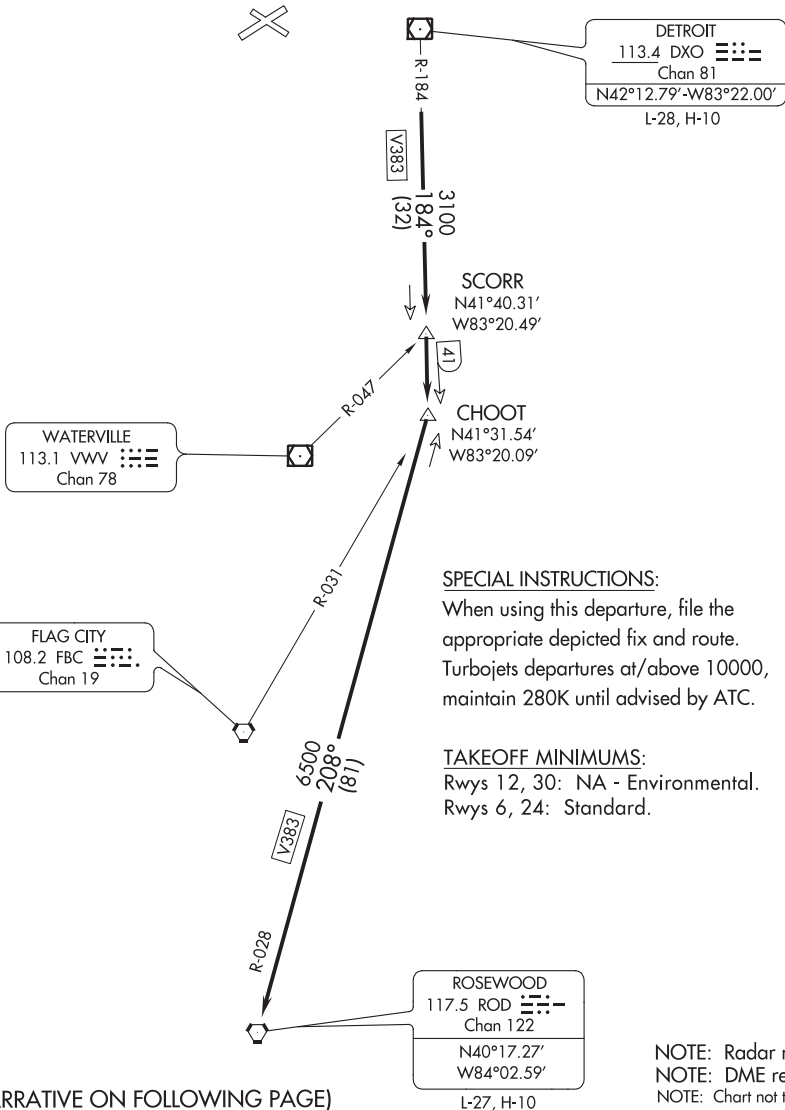
SL-5506 (FAA)

ANN ARBOR MUNI (A.R.B)

ANN ARBOR, MICHIGAN

ATIS 134.55
 CLNC DEL 121.6
 GND CON 121.6
 ANN ARBOR TOWER ★
 120.3 (CTAF)
 DETROIT DEP CON
 118.95 239.275

TOP ALTITUDE:
3000



(NARRATIVE ON FOLLOWING PAGE)

NOTE: Radar required.
 NOTE: DME required.
 NOTE: Chart not to scale.

ROSEWOOD FIVE DEPARTURE

ANN ARBOR, MICHIGAN

ANN ARBOR MUNI (A.R.B)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 6/24: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 6: Building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL.
Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL.
Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL.
Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL.
- Rwy 24: Terrain 138' from DER, 475' right of centerline, 837' MSL.
Multiple trees beginning 462' from DER, 486' right of centerline, up to 50' AGL/885' MSL.
Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ST. CLAIR NINE DEPARTURE

SL-5506 (FAA)

ANN ARBOR MUNI (ARB)

ANN ARBOR, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

TOP ALTITUDE:
3000

TAKEOFF MINIMUMS:

Rwys 12, 30: NA - Environmental.
Rwys 6, 24: Standard.

NOTE: ATC requested only.

NOTE: Radar required.

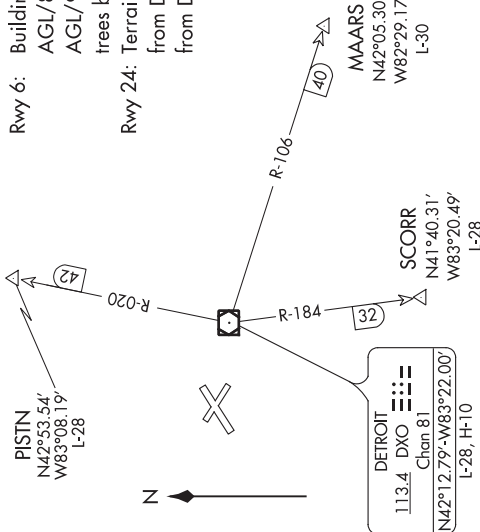
NOTE: DME required.

NOTE: JETS only except for aircraft landing
GMH, CLE, YYZ, or prop aircraft filed over APE.

TAKEOFF OBSTACLES:

Rwy 6: Building and multiple poles beginning 312' from DER, 385' right of centerline, up to 24' AGL/853' MSL. Multiple trees beginning 538' from DER, 47' right of centerline, up to 100' AGL/929' MSL. Building 99' from DER, 351' left of centerline, 22' AGL/849' MSL. Multiple trees beginning 634' from DER, 182' left of centerline, up to 58' AGL/887' MSL.

Rwy 24: Terrain 138' from DER, 475' right of centerline, 837' MSL. Multiple trees beginning 462' from DER, 486' right of centerline, up to 50' AGL/885' MSL. Multiple trees beginning 479' from DER, 473' left of centerline, up to 100' AGL/926' MSL.



SPECIAL INSTRUCTIONS: When using this departure, file the appropriate depicted fix and route. Aircraft landing Columbus (CMH) must file via SCORR. Aircraft filed over APE must file via SCORR. Aircraft landing Cleveland (CLE) must file via MAARS. Departures at/above 10000, maintain 280K until advised by ATC.

ATIS 134.55
CLNC DEL 121.6
GND CON 121.6
ANN ARBOR TOWER*
120.3 (CTAF)
DETROIT DEP CON
118.95 239.275

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 6/24: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

NOTE: Chart not to scale.

ST. CLAIR NINE DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|------------------------|
| APP CRS 033° | Rwy Idg 3195 |
| | TDZE 763 |
| | Apt Elev 763 |

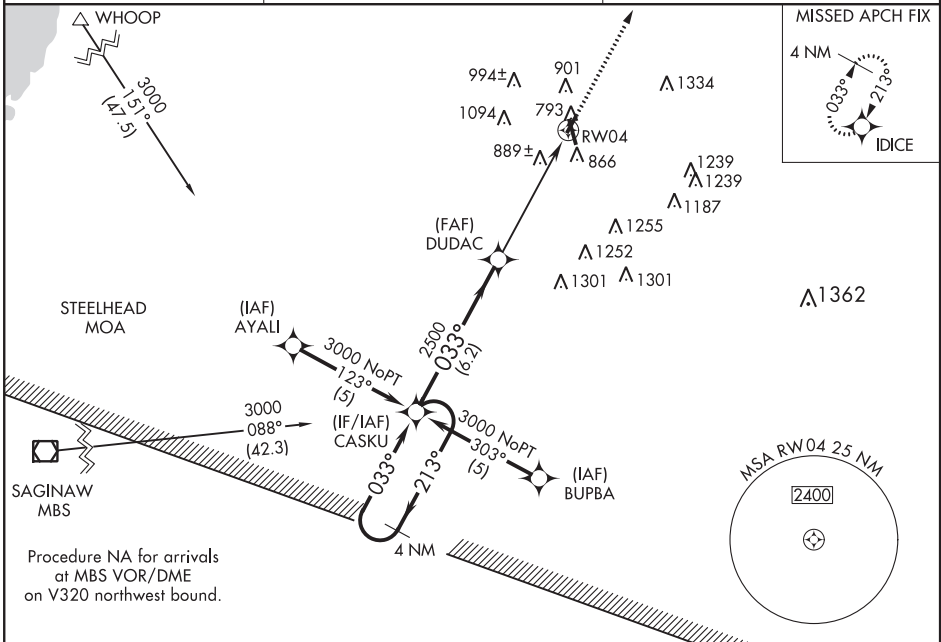
RNAV (GPS) RWY 4

HURON COUNTY MEMORIAL (BAX)

⚠ DME/DME RNP-0.3 NA. When local altimeter setting not received, use MBS Intl altimeter setting and increase all MDA 140 feet. Increase LNAV Cat C and Circling Cat C visibility ½ mile. Helicopter visibility reduction below 1 SM NA. Night landing: Rwy 4 NA Cat C.

⚠ MISSED APPROACH: Climb to 3000 direct IDICE and hold.

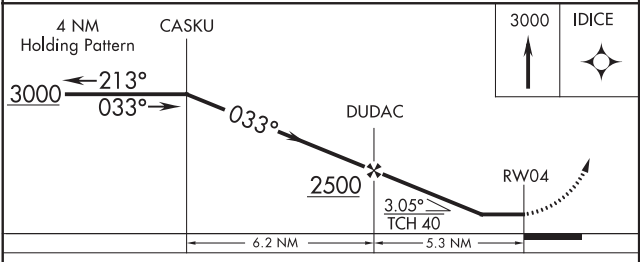
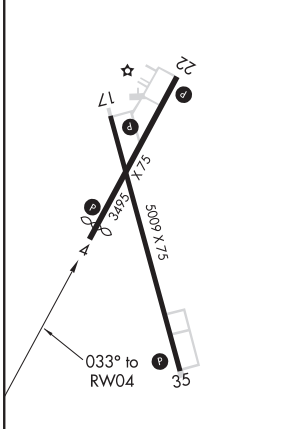
| | | |
|------------------------|--|-----------------------------------|
| AWOS-3 118.6 | CLEVELAND CENTER 127.7 307.8 | UNICOM 122.975 (CTAF) 0 |
|------------------------|--|-----------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|-----------------|-----------------|
| ELEV 763 | TDZE 763 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|----|
| LNAV MDA | 1140-1 377 (400-1) | | | NA |
| CIRCLING | 1300-1 537 (600-1) | 1320-1 557 (600-1) | 1320-1½ 557 (600-1½) | NA |

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 69205 W17A | APP CRS 170° | Rwy Idg TDZE 763 Apt Elev 763 | 5009 |
|--|------------------------|---|-------------|

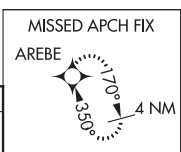
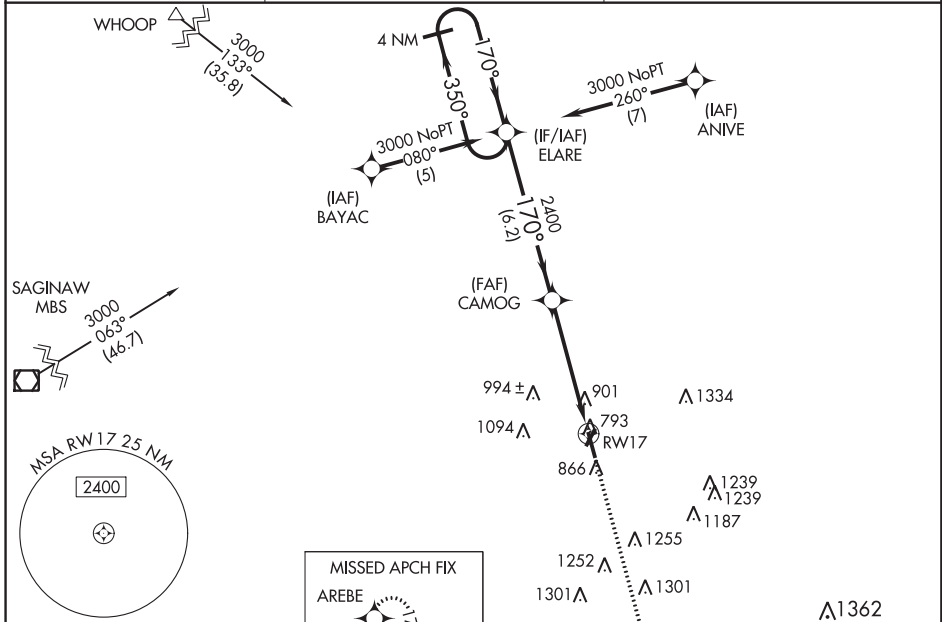
RNAV (GPS) RWY 17

HURON COUNTY MEMORIAL (BAX)

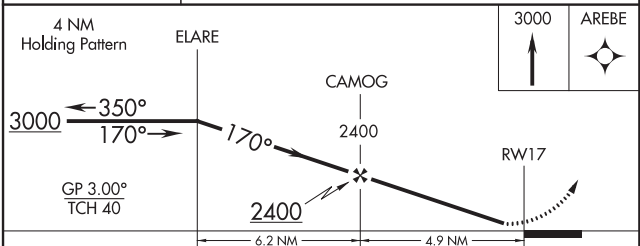
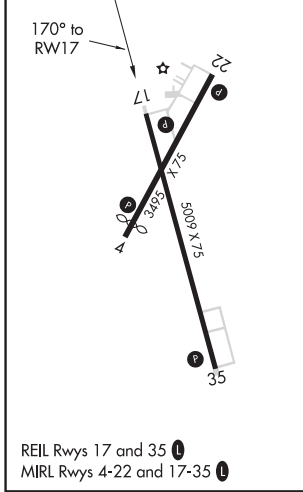
Baro-VNAV NA when using MBS Intl altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use MBS Intl altimeter setting and increase all DA 129 feet, and all MDA 140 feet. Increase LPV all Cats visibility 3/8 mile; increase LNAV Cat C and Circling Cat C visibility 1/2 mile. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH:
Climb to 3000 direct AREBE and hold.

| | | |
|------------------------|--|-----------------------------------|
| AWOS-3 118.6 | CLEVELAND CENTER 127.7 307.8 | UNICOM 122.975 (CTAF) 0 |
|------------------------|--|-----------------------------------|



| | |
|-----------------|-----------------|
| ELEV 763 | TDZE 763 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|--------------------|--------------------|----------------------------|----|
| LPV DA | | 1075-1 312 (400-1) | | NA |
| LNAV/VNAV DA | | 1352-2 589 (600-2) | | NA |
| LNAV MDA | 1220-1 | 457 (500-1) | 1220-1 1/4 457 (500-1 1/4) | NA |
| CIRCLING | 1300-1 537 (600-1) | 1320-1 557 (600-1) | 1320-1 1/2 557 (600-1 1/2) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

BAD AXE, MICHIGAN

AL-5908 (FAA)

16035

| | |
|------------------------|------------------------|
| APP CRS 213° | Rwy Idg 3495 |
| | TDZE 763 |
| | Apt Elev 763 |

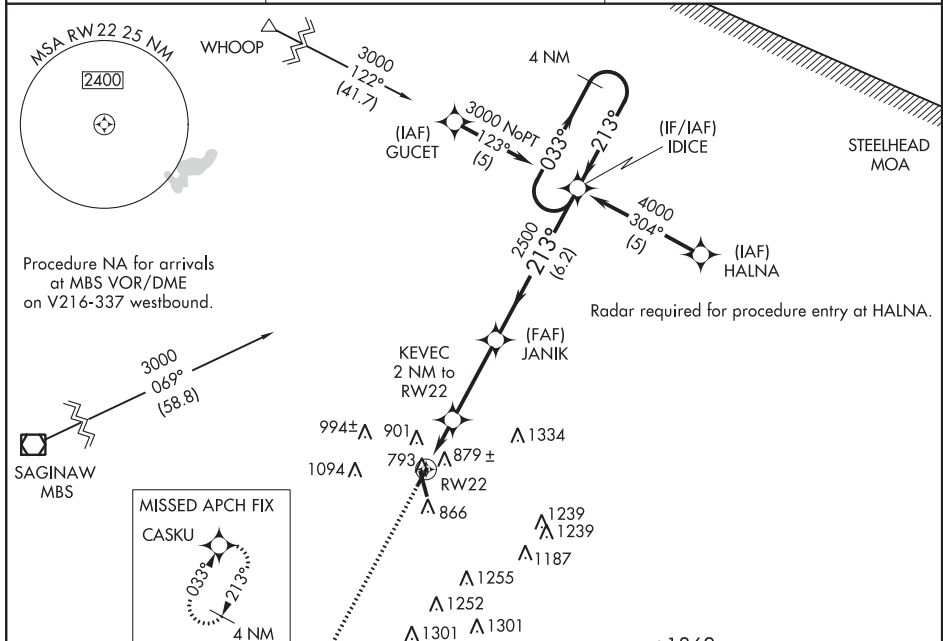
RNAV (GPS) RWY 22

HURON COUNTY MEMORIAL (BAX)

⚠ DME/DME RNP-0.3 NA. When local altimeter setting not received, use MBS Inlt altimeter setting and increase all MDA 140 feet; increase LNAV Cat C and Circling Cat C visibility ½ mile.

⚠ MISSED APPROACH: Climb to 3000 direct CASKU and hold.

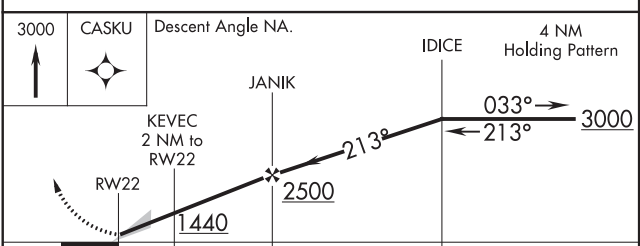
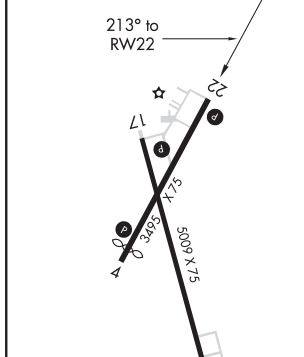
| | | |
|------------------------|--|-----------------------------------|
| AWOS-3 118.6 | CLEVELAND CENTER 127.7 307.8 | UNICOM 122.975 (CTAF) 0 |
|------------------------|--|-----------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 763 | TDZE 763 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|----|
| LNAV MDA | 1140-1 377 (400-1) | | | NA |
| CIRCLING | 1300-1 537 (600-1) | 1320-1 557 (600-1) | 1320-1½ 557 (600-1½) | NA |

BAD AXE, MICHIGAN
Orig-A 18SEP14

43°47'N-82°59'W

HURON COUNTY MEMORIAL (BAX)

RNAV (GPS) RWY 22

| | | |
|--|------------------------|---|
| WAAS CH 62805 W35A | APP CRS 350° | Rwy Idg 5009 TDZE 756 Apt Elev 763 |
|--|------------------------|---|

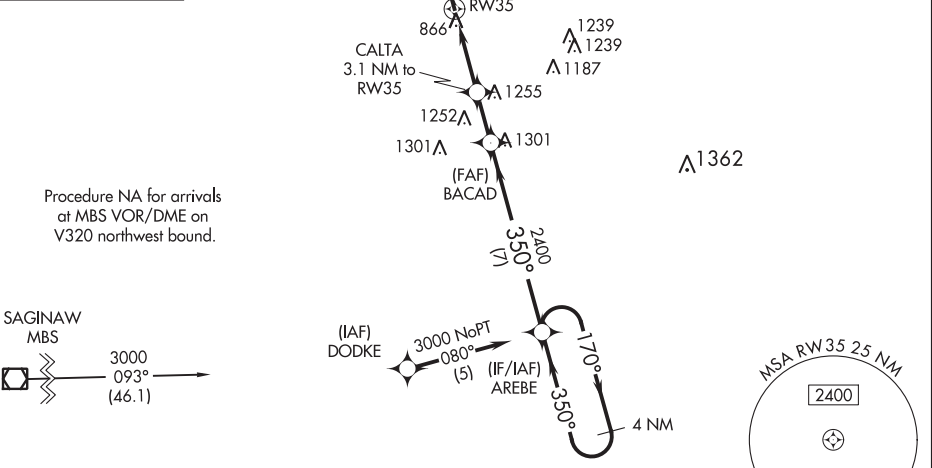
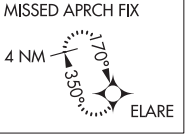
RNAV (GPS) RWY 35

HURON COUNTY MEMORIAL (BAX)

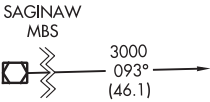
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use MBS Intl altimeter setting and increase all DA 129 feet and all MDA 140 feet. Increase LPV all Cats and LNAV Cat C visibility 3/8 mile; increase Circling Cat C visibility 1/2 mile. Helicopter visibility reduction below 3/4 SM NA. VDP and Baro/VNAV NA when using MBS Intl altimeter setting.

MISSED APPROACH: Climb to 3000 direct ELARE and hold.

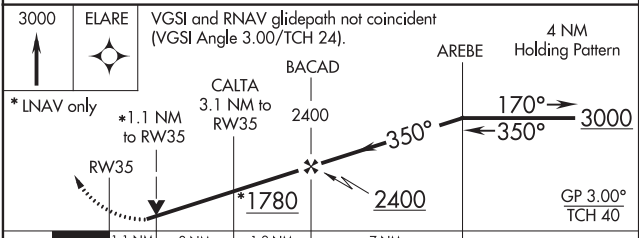
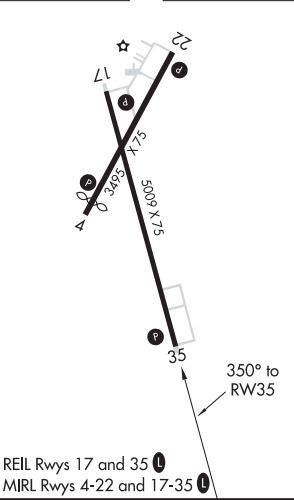
| | | |
|------------------------|--|--|
| AWOS-3 118.6 | CLEVELAND CENTER 127.7 307.8 | UNICOM 122.975 (CTAF) ① |
|------------------------|--|--|



Procedure NA for arrivals at MBS VOR/DME on V320 northwest bound.



| | |
|----------|----------|
| ELEV 763 | TDZE 756 |
|----------|----------|



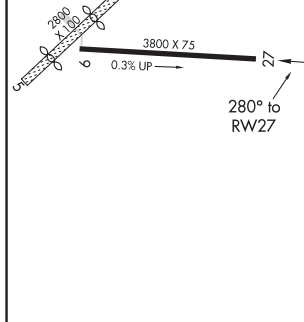
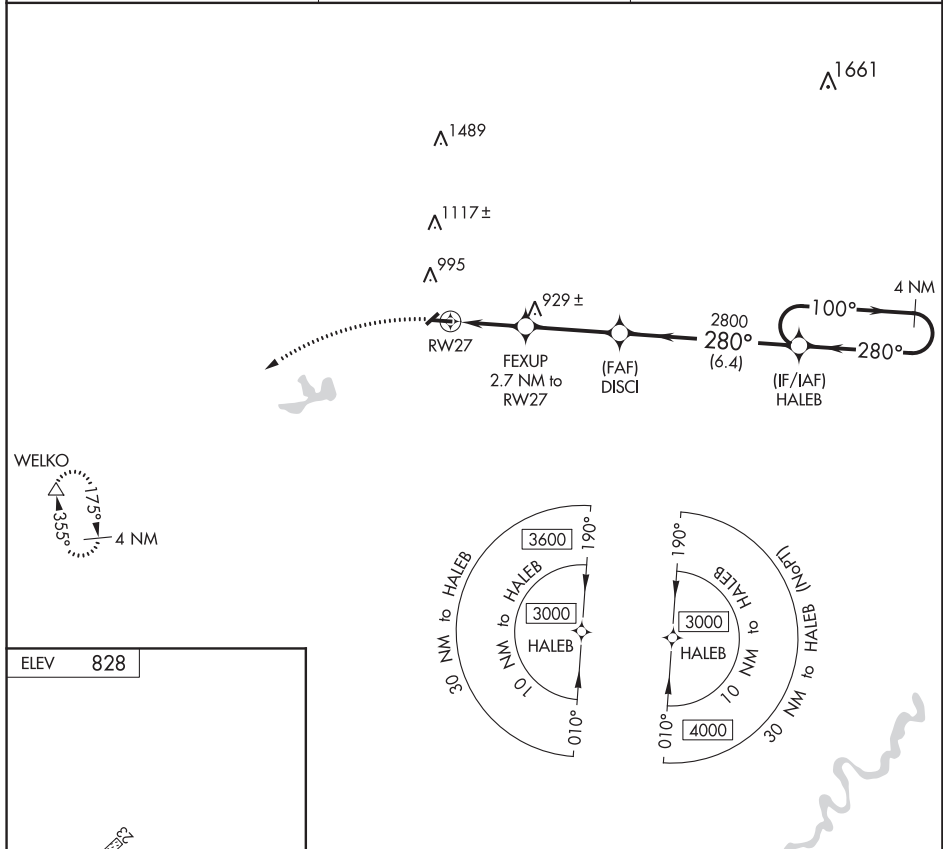
| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------------|----|
| LPV DA | 1113-1 1/4 | 357 (400-1 1/4) | | NA |
| LNAV/VNAV DA | 1154-1 1/2 | 398 (400-1 1/2) | | NA |
| LNAV MDA | 1120-1 | 364 (400-1) | | NA |
| CIRCLING | 1300-1 537 (600-1) | 1320-1 557 (600-1) | 1320-1 1/2 557 (600-1 1/2) | NA |

| | | |
|---------|----------|-----|
| APP CRS | Rwy Idg | N/A |
| 280° | TDZE | N/A |
| | Apt Elev | 828 |

RNAV (GPS)-A

BALDWIN MUNI (7D3)

| | | |
|---|---|------------------------------|
| <p>▼ Circling NA to Rwy's 5 and 23. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA.</p> <p>▲ NA Use Fremont Muni altimeter setting. Procedure NA at night.</p> | <p>MISSED APPROACH: Climbing left turn to 3600 direct WELKO and hold.</p> | |
| <p>FREMONT MUNI AWOS-3 118.775</p> | <p>MINNEAPOLIS CENTER 120.85 322.35</p> | <p>CTAF 122.9</p> |



| | |
|--|---|
| <p>3600 WELKO ▲</p> | <p>4 NM Holding Pattern</p> |
| <p>FEXUP 2.7 NM to RW27</p> <p>DISCI</p> <p>2800</p> | <p>HALEB 3000</p> <p>100° →</p> <p>← 280°</p> |
| <p>2.7 NM</p> <p>3.4 NM</p> <p>6.4 NM</p> | <p>1720</p> |
| <p>CATEGORY</p> | <p>A</p> |
| <p>■ CIRCLING</p> | <p>1400-1 572 (600-1)</p> |
| | <p>1400-1½ 572 (600-1½)</p> |
| | <p>NA</p> |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---------------------------|------------------------|--|
| LOC I-BTL 110.5 | APP CRS 227° | Rwy Idg 10004 TDZE 929 Apt Elev 952 |
|---------------------------|------------------------|--|

ILS or LOC RWY 23R

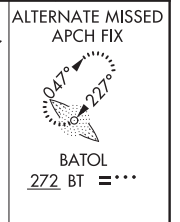
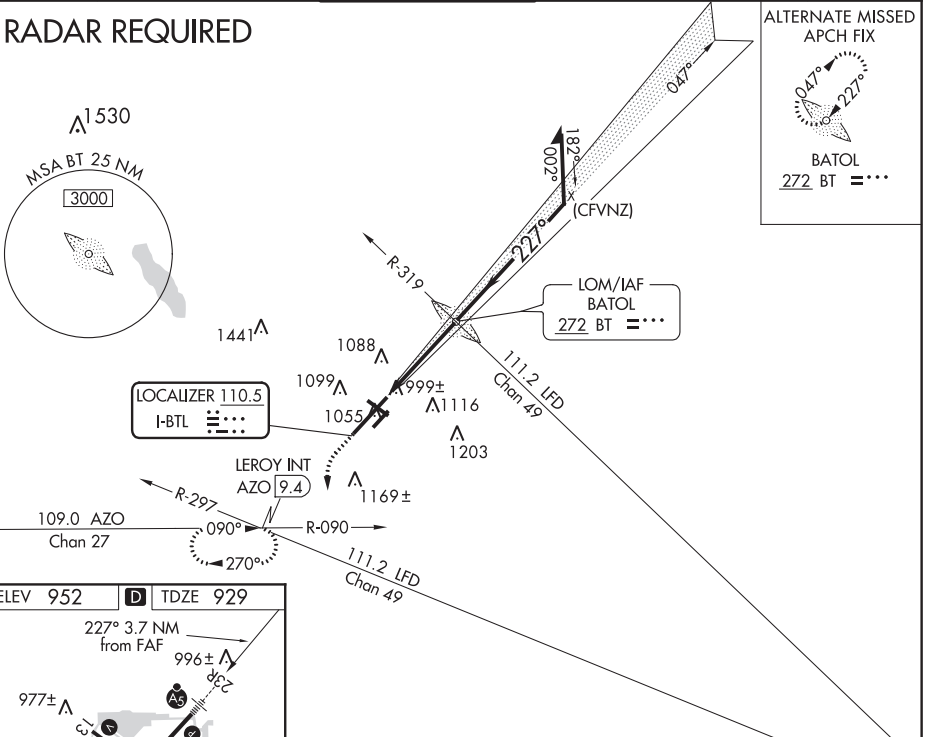
WK KELLOGG (BTL)

ASR Circling to Rwy 05R, 23L, 31 NA at night. DME required. When local altimeter setting not received, use Grand Rapids altimeter setting: increase DA to 1236 feet and increase all MDA 120 feet. Increase S-LOC 23R Cats C/D visibility to 1¼ SM, Circling Cat C visibility to 2 SM and Cat D visibility to 2¼ SM. For inop ALS, increase S-LOC 23R Cat C/D visibility to 1¾ SM. For inop ALS when using Grand Rapids altimeter setting, increase S-LS 23R all Cats visibility to RVR 5000. # RVR 1800 authorized with use of FD or AP or HUD to DA.

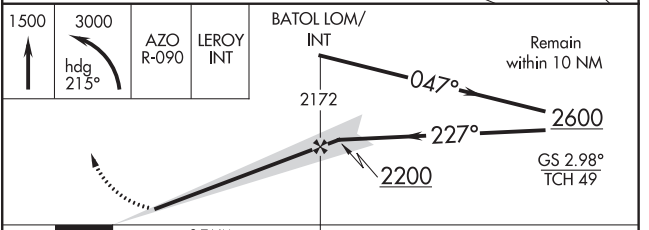
MALSR MISSED APPROACH: Climb to 1500 then climbing left turn to 3000 on heading 215° and AZO VOR/DME R-090 to LEROY/AZO 9.4 DME and hold, continue climb-in-hold to 3000.

| | | | | | |
|------------------------|--|--|-------------------------|-------------------------|------------------------|
| ATIS 128.325 | KALAMAZOO APP CON * 119.2 239.25 | BATTLE CREEK TOWER * 126.825 | GND CON 121.7 | UNICOM 122.95 | CTAF 126.825 |
|------------------------|--|--|-------------------------|-------------------------|------------------------|

RADAR REQUIRED



| | |
|--|--------------------------|
| ELEV 952 | D TDZE 929 |
| | |
| HIRL Rwy 5L-23R MRL Rwy 13-31 and 5R-23L REL Rwys 5L, 5R-23L, 13 and 31 FAF to MAP 3.7 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 3:42 2:28 1:51 1:29 1:14 |



| | | | | |
|----------|-----------------------|-----------------------|-------------------------|-----------------------|
| CIRCLING | 1420-1 468 (500-1) | 1460-1 508 (600-1) | 1520-1½ 568 (600-1½) | 1520-2 568 (600-2) |
|----------|-----------------------|-----------------------|-------------------------|-----------------------|

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|--|
| WAAS CH 56411 W23A | APP CRS 227° | Rwy Idg 10004 TDZE 929 Apt Elev 952 |
|--|------------------------|--|

RNAV (GPS) RWY 23R

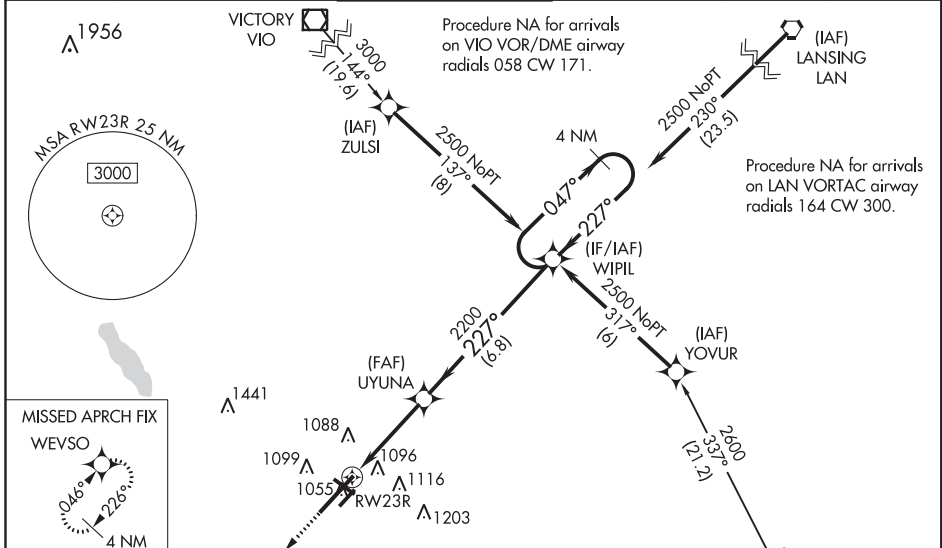
W.K. KELLOGG (BTL)

ASR For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C (-4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Grand Rapids altimeter setting: increase all DA 106 feet and LNAV/VNAV all Cats visibility to RVR 5000; increase all MDA 120 feet, LNAV Cats C and D visibility to 1¼ mile and Circling Cats C and D visibility ¼ mile. VDP and Baro-VNAV NA when using Grand Rapids altimeter setting. For inoperative MALSAR when using Grand Rapids altimeter setting, increase LPV all Cats visibility to RVR 5000 and LNAV Cats C and D visibility to 1½ mile. Circling NA to Rwy 5R/23L. When VGSI inop, Circling Rwy 13/31 NA at night.

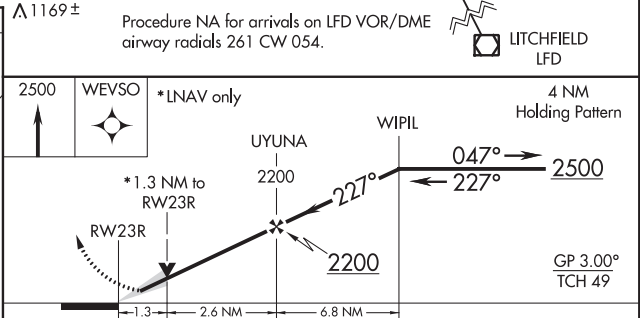
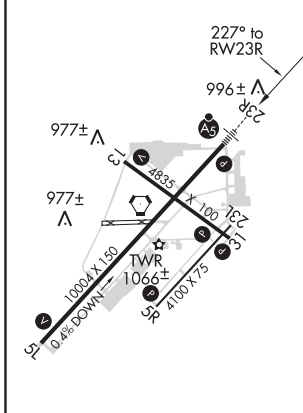
MALSAR 

MISSED APPROACH: Climb to 2500 direct WEVSO and hold.




| | | | | | |
|------------------------|---|---------------------------------------|-------------------------|-------------------------|--|
| ATIS 128.325 | KALAMAZOO APP CON★ 119.2 239.25 | BATTLE CREEK TOWER★ 126.825 | GND CON 121.7 | UNICOM 122.95 | CTAF 126.825  |
|------------------------|---|---------------------------------------|-------------------------|-------------------------|--|



| | | |
|----------|----------|----------|
| ELEV 952 | D | TDZE 929 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------|-----------------------|
| LPV DA | | 1129/24 | 200 (200-½) | |
| LNAV/VNAV DA | | 1258/32 | 329 (400-⅝) | |
| LNAV MDA | 1380/24 | 451 (500-½) | 1380/45 | 451 (500-⅞) |
| CIRCLING | 1420-1 468 (500-1) | 1440-1 488 (500-1) | 1480-1½ 528 (600-1½) | 1520-2 568 (600-2) |

HIRL Rwy 5L-23R 
 MIRL Rwy 13-31 and 5R-23L 
 REIL Rwy 5L, 5R-23L, 13 and 31 

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

BATTLE CREEK, MICHIGAN

AL-41 (FAA)

16315

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 87026 W31A | APP CRS 310° | Rwy Idg TDZE Apt Elev | 4835 930 952 |
|--|------------------------|-----------------------------|---|

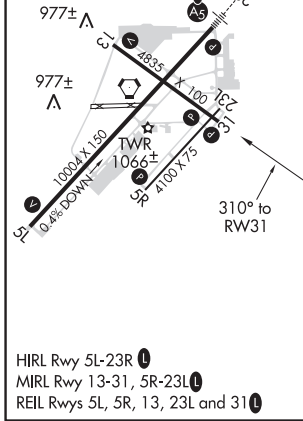
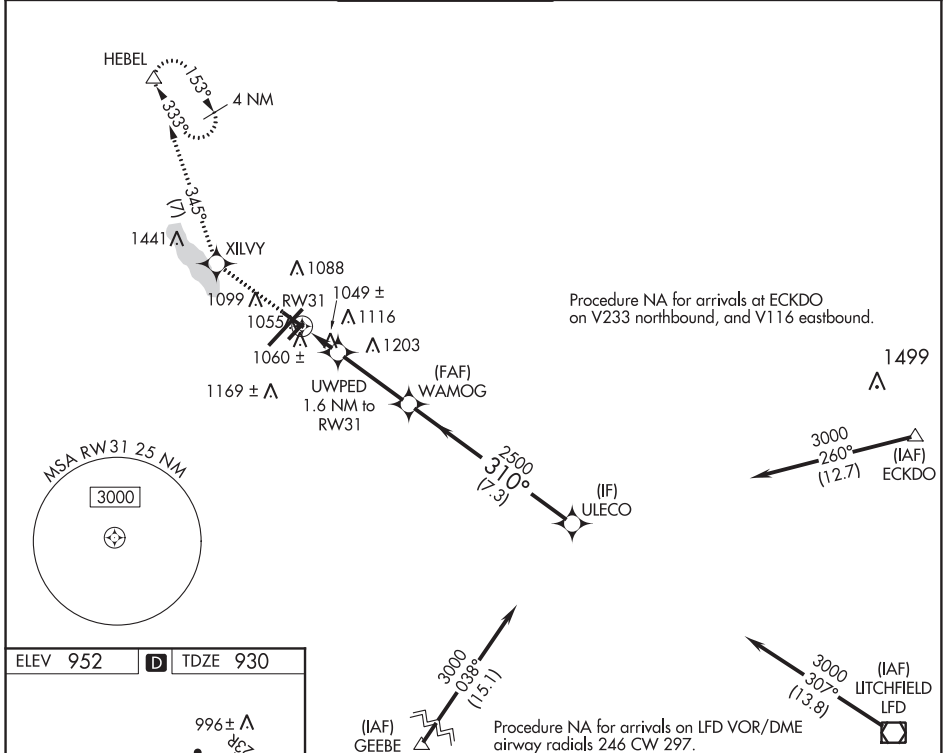
RNAV (GPS) RWY 31

W.K. KELLOGG (BTL)

⚠ When local altimeter setting not received, use Grand Rapids altimeter setting and increase all MDA 120 feet, increase LP and LNAV Cats C and D visibility $\frac{3}{8}$ mile, Circling Cats C and D visibility $\frac{1}{4}$ mile. When VGSi inop, Straight-In/Circling Rwy 13-31 procedure NA at night. DME/DME ASR RNP-0.3 NA. Visibility reduction by helicopters NA. Circling NA to Rwys 5R and 23L.

⚠ MISSED APPROACH: Climb to 3000 direct XILVY and on 345° track to HEBEL and hold.

| | | | | | |
|------------------------|--|--|-------------------------|-------------------------|---------------------------------|
| ATIS 128.325 | KALAMAZOO APP CON ★ 119.2 239.25 | BATTLE CREEK TOWER ★ 126.825 | GND CON 121.7 | UNICOM 122.95 | CTAF 126.825 ⓪ |
|------------------------|--|--|-------------------------|-------------------------|---------------------------------|



| | | | | |
|--|-----------------------|-----------------------|-------------------------|-----------------------|
| 3000 | XILVY | 345° tr | HEBEL | ULECO |
| (IAF) GEEBE | UWPED 1.6 NM to RW31 | WAMOG | 3000 | (IAF) LITCHFIELD LFD |
| 3000 (15.1) | 3000 (12.7) | 3000 (13.8) | 310° | 3000 |
| 1480 | 1480 | 2500 | 310° | 3000 |
| 1.6 NM | 3.1 NM | 7.3 NM | | |
| 3.00 TCH 40 | | | | |
| VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 25). | | | | |
| CATEGORY | A | B | C | D |
| LP MDA | 1300-1 | | 370 (400-1) | |
| LNAV MDA | 1320-1 | 390 (400-1) | 1320-1½ | 390 (400-1½) |
| CIRCLING | 1420-1 468 (500-1) | 1440-1 488 (500-1) | 1480-1½ 528 (600-1½) | 1520-2 568 (600-2) |

BATTLE CREEK, MICHIGAN
Orig-A 02APR15

42°18'N-85°15'W

W.K. KELLOGG (BTL)

RNAV (GPS) RWY 31

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|------------|-------------|----------|--------------|
| LOM BT | APP CRS | Rwy Idg | 10004 |
| 272 | 226° | TDZE | 929 |
| | | Apt Elev | 952 |

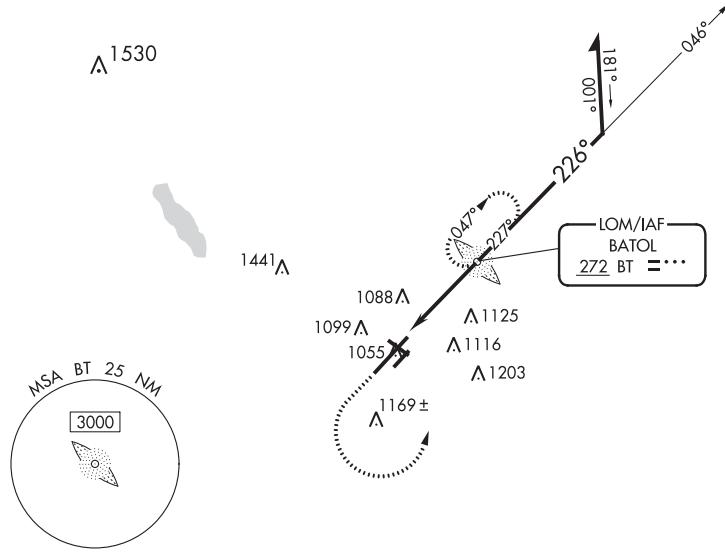
NDB RWY 23R

WK KELLOGG (BTL)

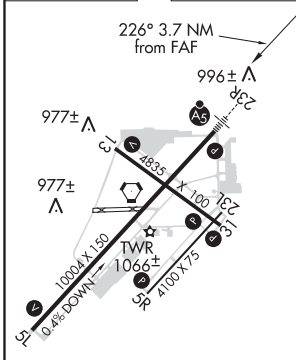
| | | |
|--|--------------|--|
| <p>⚠ Circling to Rwy 5R/23L/31 NA at night. When local altimeter setting not received, use Grand Rapids altimeter setting: increase all MDA 120 feet, increase S-23R Cats C and D visibility to 1½ SM and Circling Cat C visibility to 2 SM and Cat D to 2¼ SM. For inop ALS, increase S-23R Cat D visibility to 1½ SM. For inop ALS when using Grand Rapids altimeter, increase S-23R Cat C/D visibility to 1½ SM.</p> | <p>MALSR</p> | <p>MISSED APPROACH: Climb to 1500 then climbing left turn to 3000 direct BATOL LOM and hold, continue climb-in-hold to 3000.</p> |
| | | |

| | | | | | |
|----------------|---------------------|----------------------|--------------|---------------|-------------------------|
| ATIS | KALAMAZOO APP CON * | BATTLE CREEK TOWER * | GND CON | UNICOM | CTAF |
| 128.325 | 119.2 239.25 | 126.825 | 121.7 | 122.95 | 126.825 Ⓛ |

RADAR REQUIRED

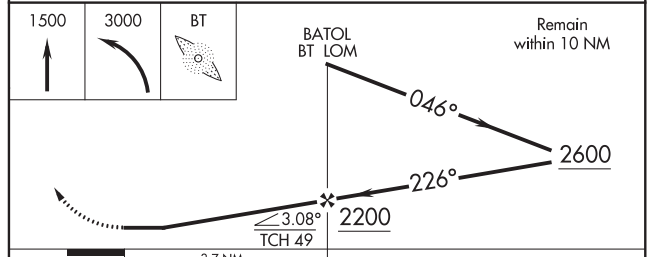


| | | |
|----------|----------|----------|
| ELEV 952 | D | TDZE 929 |
|----------|----------|----------|



HIRL Rwy 5L-23R **Ⓛ**
MIRL Rwy 13-31 and 5R-23L **Ⓛ**
REIL Rwy 5L, 5R-23L, 13 and 31 **Ⓛ**
FAF to MAP 3.7 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:42 | 2:28 | 1:51 | 1:29 | 1:14 |



| CATEGORY | A | B | C | D |
|-------------------|---------|-------------|-------------------------|-----------------------|
| S-23R | 1480/40 | 551 (600-¾) | 1480/60 | 551 (600-1¼) |
| C CIRCLING | 1480-1 | 528 (600-1) | 1520-1½ 568 (600-1½) | 1520-2 568 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

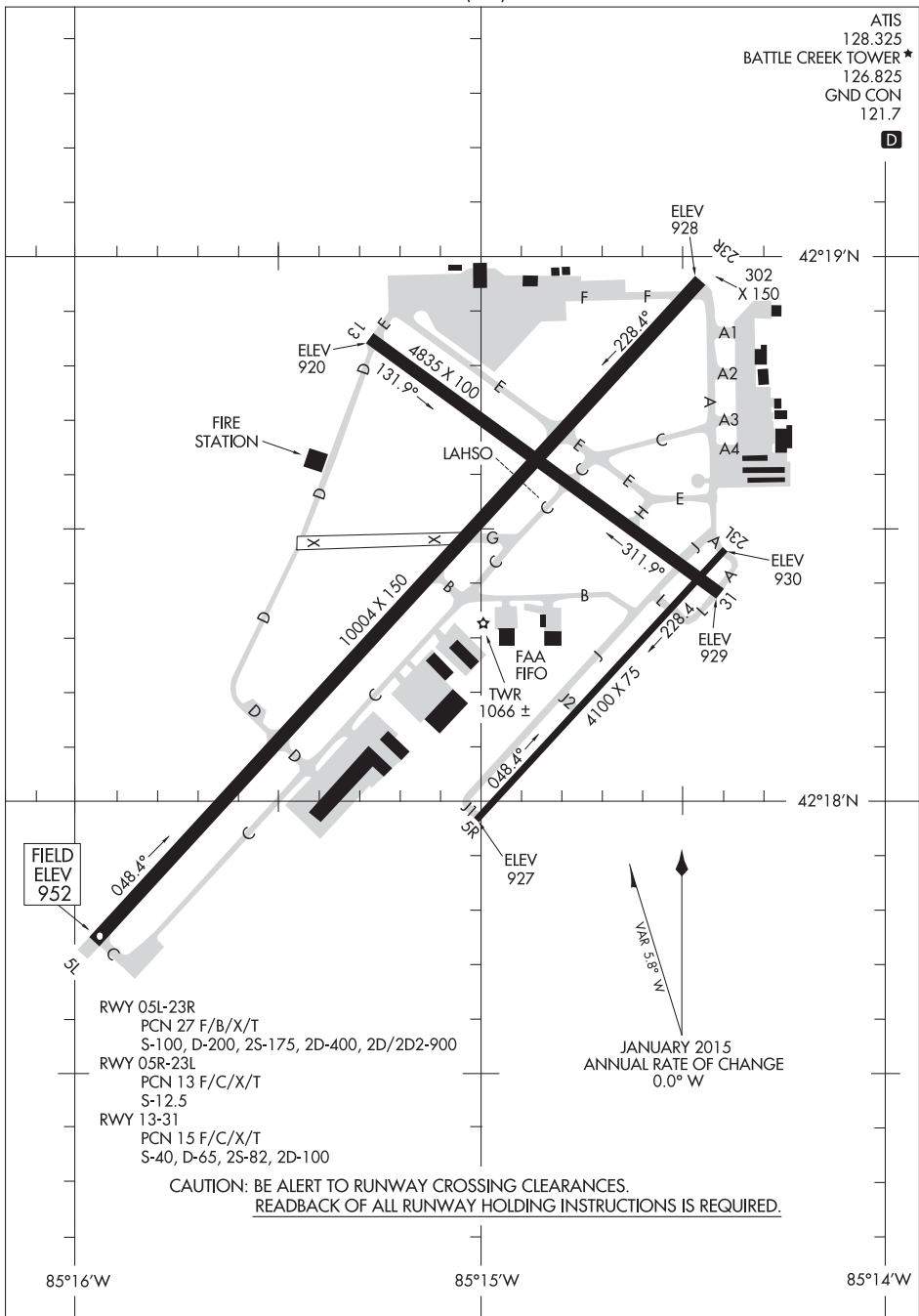
AIRPORT DIAGRAM

W.K. KELLOGG (BTL)
BATTLE CREEK, MICHIGAN

AL-41 (FAA)

ATIS
128.325
BATTLE CREEK TOWER*
126.825
GND CON
121.7

D



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

- RWY 05L-23R
PCN 27 F/B/X/T
S-100, D-200, 2S-175, 2D-400, 2D/2D2-900
- RWY 05R-23L
PCN 13 F/C/X/T
S-12.5
- RWY 13-31
PCN 15 F/C/X/T
S-40, D-65, 2S-82, 2D-100

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

VAR 5.8° N
JANUARY 2015
ANNUAL RATE OF CHANGE
0.0° W

AIRPORT DIAGRAM

BATTLE CREEK, MICHIGAN
W.K. KELLOGG (BTL)

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3798 |
| 183° | TDZE | 586 |
| | Apt Elev | 586 |

RNAV (GPS) RWY 18

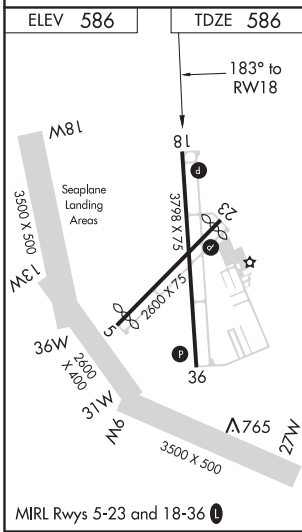
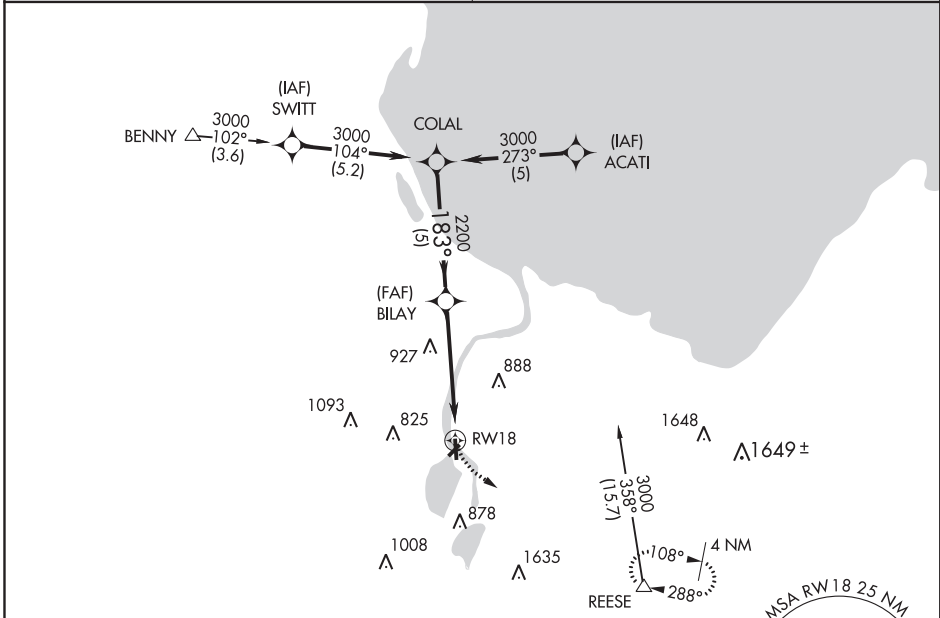
JAMES CLEMENTS MUNI (3CM)

▼ DME/DME RNP -0.3 NA. Use Saginaw altimeter setting.
▲ NA Circling NA southeast of Rwy 23 and 36. Helicopter visibility reduction below 1SM NA. Rwy 18 Straight-in and Circling and Circling to Rwy 23/36 NA at night.

MISSED APPROACH: Climbing left turn to 3000 direct REESE WP and hold.

SAGINAW APP CON ★
120.95 235.625

UNICOM
122.725 (CTAF) 0



| | | | | | |
|-------------------|--------|---|-----------------------|--------|-------|
| COLAL | | VGSi and descent angle not coincident (VGSi Angle 4.00/TCH 27). | | 3000 | REESE |
| 3000 | | 183° | | BILAY | |
| Procedure Turn NA | | 2200 | | RWY 18 | |
| 5 NM | | 2.96° TCH 45 | | 5 NM | |
| CATEGORY | A | B | C | D | |
| LNAV MDA | 1260-1 | 674 (700-1) | 1260-2 674 (700-2) | NA | |
| CIRCLING | 1260-1 | 674 (700-1) | 1260-2 674 (700-2) | NA | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

BAY CITY, MICHIGAN

AL-5437 (FAA)

14037

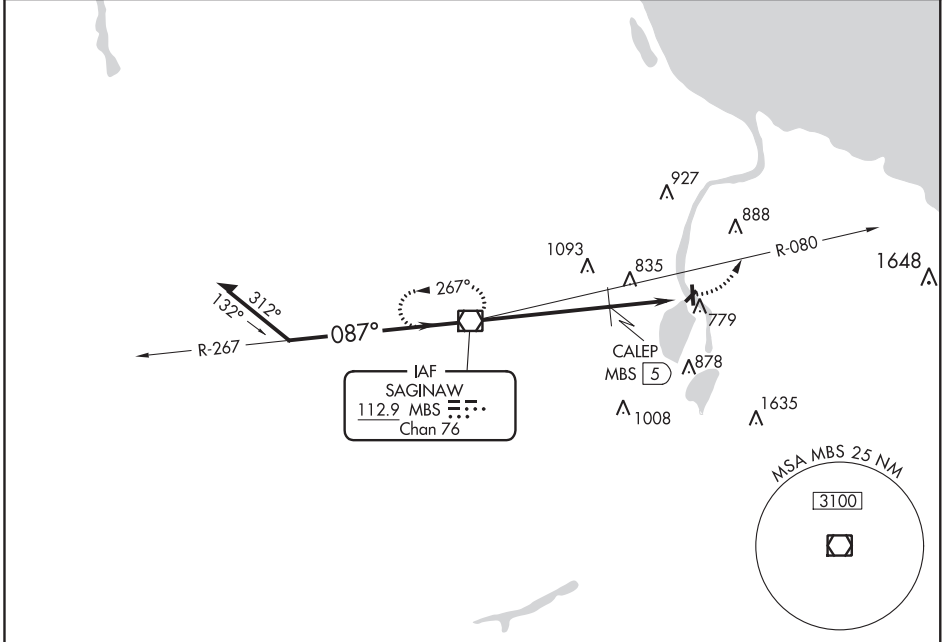
| | | |
|---|------------------------|---|
| VOR/DME MBS 112.9 Chan 76 | APP CRS 087° | Rwy Idg TDZE Apt Elev N/A N/A 586 |
|---|------------------------|---|

VOR-A
JAMES CLEMENTS MUNI (3CM)

▼ Use Saginaw altimeter setting. Circling NA southeast of Rwys 23 and 36. Circling to Rwy 18/23/36 NA at night. Helicopter visibility reduction below 1SM NA.

▲ MISSED APPROACH: Climbing left turn to 2400 via MBS R-080 outbound then climbing left turn to 3000 direct MBS VOR/DME and hold.

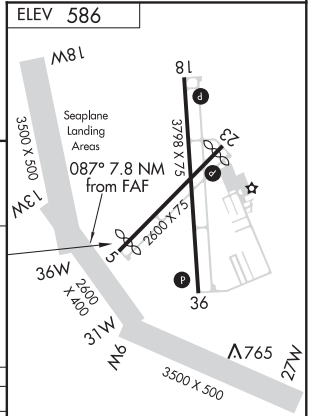
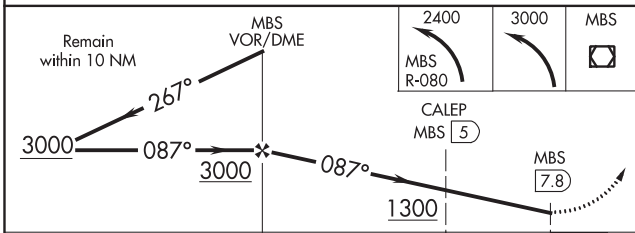
| | |
|--|---------------------------------|
| SAGINAW APP CON ★ 120.95 235.625 | UNICOM 122.725 (CTAF) |
|--|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CAUTION: Tall vessels may be in the approach areas to Rwy 5 and 36.



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------|----|
| CIRCLING | 1300-1 | 714 (800-1) | 1300-2 714 (800-2) | NA |
| DME MINIMUMS | | | | |
| CIRCLING | 1120-1 534 (600-1) | 1180-1 594 (600-1) | 1180-1½ 594 (600-1½) | NA |

| | | | | | |
|-------------------------|-------------------|------|------|------|------|
| MIRL Rwy 5-23 and 18-36 | FAF to MAP 7.8 NM | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 7:48 | 5:12 | 3:54 | 3:07 | 2:36 |

BAY CITY, MICHIGAN
Amdt 12A 12DEC13

43°33'N-83°54'W

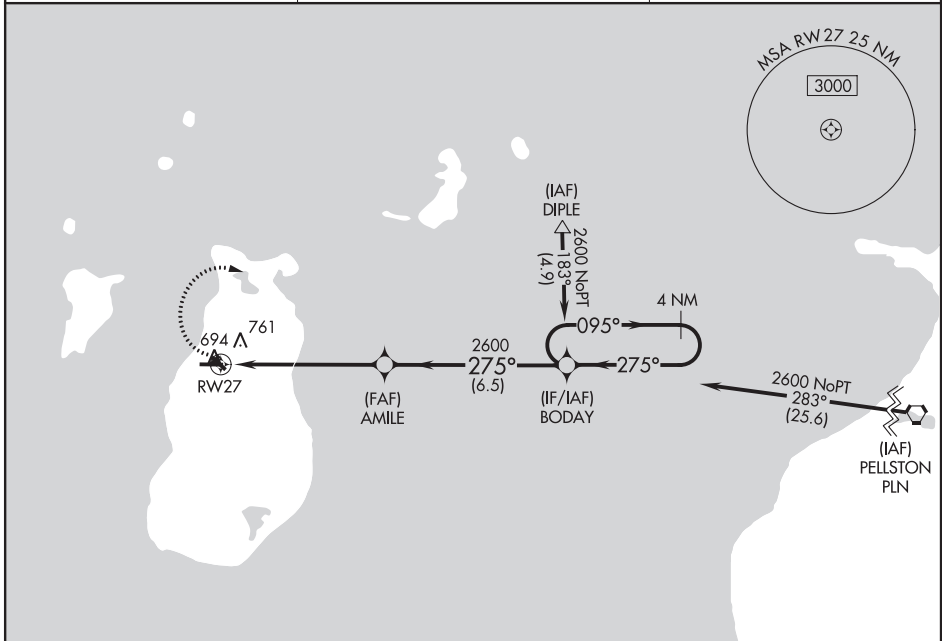
JAMES CLEMENTS MUNI (3CM)
VOR-A

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4299 |
| 275° | TDZE | 669 |
| | Apt Elev | 669 |

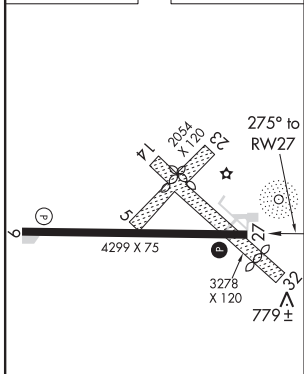
RNAV (GPS) RWY 27

BEAVER ISLAND (S.JX)

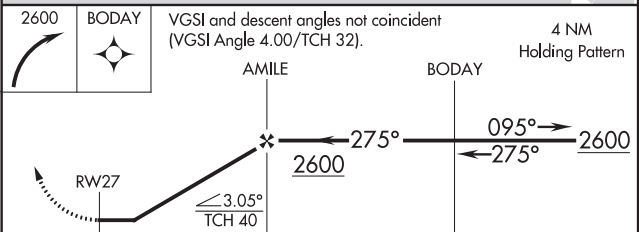
| | | |
|----------------|---|---|
| ⚠ | DME/DME RNP -0.3 NA. When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 100 feet. Circling NA to Rws 5, 14, 23, 32. | MISSED APPROACH: Climbing right turn to 2600 direct BODAY and hold. |
| AWOS-3 | MINNEAPOLIS CENTER | UNICOM |
| 118.075 | 134.6 354.05 | 122.8 (CTAF) ① |



| | | | |
|------|------------|------|------------|
| ELEV | 669 | TDZE | 669 |
|------|------------|------|------------|



| | | | |
|------|-------|--|----------------------|
| 2600 | BODAY | VGSI and descent angles not coincident (VGSI Angle 4.00/TCH 32). | 4 NM Holding Pattern |
|------|-------|--|----------------------|



| | | | | |
|----------|-----------------------|-----------------------|---|----|
| CATEGORY | A | B | C | D |
| LNAV MDA | 1080-1 | 411 (500-1) | | NA |
| CIRCLING | 1080-1 411 (500-1) | 1120-1 451 (500-1) | | NA |

MIRL Rwy 9-27 ①
REIL Rwy 27 ①
REIL Rwy 9

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

BEAVER ISLAND, MICHIGAN

AL-9136 (FAA)

15176

| | | |
|-----------------------|------------------------|------------------------|
| NDB SJX 382 | APP CRS 280° | Rwy Idg 4299 |
| | | TDZE 669 |
| | | Apt Elev 669 |

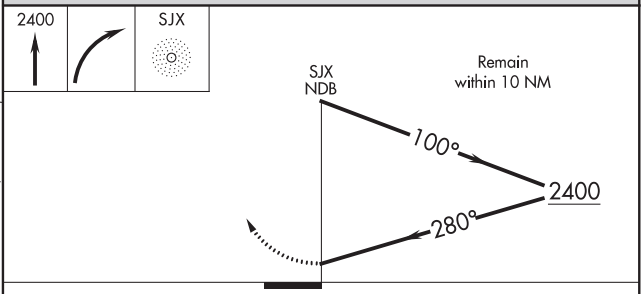
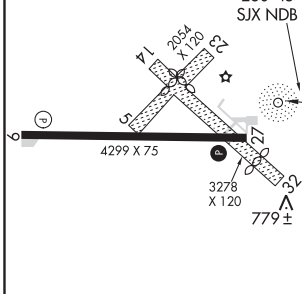
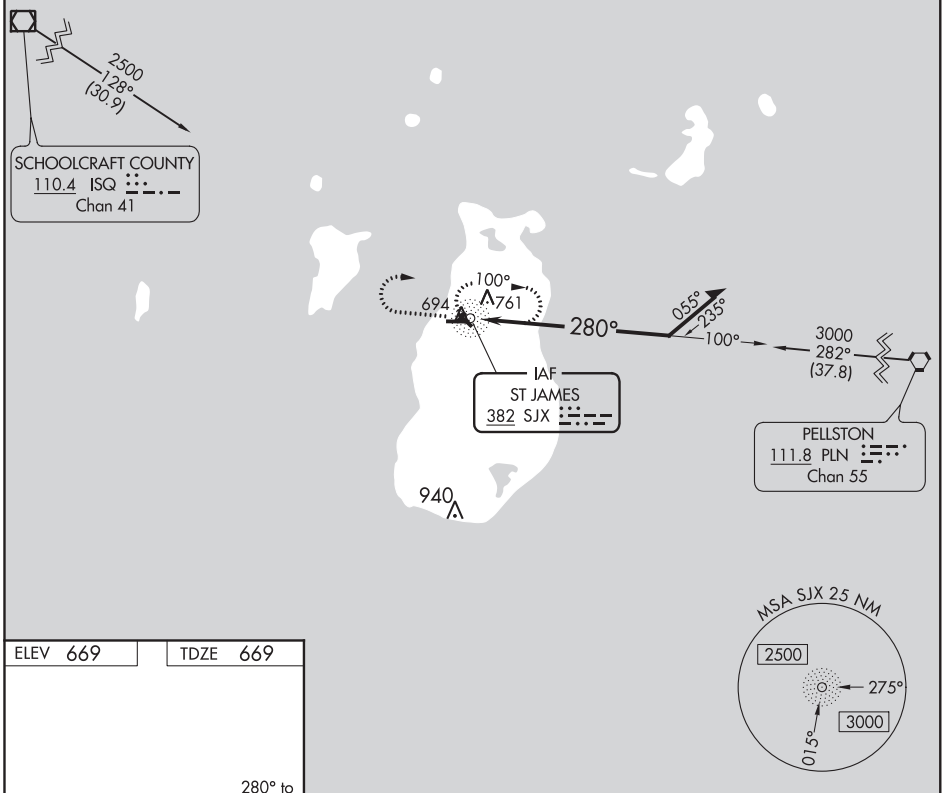
NDB RWY 27

BEAVER ISLAND (SJX)

NA When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 100 feet. Circling NA to Rwys 5, 14, 23, 32.

MISSED APPROACH: Climb to 2400 then right turn direct SJX NDB and hold.

| | | |
|--------------------------|---|-------------------------------|
| AWOS-3 118.075 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) |
|--------------------------|---|-------------------------------|



MIRL Rwy 9-27 **1**
 REIL Rwy 27 **1**
 REIL Rwy 9

| CATEGORY | A | B | C | D |
|----------|--------|-------------|---|----|
| S-27 | 1140-1 | 471 (500-1) | | NA |
| CIRCLING | 1140-1 | 471 (500-1) | | NA |

BEAVER ISLAND, MICHIGAN
 Amdt 1A 25JUN15

45°41'N-85°34'W

BEAVER ISLAND (SJX) NDB RWY 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 56301 W02A | APP CRS 022° | Rwy Idg TDZE 623 Apt Elev 623 | 4999 |
|--|------------------------|---|-------------|

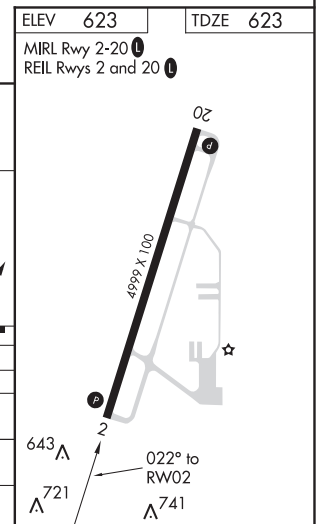
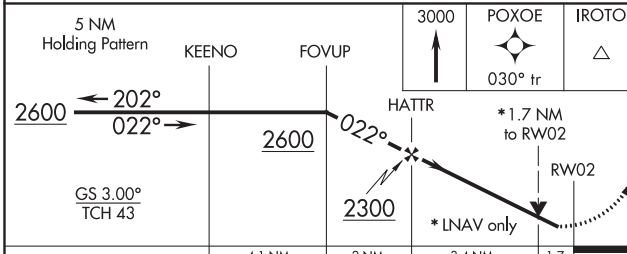
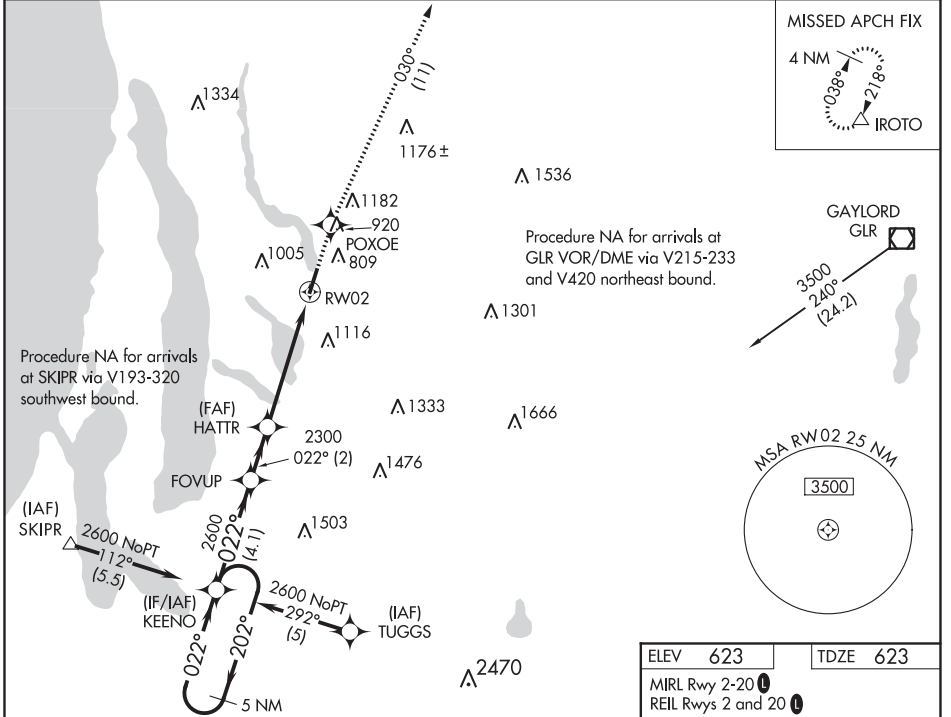
RNAV (GPS) RWY 2

ANTRIM COUNTY (ACB)

⚠ DME/DME RNP-0.3 NA. VDP NA when using Cherry Capital altimeter setting. If local altimeter setting not received, use Cherry Capital altimeter setting and increase all DAs/MDAs 60 feet.

⚠ MISSED APPROACH: Climb to 3000 direct POXOE and via 030° track to IROTO and hold.

| | | | |
|--------------------------|--|-----------------------|--|
| AWOS-3 119.275 | MINNEAPOLIS CENTER 132.9 338.3 | GCO 121.725 | UNICOM 122.7 (CTAF) 📻 |
|--------------------------|--|-----------------------|--|



| | | | | | | | |
|--------------|-------------|-------------|-------------|--------------|---------|--------------|---|
| CATEGORY | A | | B | | C | | D |
| LPV DA | 908-1 | | 285 (300-1) | | | | |
| LNAV/VNAV DA | NA | | | | | | |
| LNAV MDA | 1220-1 | 597 (600-1) | 1220-1½ | 597 (600-1½) | 1220-1¾ | 597 (600-1¾) | |
| CIRCLING | 1260-1 | 1340-1 | 1360-2 | 1440-2¾ | 1440-2¾ | 817 (900-2¾) | |
| | 637 (700-1) | 717 (800-1) | 737 (800-2) | | | | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---------------------------|------------------------|-----------------------------|---|
| LOC I-BEH 108.5 | APP CRS 274° | Rwy Idg TDZE Apt Elev | 6005 649 649 |
|---------------------------|------------------------|-----------------------------|---|

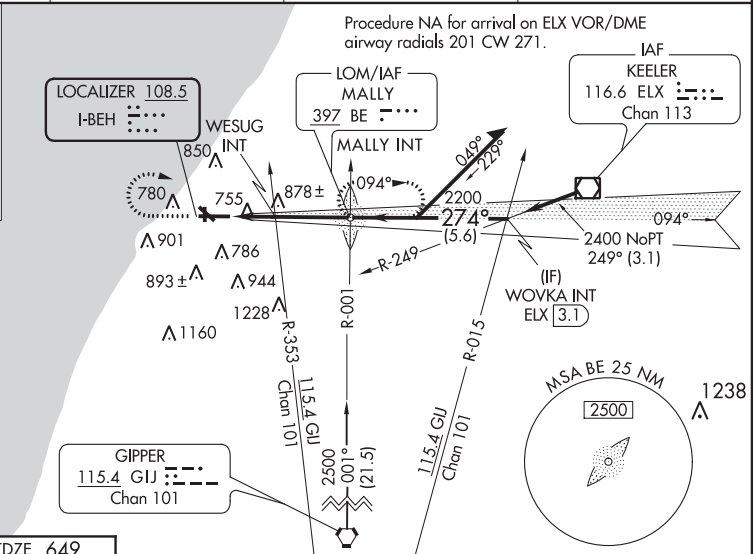
ILS or LOC RWY 28
SOUTHWEST MICHIGAN RGNL (BEH)

NA When VGSI inop, Circling Rwy 14 and 32 NA at night. When local altimeter setting not received, use South Haven altimeter setting and increase all DA 38 feet and all MDA 40 feet, increase S-LOC 28 Cats C/D and Circling Cat C visibility 1/8 mile, increase WESUG fix minimums S-LOC 28 Cats C/D visibility 1/8 mile. For inop MALSRR when using South Haven altimeter setting, increase S-LOC 28 Cats C/D visibility to 1 3/4 mile, increase WESUG fix minimums S-LOC 28 Cats C/D visibility 1 3/8 mile. ADF required.

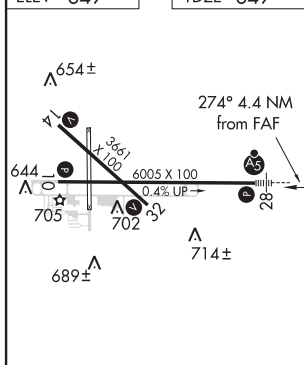
MALSRR MISSED APPROACH: Climb to 2500 then right turn direct MALLY LOM/INT and hold.

| | | | |
|-----------------------|---|-------------------------------------|--|
| ASOS 121.55 | SOUTH BEND APP CON * 118.55 257.8 | SOUTH BEND CLNC DEL 119.7 | UNICOM 123.0 (CTAF) 0 |
|-----------------------|---|-------------------------------------|--|

ALTERNATE MISSED APCH FIX
KEELER
ELX **116.6**
Chan 113



| | |
|----------|----------|
| ELEV 649 | TDZE 649 |
|----------|----------|



REIL Rws 10, 14 and 32

MIRL Rws 14-32

HIRL Rwy 10-28

FAF to MAP 4.4 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:24 | 2:56 | 2:12 | 1:46 | 1:28 |

| CATEGORY | A | B | C | D |
|--|-----------------------|---------------|------------|---------------|
| S-ILS 28 | 849-1/2 200 (200-1/2) | | | |
| S-LOC 28 | 1200-1/2 | 551 (600-1/2) | 1200-1/8 | 551 (600-1/8) |
| CIRCLING | 1200-1 | 551 (600-1) | 1200-1 5/8 | 571 (600-2) |
| WESUG FIX MINIMUMS (DUAL VOR RECEIVERS REQUIRED) | | | | |
| S-LOC 28 | 1060-1/2 | 411 (500-1/2) | 1060-3/4 | 411 (500-3/4) |
| CIRCLING | 1140-1 | 491 (500-1) | 1160-1 1/2 | 571 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 86912 W10A | APP CRS 094° | Rwy Idg 6005 TDZE 631 Apt Elev 649 |
|--|------------------------|---|

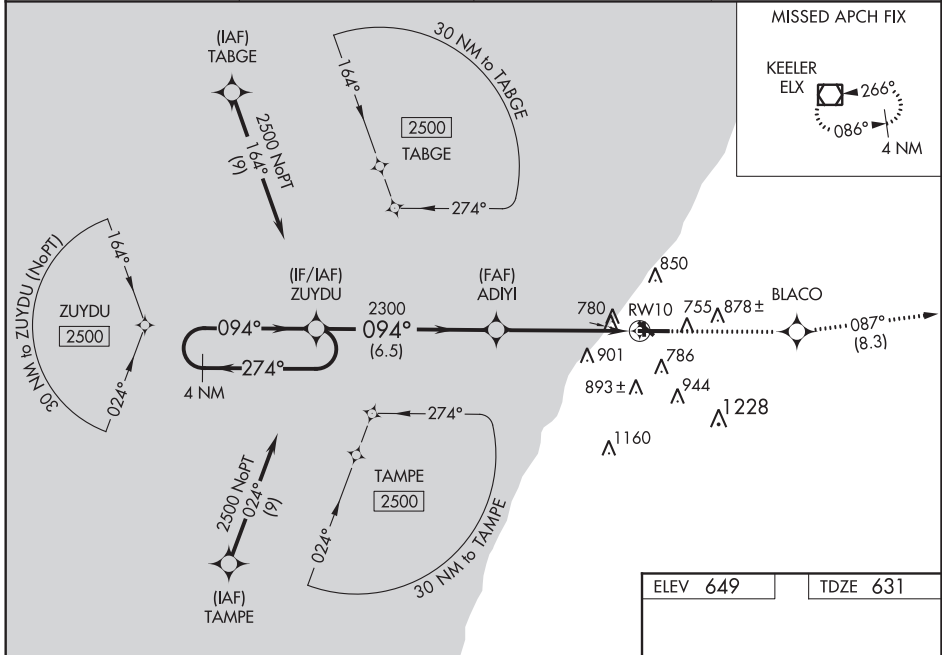
RNAV (GPS) RWY 10

SOUTHWEST MICHIGAN RGNL (BEH)

⚠ Baro-VNAV NA when using South Haven altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 40°C (104°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use South Haven altimeter setting and increase all DA 38 feet and all MDA 40 feet, increase LPV and LNAV/VNAV all Cats visibility 1/8 mile and LNAV Cat C and D visibility 1/4 mile. VDP NA with South Haven altimeter setting. When VGSi inop, Circling Rwy 14 and 32 NA at night.

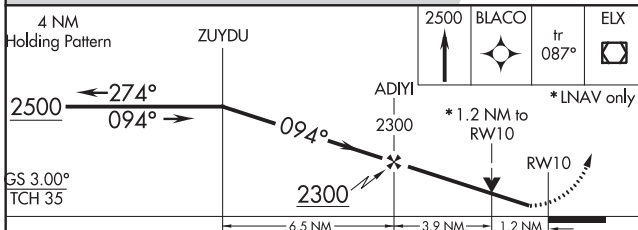
MISSED APPROACH:
Climb to 2500 direct BLACO and on track 087° to ELX VOR/DME and hold.

| | | | |
|-----------------------|--|-------------------------------------|---------------------------------|
| ASOS 121.55 | SOUTH BEND APP CON* 118.55 257.8 | SOUTH BEND CLNC DEL 119.7 | UNICOM 123.0 (CTAF) 0 |
|-----------------------|--|-------------------------------------|---------------------------------|

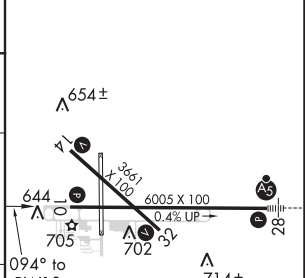


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|----------|----------|
| ELEV 649 | TDZE 631 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------------|-----------------------|
| LPV DA | | 881-7/8 | 250 (300-7/8) | |
| LNAV/VNAV DA | | 1068-1 1/2 | 437 (500-1 1/2) | |
| LNAV MDA | 1040-1 | 409 (400-1) | 1040-1 1/8 | 409 (400-1 1/8) |
| CIRCLING | 1140-1 | 491 (500-1) | 1160-1 1/2 511 (600-1 1/2) | 1220-2 571 (600-2) |

REIL Rwy 10, 14 and 32
MRL Rwy 14-32
HIRL Rwy 10-28

BENTON HARBOR, MICHIGAN

AL-721 (FAA)

14177

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 45822 W28A | APP CRS 275° | Rwy Idg TDZE Apt Elev | 6005 649 649 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 28

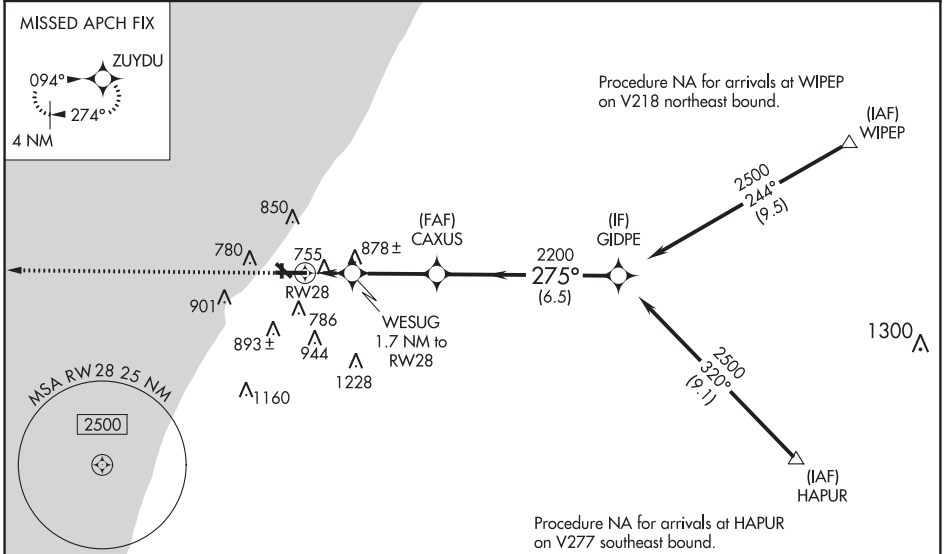
SOUTHWEST MICHIGAN RGNL (B.E.H)

⚠ When VGSI inop, Circling Rwy 14 and 32 NA at night. Baro-VNAV NA when using South Haven altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (2°F) or above 39°C (102°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use South Haven altimeter setting and increase all DA 38 feet and all MDA 40 feet, increase LNAV/VNAV all Cats visibility 1/8 mile. For inoperative MALSR, when using South Haven altimeter setting, increase LNAV/VNAV all Cats visibility to 1/8 mile.

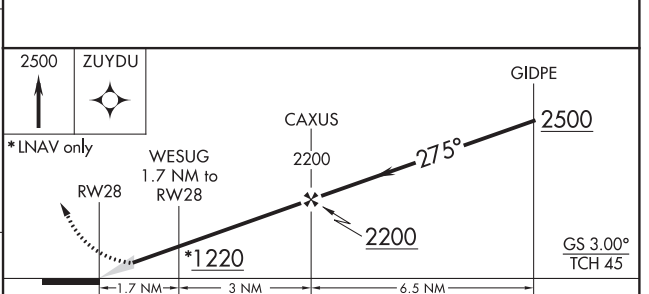
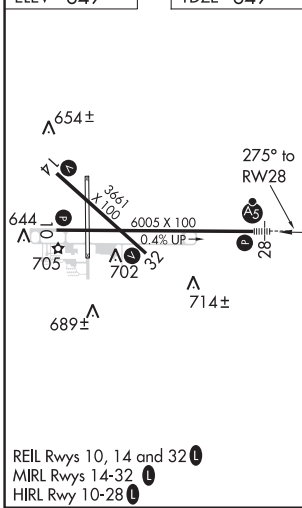


MISSED APPROACH:
Climb to 2500 direct ZUYDU and hold.

| | | | |
|-----------------------|---|-------------------------------------|---------------------------------|
| ASOS 121.55 | SOUTH BEND APP CON * 118.55 257.8 | SOUTH BEND CLNC DEL 119.7 | UNICOM 123.0 (CTAF) 0 |
|-----------------------|---|-------------------------------------|---------------------------------|



| | |
|----------|----------|
| ELEV 649 | TDZE 649 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|----------|---------------|---------------------------|-----------------------|
| LPV DA | | 849-1/2 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 941-1/2 | 292 (300-1/2) | |
| LNAV MDA | 1140-1/2 | 491 (500-1/2) | 1140-1 | 491 (500-1) |
| CIRCLING | 1140-1 | 491 (500-1) | 1160-1/2 511 (600-1/2) | 1220-2 571 (600-2) |

BENTON HARBOR, MICHIGAN
Amdt 2A 26JUN14

42°08'N-86°26'W

SOUTHWEST MICHIGAN RGNL (B.E.H)

RNAV (GPS) RWY 28

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| VOR/DME ELX 116.6 Chan 113 | APP CRS 266° | Rwy Idg TDZE Apt Elev | 6005 649 649 |
|--|------------------------|-----------------------------|---|

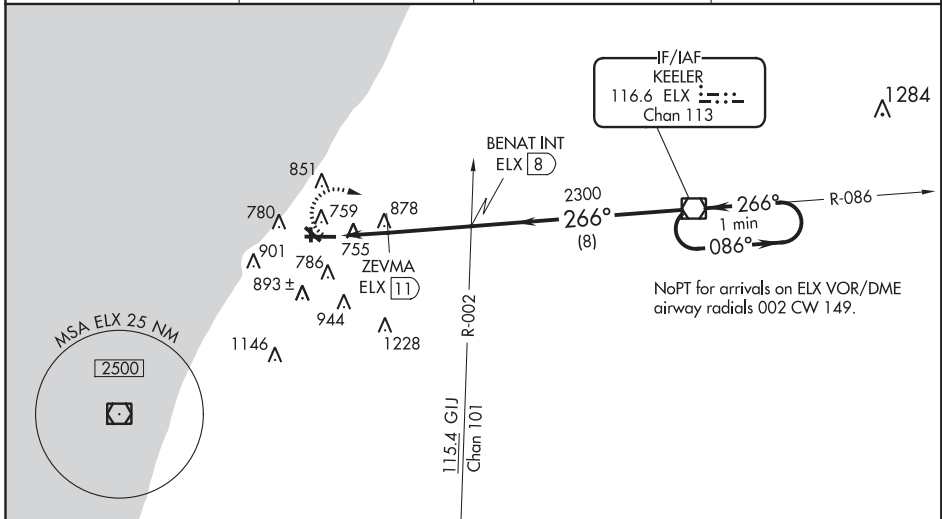
VOR RWY 28
SOUTHWEST MICHIGAN RGNL (B.E.H)

⚠ Visibility reduction by helicopters NA. When VGSI inoperative, Circling Rwy 32 and 14 NA at night. When local altimeter setting not received use South Haven altimeter setting and increase all MDA 40 feet, increase S-28 Cat C/D and Circling Cat C visibility 1/8 mile and Circling Cat D visibility 1/4 mile. For inoperative MALSRS, increase S-28 Cats A and B visibility to 1 mile. For inoperative MALSRS when using South Haven altimeter setting, increase Cats A and B visibility to 1 mile. ZEVMA fix minimums: For inoperative MALSRS, increase S-28 Cats A and B visibility to 1 mile and Cats C and D visibility to 1 1/8 mile. ZEVMA fix minimums: For inoperative MALSRS when using South Haven altimeter setting, increase Cats A and B visibility to 1 mile.

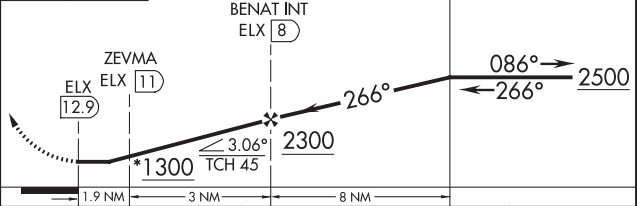
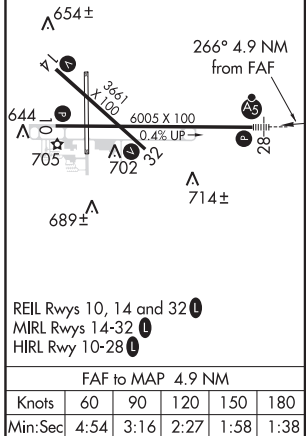
MALSRS
AS

MISSED APPROACH: Climbing right turn to 2500 direct ELX VOR/DME and hold.

| | | | |
|-----------------------|---|-------------------------------------|-------------------------------|
| ASOS 121.55 | SOUTH BEND APP CON * 118.55 257.8 | SOUTH BEND CLNC DEL 119.7 | UNICOM 123.0 (CTAF) |
|-----------------------|---|-------------------------------------|-------------------------------|



| | | | | |
|-----------------|-----------------|------|-----|---|
| ELEV 649 | TDZE 649 | 2500 | ELX | *1340 When using South Haven altimeter setting. |
|-----------------|-----------------|------|-----|---|



| CATEGORY | A | B | C | D |
|---------------------------|----------|---------------|-----------------|-----------------|
| S-28 | 1300-3/4 | 651 (700-3/4) | 1300-1 3/8 | 651 (700-1 3/8) |
| CIRCLING | 1300-1 | 651 (700-1) | 1300-1 7/8 | 1300-2 |
| ZEVMA FIX MINIMUMS | | | | |
| S-28 | 1140-3/4 | 491 (500-3/4) | 1140-1 | 491 (500-1) |
| CIRCLING | 1140-1 | 491 (500-1) | 1160-1 1/2 | 1200-2 |
| | | | 511 (600-1 1/2) | 551 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

BERRIEN SPRINGS, MICHIGAN

AL-10238 (FAA)

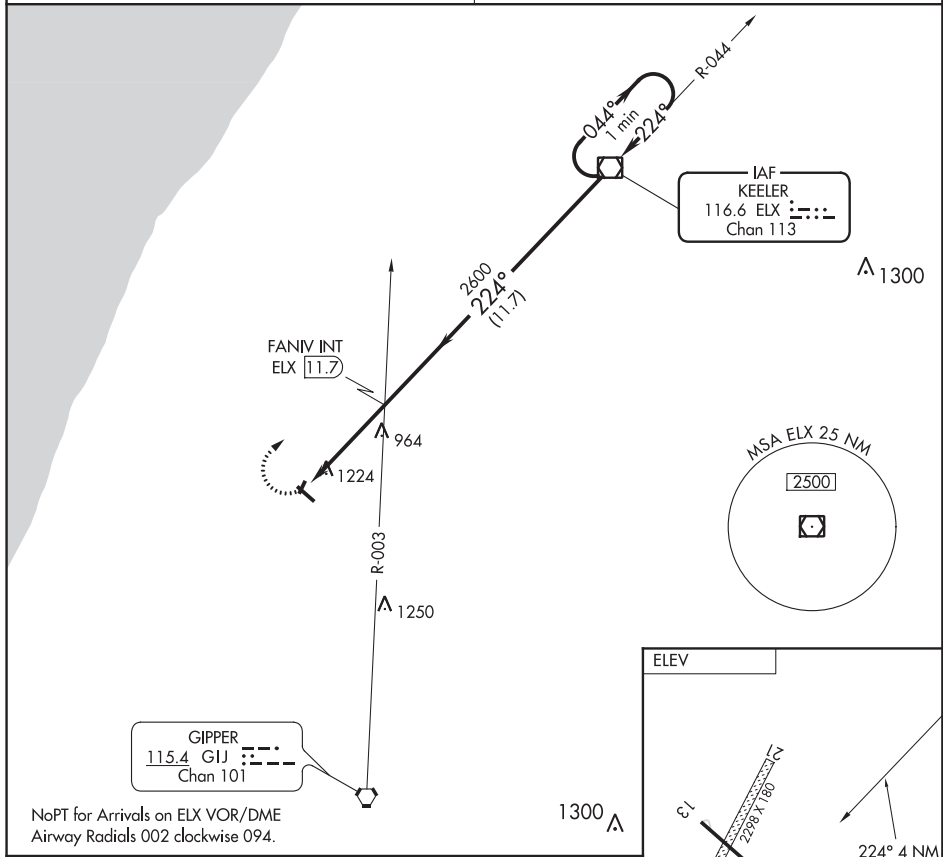
15176

| | | | |
|--|------------------------|-----------------------------|--|
| VOR/DME ELX 116.6 Chan 113 | APP CRS 224° | Rwy Idg TDZE Apt Elev | N/A N/A 668 |
|--|------------------------|-----------------------------|--|

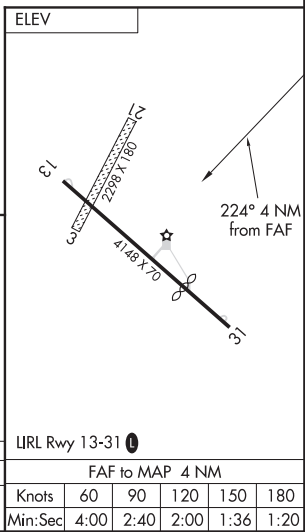
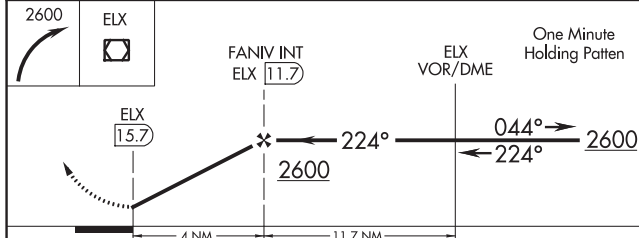
VOR-A

ANDREWS UNIVERSITY AIRPARK (C20)

| | |
|--|--|
| <p>▼ ▲ NA</p> <p>Use Benton Harbor altimeter setting. Procedure NA at night.</p> | <p>MISSED APPROACH: Climbing right turn to 2600 direct ELX VOR/DME and hold.</p> |
| <p>SOUTH BEND APP CON *</p> <p>118.55 257.8</p> | <p>UNICOM</p> <p>122.7 (CTAF) 0</p> |



NoPT for Arrivals on ELX VOR/DME
Airway Radials 002 clockwise 094.



| | | | | | | | | | | |
|----------|--------------------------|--------------------------|----|---|-----------------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 4 NM | | | | | |
| CIRCLING | 1620-1¼ 952 (1000-1¼) | 1620-1½ 952 (1000-1½) | NA | | Knots | 60 | 90 | 120 | 150 | 180 |
| | | | | | Min:Sec | 4:00 | 2:40 | 2:00 | 1:36 | 1:20 |

BERRIEN SPRINGS, MICHIGAN
Orig 23JAN03

41°57'N - 86°22'W

ANDREWS UNIVERSITY AIRPARK (C20)

VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 56238 W27A | APP CRS 275° | Rwy Idg 4300 TDZE 976 Apt Elev 990 |
|--|------------------------|---|

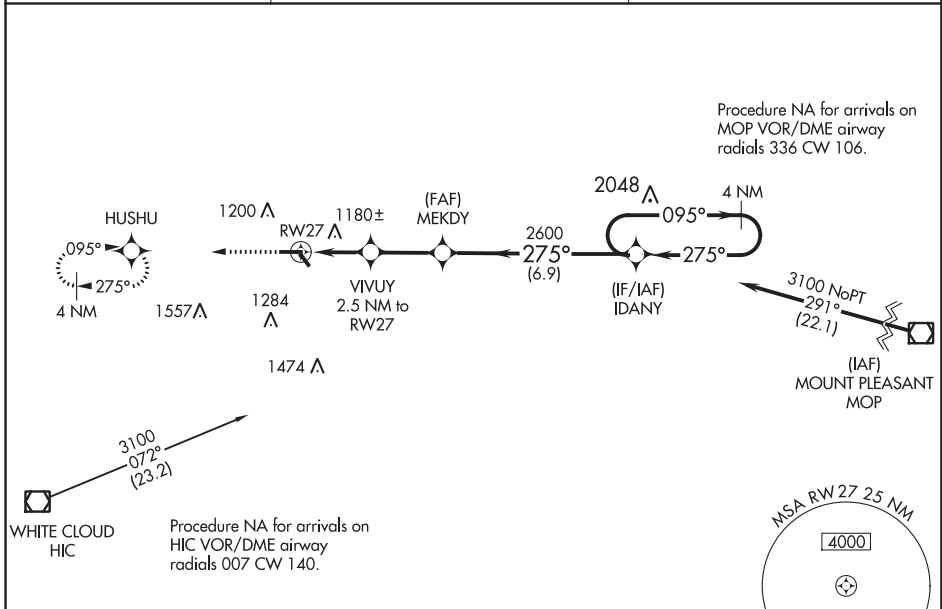
RNAV (GPS) RWY 27

ROBEN-HOOD (RQB)

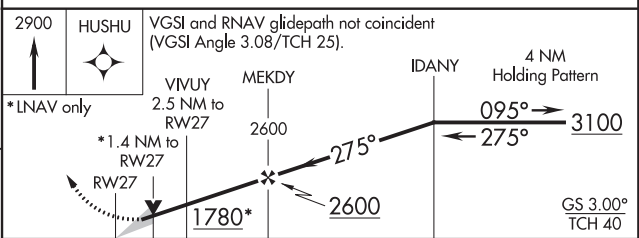
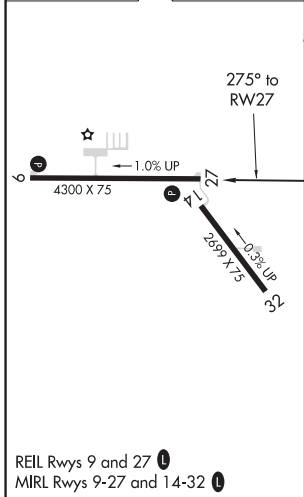
▼ For uncompensated Baro-VNAV systems, procedure NA below -16°C (4°F) or above 54°C (130°F).
▲ DME/DME RNP-0.3 NA. Night landing: Rwy 32 NA. Baro-VNAV and VDP NA when using Muskegon altimeter setting. When local altimeter setting is not received, use Muskegon altimeter setting and increase DA 1.57 feet and all visibilities ½ mile; increase all MDAs 160 feet, LNAV Cat C/D visibility and Circling Cat C ½ and Circling Cat D visibility ¼ mile.

MISSED APPROACH:
Climb to 2900 direct HUSHU and hold.

| | | |
|---------------------------|--|---------------------------------|
| AWOS-3P 125.875 | MINNEAPOLIS CENTER 120.85 322.35 | UNICOM 122.8 (CTAF) ① |
|---------------------------|--|---------------------------------|



| | |
|-----------------|-----------------|
| ELEV 990 | TDZE 976 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| LPV DA | | 1176-¾ | 200 (200-¾) | |
| LNAV/VNAV DA | | 1540-2 | 564 (600-2) | |
| LNAV MDA | 1440-1 | 464 (500-1) | 1440-1¾ | 464 (500-1¾) |
| C CIRCLING | 1500-1 510 (600-1) | 1560-1 570 (600-1) | 1700-2 710 (800-2) | 1860-2¾ 870 (900-2¾) |

BIG RAPIDS, MICHIGAN
Orig 08JAN15

43°43'N-85°30'W
57

ROBEN-HOOD (RQB)

RNAV (GPS) RWY 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

BIG RAPIDS, MICHIGAN

AL-6040 (FAA)

15008

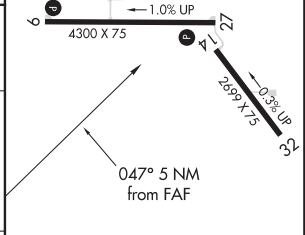
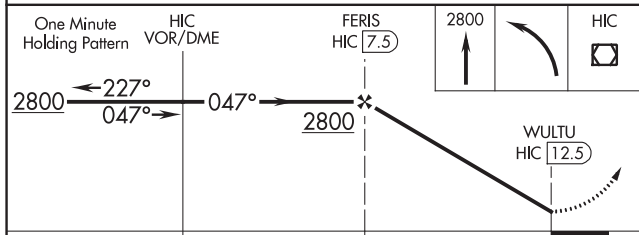
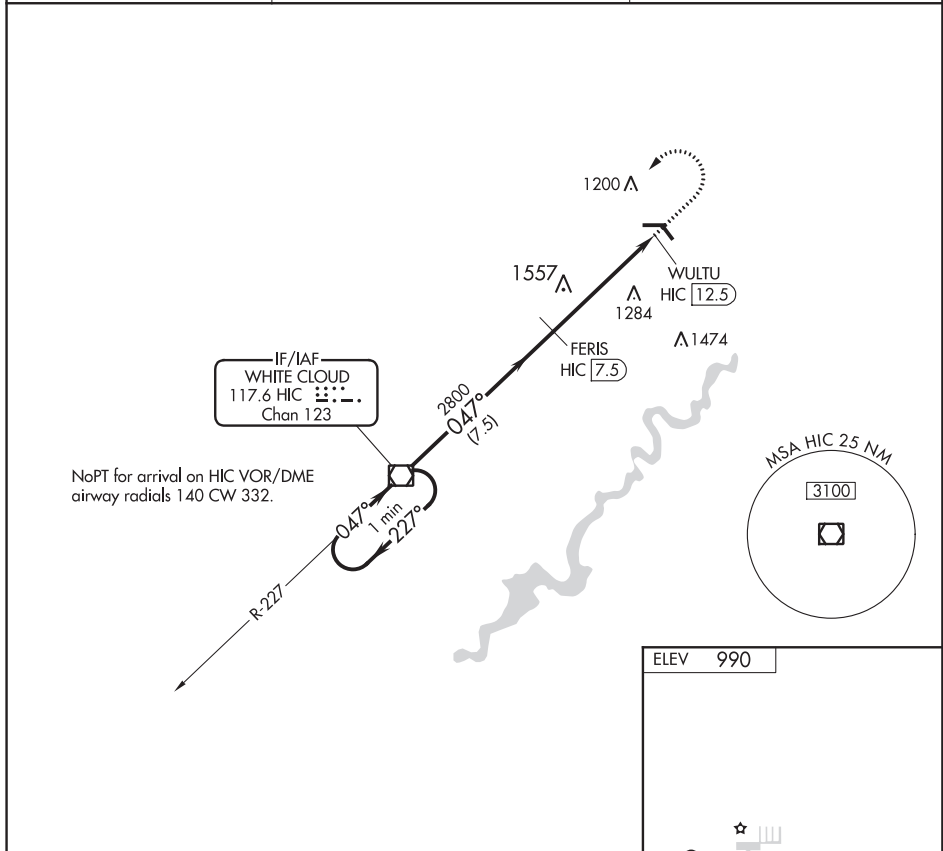
| | | | |
|--|------------------------|-----------------------------|--|
| VOR/DME HIC 117.6 Chan 123 | APP CRS 047° | Rwy Idg TDZE Apt Elev | N/A N/A 990 |
|--|------------------------|-----------------------------|--|

VOR/DME-A
ROBEN-HOOD (RQB)

⚠ When local altimeter setting not received, use Muskegon altimeter setting and increase MDA 160 feet, increase Cat B/D visibility ¼ mile and Cat C visibility ½ mile. Night landing: Rwy 9, 32 NA.

⚠ MISSED APPROACH: Climb to 2800 then left turn direct HIC VOR/DME and hold.

| | | |
|---------------------------|--|--|
| AWOS-3P 125.875 | MINNEAPOLIS CENTER 120.85 322.35 | UNICOM 122.8 (CTAF) ⓪ |
|---------------------------|--|--|



| CATEGORY | A | B | C | D |
|-------------------|----------------------|---|----------------------|----------------------|
| ⓐ CIRCLING | 1820-1¼ 830 (900-1¼) | | 1820-2½ 830 (900-2½) | 1860-2¾ 870 (900-2¾) |

REIL Rwys 9 and 27 **⓪**
MIRL Rwys 9-27 and 14-32 **⓪**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

BIG RAPIDS, MICHIGAN
Amdt 8 08JAN15

43°43'N-85°30'W

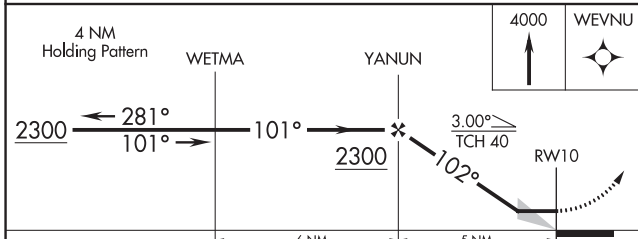
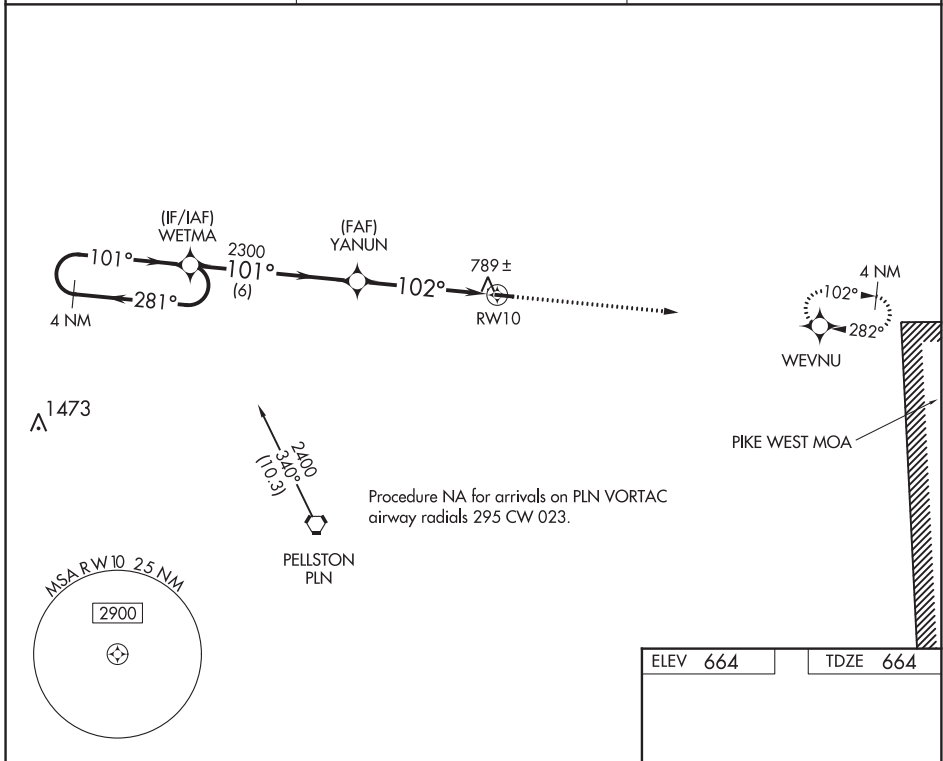
ROBEN-HOOD (RQB)
VOR/DME-A

| | | |
|--|------------------------|---|
| WAAS CH 78235 W10A | APP CRS 102° | Rwy Idg 3498 TDZE 664 Apt Elev 664 |
|--|------------------------|---|

RNAV (GPS) RWY 10

BOIS BLANC ISLAND (6Y1)

| | | |
|---|---|------------------------|
| ⚠ NA Use Cheboygan altimeter setting; when not received, use Mackinac Island altimeter setting and increase all MDA 20 feet. DME/DME RNP-0.3 NA. | MISSED APPROACH: Climb to 4000 direct WEVNU and hold, continue climb-in-hold to 4000. | |
| CHEBOYGAN AWOS-3 118.175 | MINNEAPOLIS CENTER 134.6 354.05 | CTAF 122.9 0 |



| | |
|---|----------|
| ELEV 664 | TDZE 664 |
| | |
| REIL Rwy 28 0 MIRL Rwy 10-28 0 | |

| CATEGORY | A | B | C | D |
|-------------------|--------|-------------|---|----|
| LP MDA | 1060-1 | 396 (400-1) | | NA |
| LNAV MDA | 1080-1 | 416 (500-1) | | NA |
| C CIRCLING | 1120-1 | 456 (500-1) | | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

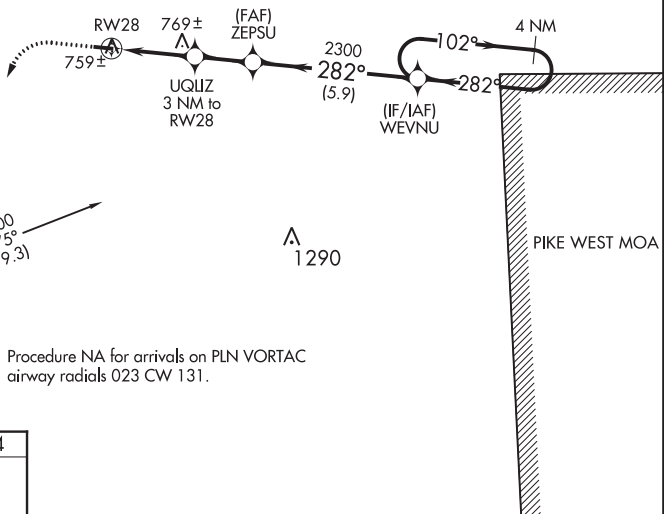
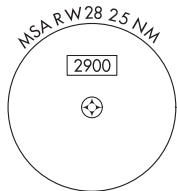
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 42735 W28A | APP CRS 282° | Rwy Idg TDZE Apt Elev | 3498 664 664 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 28

BOIS BLANC ISLAND (6Y1)

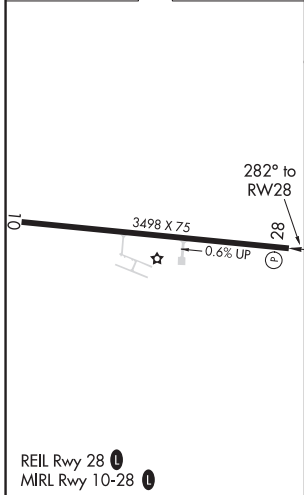
| | | |
|------------------------------------|--|---|
| NA | Use Cheboygan altimeter setting; when not received, Mackinac Island altimeter setting. DME/DME RNP-0.3 NA. | MISSED APPROACH: Climb to 3000 direct PELLSTON VORTAC and hold. |
| CHEBOYGAN AWOS-3 118.175 | MINNEAPOLIS CENTER 134.6 354.05 | CTAF 122.9 0 |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 664 | TDZE 664 |
|----------|----------|



| | | | |
|-------------------|-----|--|----------------------------|
| 3000 | PLN | VGSi and descent angles not coincident (VGSi Angle 4.00/TCH 33). | |
| | | UQLIZ 3 NM to RW28 | ZEPSU |
| | | 3.00° TCH 40 | WEVNU 4 NM Holding Pattern |
| | | 2300 | 2300 |
| | | 3 NM | 2.1 NM |
| | | 5.9 NM | |
| CATEGORY | | A | B |
| LP MDA | | 1040-1 | 376 (400-1) |
| LNAV MDA | | 1060-1 | 396 (400-1) |
| C CIRCLING | | 1120-1 | 456 (500-1) |

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 97526 W09A | APP CRS 098° | Rwy Idg TDZE Apt Elev | 3402 659 660 |
|--|------------------------|-----------------------------|---|

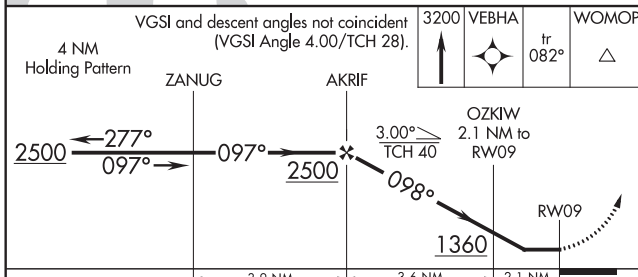
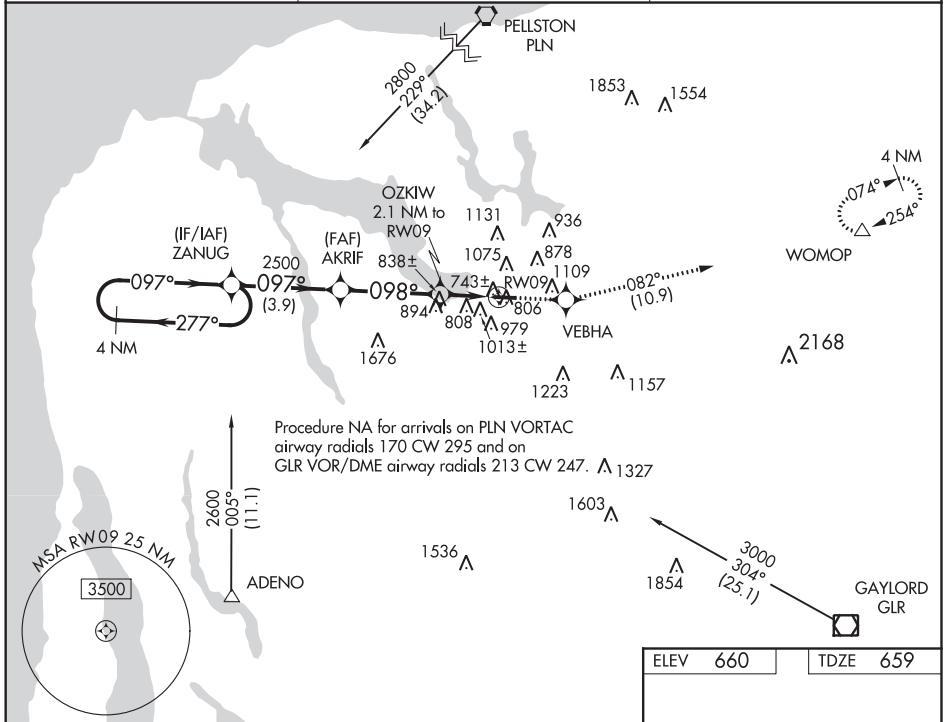
RNAV (GPS) RWY 9

BOYNE CITY MUNI (N98)

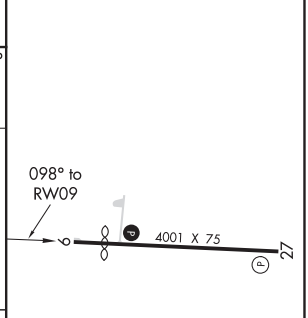
⚠ Use Charlevoix altimeter setting; when not received, use Harbor Springs altimeter setting.
⚠ NA Procedure NA at night. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 3200 direct VEBHA and on track 082° to WOMOP and hold.

| | | |
|-----------------------------------|-------------------------------|-----------------------|
| CHARLEVOIX AWOS-3 120.0 | UNICOM 122.8 (CTAF) | 122.9 0 |
|-----------------------------------|-------------------------------|-----------------------|



| | |
|----------|----------|
| ELEV 660 | TDZE 659 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|-------------------------|-------------------------|---|----|
| LP MDA | 1060-1 | 401 (400-1) | | NA |
| INAV MDA | 1260-1 | 601 (600-1) | | NA |
| CIRCLING | 1480-1¼ 820 (900-1¼) | 1500-1¼ 840 (900-1¼) | | NA |

REIL Rwy 27 **0**
 MRL Rwy 9-27 **0**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 50326 W27A | APP CRS 278° | Rwy Idg TDZE Apt Elev | 4001 660 660 |
|--|------------------------|-----------------------------|---|

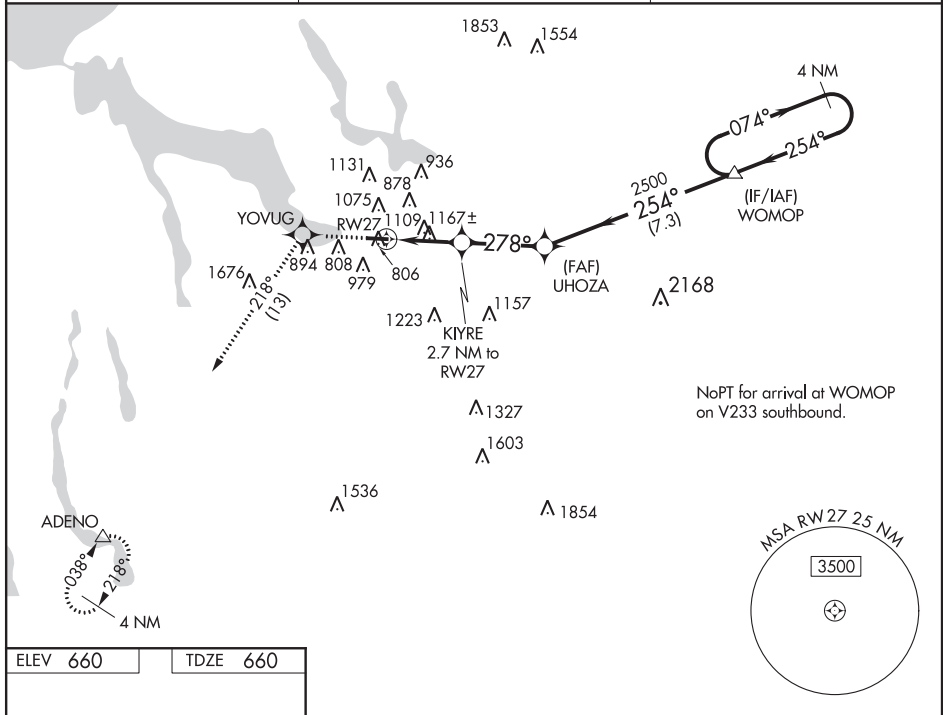
RNAV (GPS) RWY 27

BOYNE CITY MUNI (N98)

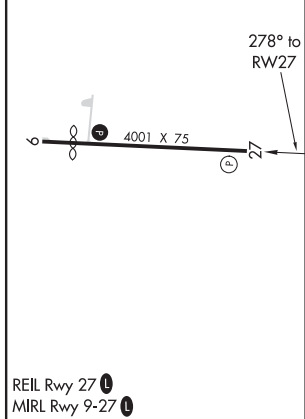
⚠ Use Charlevoix altimeter setting; when not received, use Harbor Springs altimeter setting. Procedure NA at night. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 3000 direct YOYUG and on track 218° to ADENO and hold.

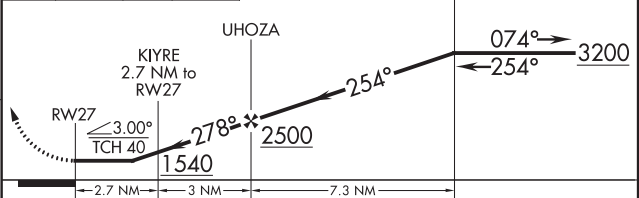
| | | |
|-----------------------------------|-------------------------------|-----------------------|
| CHARLEVOIX AWOS-3 120.0 | UNICOM 122.8 (CTAF) | 122.9 0 |
|-----------------------------------|-------------------------------|-----------------------|



| | |
|-----------------|-----------------|
| ELEV 660 | TDZE 660 |
|-----------------|-----------------|



| | | | |
|------|---------|-------|--|
| 3000 | YOYUG | ADENO | VGSI and descent angles not coincident (VGSI Angle 4.00/TCH 43). |
| ↑ | ✦ | △ | 4 NM |
| | ir 218° | | WOMOP Holding Pattern |



| CATEGORY | A | B | C | D |
|----------|-------------------------|-------------------------|---|----|
| LP MDA | 1460-1 800 (800-1) | 1460-1¼ 800 (800-1¼) | | NA |
| LNAV MDA | 1480-1 820 (900-1) | 1480-1¼ 820 (900-1¼) | | NA |
| CIRCLING | 1480-1¼ 820 (900-1¼) | 1500-1¼ 840 (900-1¼) | | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4887 |
| 175° | TDZE | 707 |
| | Apt Elev | 719 |

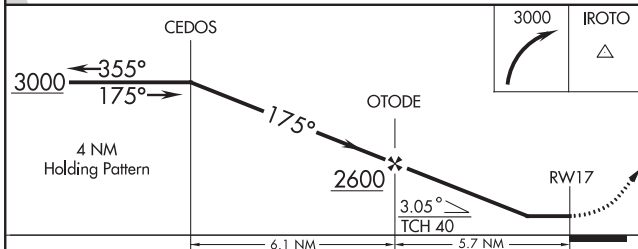
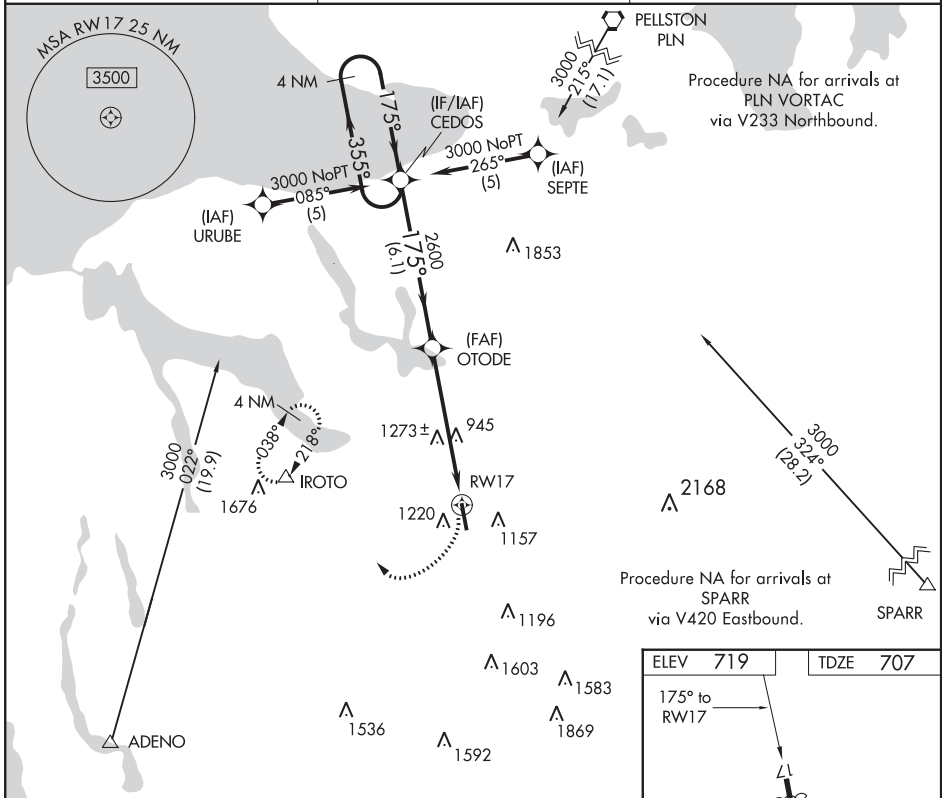
RNAV (GPS) RWY 17

BOYNE MOUNTAIN (BFA)

NA Circling NA west of Rwy 17-35. DME/DME RNP-0.3 NA. Use Bellaire altimeter setting; when not received, use Pellston altimeter setting and increase all MDAs 20 feet and increase LNAV Cats A, C, and D visibility ¼ mile, and Circling Cats A and C ½ mile.

MISSED APPROACH: Climbing right turn to 3000 direct IROTO and hold.

| | | |
|---|-------------------------------|---------------|
| MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) | 122.85 |
|---|-------------------------------|---------------|



| | | | | | |
|----------------|-------------------------|---------------------------|---------------------------|---------------------------|------------------------------------|
| ELEV | 719 | TDZE | 707 | | |
| 175° to RWY 17 | | | | | |
| | | | | | |
| CATEGORY | A | B | C | D | REL Rwy 17 and 35 URL Rwy 17-35 |
| LNAV MDA | 1580 - 1 873 (900-1) | 1580 - 1¼ 873 (900-1¼) | 1580 - 2½ 873 (900-2½) | 1580 - 2¾ 873 (900-2¾) | |
| CIRCLING | 1580 - 1 861 (900-1) | 1580 - 1¼ 861 (900-1¼) | 1580 - 2½ 861 (900-2½) | 1640 - 3 921 (1000-3) | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

BOYNE FALLS, MICHIGAN

AL-6027 (FAA)

16315

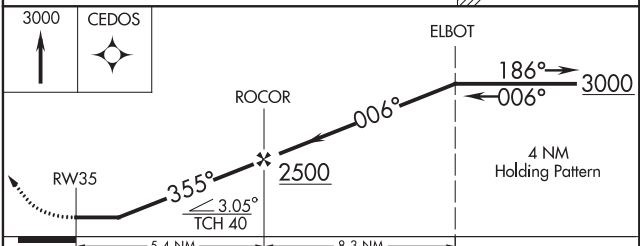
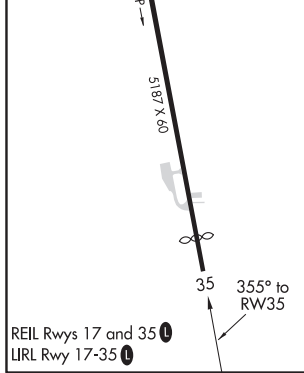
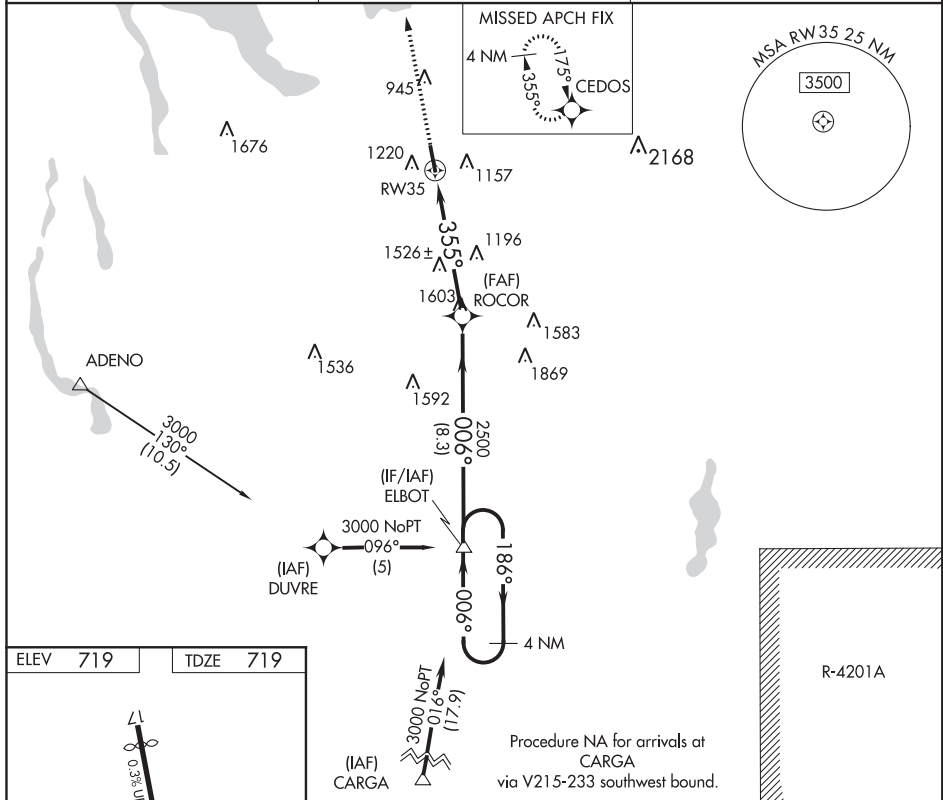
| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4687 |
| 355° | TDZE | 719 |
| | Apt Elev | 719 |

RNAV (GPS) RWY 35

BOYNE MOUNTAIN (BFA)

| | | |
|--------------------------------------|--|--|
| <p>NA</p> <p>-29°C</p> | <p>Circling NA west of Rwy 17-35. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Use Belloire altimeter setting; when not received, use Pellston altimeter setting.</p> | <p>MISSED APPROACH: Climb to 3000 direct CEDOS and hold.</p> |
|--------------------------------------|--|--|

| | | |
|--|--|----------------------|
| <p>MINNEAPOLIS CENTER</p> <p>134.6 354.05</p> | <p>UNICOM</p> <p>122.8 (CTAF)</p> | <p>122.85</p> |
|--|--|----------------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------------|-----------------------------|----------|---------------|
| LNAV MDA | 1840 - 1¼ 1121 (1200-1¼) | 1840 - 1½ 1121 (1200-1½) | 1840 - 3 | 1121 (1200-3) |
| CIRCLING | 1840 - 1¼ 1121 (1200-1¼) | 1840 - 1½ 1121 (1200-1½) | 1840 - 3 | 1121 (1200-3) |

BOYNE FALLS, MICHIGAN
Orig 14FEB08

45°10'N - 84°55'W

BOYNE MOUNTAIN (BFA)

RNAV (GPS) RWY 35

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|-----------------------------|---|
| LOC/DME I-MAY 108.55 Chan 22 | APP CRS 070° | Rwy Idg TDZE Apt Elev | 5000 1307 1307 |
|---|------------------------|-----------------------------|---|

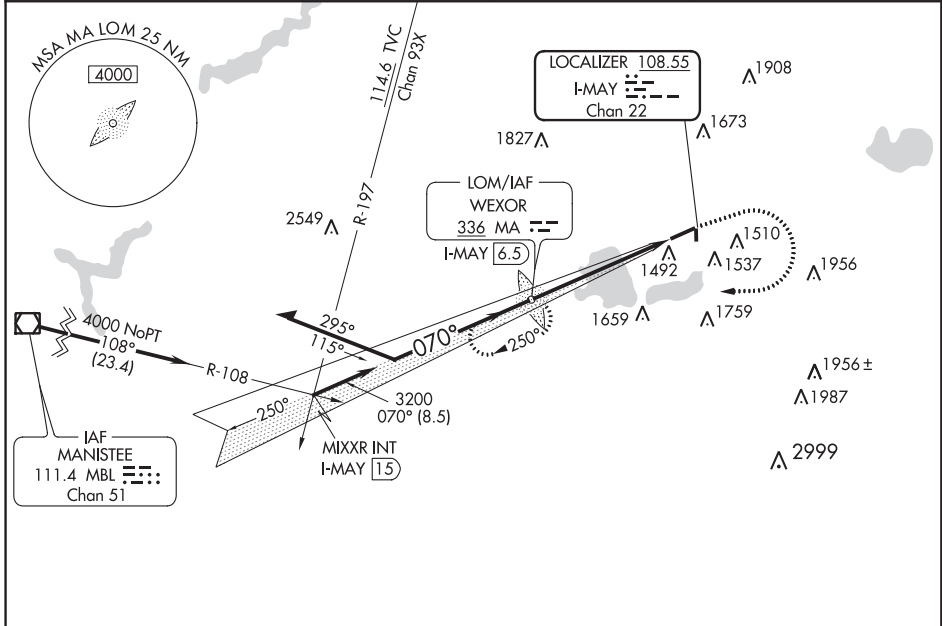
ILS or LOC RWY 7

WEXFORD COUNTY (CAD)

ADF Required. When local altimeter setting not received, use Houghton Lake altimeter setting and increase all DA 137 feet and all MDA 140 feet and increase S-ILS 7 all Cats visibility ½ mile, S-LOC 7 visibility Cat C ½ mile and Cat D ¼ mile, Circling visibility Cat C ½ mile and Cat D ¼ mile. Inoperative table does not apply to S-LOC 7 Cat C visibility when using Houghton Lake altimeter setting.

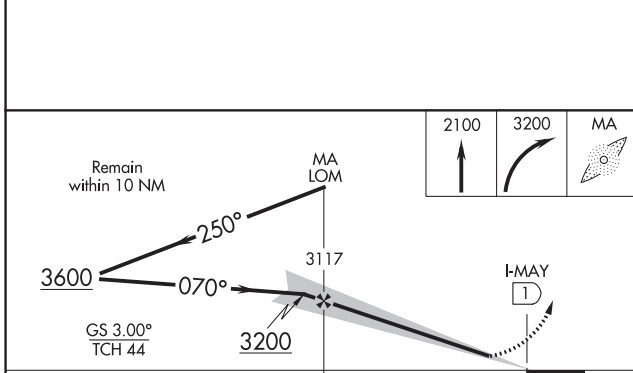
MALSF
MISSED APPROACH: Climb to 2100, then climbing right turn to 3200 direct WEXOR LOM I-MAY 6.5 DME and hold.

| | | | |
|--------------------------|--|-----------------------|--|
| AWOS-3 128.325 | MINNEAPOLIS CENTER 132.9 338.3 | GCO 121.725 | UNICOM 122.8 (CTAF) 1 |
|--------------------------|--|-----------------------|--|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|-----------|-----------|
| ELEV 1307 | TDZE 1307 |
|-----------|-----------|

| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 5.5 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:30 | 3:40 | 2:45 | 2:12 | 1:50 |


| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| S-ILS 7 | | 1507-¾ | 200 (200-¾) | |
| S-LOC 7 | | 1660-¾ | 353 (400-¾) | 1660-1¼ 353 (400-1¼) |
| CIRCLING | 1900-1 | 593 (600-1) | 1900-1½ 593 (600-1½) | 1900-2 593 (600-2) |


| | | |
|--|------------------------|---|
| WAAS CH 86413 W07A | APP CRS 070° | Rwy Idg 5000 TDZE 1307 Apt Elev 1307 |
|--|------------------------|---|

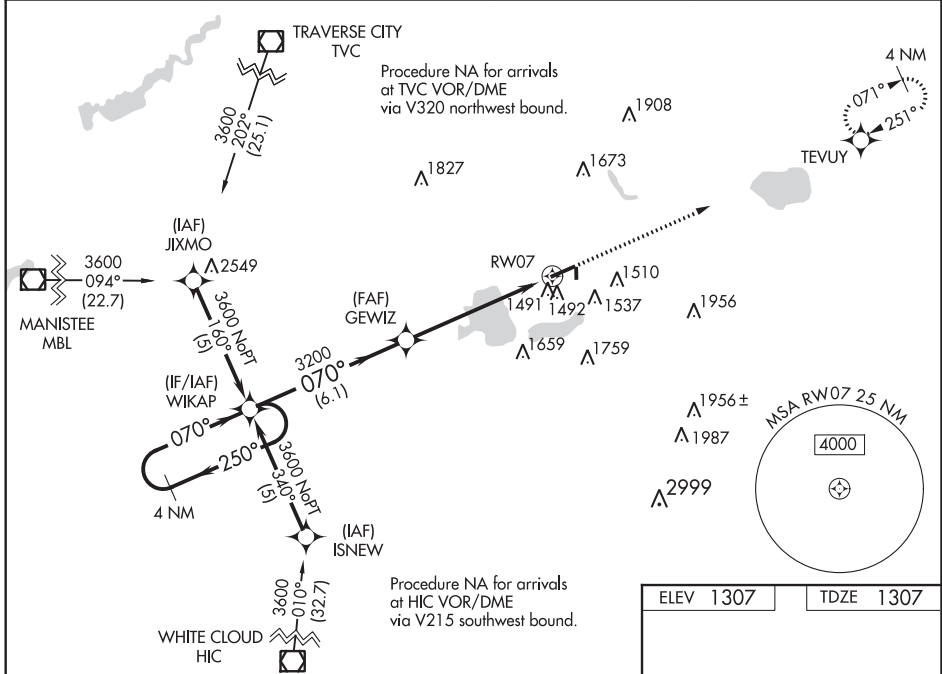
RNAV (GPS) RWY 7

WEXFORD COUNTY (CAD)

⚠ DME/DME RNP-0.3 NA. When local altimeter setting not received, use Houghton Lake altimeter setting and increase all DA 137 feet and all MDA 140 feet, LPV and LNAV/VNAV visibility 1/2 mile all Cats, LNAV Cats C/D visibility 1/2 mile, Circling Cat C visibility 1/2 mile and Cat D visibility 1/2 mile. Inoperative table does not apply to LNAV Cat C visibilities. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). Baro-VNAV and VDP NA when using Houghton Lake altimeter setting.

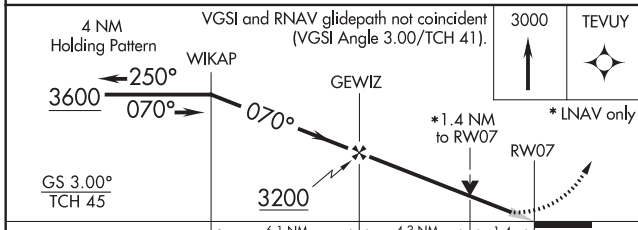
MALSF

MISSED APPROACH:
Climb to 3000 direct TEVUY and hold.

| | | | |
|--------------------------|--|-----------------------|---|
| AWOS-3 128.325 | MINNEAPOLIS CENTER 132.9 338.3 | GCO 121.725 | UNICOM 122.8 (CTAF)  |
|--------------------------|--|-----------------------|---|

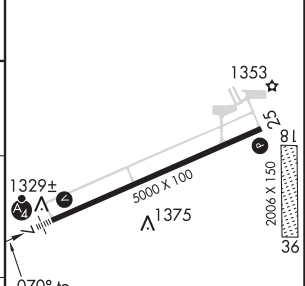


EC-1, 10 NOV 2016 to 05 JAN 2017



EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|-----------|-----------|
| ELEV 1307 | TDZE 1307 |
|-----------|-----------|



| CATEGORY | A | B | C | D |
|--------------|------------------------|------------|----------------------------|----------------------------|
| LPV DA | | 1507-3/4 | 200 (200-3/4) | |
| LNAV/VNAV DA | | 1761-1 1/2 | 454 (500-1 1/2) | |
| LNAV MDA | 1780-3/4 473 (500-3/4) | | 1780-1 1/4 473 (500-1 1/4) | 1780-1 1/2 473 (500-1 1/2) |
| CIRCLING | 1900-1 593 (600-1) | | 1900-1 1/2 593 (600-1 1/2) | 1900-2 593 (600-2) |

HIRL Rwy 7-25 
REIL Rwy 7 and 25 

CARO, MICHIGAN

AL-6375 (FAA)

16147

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4302 |
| 058° | TDZE | 689 |
| | Apt Elev | 704 |

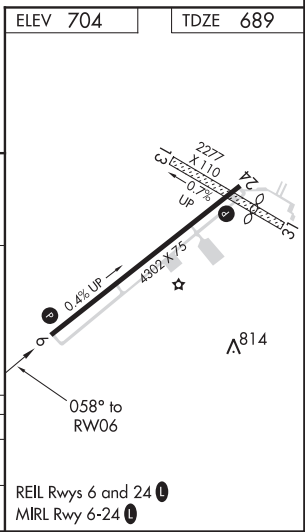
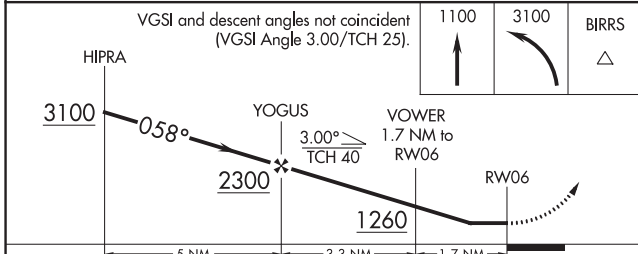
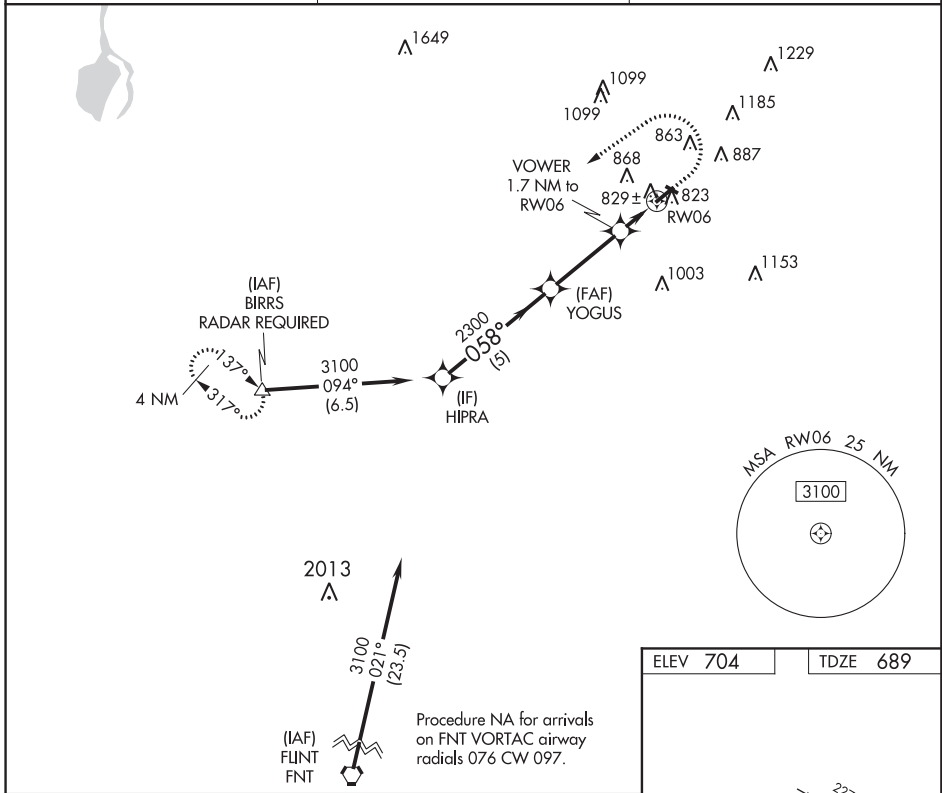
RNAV (GPS) RWY 6

TUSCOLA AREA (CFS)

⚠ Circling NA to Rwy's 13 and 31. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Procedure NA at night. When local altimeter setting not received, use Saginaw/MBS Intl altimeter setting and increase all MDA 80 feet.

MISSED APPROACH: Climb to 1100 then climbing left turn to 3100 direct BIRRS and hold.

| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 119.275 | SAGINAW APP CON * 120.95 235.625 | UNICOM 123.0 (CTAF) ① |
|--------------------------|--|---------------------------------|



| CATEGORY | A | B | C | D |
|-------------------|--------|-------------|----|---|
| LNNAV MDA | 1080-1 | 391 (400-1) | NA | |
| C CIRCLING | 1200-1 | 496 (500-1) | NA | |

CARO, MICHIGAN
Amdt 1 26MAY16

43°28'N-83°27'W

RNAV (GPS) RWY 6

TUSCOLA AREA (CFS)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4302 |
| 239° | TDZE | 700 |
| | Apt Elev | 704 |

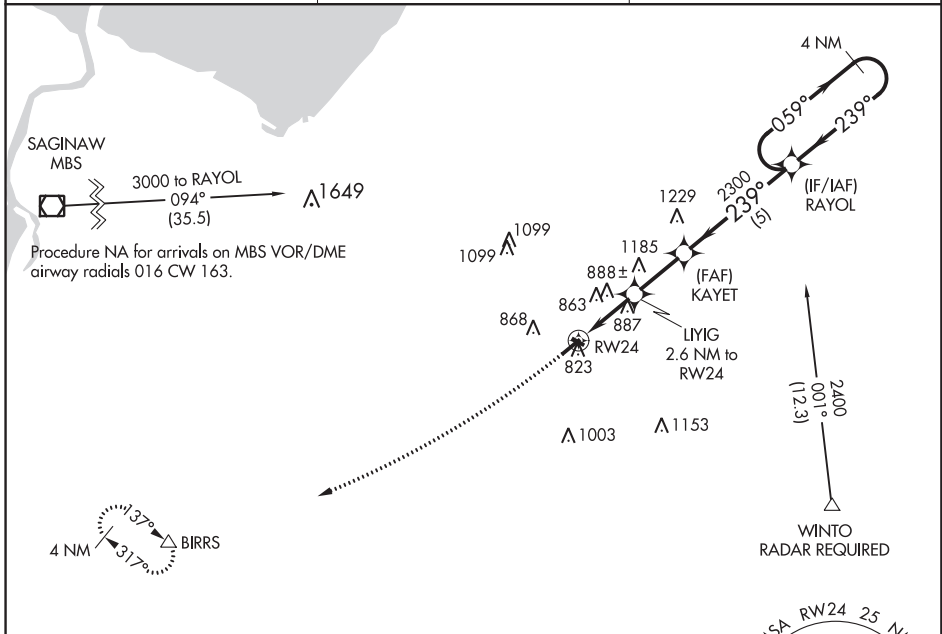
RNAV (GPS) RWY 24

TUSCOLA AREA (CFS)

▼ Circling NA to Rwy 13 and 31. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Procedure NA at night. When local altimeter setting not received, use Saginaw/MBS Intl altimeter setting and increase all MDA 80 feet.

MISSED APPROACH: Climbing right turn to 3100 direct BIRRS and hold.

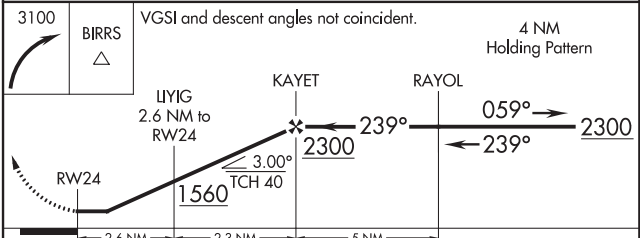
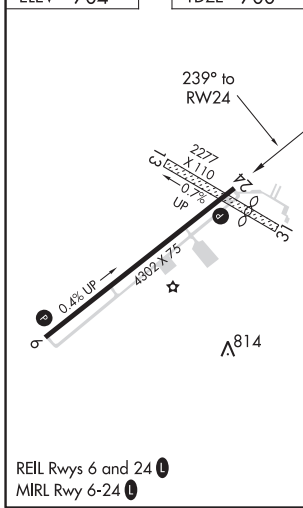
| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 119.275 | SAGINAW APP CON * 120.95 235.625 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|--|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 704 | TDZE 700 |
|----------|----------|



| | | | | |
|-------------------|--------|-------------|----|---|
| CATEGORY | A | B | C | D |
| LNAV MDA | 1140-1 | 440 (500-1) | NA | |
| C CIRCLING | 1200-1 | 496 (500-1) | NA | |

CARO, MICHIGAN

AL-6375 (FAA)

16147

| | | | |
|---|------------------------|-----------------------------|--|
| VOR/DME MBS 112.9 Chan 76 | APP CRS 102° | Rwy Idg TDZE Apt Elev | N/A N/A 704 |
|---|------------------------|-----------------------------|--|

VOR/DME-A

TUSCOLA AREA (CFS)

⚠ Circling NA to Rws 13 and 31. Helicopter visibility reduction below 1 SM NA. Procedure NA at night. When local altimeter setting not received, use Saginaw/MBS Intl altimeter setting and increase all MDA 80 feet.

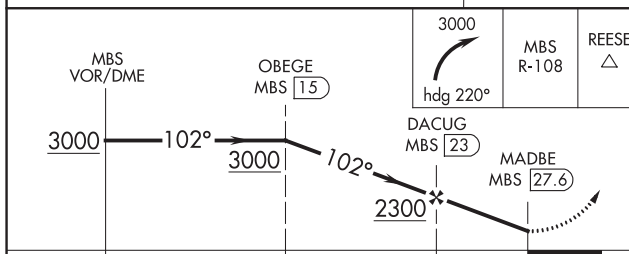
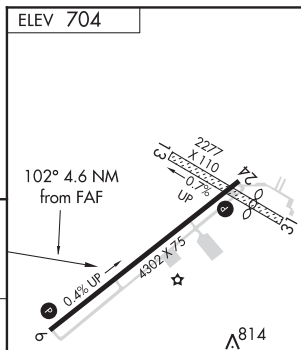
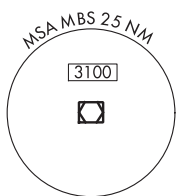
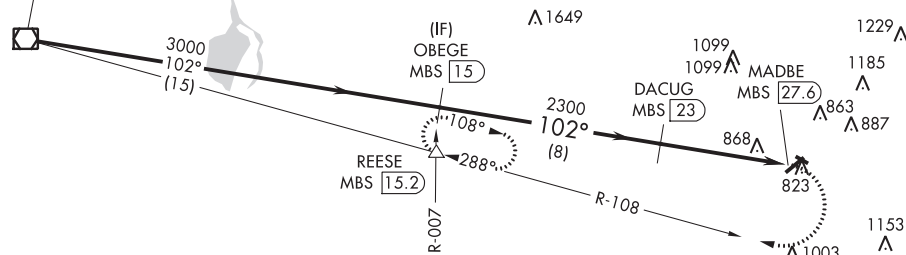
MISSED APPROACH: Climbing right turn to 3000 on heading 220° and on MBS VOR/DME R-108 to REESE INT/15.2 DME and hold.

AWOS-3
119.275

SAGINAW APP CON ★
120.95 235.625

UNICOM
123.0 (CTAF) **📞**

IAF
SAGINAW
112.9 MBS **📶**
Chan 76



| | | | | |
|-------------------|--------|-------------|----|---|
| CATEGORY | A | B | C | D |
| 📶 CIRCLING | 1240-1 | 536 (600-1) | NA | |

REIL Rws 6 and 24 **📞**
MIRL Rwy 6-24 **📞**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CARO, MICHIGAN
Amdt 6 26MAY16

43°28'N-83°27'W

TUSCOLA AREA (CFS)

VOR/DME-A

| | | |
|--|------------------------|---|
| WAAS CH 97708 W09A | APP CRS 090° | Rwy ldg 4549 TDZE 669 Apt Elev 669 |
|--|------------------------|---|

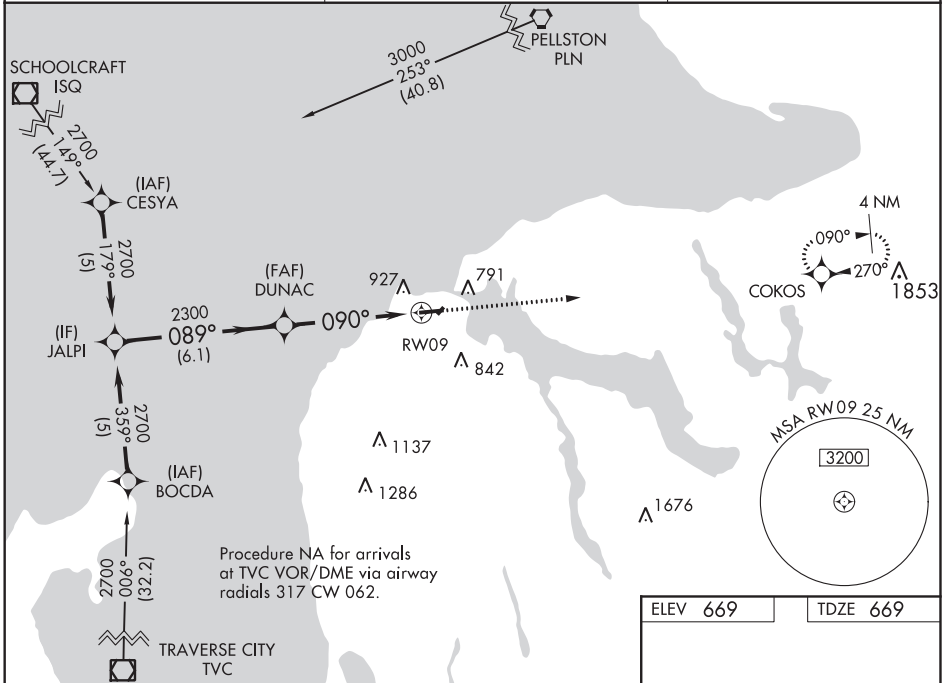
RNAV (GPS) RWY 9

CHARLEVOIX MUNI (CVX)

⚠ Circling to Rwy 4/22 NA at night. Baro-VNAV NA when using Pellston altimeter setting.
⚠ 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. Visibility reduction by helicopters NA. When local altimeter setting not received, use Pellston altimeter setting and increase all DA 67 feet and all MDA 80 feet, increase LNAV/VNAV all Cats visibility ¼ mile, LNAV and Circling Cat C and D visibility ¼ mile.

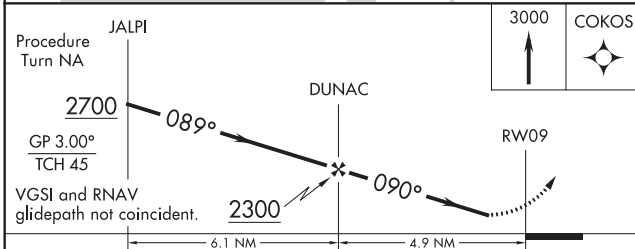
MISSED APPROACH: Climb to 3000 direct COKOS and hold.

| | | |
|------------------------|---|---------------------------------|
| AWOS-3 120.0 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) 0 |
|------------------------|---|---------------------------------|

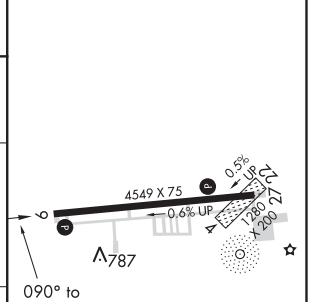


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|----------|----------|
| ELEV 669 | TDZE 669 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------------------|----------------------|----------------------|----------------------|
| LPV DA | 919-1 250 (300-1) | | | |
| LNAV/VNAV DA | 1203-2 534 (600-2) | | | |
| LNAV MDA | 1160-1 491 (500-1) | 1160-1½ 491 (500-1½) | 1160-1½ 491 (500-1½) | 1160-1½ 491 (500-1½) |
| CIRCLING | 1280-1 611 (700-1) | 1280-1¾ 611 (700-1¾) | 1280-2 611 (700-2) | 1280-2 611 (700-2) |

REIL Rwy 9 and 27 **0**
 MIRL Rwy 9-27 **0**

CHARLEVOIX, MICHIGAN

AL-5907 (FAA)

16315

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4549 |
| 270° | TDZE | 662 |
| | Apt Elev | 669 |

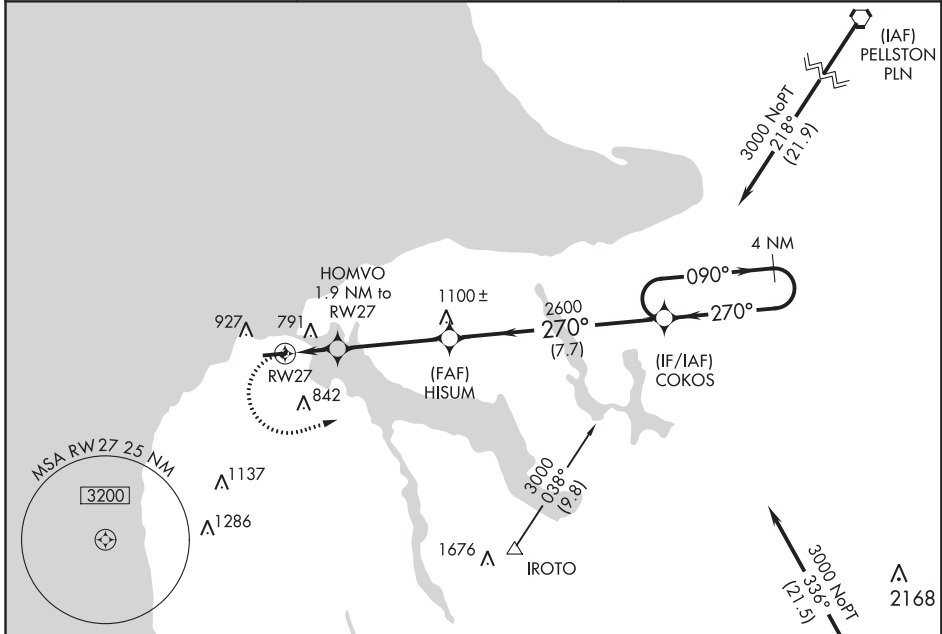
RNAV (GPS) RWY 27

CHARLEVOIX MUNI (CVX)

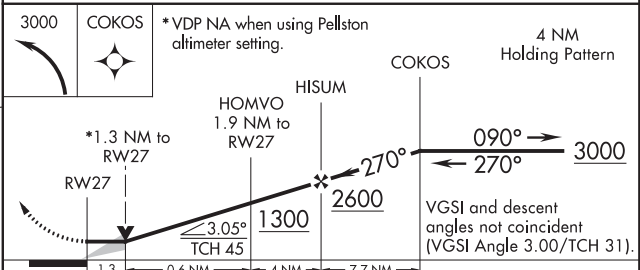
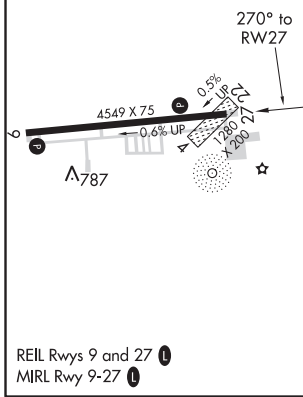
When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 80 feet. DME/DME RNP-0.3 NA. Circling to Rwy 4/22 NA at night.

MISSED APPROACH: Climbing left turn to 3000 direct COKOS and hold.

| | | |
|------------------------|---|-------------------------------|
| AWOS-3 120.0 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) |
|------------------------|---|-------------------------------|



| | |
|----------|----------|
| ELEV 669 | TDZE 662 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| LNAV MDA | 1100-1 | 438 (500-1) | 1100-1¼ 438 (500-1¼) | 1100-1½ 438 (500-1½) |
| CIRCLING | 1280-1 | 611 (700-1) | 1280-1¾ 611 (700-1¾) | 1280-2 611 (700-2) |

CHARLEVOIX, MICHIGAN
Orig-A 09FEB12

45°18'N - 85°17'W

CHARLEVOIX MUNI (CVX) RNAV (GPS) RWY 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-----------------------|------------------------|------------------------|
| NDB CVX 392 | APP CRS 096° | Rwy Idg 4549 |
| | | TDZE 669 |
| | | Apt Elev 669 |

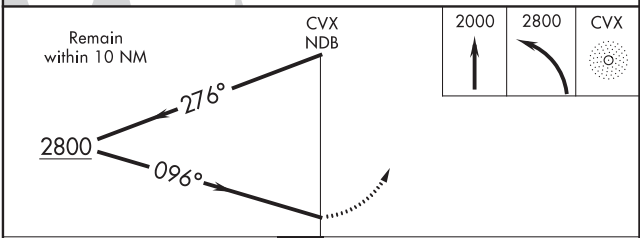
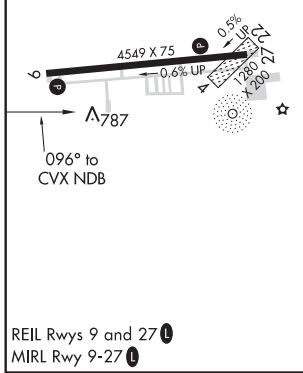
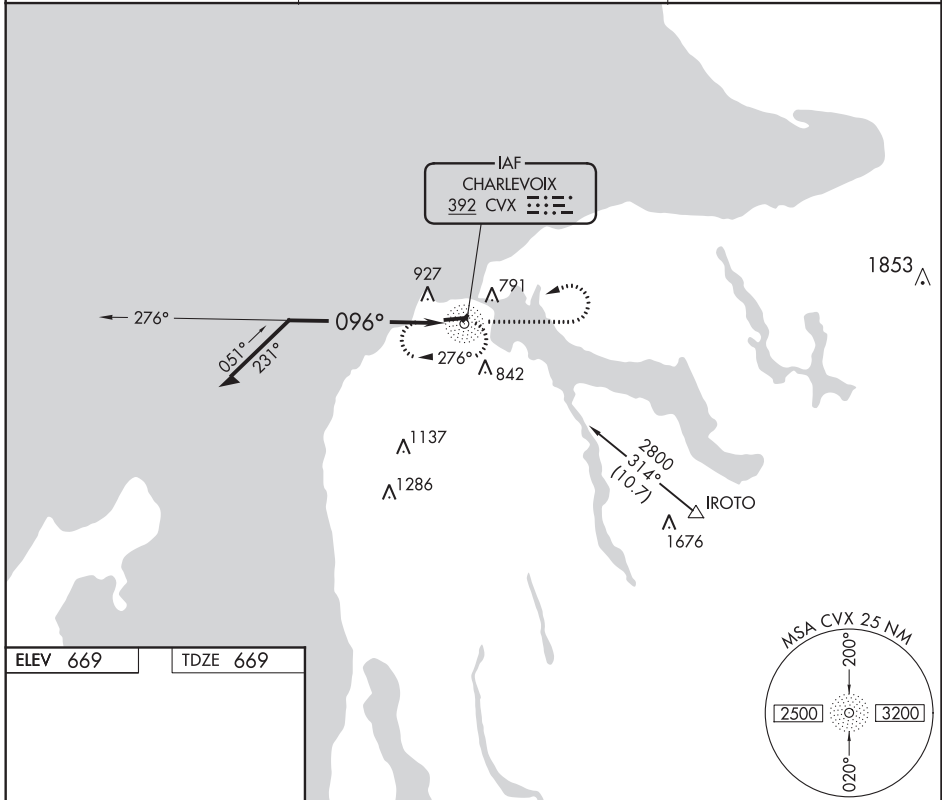
NDB RWY 9

CHARLEVOIX MUNI (CVX)

▽ If local altimeter setting not received, use Pellston altimeter setting and increase all MDAs 80 feet.
▲ NA Circling to Rwy 4/22 NA at night.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2800 direct CVX NDB and hold.

| | | |
|------------------------|---|--|
| AWOS-3 120.0 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) 0 |
|------------------------|---|--|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-----------------------|-------------------------------|
| S-9 | 1340-1 | 671 (700-1) | 1340-2 671 (700-2) | 1340-2 1/4 671 (700-2 1/4) |
| CIRCLING | 1340-1 | 671 (700-1) | 1340-2 671 (700-2) | 1340-2 1/4 671 (700-2 1/4) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CHARLEVOIX, MICHIGAN

AL-5907 (FAA)

16315

| | | |
|-----------------------|------------------------|------------------------|
| NDB CVX 392 | APP CRS 255° | Rwy Idg 4549 |
| | | TDZE 662 |
| | | Apt Elev 669 |

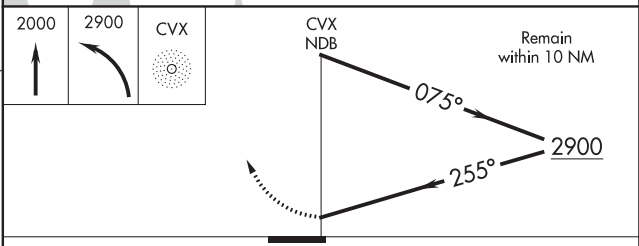
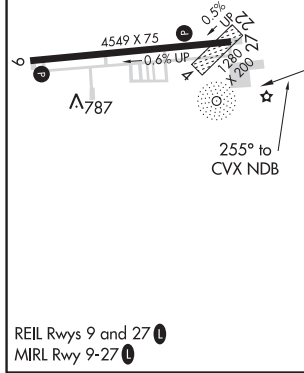
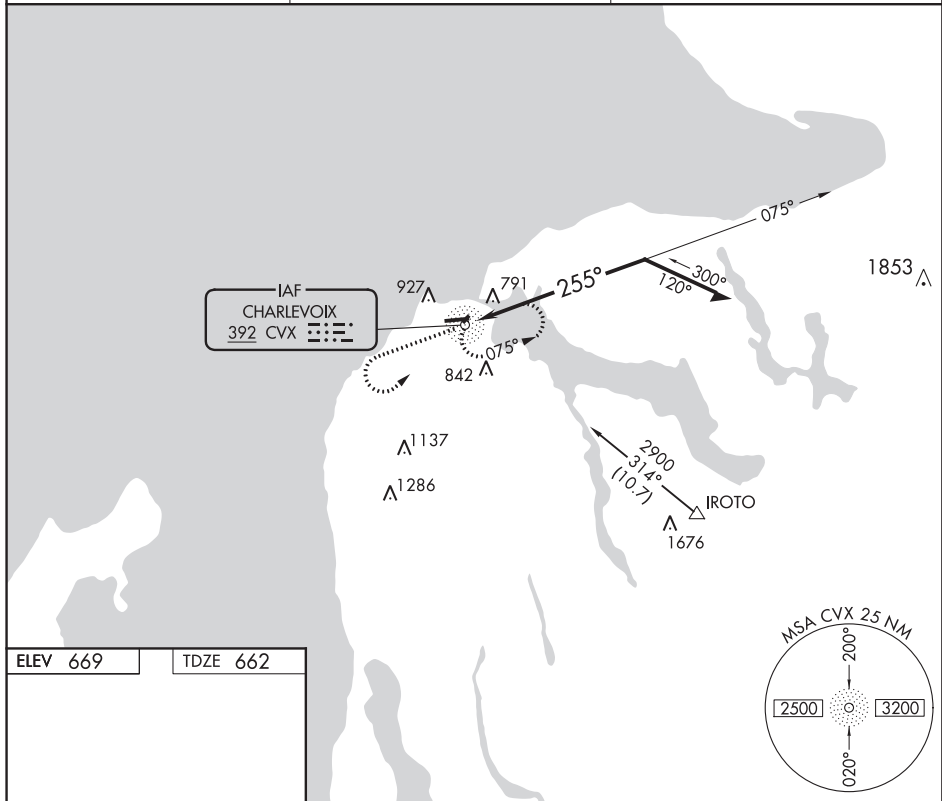
NDB RWY 27

CHARLEVOIX MUNI (CVX)

NA If local altimeter setting not received, use Pellston altimeter setting and increase all MDAs 80 feet. Circling to Rwy 4/22 NA at night.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2900 direct CVX NDB and hold.

| | | |
|------------------------|---|-------------------------------|
| AWOS-3 120.0 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) |
|------------------------|---|-------------------------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------|-------------------------|-------------------------|
| S-27 | 1460-1 798 (800-1) | 1460-1¼ 798 (800-1¼) | 1460-2¼ 798 (800-2¼) | 1460-2½ 798 (800-2½) |
| CIRCLING | 1460-1 791 (800-1) | 1460-1¼ 791 (800-1¼) | 1460-2¼ 791 (800-2¼) | 1460-2½ 791 (800-2½) |

CHARLEVOIX, MICHIGAN
Amdt 11 05JAN20

45°18'N - 85°17'W

CHARLEVOIX MUNI (CVX) NDB RWY 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|------------------------|-----------------------------|---|
| APP CRS 204° | Rwy Idg TDZE Apt Elev | 3510 891 891 |
|------------------------|-----------------------------|---|

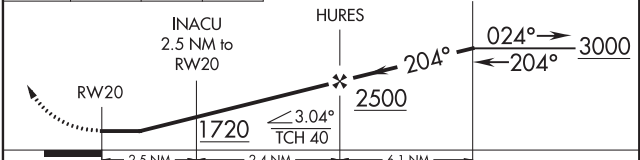
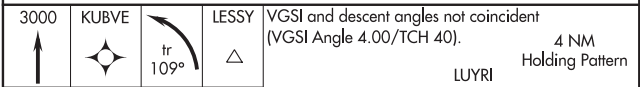
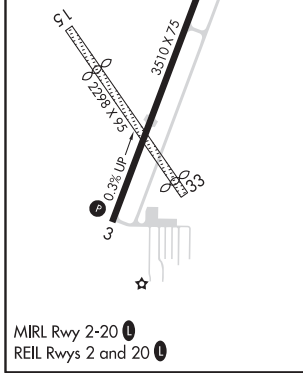
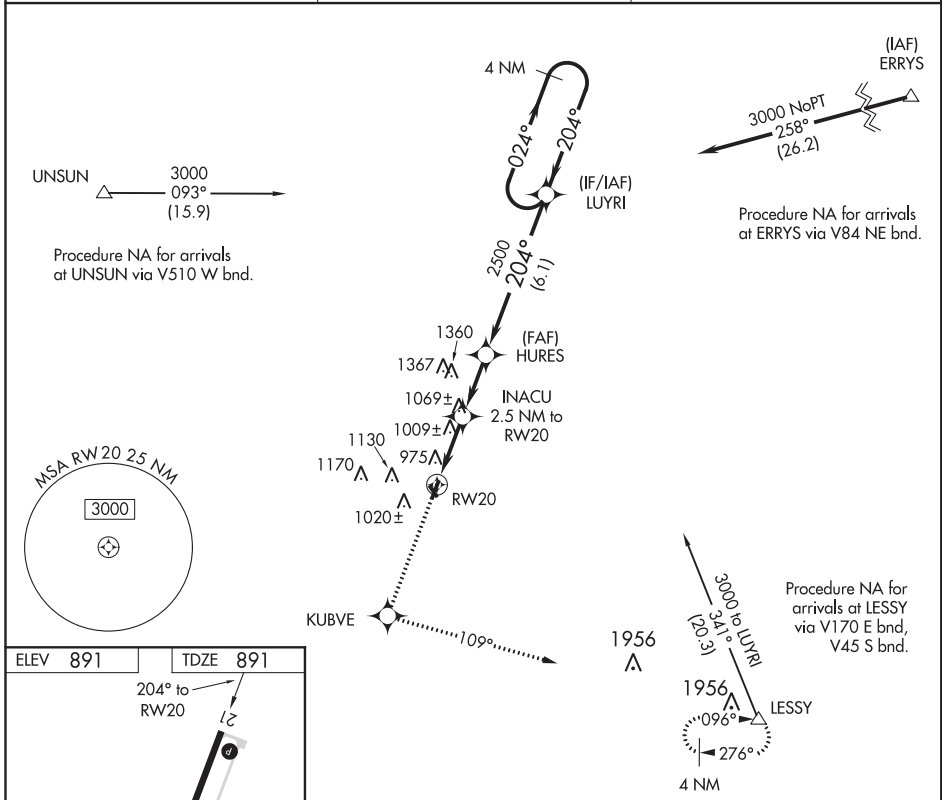
RNAV (GPS) RWY 20

FITCH H BEACH (F'PK)

⚠ If local altimeter setting not received, use Capital Region Intl altimeter setting and increase all MDAs 60 feet. Helicopter visibility reduction below 3/4 SM NA. DME/DME RNP-0.3 NA. Night Landing: Rwy 2, 14, 32 NA.

⚠ MISSED APPROACH: Climb to 3000 direct KUBVE and left turn via 109° track to LESSY and hold.

| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 118.075 | LANSING APP CON 118.65 226.4 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|--|---------------------------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|----|
| LNAV MDA | 1300-1 | 409 (500-1) | 1300-1¼ 409 (500-1¼) | NA |
| CIRCLING | 1420-1 529 (600-1) | 1480-1 589 (600-1) | 1480-1½ 589 (600-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CHARLOTTE, MICHIGAN

AL-5627 (FAA)

16315

| | | | |
|--|------------------------|-----------------------------|---|
| VORTAC LAN 110.8 Chan 45 | APP CRS 216° | Rwy Idg TDZE Apt Elev | 3510 891 891 |
|--|------------------------|-----------------------------|---|

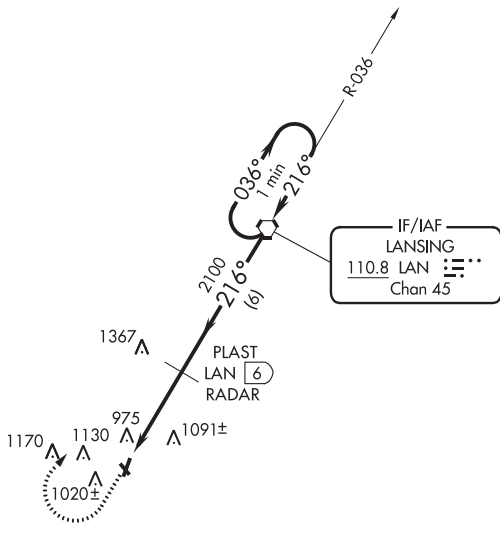
VOR RWY 20
FITCH H BEACH (F'PK)

⚠ DME or RADAR Required. Helicopter visibility reduction below ¾ SM NA.
⚠ If local altimeter setting not received, use Capital City Airport altimeter setting and increase all MDAs 60 feet. Night Landing: Rwy 2, 14, 32 NA.

MISSED APPROACH: Climb to 2500 via LAN VORTAC R-216 then right turn direct LAN VORTAC and hold.

| | | |
|--------------------------|--|--|
| AWOS-3 118.075 | LANSING APP CON 118.65 226.4 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|--|--|

NoPT for arrival at LAN VORTAC
airway radials 324 CW 115.



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|----------------------------|
| ELEV 891 | TDZE 891 |
| MIRL Rwy 2-20 0 | REIL Rwy 2 and 20 0 |
| 216° 3.7 NM from FAF | |
| | |
| FAF to MAP 3.7 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 3:42 2:28 1:51 1:29 1:14 |

| | | | |
|-----------|-----------------------|-----------------------|----------------------------|
| 2500 | LAN | LAN VORTAC | One Minute Holding Pattern |
| LAN R-216 | PLAST LAN RADAR (6) | LAN VORTAC | |
| LAN (9.7) | 2100 | 216° | 036° |
| ≤ 3.01° | TCH 40 | 216° | 2500 |
| 3.7 NM | | 6 NM | |
| CATEGORY | A | B | C |
| S-20 | 1360-1 | 469 (500-1) | 1360-1¼ 469 (500-1¼) |
| CIRCLING | 1420-1 529 (600-1) | 1480-1 589 (600-1) | 1480-1½ 589 (600-1½) |
| D | NA | NA | NA |

VSGI and descent angles not coincident (VSGI Angle 4.00/TCH 40).

CHARLOTTE, MICHIGAN
Amdt 11A 12NOV15

42°34'N-84°49'W

FITCH H BEACH (F'PK)
VOR RWY 20

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 50224 W10A | APP CRS 097° | Rwy Idg TDZE Apt Elev | 4005 640 640 |
|--|------------------------|-----------------------------|---|

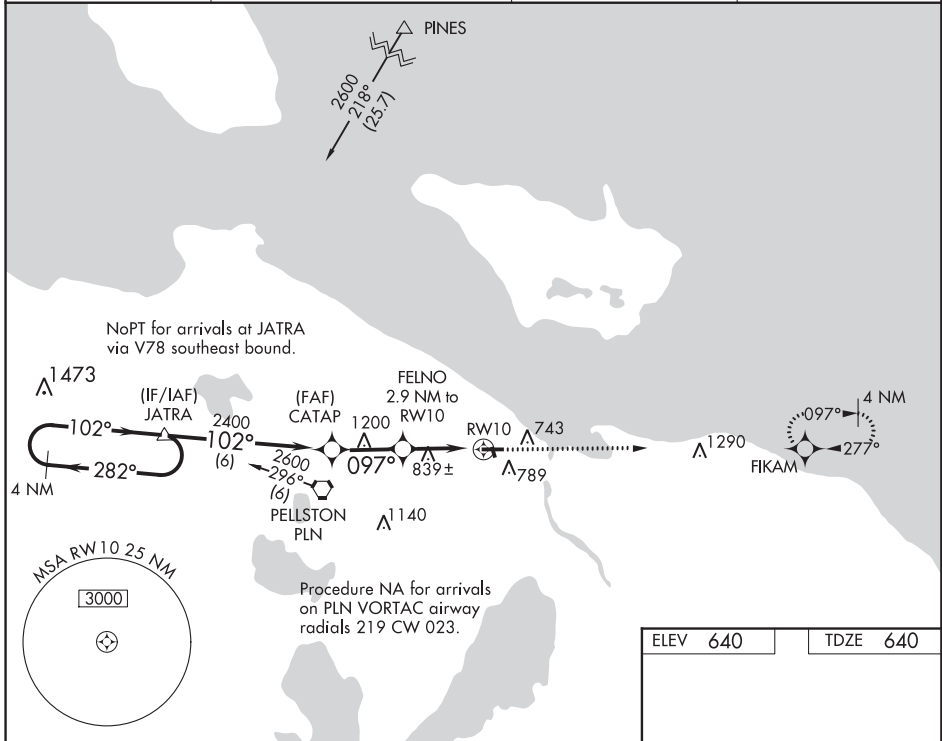
RNAV (GPS) RWY 10

CHEBOYGAN COUNTY (SLH)

⚠ When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 60 feet, increase LP and LNAV Cat C visibility $\frac{1}{8}$ mile.
⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below $\frac{3}{4}$ SM NA.
 Night landing Rwy 17, 35 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 |
|--------------------------|---|-------------------------------|----------------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|--|----|
| LP MDA | 1060-1 | 420 (500-1) | 1060-1 $\frac{1}{4}$ 420 (500-1 $\frac{1}{4}$) | NA |
| LNAV MDA | 1100-1 | 460 (500-1) | 1100-1 $\frac{3}{8}$ 460 (500-1 $\frac{3}{8}$) | NA |
| CIRCLING | 1140-1 | 500 (500-1) | 1140-1 $\frac{1}{2}$ 500 (500-1 $\frac{1}{2}$) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CHEBOYGAN, MICHIGAN

AL-6096 (FAA)

16203

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 99727 W28A | APP CRS 277° | Rwy Idg TDZE Apt Elev | 4005 637 640 |
|--|------------------------|-----------------------------|---|

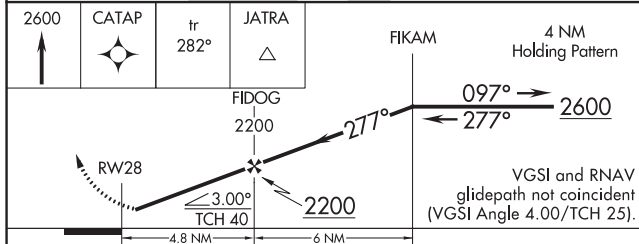
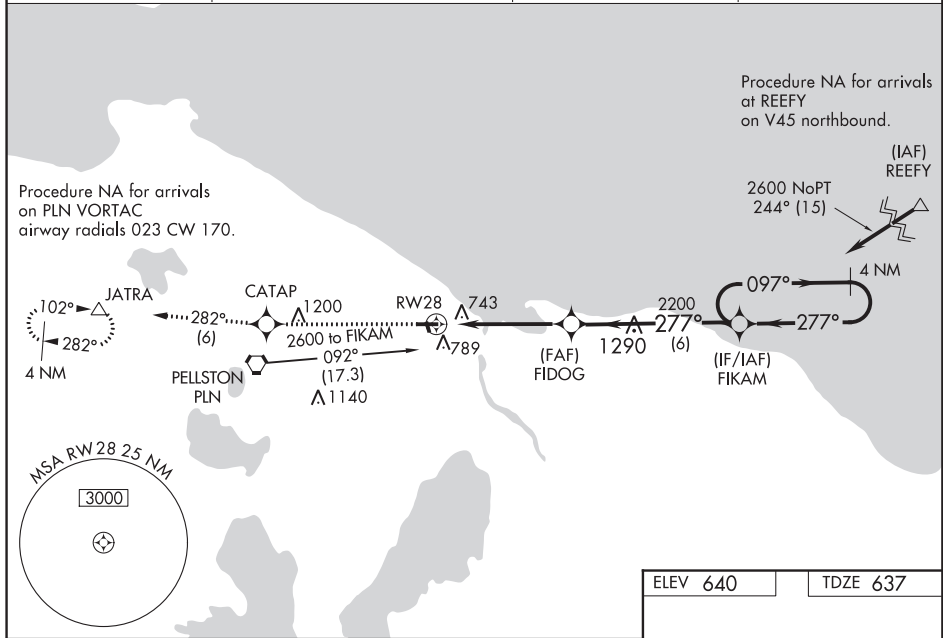
RNAV (GPS) RWY 28

CHEBOYGAN COUNTY (SLH)

⚠ Night landing Rwy 17, 35 NA. Baro-VNAV NA when using Pellston altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Pellston altimeter setting and increase all DA 41 feet and all MDA 60 feet and increase LNAV/VNAV all Cats visibility 1/4 mile and LNAV Cat C visibility 1/8 mile.

MISSED APPROACH: Climb to 2600 direct CATAP and on track 282° to JATRA and hold.

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



| | |
|----------|----------|
| ELEV 640 | TDZE 637 |
|----------|----------|

10 4005 X 75 0.3% UP 28 35

REIL Rwy 10 and 28
MIRL Rwy 10-28 and 17-35

| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------------|----|
| LPV DA | 887-1 | 250 (300-1) | | NA |
| LNAV/VNAV DA | 953-1 | 316 (400-1) | | NA |
| LNAV MDA | 1060-1 | 423 (500-1) | 1060-1 1/4 423 (500-1 1/4) | NA |
| CIRCLING | 1140-1 | 500 (500-1) | 1140-1 1/2 500 (500-1 1/2) | NA |

CHEBOYGAN, MICHIGAN
Amdt 2A 05MAR15

45°39'N-84°31'W

CHEBOYGAN COUNTY (SLH) RNAV (GPS) RWY 28

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

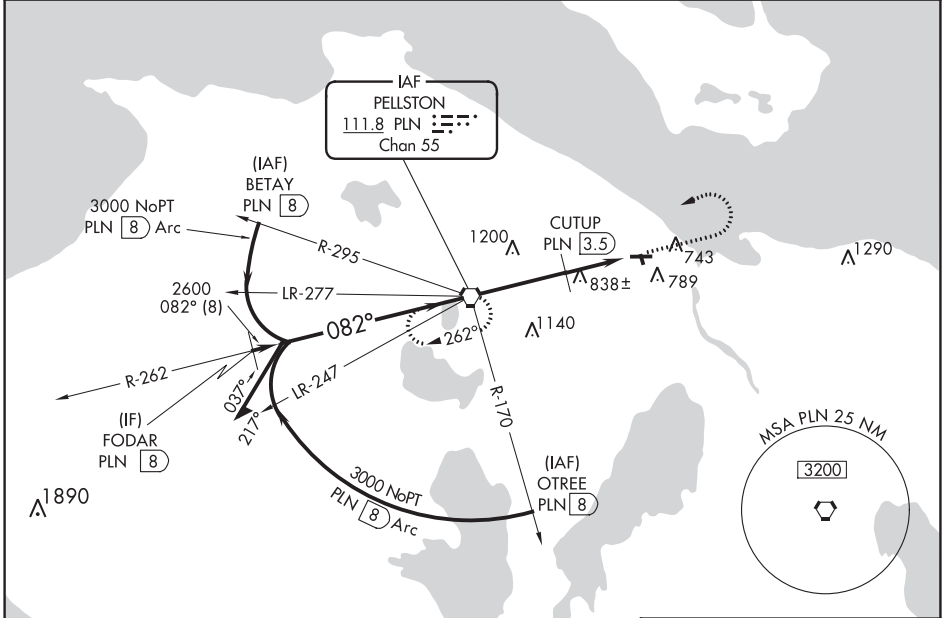
| | | | |
|--|------------------------|--|---|
| VORTAC PLN 111.8 Chan 55 | APP CRS 082° | Rwy Idg TDZE Apt Elev 640 | 4005 640 640 |
|--|------------------------|--|---|

VOR RWY 10
CHEBOYGAN COUNTY (SLH)

▼ Helicopter visibility reduction below 1 SM NA. Night landing Rwy 10, 17, 35 NA. When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 60 feet; increase S-10 Cat B visibility ¼ mile, S-10 Cat C visibility ½ mile, Circling Cat B visibility ¼ mile and Circling Cat C visibility ½ mile; increase CUTUP fix minimums S-10 Cat C visibility ½ mile.

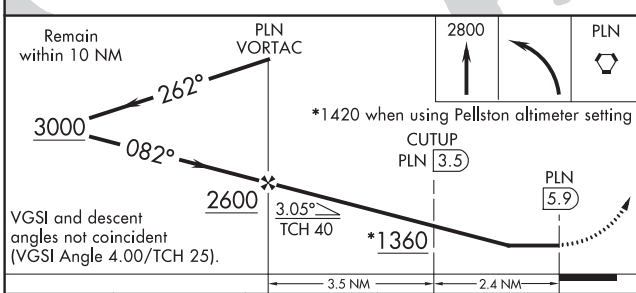
MISSED APPROACH:
Climb to 2800 then left turn direct PLN VORTAC and hold.

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

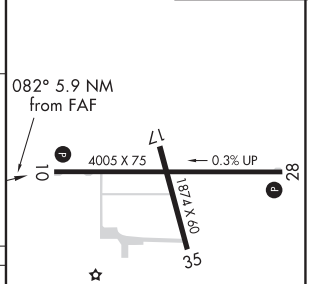


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|----------|----------|
| ELEV 640 | TDZE 640 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------------|--------|-------------|-------------------------------|----|
| S-10 | 1360-1 | 720 (800-1) | 1360-2 720 (800-2) | NA |
| CIRCLING | 1360-1 | 720 (800-1) | 1360-2 720 (800-2) | NA |
| CUTUP FIX MINIMUMS | | | | |
| S-10 | 1100-1 | 460 (500-1) | 1100-1 3/8 460 (500-1 3/8) | NA |
| CIRCLING | 1140-1 | 500 (500-1) | 1140-1 1/2 500 (500-1 1/2) | NA |

REIL Rwsy 10 and 28 0
MIRL Rwy 10-28 and 17-35 0

FAF to MAP 5.9 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:54 | 3:56 | 2:57 | 2:22 | 1:58 |

CLARE, MICHIGAN

AL-5491 (FAA)

15176

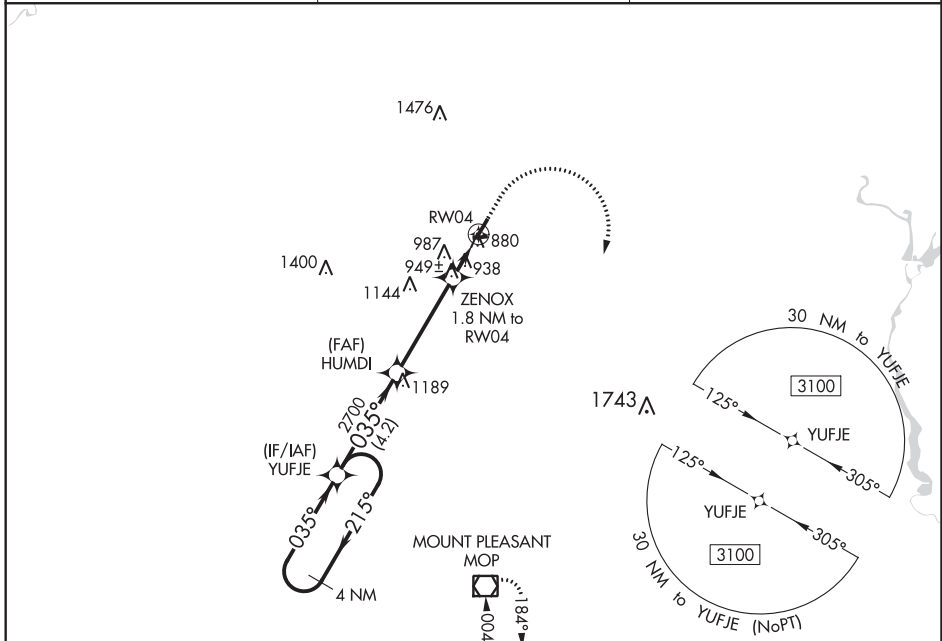
| | | |
|--|------------------------|---|
| WAAS CH 72734 W04A | APP CRS 035° | Rwy Idg 3500 TDZE 854 Apt Elev 856 |
|--|------------------------|---|

RNAV (GPS) RWY 4

CLARE MUNI (48D)

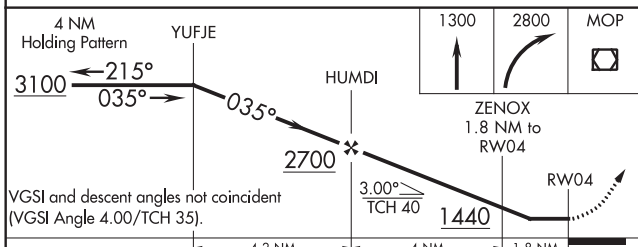
▽ DME/DME RNP-0.3 NA. Use Mount Pleasant altimeter setting; when not received, use Midland altimeter setting and increase all MDA 60 feet. Helicopter visibility reduction below ¼ SM NA. Circling to Rwy 9/27 NA at night.
△ NA MISSED APPROACH: Climb to 1300, then climbing right turn to 2800 direct MOP VOR/DME and hold.

| | | |
|---------------------------------------|--|-------------------------------|
| MOUNT PLEASANT AWOS-3 110.6 | SAGINAW APP CON * 126.45 235.625 | UNICOM 122.8 (CTAF) |
|---------------------------------------|--|-------------------------------|

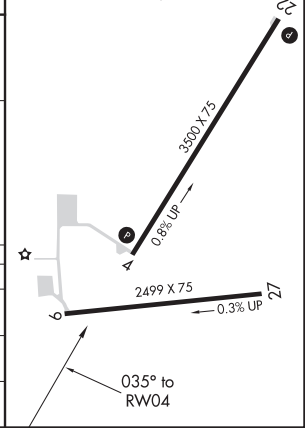


| | |
|-----------------|-----------------|
| ELEV 856 | TDZE 854 |
|-----------------|-----------------|

MIRL Rwy 4-22 and 9-27 **Ⓛ**
 REIL Rwy 4 and 22 **Ⓛ**



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|----|---|
| LP MDA | 1240-1 | 386 (400-1) | NA | |
| LNAV MDA | 1260-1 | 406 (500-1) | NA | |
| Ⓛ CIRCLING | 1380-1 524 (600-1) | 1420-1 564 (600-1) | NA | |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CLARE, MICHIGAN
 Orig-A 28MAY15

43°50'N-84°44'W

CLARE MUNI (48D) RNAV (GPS) RWY 4

COLDWATER, MICHIGAN

AL-5259 (FAA)

14261

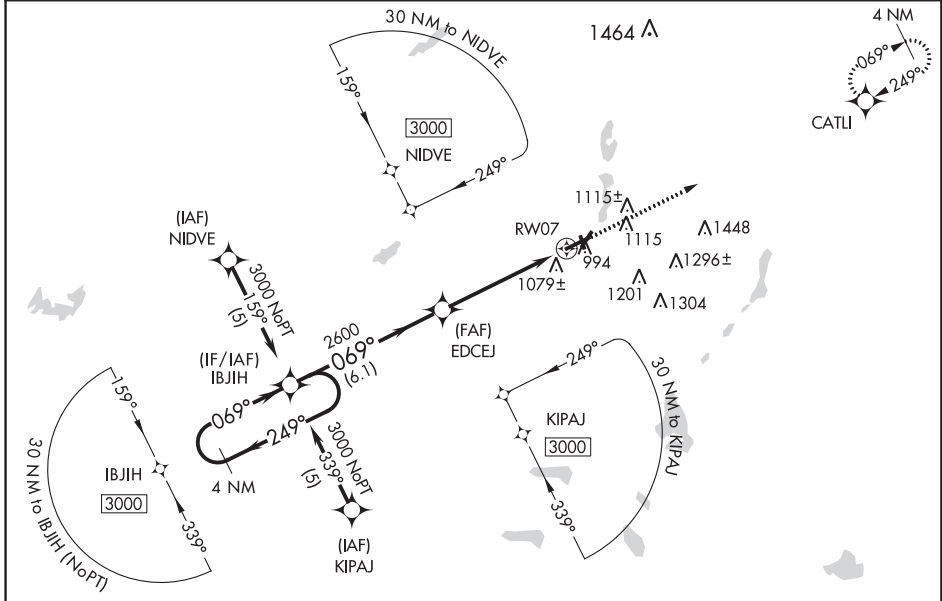
| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 56506 W07A | APP CRS 069° | Rwy Idg TDZE Apt Elev | 5350 959 959 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 7
BRANCH COUNTY MEMORIAL (O/E/B)

⚠ Baro-VNAV NA when using Sturgis altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
 ⚠ Visibility reduction by helicopters NA. Circling to Rwy 16-34 NA. When local altimeter setting not received, use Sturgis altimeter setting and increase all DAs 48 feet and LPV visibility ¼ mile all Cats and all MDAs 60 feet and LNAV Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 3000 direct CATLI and hold.

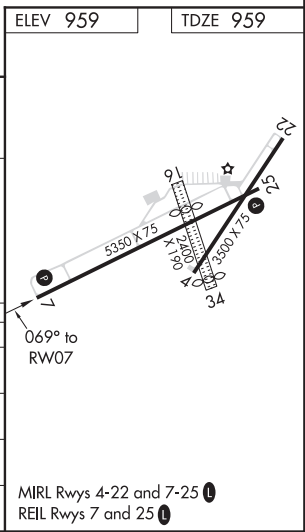
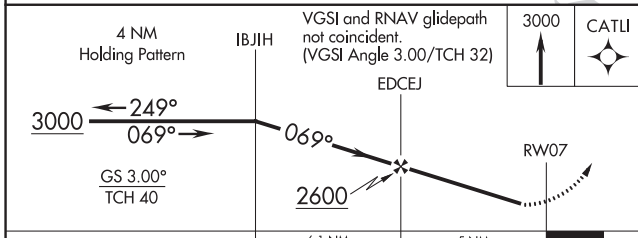
| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 118.125 | KALAMAZOO APP CON * 121.2 239.25 | UNICOM 122.7 (CTAF) 0 |
|--------------------------|--|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 959 | TDZE 959 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|---------|--------------|-------------------------|----|
| LPV DA | 1307-1¼ | 348 (400-1¼) | | NA |
| LNAV/VNAV DA | 1418-1¾ | 459 (500-1¾) | | NA |
| LNAV MDA | 1420-1 | 461 (500-1) | 1420-1¼ 461 (500-1¼) | NA |
| CIRCLING | 1420-1 | 461 (500-1) | 1480-1½ 521 (600-1½) | NA |

MIRR Rws 4-22 and 7-25 0
REIL Rws 7 and 25 0

COLDWATER, MICHIGAN
Amdt 1 08APR10

41°56'N-85°03'W

BRANCH COUNTY MEMORIAL (O/E/B)
RNAV (GPS) RWY 7

| | | |
|--|------------------------|---|
| WAAS CH 99606 W25A | APP CRS 249° | Rwy Idg 5350 TDZE 959 Apt Elev 959 |
|--|------------------------|---|

RNAV (GPS) RWY 25

BRANCH COUNTY MEMORIAL (O/E/B)

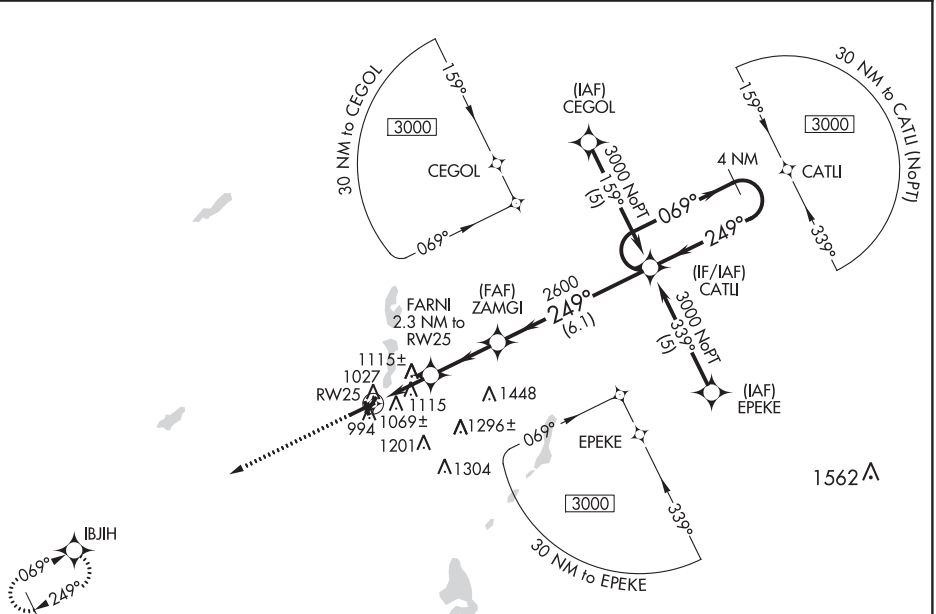
⚠ When local altimeter setting not received, use Sturgis altimeter setting and increase all DAs 48 feet and LPV visibility 1/4 mile all Cats and all MDAs 60 feet and LNAV Cat C visibility 1/4 mile.
⚠ Baro-VNAV NA when using Sturgis altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Circling to Rwy 16-34 NA.

MISSED APPROACH:
Climb to 3000 direct IBJH and hold.

AWOS-3
118.125

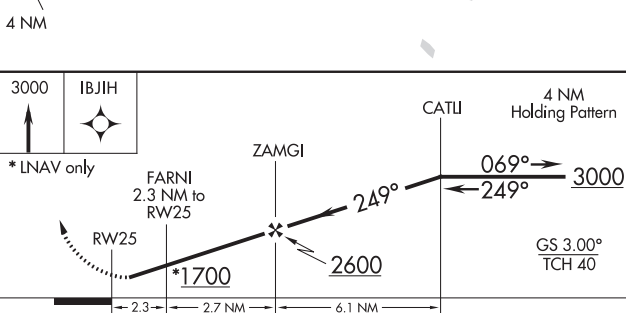
KALAMAZOO APP CON *
121.2 239.25

UNICOM
122.7 (CTAF) 0

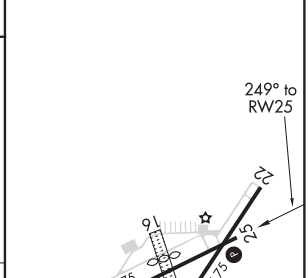


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|----------|----------|
| ELEV 959 | TDZE 959 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|---------|--------------|-------------------------|----|
| LPV DA | 1306-1¼ | 347 (400-1¼) | | NA |
| LNAV/VNAV DA | 1424-1¾ | 465 (500-1¾) | | NA |
| LNAV MDA | 1420-1 | 461 (500-1) | 1420-1¼ 461 (500-1¼) | NA |
| CIRCLING | 1420-1 | 461 (500-1) | 1480-1½ 521 (600-1½) | NA |

MIRL Rwy 4-22 and 7-25 0
REIL Rwy 7 and 25 0

COLDWATER, MICHIGAN

AL-5259 (FAA)

14261

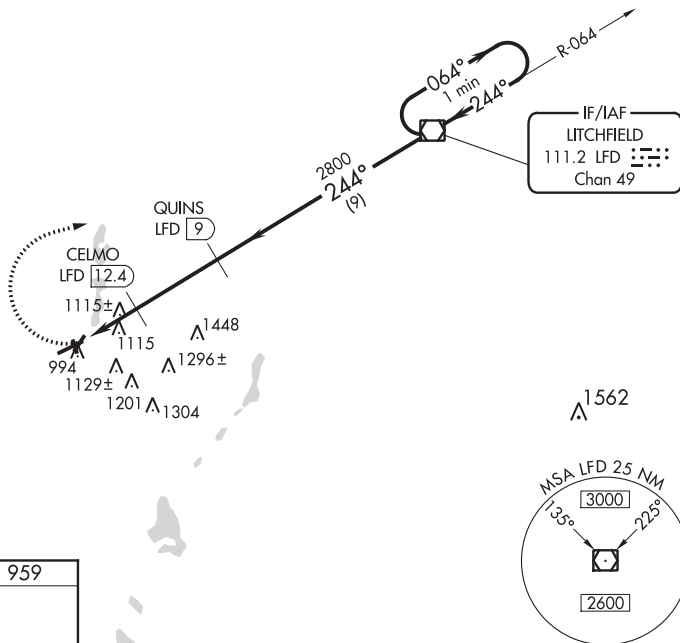
| | | |
|---|------------------------|---|
| VOR/DME LFD 111.2 Chan 49 | APP CRS 244° | Rwy Idg 5350 TDZE 959 Apt Elev 959 |
|---|------------------------|---|

VOR/DME RWY 25

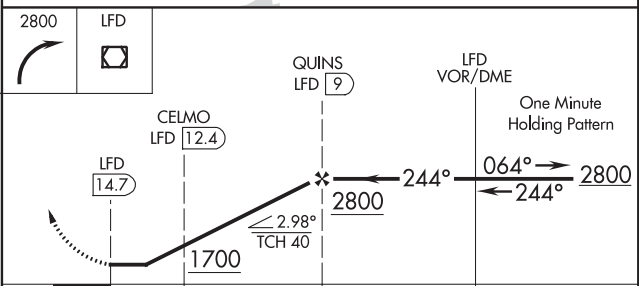
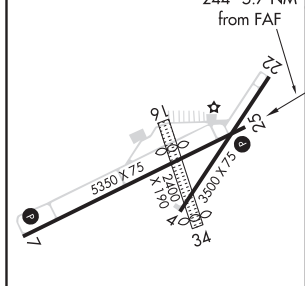
BRANCH COUNTY MEMORIAL (O.E.B)

| | | |
|--|--|---|
| <p>⚠ When local altimeter setting not received, use Sturgis altimeter setting and increase all MDAs 60 feet and S-25 Cat C visibility 1/4 mile. Circling to Rwy 16-34 NA. Visibility reduction by helicopters NA.</p> | <p>MISSED APPROACH: Climbing right turn to 2800 direct LFD VOR/DME and hold.</p> | |
| <p>AWOS-3 118,125</p> | <p>KALAMAZOO APP CON ★ 121.2 239,25</p> | <p>UNICOM 122.7 (CTAF) 0</p> |

NoPT for arrival on LFD VOR/DME
airway radials 009 CW 131.



| | |
|----------|----------|
| ELEV 959 | TDZE 959 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|----------|-------------|---------------------------------|----|
| S-25 | 1420 - 1 | 461 (500-1) | 1420 - 1 1/4 461 (500-1 1/4) | NA |
| CIRCLING | 1420 - 1 | 461 (500-1) | 1480 - 1 1/2 521 (600-1 1/2) | NA |

MIRL Rwy 4-22 and 7-25
REIL Rwy 7 and 25

COLDWATER, MICHIGAN
Orig 08APR10

BRANCH COUNTY MEMORIAL (O.E.B) VOR/DME RWY 25

41°56'N - 85°03'W

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|---|
| VOR/DME LFD 111.2 Chan 49 | APP CRS 064° | Rwy ldg 5350 TDZE 959 Apt Elev 959 |
|---|------------------------|---|

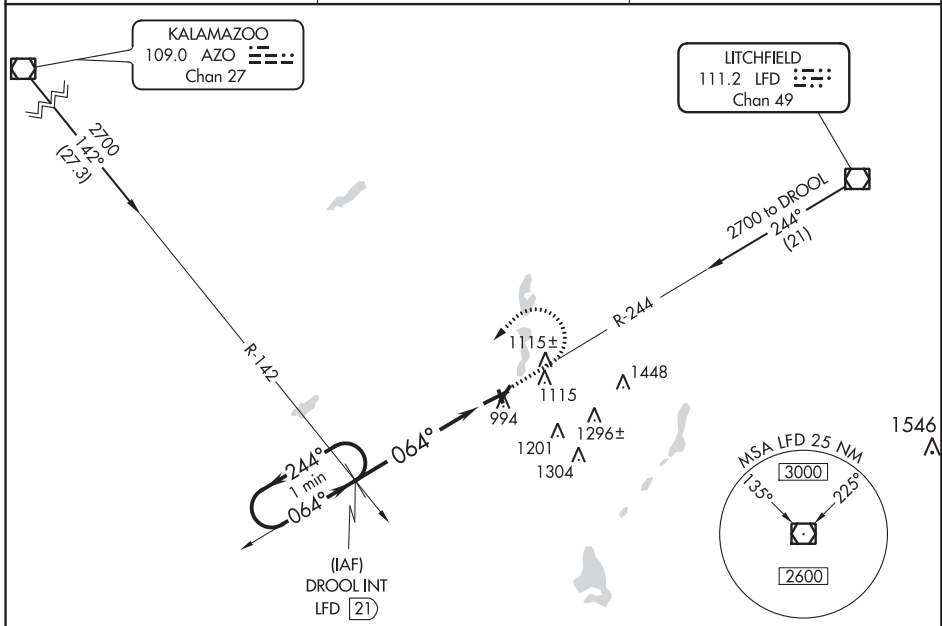
VOR RWY 7

BRANCH COUNTY MEMORIAL (O/E/B)

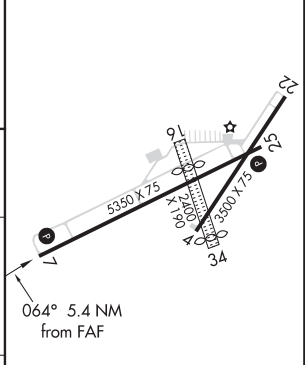
⚠ When local altimeter setting not received, use Sturgis altimeter setting and increase all MDAs 60 feet and S-7 Cat C visibility ¼ mile.
⚠ Circling to Rwy 16-34 NA. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 via heading 205° and LFD R-244 to DROOL INT/LFD 21 DME and hold.

| | | |
|--------------------------|--|--|
| AWOS-3 118,125 | KALAMAZOO APP CON * 121.2 239.25 | UNICOM 122.7 (CTAF) 📻 |
|--------------------------|--|--|



| | |
|----------|----------|
| ELEV 959 | TDZE 959 |
|----------|----------|



| | | | | |
|----------|--------|-------------|-------------------------|----|
| CATEGORY | A | B | C | D |
| | 1440-1 | 481 (500-1) | 1440-1¼ 481 (500-1¼) | NA |
| S-7 | 1440-1 | 481 (500-1) | 1480-1½ 521 (600-1½) | NA |
| CIRCLING | 1440-1 | 481 (500-1) | | |

MIRL Rwy 4-22 and 7-25 **📻**
 REIL Rwy 7 and 25 **📻**

FAF to MAP 5.4 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:24 | 3:36 | 2:42 | 2:10 | 1:48 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DAVISON, MICHIGAN

AL-6253 (FAA)

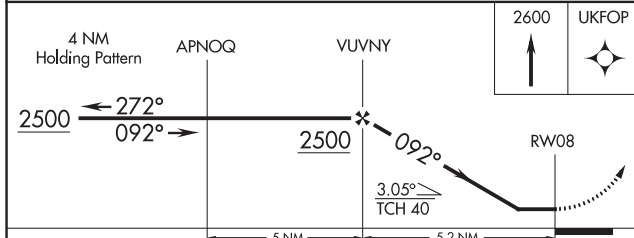
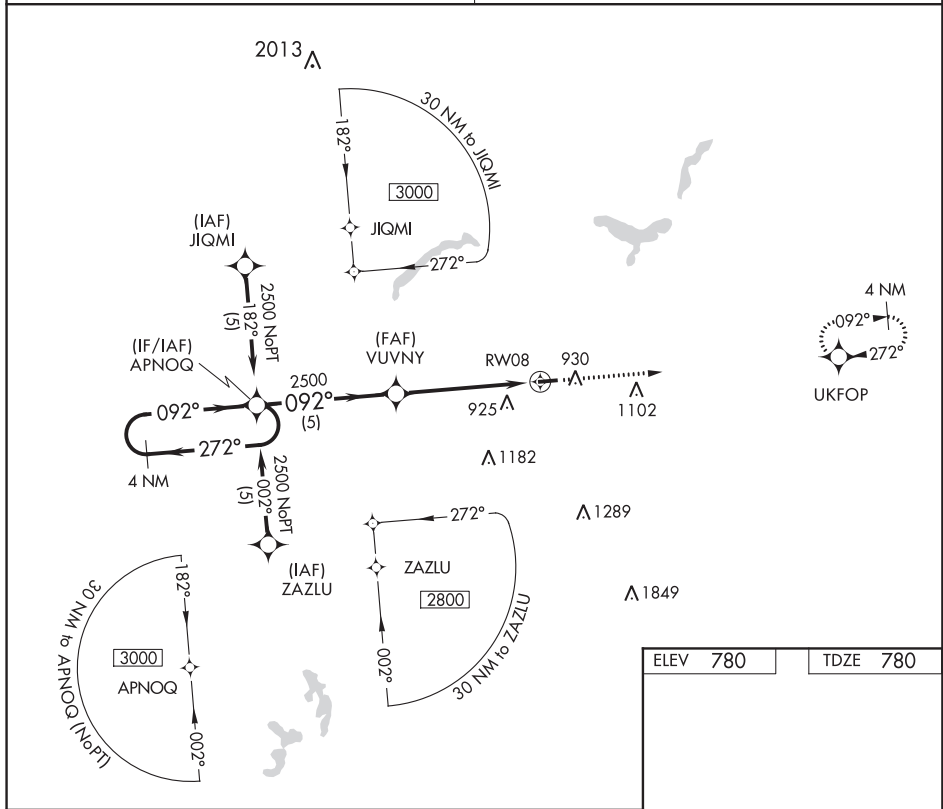
15120

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3299 |
| 092° | TDZE | 780 |
| | Apt Elev | 780 |

RNAV (GPS) RWY 8

ATHELONE WILLIAMS MEMORIAL (6GØ)

| | |
|---|--|
| <p>▼ Use Flint altimeter setting. ▲ NA DME/DME RNP-0.3 NA.</p> | <p>MISSED APPROACH: Climb to 2600 direct UKFOP WP and hold.</p> |
| <p>FLINT APP CON ★ 118.8 257.9</p> | <p>CTAF 122.9</p> |



| | | | |
|---------------|------------|------|------------|
| ELEV | 780 | TDZE | 780 |
| | | | |
| MIRL Rwy 8-26 | | | |

| CATEGORY | A | B | C | D |
|----------|---------|--------------|-------------------------|----|
| LNAV MDA | 1280-1 | 500 (500-1) | 1280-1¼ 500 (500-1¼) | NA |
| CIRCLING | 1340-1¼ | 560 (600-1¼) | 1340-1½ 560 (600-1½) | NA |

DAVISON, MICHIGAN
 Orig-A 03AUG06

43°02'N-83°32'W

ATHELONE WILLIAMS MEMORIAL (6GØ) RNAV (GPS) RWY 8

EC-1, 10 NOV 2016 to 05 JAN 2017

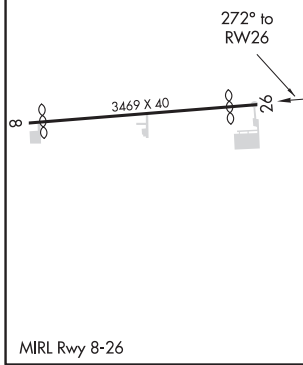
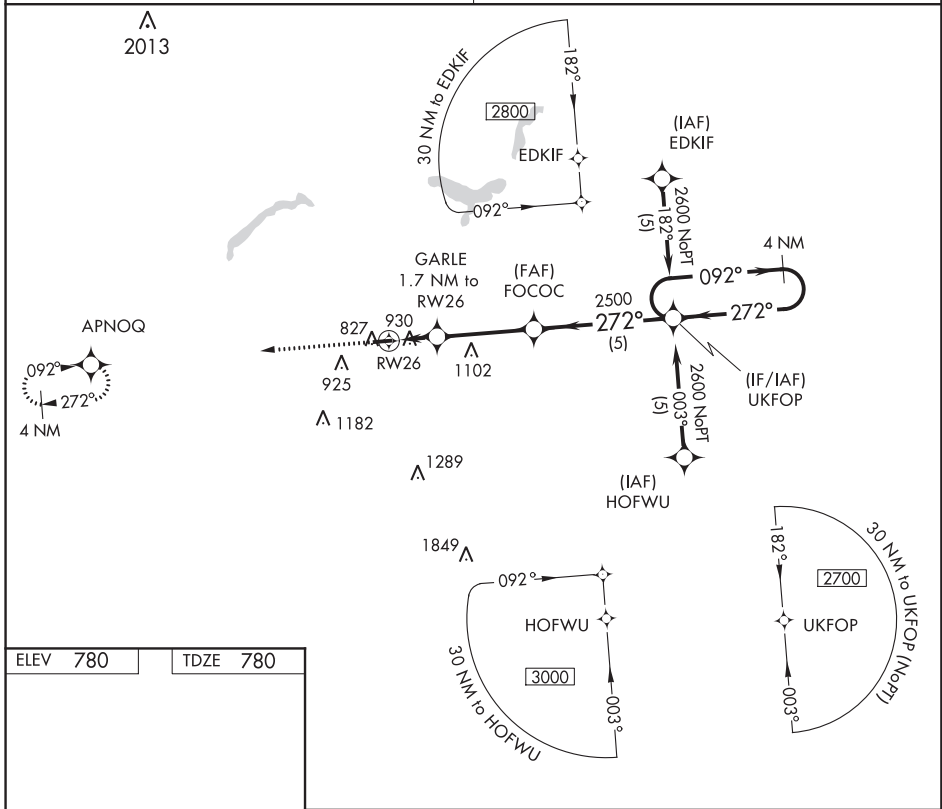
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|------------------------|-----------------------------|---|
| APP CRS 272° | Rwy Idg TDZE Apt Elev | 3101 780 780 |
|------------------------|-----------------------------|---|

RNAV (GPS) RWY 26

ATHELONE WILLIAMS MEMORIAL (6G0)

| | |
|--|---|
| <p>▼ Use Flint altimeter setting. ▲ NA DME/DME RNP-0.3 NA.</p> | <p>MISSED APPROACH: Climb to 2500 direct APNOQ WP and hold.</p> |
| <p>FLINT APP CON ★ 118.8 257.9</p> | <p>CTAF 122.9</p> |



| CATEGORY | A | B | C | D |
|----------|---------|--------------|-------------------------|----|
| RNAV MDA | 1280-1 | 500 (500-1) | 1280-1¼ 500 (500-1¼) | NA |
| CIRCLING | 1340-1¼ | 560 (600-1¼) | 1340-1½ 560 (600-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DAVISON, MICHIGAN

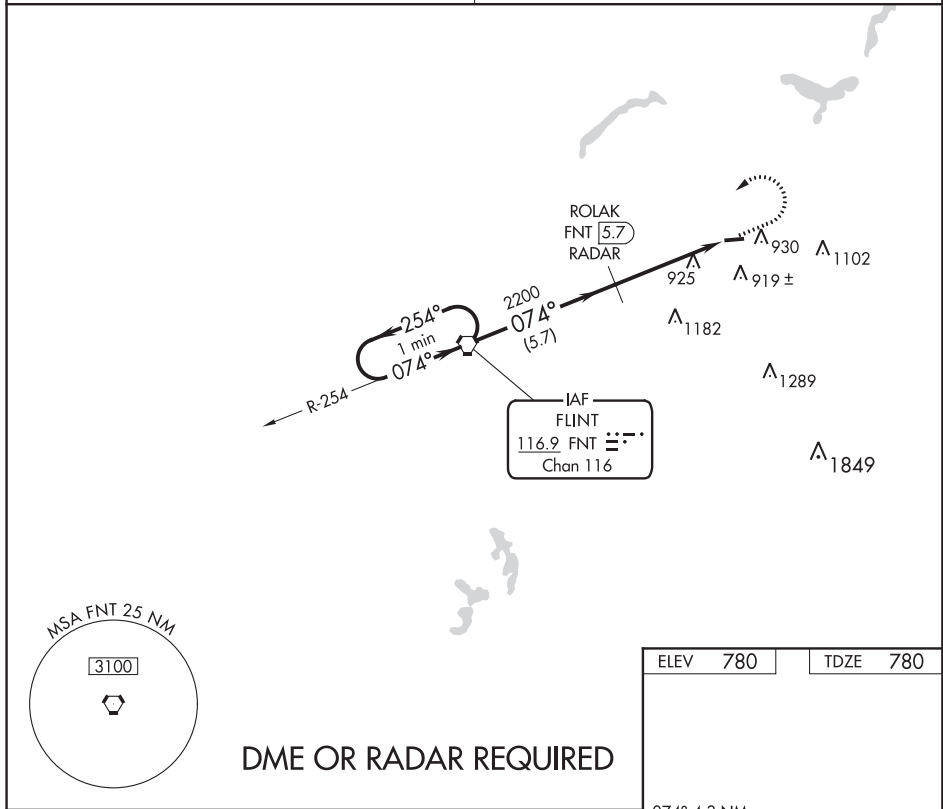
AL-6253 (FAA)

16175

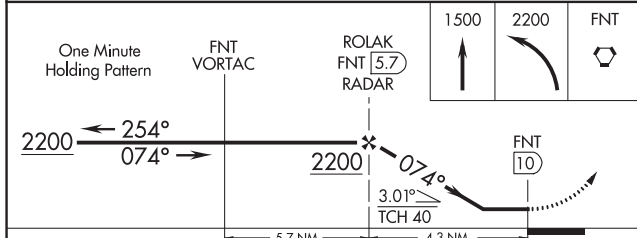
| | | |
|---|------------------------|---|
| VORTAC FNT 116.9 Chan 116 | APP CRS 074° | Rwy Idg 3299 TDZE 780 Apt Elev 780 |
|---|------------------------|---|

VOR RWY 8
ATHELONE WILLIAMS MEMORIAL (6GØ)

| | |
|--|--|
| <p>▼ Use Flint altimeter setting. Helicopter visibility reduction below 1 SM NA. Night Landing: Rwy 08 NA.</p> <p>▲ NA</p> | <p>MISSED APPROACH: Climb to 1500, then climbing left turn to 2200 direct FNT VORTAC and hold.</p> |
| <p>FLINT APP CON ★ 118.8 257.9</p> | <p>CTAF 122.9</p> |



DME OR RADAR REQUIRED



| | | | |
|-------------------|------|------|------|
| ELEV | 780 | TDZE | 780 |
| | | | |
| MIRL Rwy 8-26 | | | |
| FAF to MAP 4.3 NM | | | |
| Knots | 60 | 90 | 120 |
| Min:Sec | 4:18 | 2:52 | 2:09 |
| | 150 | 180 | 1:26 |

| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|----|
| S-8 | 1280-1 | 500 (500-1) | 1280-1¼ 500 (500-1¼) | NA |
| CIRCLING | 1340-1 | 560 (600-1) | 1340-1½ 560 (600-1½) | NA |

DAVISON, MICHIGAN
Orig-D 23JUN16

43°02'N-83°32'W

ATHELONE WILLIAMS MEMORIAL (6GØ)
VOR RWY 8

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---------------------------|------------------------|-----------------------------|---|
| LOC I-VQM 111.3 | APP CRS 328° | Rwy Idg TDZE Apt Elev | 5090 626 626 |
|---------------------------|------------------------|-----------------------------|---|

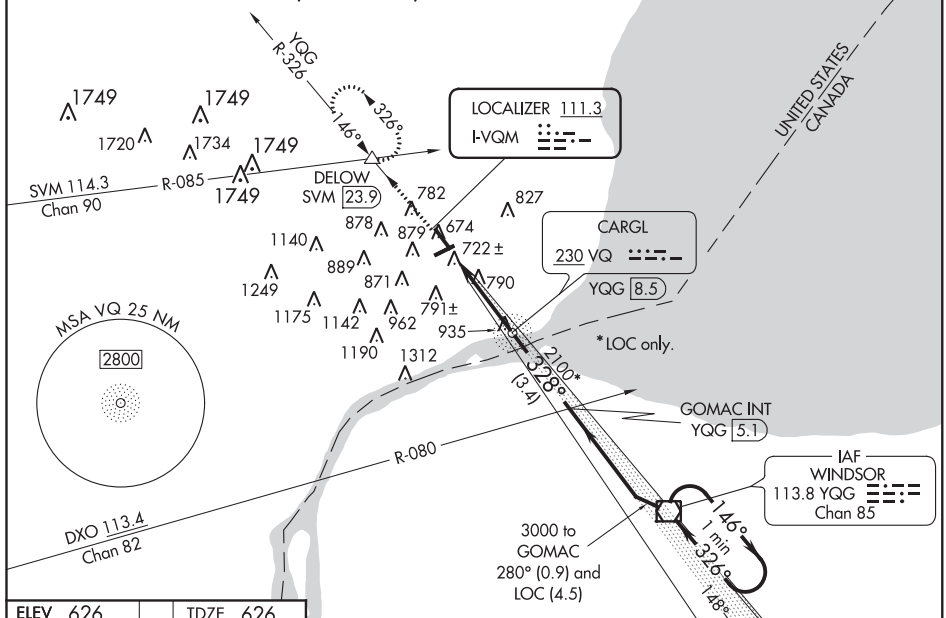
ILS or LOC RWY 33

COLEMAN A YOUNG MUNI (D/E/T)

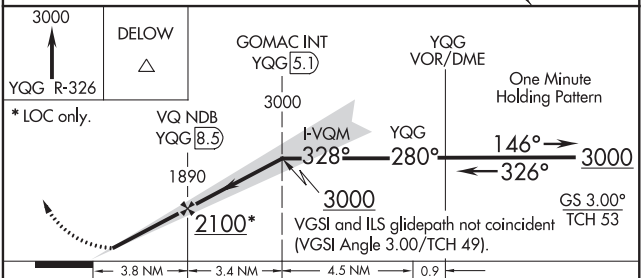
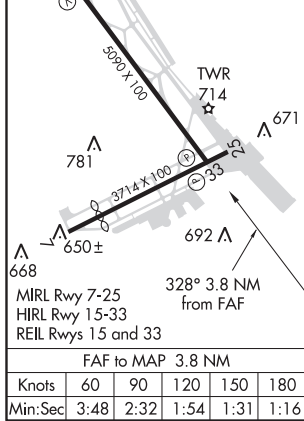
| | |
|--|---|
| ▼ Night Landing: Rwy 7, 25 NA. ▲ Helicopter visibility reduction below ¾ SM NA. | MISSED APPROACH: Climb to 3000 via YQG R-326 to DELOW Int and hold. |
|--|---|

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

ADF, RADAR, or DME REQUIRED



| | |
|----------|----------|
| ELEV 626 | TDZE 626 |
|----------|----------|



| | | | | |
|----------|-------------------|-------------|---------|-----------------------|
| CATEGORY | A | B | C | D |
| S-ILS 33 | 876-1 250 (300-1) | | | |
| S-LOC 33 | 1200-1 | 574 (600-1) | 1200-1½ | 574 (600-1½) |
| CIRCLING | 1260-1 | 634 (700-1) | 1260-1¾ | 1260-2 634 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 63211 W15A | APP CRS 148° | Rwy Idg TDZE Apt Elev | 5090 624 626 |
|--|------------------------|-----------------------------|---|

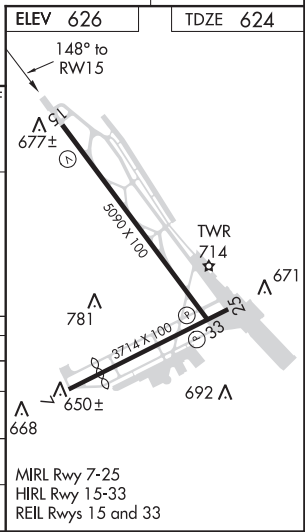
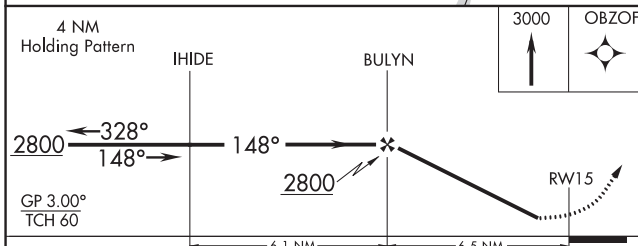
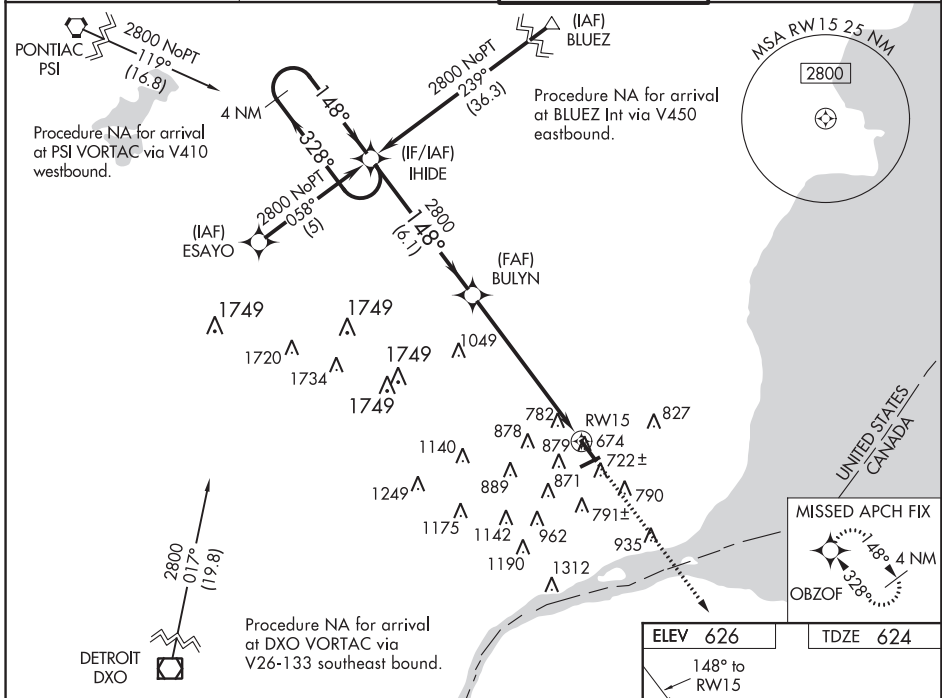
RNAV (GPS) RWY 15

COLEMAN A YOUNG MUNI (DET)

⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 48°C (118°F). Helicopter visibility reduction below ¾ SM 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 visibility LPV all Cats, LNAV/VNAV all Cats, and Circling Cat C ¼ mile. DME/DME RNP-0.3 NA. Night Landing: Rwy 25 NA.

MISSED APPROACH: Climb to 3000 direct OBZOF and hold.

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



| CATEGORY | A | B | C | D |
|--------------|--------------------|---------|----------------------|----------------------|
| LPV DA | | 927-1 | 303 (400-1) | |
| LNAV/VNAV DA | | 1079-1½ | 455 (500-1½) | |
| LNAV MDA | 1180-1 556 (600-1) | | 1180-1½ 556 (600-1½) | 1180-1¾ 556 (600-1¾) |
| CIRCLING | 1180-1 554 (600-1) | | 1180-1½ 554 (600-1½) | 1200-2 574 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 58211 W33A | APP CRS 328° | Rwy Idg TDZE Apt Elev | 5090 626 626 |
|--|------------------------|-----------------------------|---|

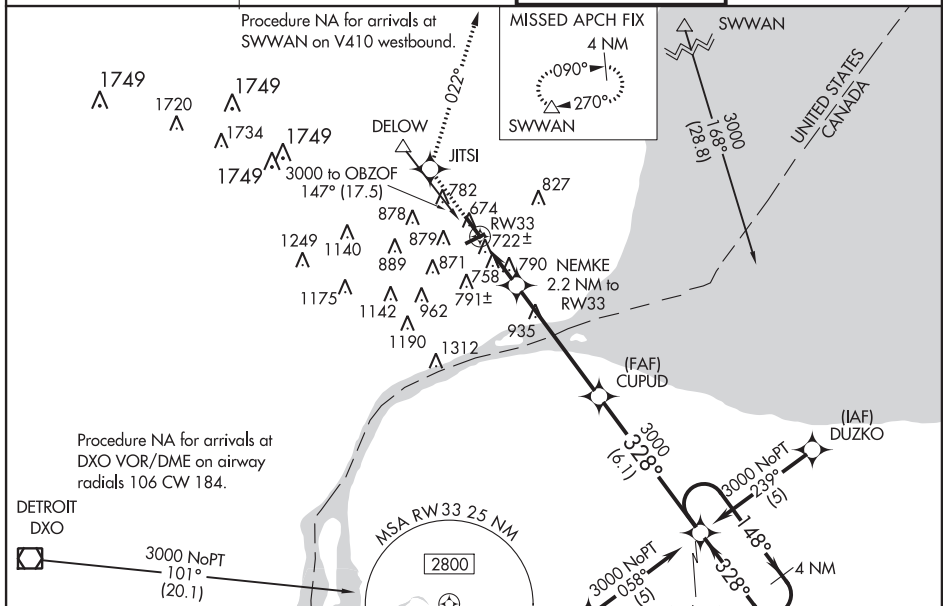
RNAV (GPS) RWY 33

COLEMAN A YOUNG MUNI (D/E/T)

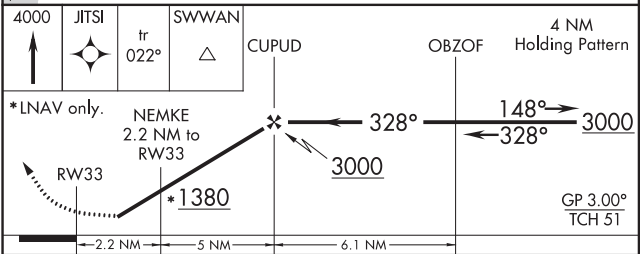
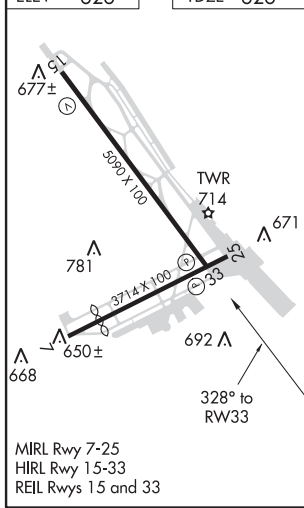
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 48°C (118°F). Helicopter visibility reduction below ¼ SM NA. When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase all DA 48 feet and all MDA 60 feet; increase visibility LPV all Cats, LNAV Cat C and D and Circling Cat C ¼ mile. DME/DME RNP-0.3 NA. Night Landing: Rwy 25 NA.

MISSED APPROACH: Climb to 4000 direct JITS1 and via 022° track to SWWAN and hold.

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



| | |
|----------|----------|
| ELEV 626 | TDZE 626 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|----------------------|----------------------|----------------------|----------------------|
| LPV DA | 936-1 310 (400-1) | | | |
| LNAV/VNAV DA | 1039-1½ 413 (500-1½) | | | |
| LNAV MDA | 1100-1 474 (500-1) | 1100-1¼ 474 (500-1¼) | 1100-1½ 474 (500-1½) | 1100-1½ 474 (500-1½) |
| CIRCLING | 1180-1 554 (600-1) | 1180-1½ 554 (600-1½) | 1200-2 574 (600-2) | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

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

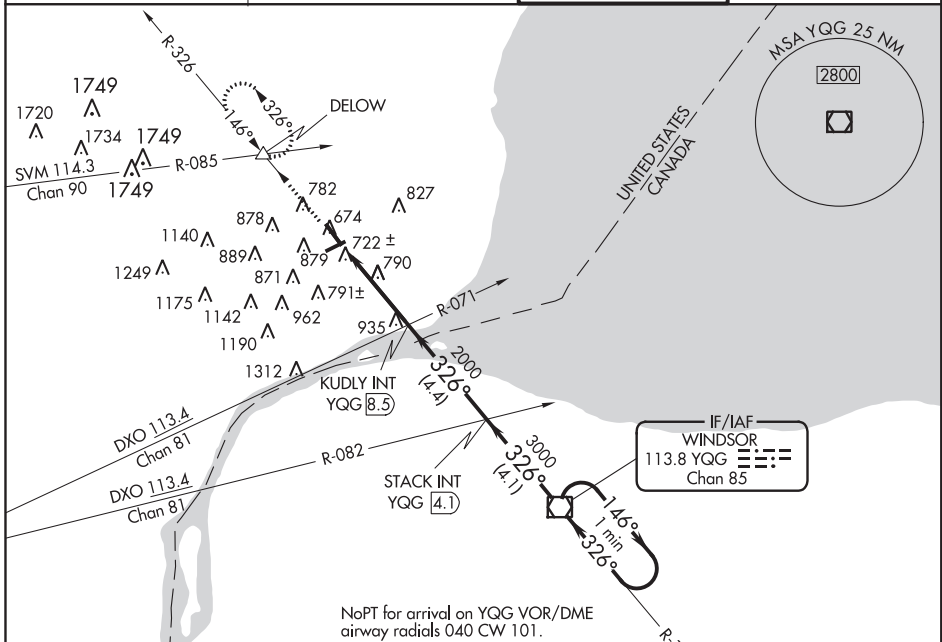
VOR RWY 33

COLEMAN A YOUNG MUNI (D/E/T)

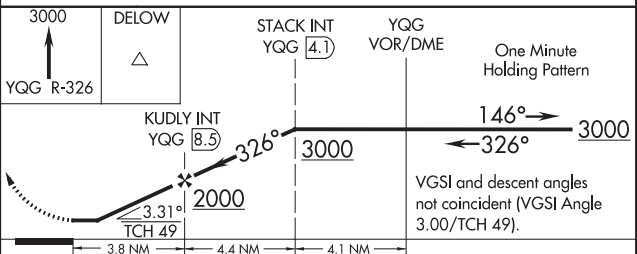
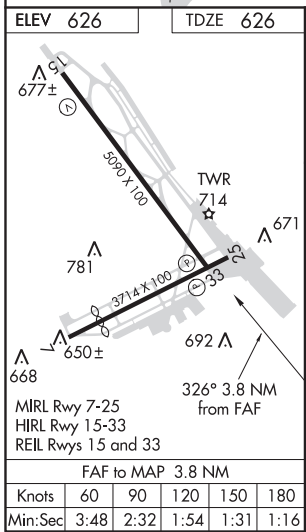
⚠ Helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Detroit Metro Wayne County altimeter setting and increase all MDA 60 feet and increase Cat C and D visibility 1/4 mile. Night Landing: Rwy 25 NA.

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

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



NoPT for arrival on YQG VOR/DME airway radials 040 CW 101.



| CATEGORY | A | B | C | D |
|----------|--------------------|---|------------------------|--------------------|
| S-33 | 1240-1 614 (700-1) | | 1240-1 614 (700-1 3/4) | 1240-2 614 (700-2) |
| CIRCLING | 1240-1 614 (700-1) | | 1240-1 614 (700-1 3/4) | 1240-2 614 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-118 (FAA)

15148

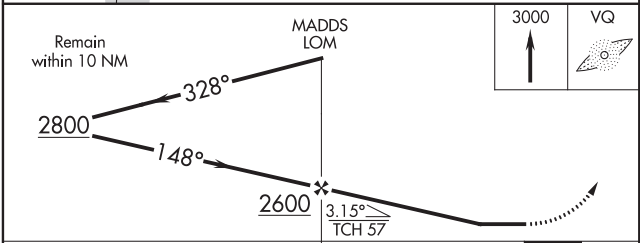
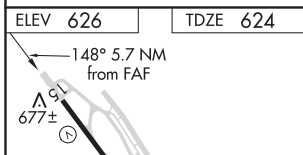
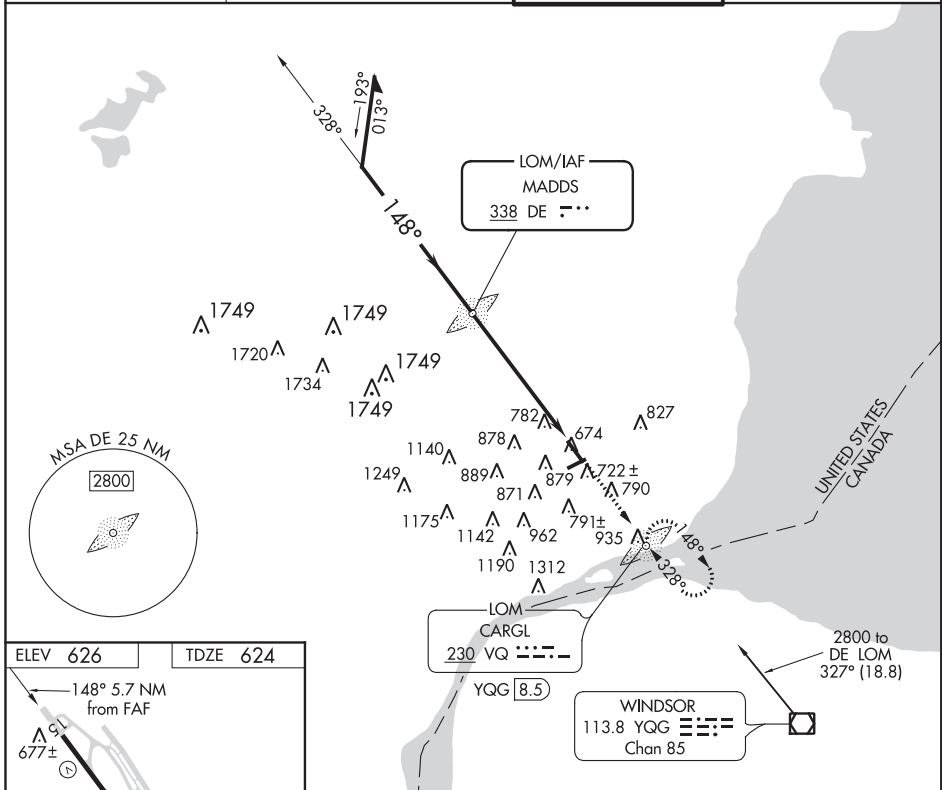
| | | | |
|----------------------|------------------------|-----------------------------|---|
| LOM DE 338 | APP CRS 148° | Rwy ldg TDZE Apt Elev | 5090 624 626 |
|----------------------|------------------------|-----------------------------|---|

NDB RWY 15
COLEMAN A YOUNG MUNI (DET)

⚠ Night Landing: Rwy 25 NA. Helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Detroit Metro Wayne County altimeter setting and increase all MDA 60 feet and increase S-15 Cat C and D visibility 1/4 mile, and Circling Cat C 1/4 mile.

MISSED APPROACH: Climb to 3000 direct VQ LOM/YQG 8.5 DME and hold, continue climb in hold to 3000.

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



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------|----------------------|
| S-15 | 1220-1 596 (600-1) | | 1220-1½ 596 (600-1½) | 1220-1¾ 596 (600-1¾) |
| CIRCLING | 1220-1 594 (600-1) | | 1220-1½ 594 (600-1½) | 1220-2 594 (600-2) |

DETROIT, MICHIGAN
Amdt 23A 28MAY15

42°25'N-83°01'W

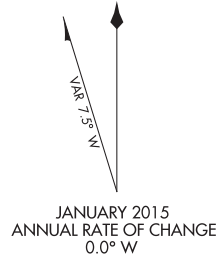
COLEMAN A YOUNG MUNI (DET)
NDB RWY 15

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

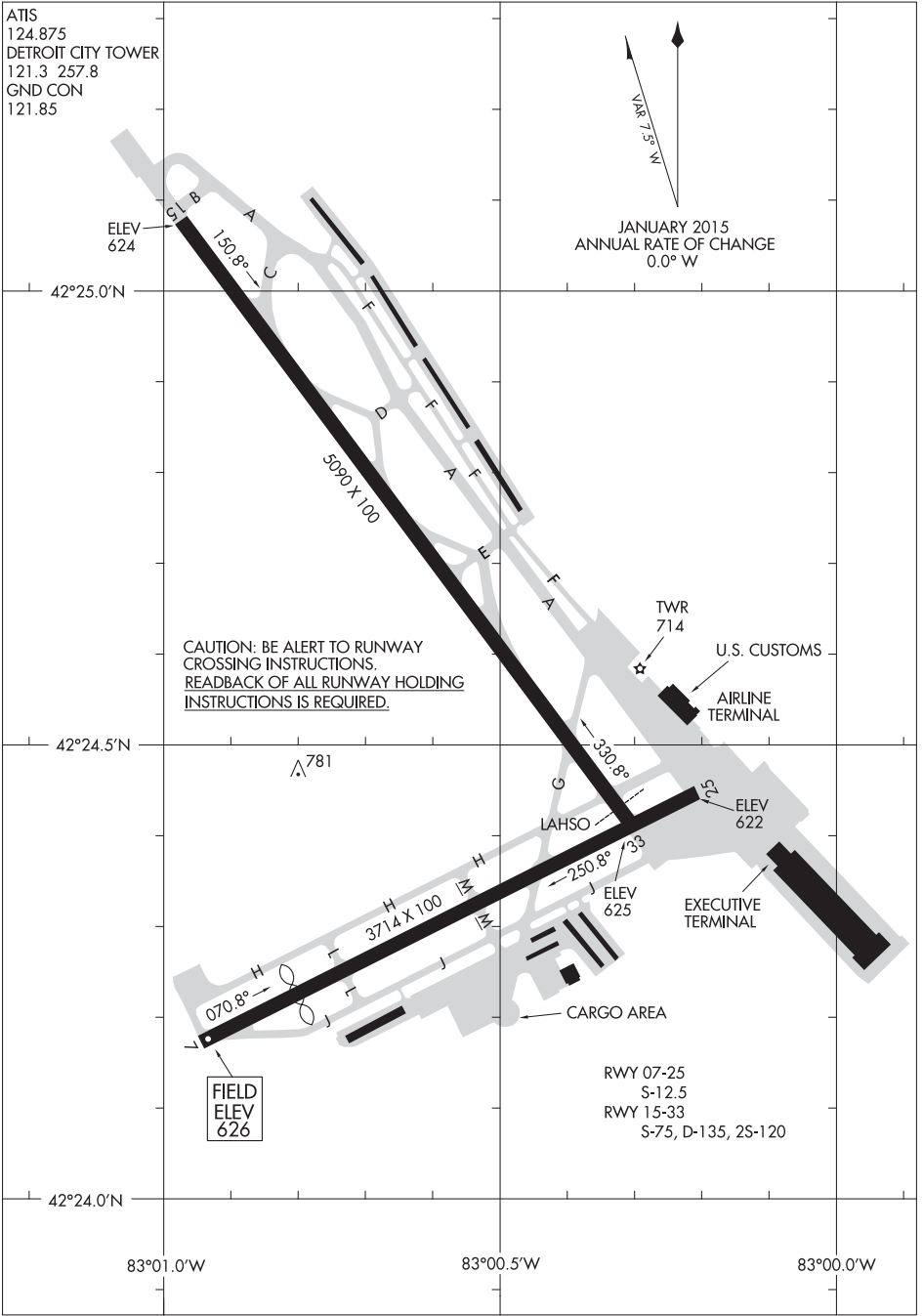
15064
AIRPORT DIAGRAM
 AL-118 (FAA)
COLEMAN A YOUNG MUNI (DET)
 DETROIT, MICHIGAN

ATIS
 124.875
 DETROIT CITY TOWER
 121.3 257.8
 GND CON
 121.85



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



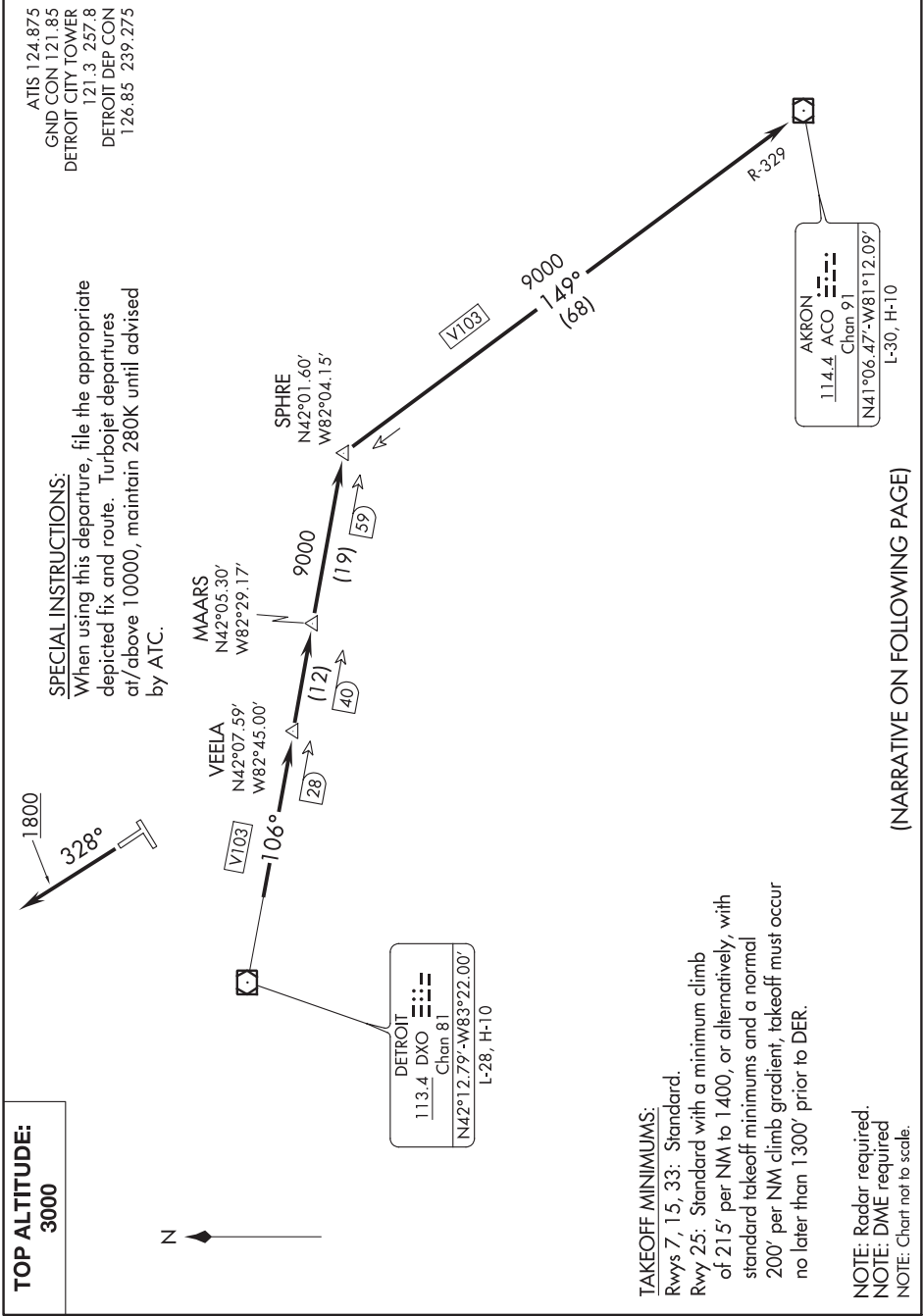
AIRPORT DIAGRAM
 15064
 DETROIT, MICHIGAN
COLEMAN A YOUNG MUNI (DET)

AKRON FIVE DEPARTURE

SL-118 (FAA)

COLEMAN A YOUNG MUNI (DET)
DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017





DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 33: Climb heading 328° to 1800 before turning.
Expect radar vectors, thence. . . .

TAKEOFF ALL OTHER RUNWAYS: Climb on assigned heading for radar
vectors, thence. . . .

...to intercept DXO VOR/DME R-106 to SPHRE INT, then on ACO R-329
to ACO VOR/DME. Maintain 3000', expect clearance to filed altitude/flight
level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

Rwy 7: Multiple poles, lights and trees stack and antenna beginning 132' from DER,
from 405' left to 314' right of centerline, up to 60' AGL/687' MSL.

Rwy 15: Trees, antenna on building and OB light on building beginning 299' from DER,
289' right of centerline, up to 68' AGL/692' MSL.

Trees and rod, antenna, pipe and floodlight on buildings, beginning 450' from
DER, 221' left of centerline, up to 78' AGL/692' MSL.

Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL.

Building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL.

Rwy 25: Railroad, obstruction lights on buildings and stacks, trees and stack beginning
1' from DER, 12' left of centerline, up to 76' AGL/703' MSL.

Trees and light beginning 334' from DER, 132' right of centerline, up to
58' AGL/685' MSL.

Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL.

Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL.

Rwy 33: Trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL.

Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL.

Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

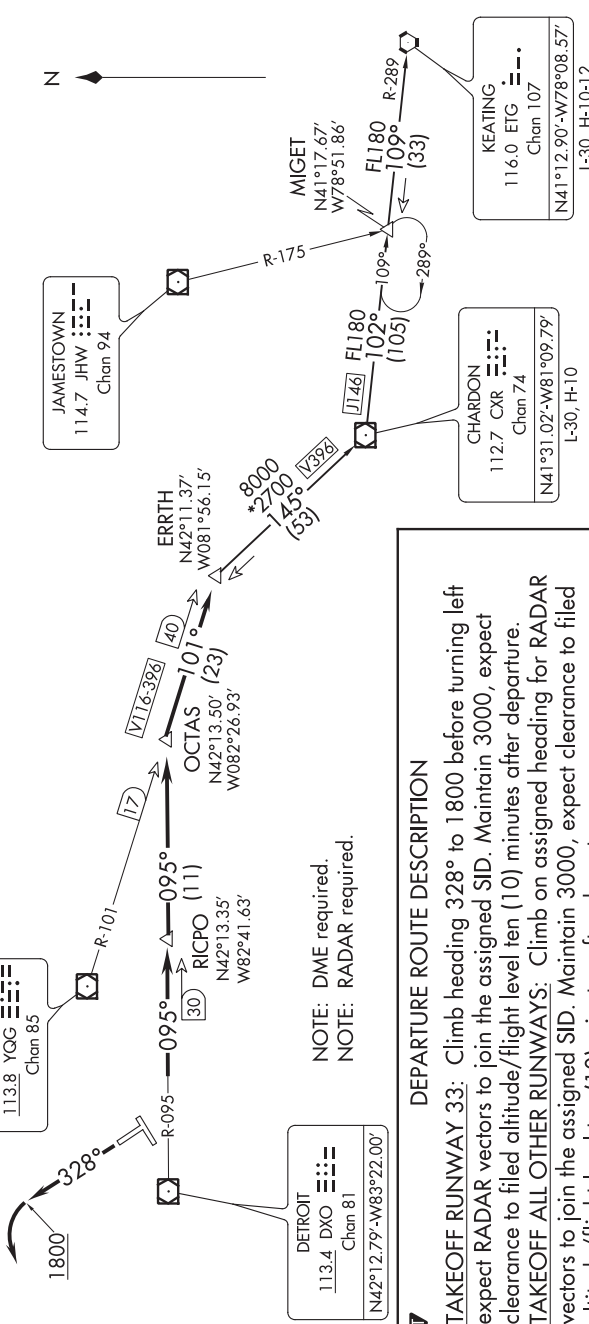
ERRTH SIX DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

TOP ALTITUDE:
3000

SPECIAL INSTRUCTIONS:
Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
Rwys 7, 15, 33: Standard.
Rwy 25: Standard with a minimum climb of 215' per NM to 1400, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.



NOTE: DME required.
NOTE: RADAR required.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 33: Climb heading 328° to 1800 before turning left expect RADAR vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure. **TAKEOFF ALL OTHER RUNWAYS:** Climb on assigned heading for RADAR vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

KEATING TRANSITION (ERRTH6.ETG): From over ERRTH to CXR VOR/DME, then on CXR R-102 and ETG R-289 to MIDGET, then on ETG R-289 to VORTAC.

CHARDON TRANSITION (ERRTH6.CXR): From over ERRTH to CXR VOR/DME.

(NOTES CONTINUED ON FOLLOWING PAGE)

NOTE: Chart not to scale.

EC-1, 10 NOV 2016 to 05 JAN 2017

TAKEOFF OBSTACLES:

- Rwy 7: Multiple poles, lights and trees, stack and antenna beginning 132' from DER, from 405' left to 314' right of centerline, up to 60' AGL/687' MSL.
- Rwy 15: Trees, antenna on building, and obstruction light on building beginning 299' from DER, 289' right of centerline, up to 68' AGL/692' MSL.
Trees and rod, antenna, pipe and floodlight on buildings, beginning 450' from DER, 221' left of centerline, up to 78' AGL/692' MSL.
Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL.
Building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL.
- Rwy 25: Railroad, obstruction lights on buildings and stacks, trees and stack beginning 1' from DER, 12' left of centerline, up to 76' AGL/703' MSL.
Trees and light beginning 334' from DER, 132' right of centerline, up to 58' AGL/685' MSL. Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL.
Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL.
- Rwy 33: Trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL.
Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL.
Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FORT WAYNE SIX DEPARTURE

COLEMAN A YOUNG MUNI (D'E'T)
DETROIT, MICHIGAN

SL-118 (FAA)

**TOP ALTITUDE:
3000**

ATIS 124.875
GND CON 121.85
DETROIT CITY TOWER
121.3 257.8
DETROIT DEP CON
126.85 239.275

SPECIAL INSTRUCTIONS:

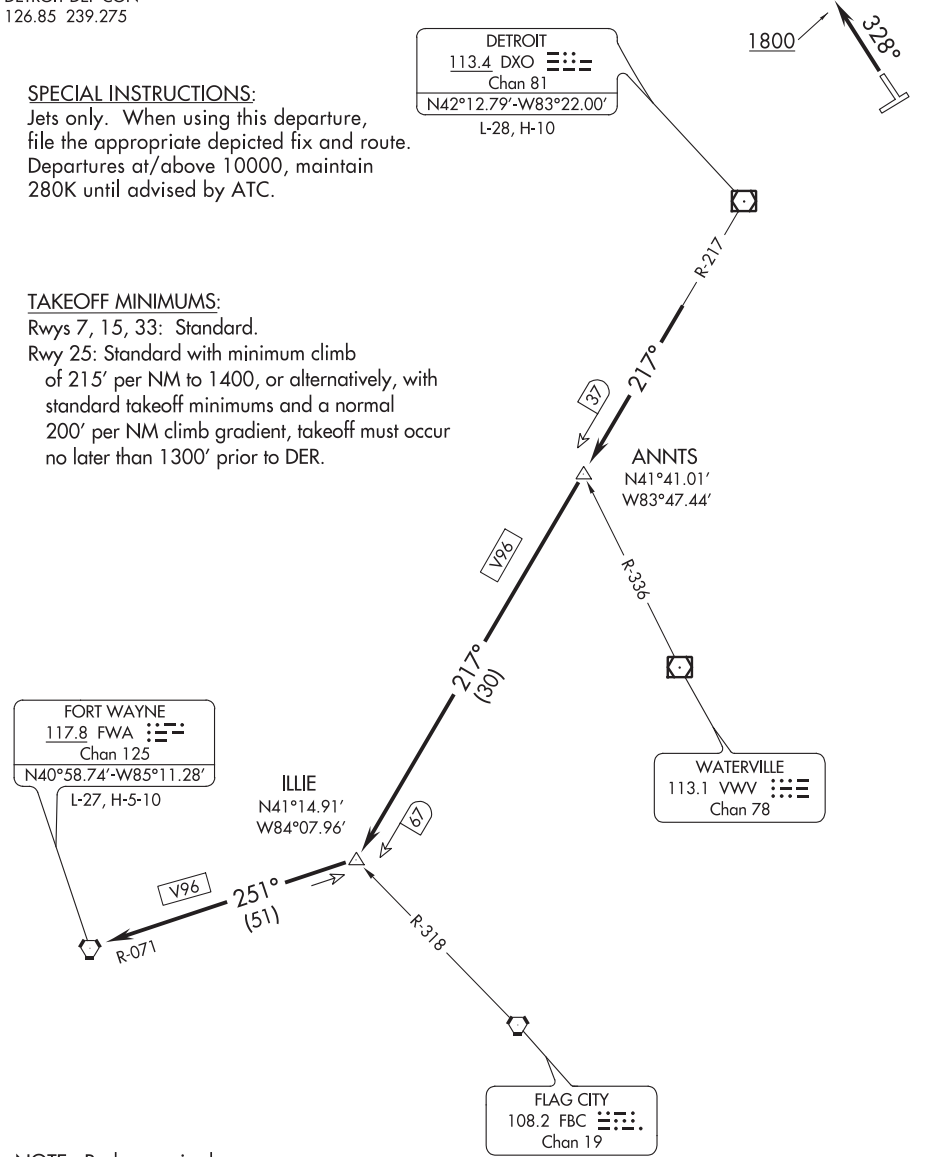
Jets only. When using this departure, file the appropriate depicted fix and route. Departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwys 7, 15, 33: Standard.
Rwy 25: Standard with minimum climb of 215' per NM to 1400, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



NOTE: Radar required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

FORT WAYNE SIX DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 33: Climb heading 328° to 1800 before turning, expect radar vectors, thence....

TAKEOFF ALL OTHER RUNWAYS: Climb on assigned heading for radar vectors, thence....

....to intercept DXO VOR/DME R-217 to ILLIE INT, then on FWA R-071 to FWA VORTAC. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

Rwy 7: Multiple poles, lights and trees, stack and antenna beginning 132' from DER, from 405' left to 314' right of centerline, up to 60' AGL/687' MSL.

Rwy 15: Trees, antenna on building and OB light on building beginning 299' from DER, 289' right of centerline, up to 68' AGL/692' MSL.

Trees and rod, antenna, pipe and floodlight on buildings, beginning 450' from DER, 221' left of centerline, up to 78' AGL/692' MSL.

Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL.

Building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL.

Rwy 25: Railroad, obstruction lights on buildings and stacks, trees and stack beginning 1' from DER, 12' left of centerline, up to 76' AGL/703' MSL.

Trees and light beginning 334' from DER, 132' right of centerline, up to 58' AGL/685' MSL.

Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL.

Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL.

Rwy 33: Trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL.

Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL.

Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MOONN SEVEN DEPARTURE

SL-118 (FAA)

DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT DEP CON
126.85 239.275
ATIS 124.875
GND CON 121.85
DETROIT CITY TOWER
121.3 257.8

TAKEOFF MINIMUMS:

Rwys 7, 15, 33: Standard.
Rwy 25: Standard with a minimum climb of 215' per NM to 1400, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

TOP ALTITUDE:
3000

SALEM
114.3 SVM
Chan 90

LONDON
117.2 YXU
Chan 119
N43°02.27'
W81°08.94'
L-30-31, H-10-11

DUNKIRK
116.2 DKK
Chan 109
N42°29.43'
W79°16.45'
L-30, H-10

MOONN
N42°22.16'
W82°27.12'
9000
*2300
095° (39)

WEPIL
N42°20.22'
W82°38.69'

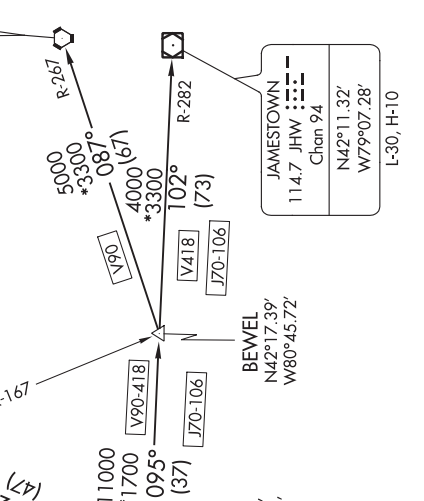
PUIRE
N42°17.78'
W82°53.15'

DETROIT
113.4 DXO
Chan 81
N42°12.79'-W83°22.00'
L-28, H-10

BROKK
N42°19.88'
W81°34.92'

BEWEL
N42°17.39'
W80°45.72'

JAMESTOWN
114.7 JHW
Chan 94
N42°11.32'
W79°07.28'
L-30, H-10



SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted fix and route. Turboprop departures at /above 10000, maintain 280K until advised by ATIS. LONDON TRANSITION for use by Props only. DUNKIRK TRANSITION for use FL270 and below.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Radar required.
NOTE: DME required.
NOTE: Chart not to scale.

MOONN SEVEN DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 33: Climb heading 328° to 1800 before turning, expect radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF ALL OTHER RUNWAYS: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

DUNKIRK TRANSITION (MOONN7.DKK): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on DKK R-267 to DKK VORTAC.

JAMESTOWN TRANSITION (MOONN7.JHW): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on JHW R-282 to JHW VOR/DME.

LONDON TRANSITION (MOONN7.YXU): From over MOONN on SVM R-095 to BROKK, then on YXU R-212 to YXU VOR/DME.

TAKEOFF OBSTACLES:

Rwy 7: Multiple poles, lights and trees stack and antenna beginning 132' from DER, from 405' left to 314' right of centerline, up to 60' AGL/687' MSL.

Rwy 15: Trees, antenna on building and OB light on building beginning 299' from DER, 289' right of centerline, up to 68' AGL/692' MSL.

Trees and rod, antenna, pipe and floodlight on buildings, beginning 450' from DER, 221' left of centerline, up to 78' AGL/692' MSL.

Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL.

Building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL.

Rwy 25: Railroad, obstruction lights on buildings and stacks, trees and stack beginning 1' from DER, 12' left of centerline, up to 76' AGL/703' MSL.

Trees and light beginning 334' from DER, 132' right of centerline, up to 58' AGL/685' MSL.

Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL.

Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL.

Rwy 33: Trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL.

Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL.

Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

PALACE NINE DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

ATIS 124.875
GND CON 121.85
DETROIT CITY TOWER
121.3 257.8
DETROIT DEP CON
126.85 239.275

SPECIAL INSTRUCTIONS:

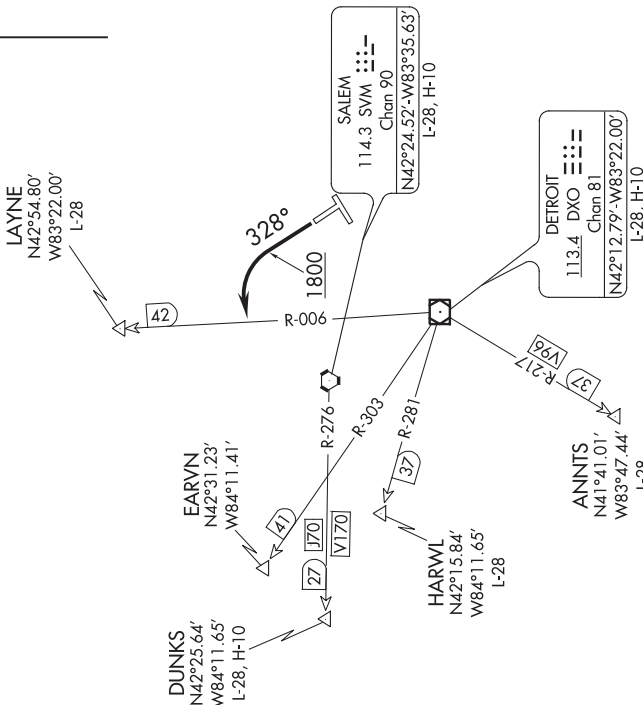
When using this departure, file the appropriate depicted departure fix and route. Aircraft landing/overflying Lansing (LAN) or overflying Flint (FNT) at 10000 or below, file via EARVN. Aircraft landing Flint (FNT) at 10000 or below, file via LAYNE. Aircraft over HARWL must file FL220 and below. Aircraft landing Cincinnati (CVG) must file via ANNTS. PROPS NA over ANNTS. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwys 7, 15, 33: Standard.
Rwy 25: Standard with a minimum climb of 215' per NM to 1400', or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

NOTE: ATC requested only.
NOTE: DME required.
NOTE: RADAR required.

TOP ALTITUDE:
3000



NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

PALACE NINE DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 33: Climb heading 328° to 1800 before turning left, expect radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF ALL OTHER RUNWAYS: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES NOTES:

Rwy 7: Multiple poles, lights and trees, stack and antenna beginning 132' from DER, from 405' left to 314' right of centerline, up to 60' AGL/687' MSL.

Rwy 15: Trees, antenna on Bldg, and OB light on Bldg beginning 299' from DER, 289' right of centerline, up to 68' AGL/692' MSL.

Trees and rod, antenna, pipe and floodlight on buildings, beginning 450' from DER, 221' left of centerline, up to 78' AGL/692' MSL.

Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL.

Building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL.

Rwy 25: Railroad, obstruction lights on buildings and stacks, trees and stack beginning 1' from DER, 12' left of centerline, up to 76' AGL/703' MSL.

Trees and light beginning 334' from DER, 132' right of centerline, up to 58' AGL/685' MSL.

Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL.

Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL.

Rwy 33: Trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL.

Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL.

Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

(RID8.RID) 15344

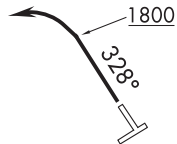
RICHMOND EIGHT DEPARTURE

SL-118 (FAA)

COLEMAN A YOUNG MUNI (DET)
DETROIT, MICHIGAN

ATIS 124.875
GND CON 121.85
DETROIT CITY TOWER
121.3 257.8
DETROIT DEP CON
126.85 239.275

**TOP ALTITUDE:
3000**



TAKEOFF MINIMUMS:

Rwys 7, 15, 33: Standard.

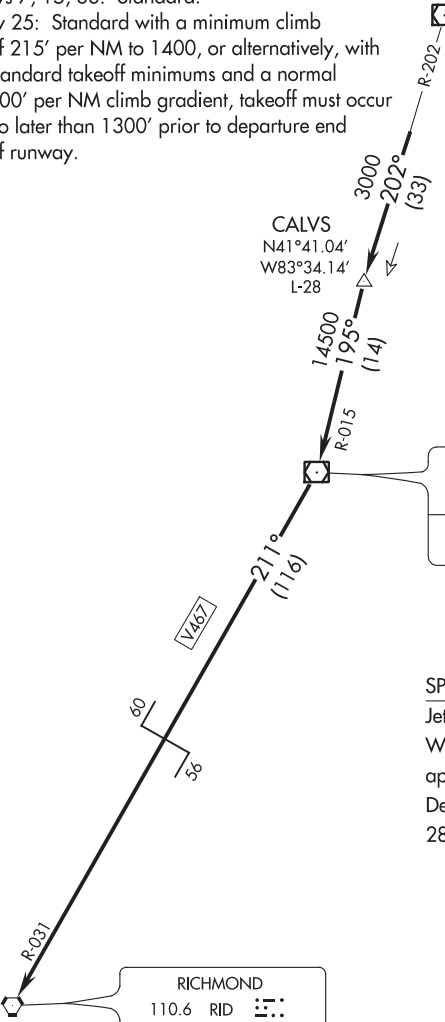
Rwy 25: Standard with a minimum climb of 215' per NM to 1400, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to departure end of runway.

DETROIT
113.4 DXO
Chan 81
N42°12.79'-W83°22.00'
L-28, H-10

CALVS
N41°41.04'
W83°34.14'
L-28

WATERVILLE
113.1 VVV
Chan 78
N41°27.09'
W83°38.32'
L-28, H-10

RICHMOND
110.6 RID
Chan 43
N39°45.30'-W84°50.33'
L-27, H-10



SPECIAL INSTRUCTIONS:

Jets only.
When using this departure, file the appropriate depicted fix and route.
Departures at/above 10000, maintain 280K until advised by ATC.

- NOTE: RADAR required.
- NOTE: DME required.
- NOTE: Chart not to scale.

(CONTINUED ON FOLLOWING PAGE)

RICHMOND EIGHT DEPARTURE

(RID8.RID) 15344

DETROIT, MICHIGAN
COLEMAN A YOUNG MUNI (DET)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 33: Climb heading 328° to 1800 before turning left, expect RADAR vectors, thence

TAKEOFF ALL OTHER RWYS: Climb on assigned heading for RADAR vectors thence

....to intercept DXO VOR/DME R-202 to CALVS, then on VWV R-015 to VWV VOR/DME, then right turn on VWV R-211 and RID R-031 to RID VORTAC.

TAKEOFF OBSTACLES:

- Rwy 7: Multiple poles, lights and trees, stack and antenna beginning 132' from DER, from 405' left to 314' right of centerline, up to 60' AGL/687' MSL.
- Rwy 15: Trees, antenna on building and OB light on building beginning 299' from DER, 289' right of centerline, up to 68' AGL/692' MSL.
Trees and rod, antenna, pipe and floodlight on buildings beginning 450' from DER, 221' left of centerline, up to 78' AGL/692' MSL.
Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL.
Building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL.
- Rwy 25: Railroad, obstruction lights on buildings and stacks, trees and stack beginning 1' from DER, 12' left of centerline, up to 76' AGL/703' MSL.
Trees and light beginning 334' from DER, 132' right of centerline, up to 58' AGL/685' MSL. Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL. Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL.
- Rwy 33: Trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL. Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL. Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

(ROD5.ROD) 15120

ROSEWOOD FIVE DEPARTURE

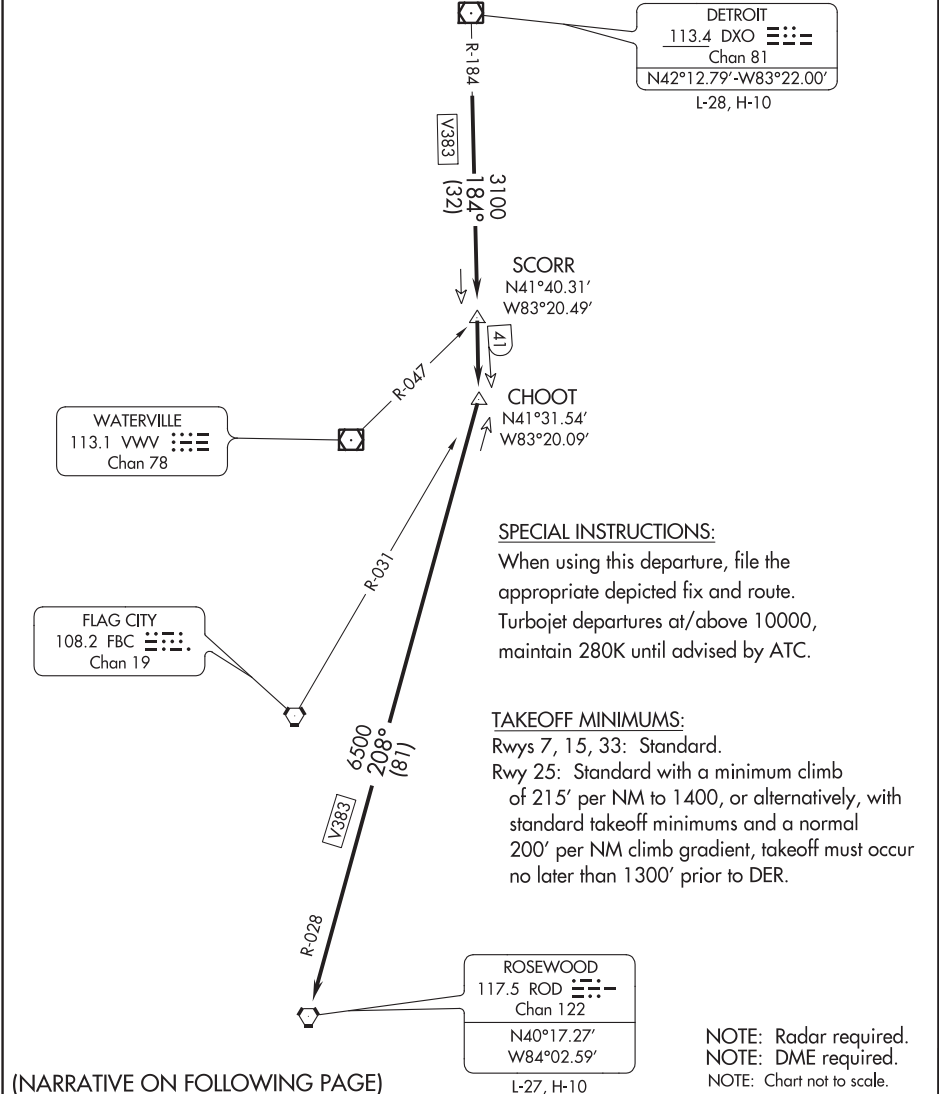
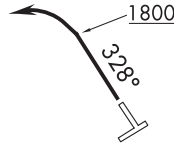
COLEMAN A YOUNG MUNI (DET)

SL-118 (FAA)

DETROIT, MICHIGAN

ATIS 124.875
 GND CON 121.85
 DETROIT CITY TOWER
 121.3 257.8
 DETROIT DEP CON
 126.85 239.275

**TOP ALTITUDE:
 3000**



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

(NARRATIVE ON FOLLOWING PAGE)

ROSEWOOD FIVE DEPARTURE

(ROD5.ROD) 15120

DETROIT, MICHIGAN

COLEMAN A YOUNG MUNI (DET)



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 33: Climb heading 328° to 1800 before turning left. Expect radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF ALL OTHER RUNWAYS: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

Rwy 7: Multiple poles, lights and trees, stack and antenna beginning 132' from DER, from 405' left to 314' right of centerline, up to 60' AGL/687' MSL.

Rwy 15: Trees, antenna on Bldg and OB light on building beginning 299' from DER, 289' right of centerline, up to 68' AGL/692' MSL.

Trees and rod, antenna, pipe and floodlight on buildings beginning 450' from DER, 221' left of centerline, up to 78' AGL/692' MSL.

Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL.

Building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL.

Rwy 25: Railroad, obstruction lights on buildings and stacks, trees and stack beginning 1' from DER, 12' left of centerline, up to 76' AGL/703' MSL.

Trees and light beginning 334' from DER, 132' right of centerline, up to 58' AGL/685' MSL. Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL. Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL.

Rwy 33: Trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL.

Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL. Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ST. CLAIR NINE DEPARTURE

SL-118 (FAA)

EC-1, 10 NOV 2016 to 05 JAN 2017

SPECIAL INSTRUCTIONS: When using this departure, file the appropriate depicted fix and route. Aircraft landing Columbus (CMH) must file via SCORR. Aircraft filed over APE must file via SCORR. Aircraft landing Cleveland (CLE) must file via MAAARS. Departures at/above 10000, maintain 280K until advised by ATC.

TOP ALTITUDE:
3000

ATIS 124.875
GND CON 121.85
DETROIT CITY TOWER 121.3 257.8
DETROIT DEP CON 126.85 239.275

NOTE: ATC requested only.
NOTE: Radar required.
NOTE: DME required.
NOTE: JETS only except for aircraft landing CMH, CLE, YYZ, or prop aircraft filed over APE.

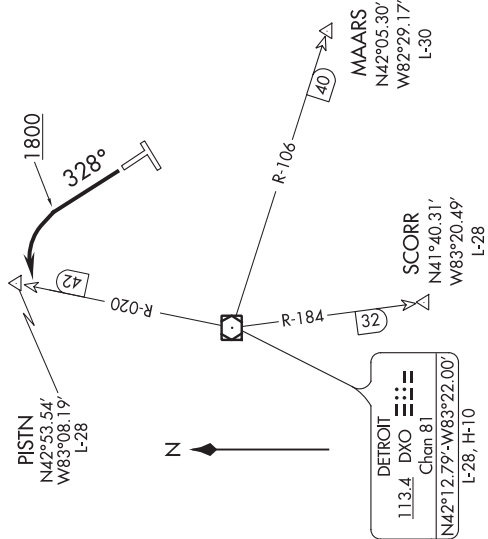
TAKEOFF OBSTACLES:

TAKEOFF MINIMUMS:

Rwys 7, 15, 33: Standard.
Rwy 25: Standard with a minimum climb of 215' per NM to 1400, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient; takeoff must occur no later than 1300' prior to DER.

- Rwy 7: Multiple poles, lights and trees, stack and antenna beginning 132' from DER, from 405' left to 314' right of centerline, up to 60' AGL/687' MSL.
- Rwy 15: Trees, antenna on building and OB light on building beginning 299' from DER, 289' right of centerline, up to 68' AGL/692' MSL. Trees and rod, antenna, pipe and floodlight on buildings, beginning 450' from DER, 221' left of centerline, up to 78' AGL/692' MSL.
- Rwy 25: Tower 3375' from DER, 1117' right of centerline, 103' AGL/723' MSL. Building 3748' from DER, 569' left of centerline, 114' AGL/723' MSL. Railroad, obstruction lights on buildings and stacks, trees and stack beginning 1' from DER, 12' left of centerline, up to 76' AGL/703' MSL. Trees and light beginning 334' from DER, 132' right of centerline, up to 58' AGL/685' MSL.

- Tower 2827' from DER, 1225' left of centerline, 141' AGL/770' MSL.
- Stack 1.5 NM from DER, 2414' left of centerline, 241' AGL/872' MSL.
- Trees beginning 113' from DER, 118' left of centerline, up to 73' AGL/694' MSL.
- Trees beginning 572' from DER, 84' right of centerline, up to 92' AGL/709' MSL.
- Flag pole 963' from DER, 379' left of centerline, 28' AGL/658' MSL.



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 33: Climb heading 328° to 1800 before turning left. Expect radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.
TAKEOFF ALL OTHER RUNWAYS: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

EC-1, 10 NOV 2016 to 05 JAN 2017

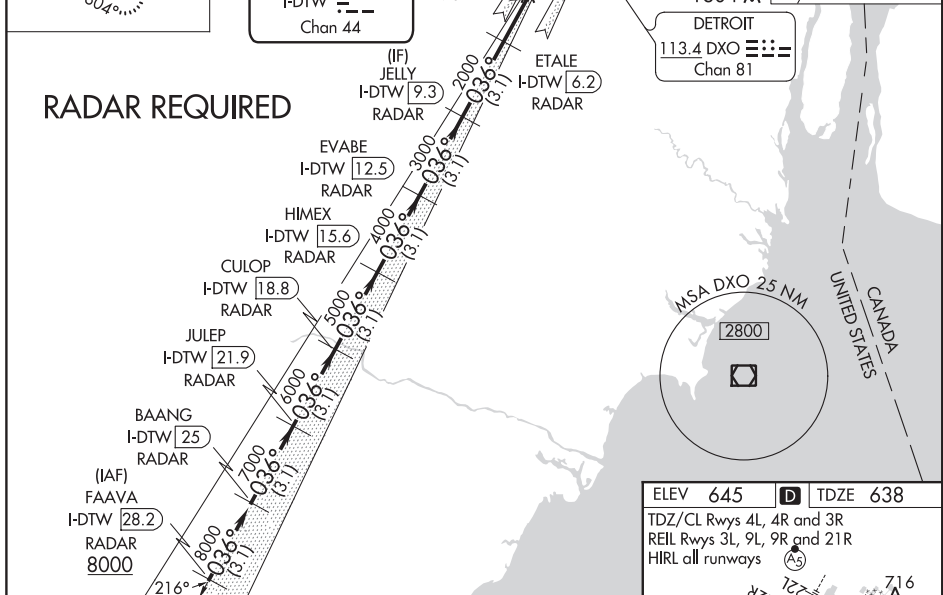
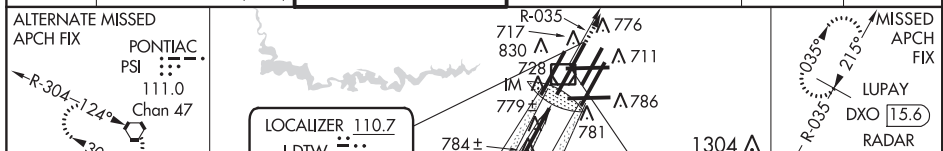
| | | |
|---|------------------------|---|
| LOC/DME I-DTW 110.7 Chan 44 | APP CRS 036° | Rwy Idg TDZE Apt Elev 11494 638 645 |
|---|------------------------|---|

ILS or LOC RWY 4R

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|---|----------------|--|
| <p>▽ DME or RADAR required. Simultaneous approach authorized. For inoperative ALS, increase S-LOC 4R Cat C/D visibility to RVR 6000.</p> | <p>ALS-F-2</p> | <p>MISSED APPROACH: Climb to 4000 on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME/15.6 DME/RADAR and hold.</p> |
|---|----------------|--|

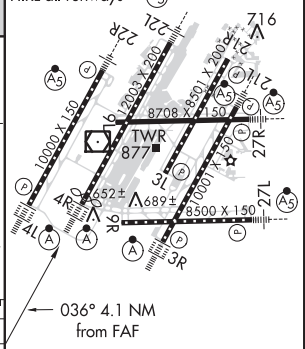
| | | | | | |
|--------------------------------|--|--|---|-----------------------------------|--------------|
| <p>ATIS 133.675</p> | <p>DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST)</p> | <p>METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST)</p> | <p>GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE)</p> | <p>CLNC DEL 120.65</p> | <p>CPDLC</p> |
|--------------------------------|--|--|---|-----------------------------------|--------------|



RADAR REQUIRED

| | |
|-------------------------------|-------------------|
| ELEV 645 | D TDZE 638 |
| TDZ/CL Rwy's 4L, 4R and 3R | |
| REIL Rwy's 3L, 9L, 9R and 21R | |
| HIRL all runways | |

| | | | | | | | | | | | |
|---|----------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|------------------------------------|---------------|-----------------|--|
| FAAVA I-DTW 28.2 RADAR | BAANG I-DTW 25 RADAR | JULEP I-DTW 21.9 RADAR | CULOP I-DTW 18.8 RADAR | HIMEX I-DTW 15.6 RADAR | EVABE I-DTW 12.5 RADAR | JELLY I-DTW 9.3 RADAR | ETALE I-DTW 6.2 RADAR | LUPAY DXO 15.6 RADAR | | | |
| <p>4000</p> <p>↑</p> <p>DXO R-035</p> | | | | | | | | <p>*LOC only.</p> <p>I-DTW 2.1</p> | | | |
| <p>8000</p> <p>7000</p> <p>6000</p> <p>5000</p> <p>4000</p> <p>3000</p> <p>2000</p> | | | | | | | | | | | |
| 3.1 NM | | | 3.1 NM | | | 3.1 NM | | | 3.1 NM | | |
| CATEGORY | | A | | B | | | C | | D | | |
| S-ILS 4R | | 838/18 | | | | | | | 200 (200-1/2) | | |
| S-LOC 4R | | 1040/24 | | | 402 (400-1/2) | | | 1040/40 | | 402 (400-3/4) | |
| CIRCLING | | 1180-1 | | | 535 (600-1) | | | 1180-1 1/2 | | 535 (600-1 1/2) | |
| | | | | | | | | 1240-2 | | 595 (600-2) | |



| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 4.1 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:06 | 2:44 | 2:03 | 1:38 | 1:22 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

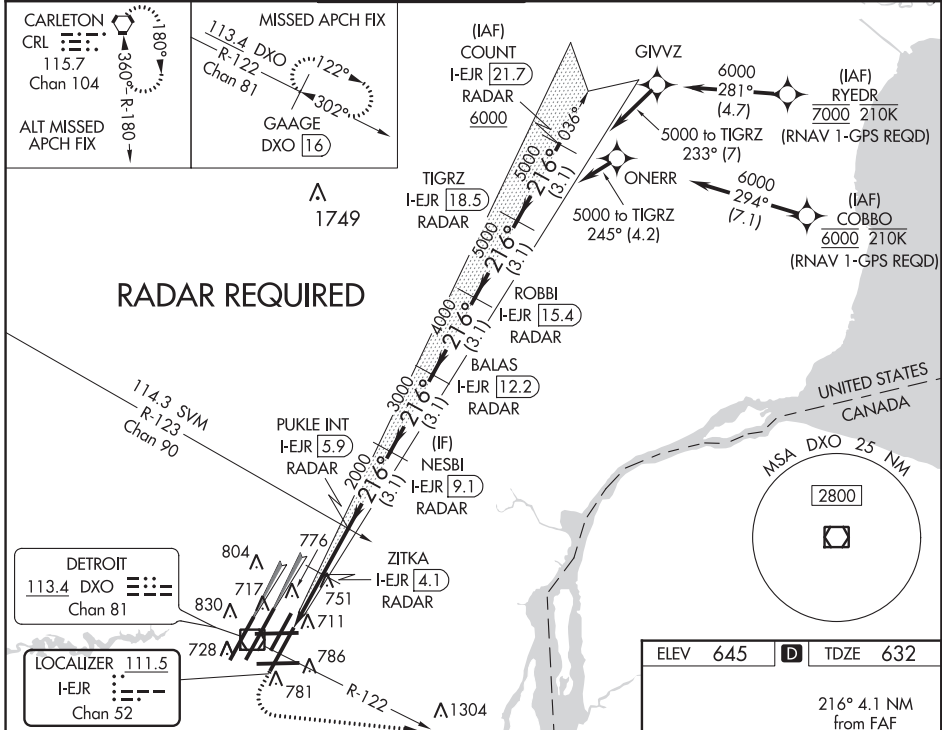
| | | | |
|---|------------------------|---|--------------|
| LOC/DME I-EJR 111.5 Chan 52 | APP CRS 216° | Rwy Idg TDZE 632 Apt Elev 645 | 10001 |
|---|------------------------|---|--------------|

ILS or LOC RWY 21L

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

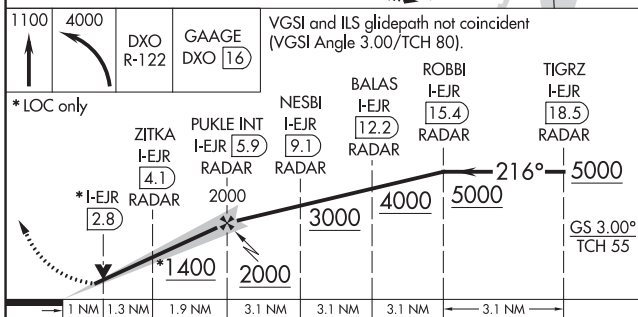
| | | |
|--|-------------------|--|
| <p>▼ DME or RADAR required. Simultaneous approach authorized. # RVR 1800 authorized with use of FD or AP or HUD to DA.</p> | <p>MALSR </p> | <p>MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO R-122 to GAAGE/DXO 16 DME and hold.</p> |
|--|-------------------|--|

| | | | | | |
|--------------------------------|--|--|---|-----------------------------------|--------------|
| <p>ATIS 133.675</p> | <p>DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST)</p> | <p>METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST)</p> | <p>GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE)</p> | <p>CLNC DEL 120.65</p> | <p>CPDLC</p> |
|--------------------------------|--|--|---|-----------------------------------|--------------|

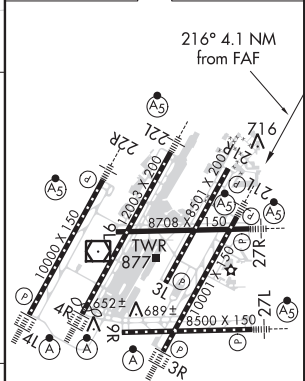


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | |
|----------|----------|----------|
| ELEV 645 | D | TDZE 632 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|----------|-------------|-------------------------|-----------------------|
| S-ILS 21L | # 832/24 | | | |
| S-LOC 21L | 1020/24 | 388 (400-½) | 1020/35 | 388 (400-¾) |
| C CIRCLING | 1180-1 | 535 (600-1) | 1180-1½ 535 (600-1½) | 1240-2 595 (600-2) |

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

DETROIT, MICHIGAN

AL-119 (FAA)

16315

| | | |
|---|------------------------|---|
| LOC/DME I-DWC 110.7 Chan 44 | APP CRS 216° | Rwy Idg TDZE Apt Elev 12003 637 645 |
|---|------------------------|---|

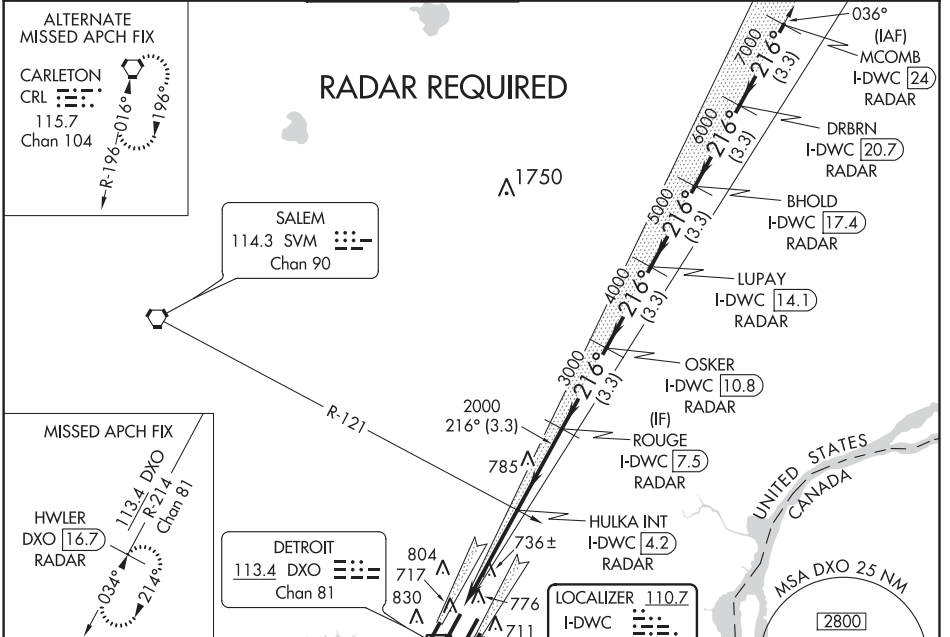
ILS or LOC RWY 22L

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

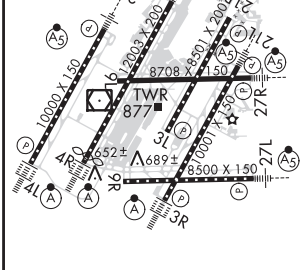
▼ # RVR 1800 authorized with use of FD or AP or HUD to DA. DME or RADAR required. Simultaneous approach authorized. For inoperative ALS, increase S-LOC 22L Cat C/D visibility to RVR 5500.

MALSR MISSED APPROACH: Climb to 4000 on DXO R-214 to HWLER/DXO VOR/DME 16.7 DME/RADAR and hold.

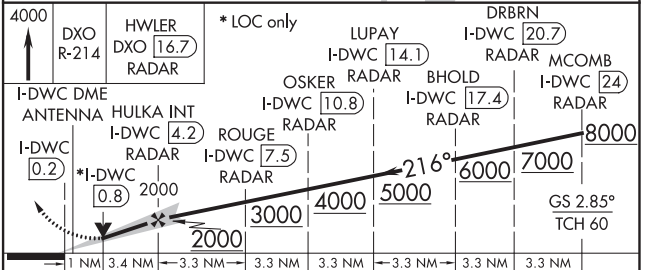
| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | |
|----------------------|----------|
| ELEV 645 | TDZE 637 |
| 216° 4.3 NM from FAF | |



| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 4.3 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:18 | 2:52 | 2:09 | 1:43 | 1:26 |



| | | | | | | | | |
|-----------|----------------------|--|-------------|--|---------|--|--------------|--|
| CATEGORY | A | | B | | C | | D | |
| S-ILS 22L | # 837/24 200 (200-½) | | | | | | | |
| S-LOC 22L | 1000/24 | | 363 (400-½) | | 1000/35 | | 363 (400-¾) | |
| CIRCLING | 1180-1 | | 535 (600-1) | | 1180-1½ | | 535 (600-1½) | |
| | | | | | 1240-2 | | 595 (600-2) | |

DETROIT, MICHIGAN
Amdt 31 10NOV16

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
42°13'N-83°21'W
ILS or LOC RWY 22L

EC-1, 10 NOV 2016 to 05 JAN 2017

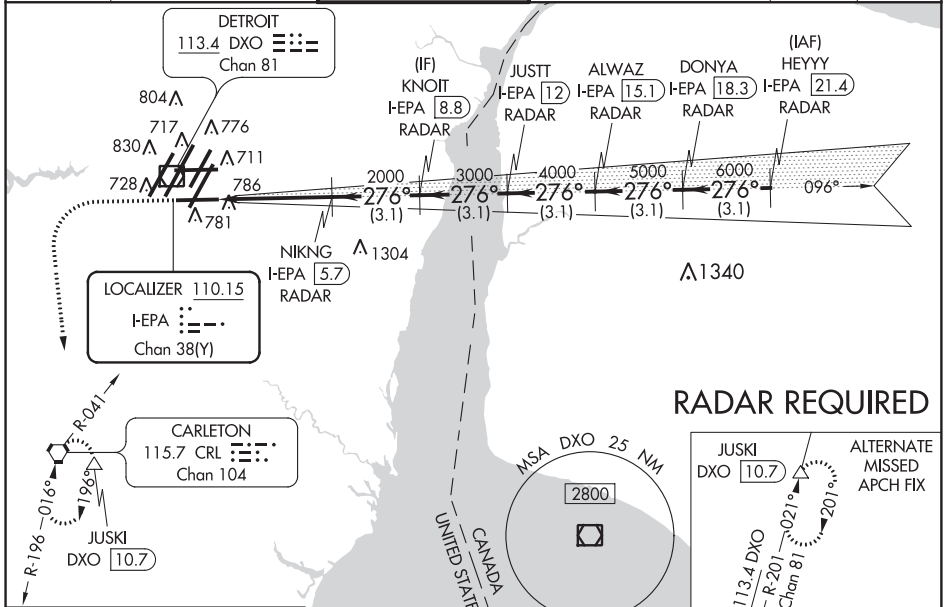
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--------------------------------|------------------------|-----------------------------|---|
| LOC/DME I-EPA 110.15 | APP CRS 276° | Rwy Ldg TDZE Apt Elev | 8500 630 645 |
| Chan 38(Y) | | | |

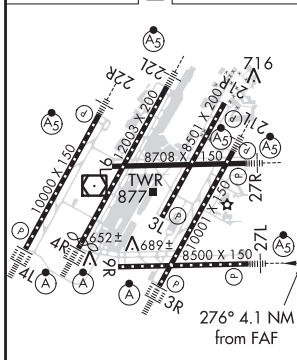
ILS or LOC RWY 27L

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | | | | |
|-------------------------------|--|--|---|---------------|-------|
| ATIS 133.675 | DETROIT APP CON | METRO TOWER | GND CON | CLNC DEL | CPDLC |
| | 124.05 363.2 (WEST) 125.15 363.2 (EAST) | 135.0 317.725 (WEST) 118.4 317.725 (EAST) | 121.8 (NW) 132.72 (SW) 119.45 (NE) 119.25 (SE) | 120.65 | |



| | | |
|-----------------|----------|-----------------|
| ELEV 645 | D | TDZE 630 |
|-----------------|----------|-----------------|



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

| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 4.1 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:06 | 2:44 | 2:03 | 1:38 | 1:22 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------------|---------------|----------------------------|---|----------|---|---|---|---|-----------|-------------------------|--|--|--|-----------|---------|---------------|---------|---------------|----------|--------------------|--|----------------------------|--|--|--|--------------------|--|
| 1100 | 4000 | CRL R-041 | CRL | VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 67). | | | | | | | | | | | | | | | | | | | | | | | | |
| * LOC only. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>CATEGORY</td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> </tr> <tr> <td>S-ILS 27L</td> <td colspan="4">** 830/24 200 (200-1/2)</td> </tr> <tr> <td>S-LOC 27L</td> <td>1080/24</td> <td>450 (500-1/2)</td> <td>1080/45</td> <td>450 (500-3/4)</td> </tr> <tr> <td rowspan="2">CIRCLING</td> <td colspan="2">1180-1 535 (600-1)</td> <td colspan="2">1180-1 1/2 595 (600-1 1/2)</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">1240-2 595 (600-2)</td> </tr> </table> | | | | | CATEGORY | A | B | C | D | S-ILS 27L | ** 830/24 200 (200-1/2) | | | | S-LOC 27L | 1080/24 | 450 (500-1/2) | 1080/45 | 450 (500-3/4) | CIRCLING | 1180-1 535 (600-1) | | 1180-1 1/2 595 (600-1 1/2) | | | | 1240-2 595 (600-2) | |
| CATEGORY | A | B | C | D | | | | | | | | | | | | | | | | | | | | | | | | |
| S-ILS 27L | ** 830/24 200 (200-1/2) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S-LOC 27L | 1080/24 | 450 (500-1/2) | 1080/45 | 450 (500-3/4) | | | | | | | | | | | | | | | | | | | | | | | | |
| CIRCLING | 1180-1 535 (600-1) | | 1180-1 1/2 595 (600-1 1/2) | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 1240-2 595 (600-2) | | | | | | | | | | | | | | | | | | | | | | | | | |

ILS or LOC RWY 27L

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-119 (FAA)

16315

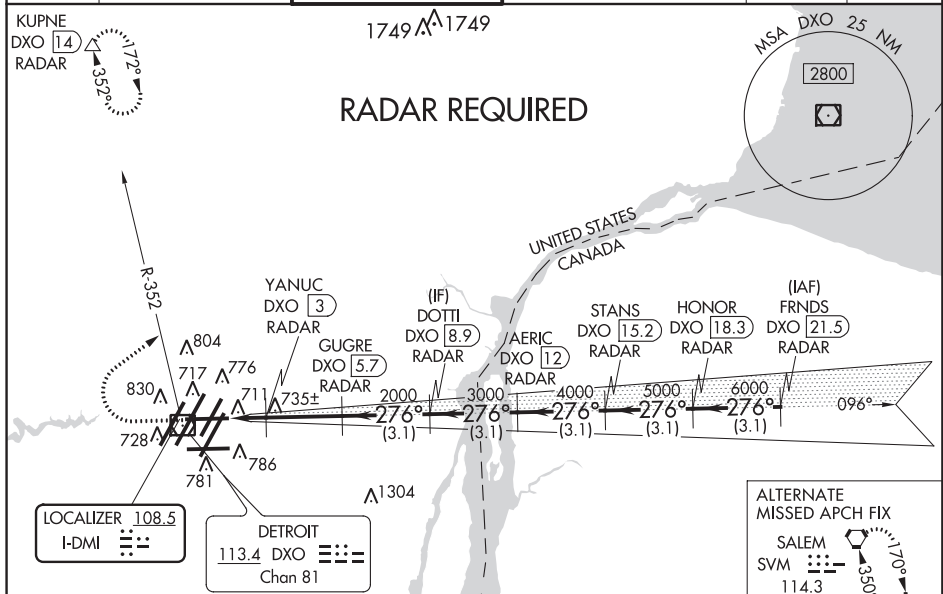
| | | | |
|---------------------------|------------------------|-----------------------------|---|
| LOC I-DMI 108.5 | APP CRS 276° | Rwy Idg TDZE Apt Elev | 8708 635 645 |
|---------------------------|------------------------|-----------------------------|---|

ILS or LOC RWY 27R

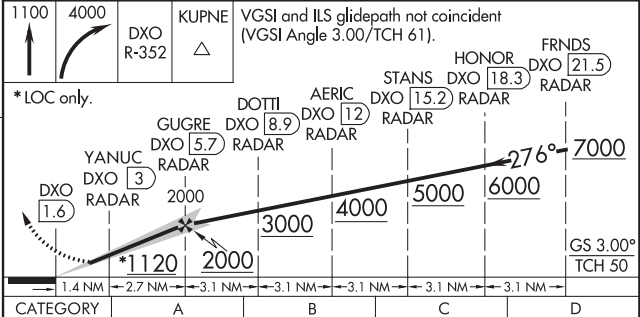
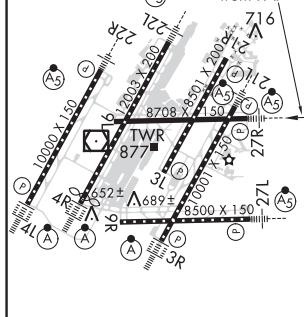
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|---|---------------------|---|
| <p>▼ DME or RADAR required. Simultaneous approach authorized. DME from DXO VOR/DME. Simultaneous reception of I-DME and DXO DME required. For inop ALS, increase S-LOC 27R Cats C and D visibility to RVR 5500. ** RVR 1800 authorized with use of FD or AP or HUD to DA.</p> | <p>MALSR AS</p> | <p>MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 on DXO VOR/DME R-352 to KUPNE/DXO 14 DME/RADAR and hold, continue climb-in-hold to 4000.</p> |
|---|---------------------|---|

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | | |
|----------|---|----------|
| ELEV 645 | D | TDZE 635 |
|----------|---|----------|



| <p>TDZ/CL Rwy's 4L, 4R and 3R REIL Rwy's 3L, 9L, 9R and 21R HIRL all runways</p> <p>FAF to MAP 4.1 NM</p> <table border="1"> <tr> <td>Knots</td> <td>60</td> <td>90</td> <td>120</td> <td>150</td> <td>180</td> </tr> <tr> <td>Min:Sec</td> <td>4:06</td> <td>2:44</td> <td>2:03</td> <td>1:38</td> <td>1:22</td> </tr> </table> | Knots | 60 | 90 | 120 | 150 | 180 | Min:Sec | 4:06 | 2:44 | 2:03 | 1:38 | 1:22 | <table border="1"> <tr> <th>CATEGORY</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> <tr> <td>S-ILS 27R</td> <td colspan="4">** 835/24 200 (200-½)</td> </tr> <tr> <td>S-LOC 27R</td> <td>1000/24</td> <td>365 (400-½)</td> <td>1000/35</td> <td>365 (400-¾)</td> </tr> <tr> <td>CIRCLING</td> <td>1180-1</td> <td>535 (600-1)</td> <td>1180-1½ 535 (600-½)</td> <td>1240-2 595 (600-2)</td> </tr> </table> | CATEGORY | A | B | C | D | S-ILS 27R | ** 835/24 200 (200-½) | | | | S-LOC 27R | 1000/24 | 365 (400-½) | 1000/35 | 365 (400-¾) | CIRCLING | 1180-1 | 535 (600-1) | 1180-1½ 535 (600-½) | 1240-2 595 (600-2) |
|--|-----------------------|-------------|------------------------|-----------------------|------|-----|---------|------|------|------|------|------|--|----------|---|---|---|---|-----------|-----------------------|--|--|--|-----------|---------|-------------|---------|-------------|----------|--------|-------------|------------------------|-----------------------|
| Knots | 60 | 90 | 120 | 150 | 180 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Min:Sec | 4:06 | 2:44 | 2:03 | 1:38 | 1:22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CATEGORY | A | B | C | D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S-ILS 27R | ** 835/24 200 (200-½) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S-LOC 27R | 1000/24 | 365 (400-½) | 1000/35 | 365 (400-¾) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CIRCLING | 1180-1 | 535 (600-1) | 1180-1½ 535 (600-½) | 1240-2 595 (600-2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

DETROIT, MICHIGAN
Amdt 13 10NOV16

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
42°13'N-83°21'W
ILS or LOC RWY 27R

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

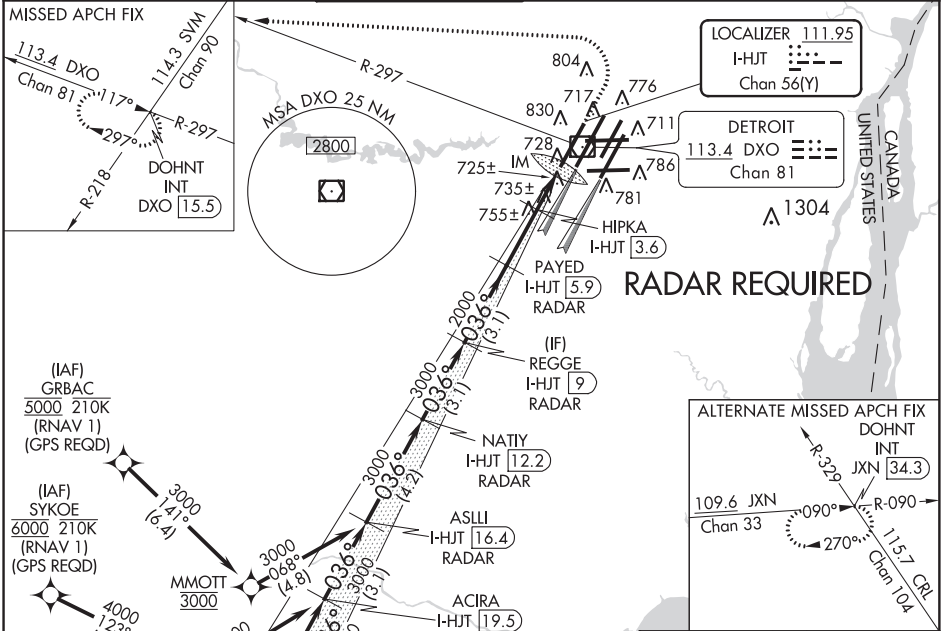
| | | | |
|---|------------------------|-----------------------------|--|
| LOC/DME I-HJT 111.95 Chan 56(Y) | APP CRS 036° | Rwy Idg TDZE Apt Elev | 10000 645 645 |
|---|------------------------|-----------------------------|--|

ILS Z or LOC RWY 4L

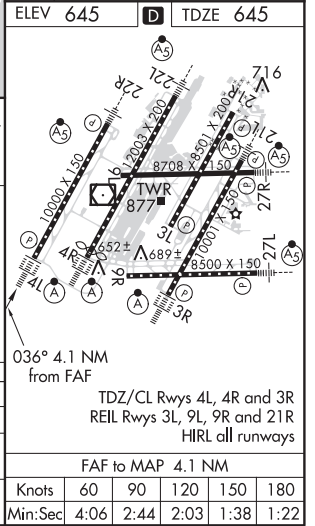
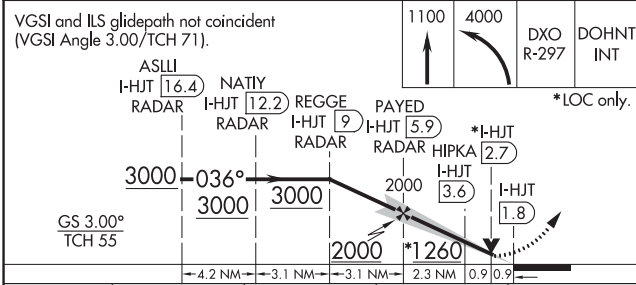
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|--|---------------|--|
| <p>▽ DME or RADAR required. Simultaneous approach authorized.</p> | <p>ALSF-2</p> | <p>MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME and hold.</p> |
|--|---------------|--|

| | | | | | |
|--------------------------------|--|--|---|-----------------------------------|--------------|
| <p>ATIS 133.675</p> | <p>DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST)</p> | <p>METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST)</p> | <p>GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE)</p> | <p>CLNC DEL 120.65</p> | <p>CPDLC</p> |
|--------------------------------|--|--|---|-----------------------------------|--------------|



| | | | | | | | | | |
|--|--|---------------|---------------|-----------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|--------------|
| (IAF) GRBAC 5000 210K (RNAV 1) (GPS REQD) | (IAF) SYKOE 6000 210K (RNAV 1) (GPS REQD) | MMOTT 3000 | HURRT 4000 | ASLLI I-HJT [16.4] RADAR | NATIY I-HJT [12.2] RADAR | REGGE I-HJT [9] RADAR | PAYED I-HJT [5.9] RADAR | HIPKA I-HJT [2.7] RADAR | *I-HJT [1.8] |
|--|--|---------------|---------------|-----------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|--------------|



| CATEGORY | A | B | C | D |
|-------------------|--------|-------------|-------------------------|-----------------------|
| S-ILS 4L | | 845/18 | 200 (200-½) | |
| S-LOC 4L | | 1000/24 | 355 (400-½) | |
| C CIRCLING | 1180-1 | 535 (600-1) | 1180-1½ 535 (600-1½) | 1240-2 595 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|---|--------------|
| LOC/DME I-JKI 111.95 Chan 56 (Y) | APP CRS 216° | Rwy Ldg TDZE 642 Apt Elev 645 | 10000 |
|--|------------------------|---|--------------|

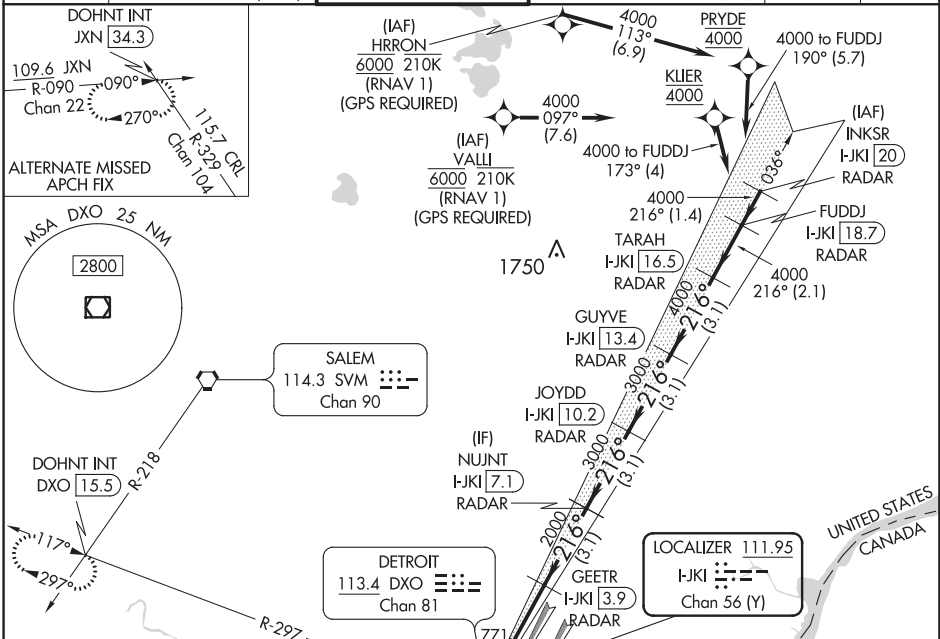
ILS Z or LOC RWY 22R

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

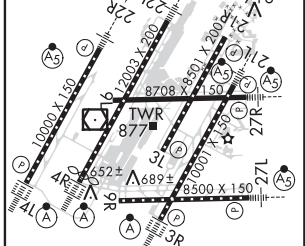
⚠ DME or RADAR required.
Simultaneous approach authorized.
**** RVR 1800 authorized with use of FD or AP or HUD to DA.**

MALSR  MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME and hold.

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



RADAR REQUIRED

| | |
|---|--------------------------|
| ELEV 645 | TDZE 642 |
| 216° 4.1 NM from FAF | |
|  | |
| TDZ/CL Rwy 3R, 4L and 4R REIL Rwy 3L, 9L, 9R and 21R HIRL all Rwy | |
| FAF to MAP 4.1 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 4:06 2:44 2:03 1:38 1:22 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|--|
| LOC/DME I-ALA 111.75 Chan 54 (Y) | APP CRS 038° | Rwy Idg TDZE Apt Elev | 10000 645 645 |
|--|------------------------|-----------------------------|--|

ILS Y RWY 4L

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

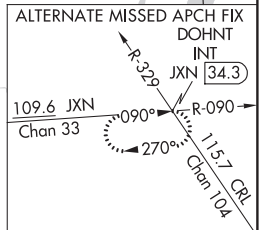
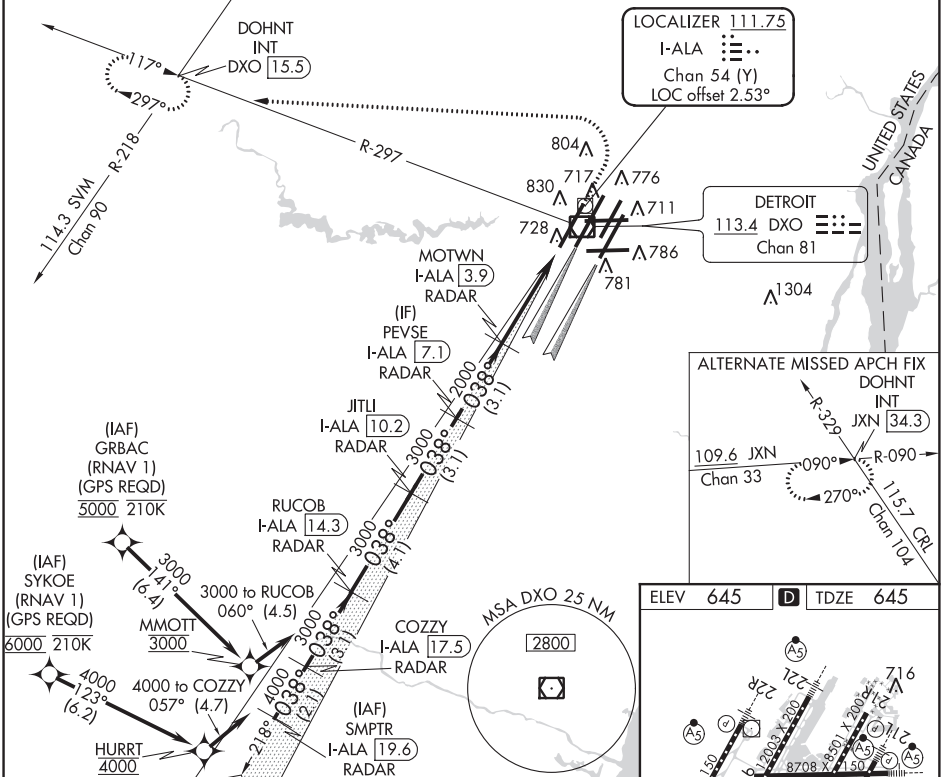
| | | | | | |
|-------------------------------|--|--|---|---------------|-------|
| ATIS 133.675 | DETROIT APP CON | METRO TOWER | GND CON | CLNC DEL | CPDLC |
| | 124.05 363.2 (WEST) 125.15 363.2 (EAST) | 135.0 317.725 (WEST) 118.4 317.725 (EAST) | 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | 120.65 | |

▽ DME or RADAR required.
Simultaneous approach authorized.

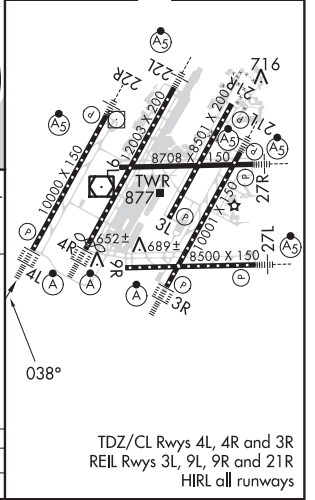
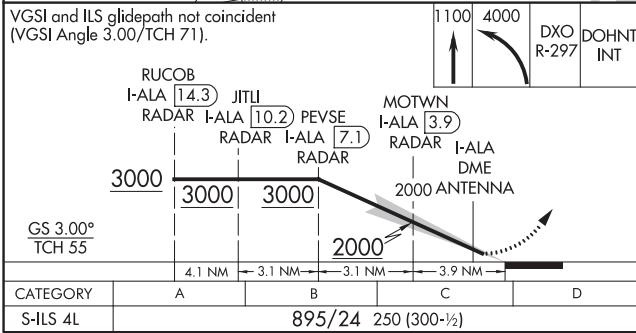


MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME and hold.

RADAR REQUIRED



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



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-119 (FAA)

16315

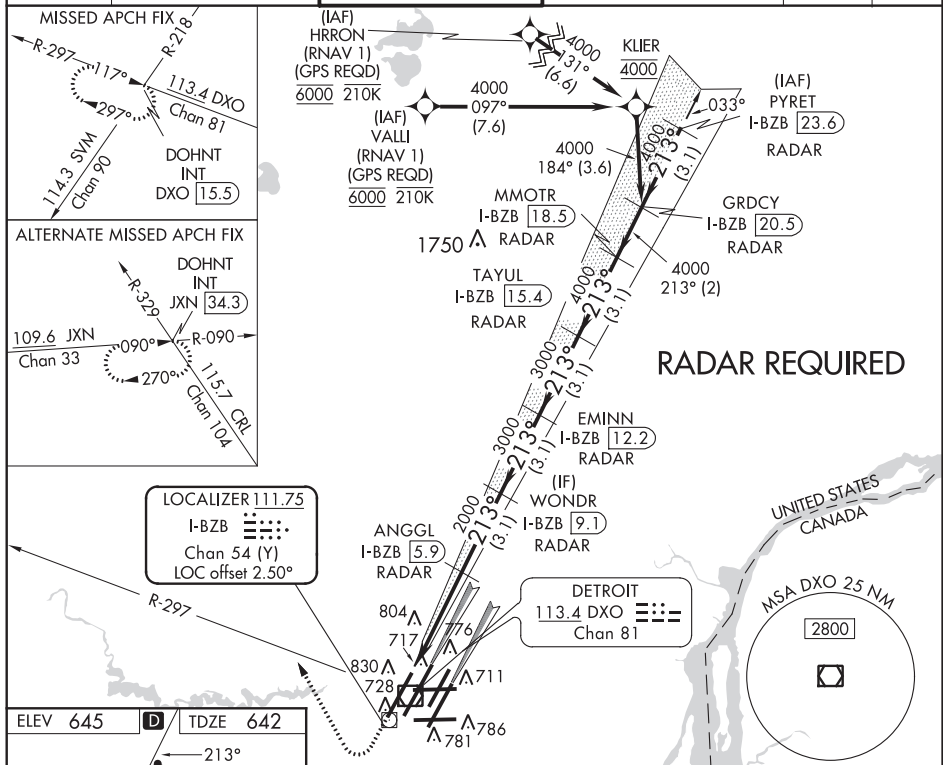
| | | | |
|--|------------------------|-----------------------------|--|
| LOC/DME I-BZB 111.75 Chan 54 (Y) | APP CRS 213° | Rwy Idg TDZE Apt Elev | 10000 642 645 |
|--|------------------------|-----------------------------|--|

ILS Y RWY 22R

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

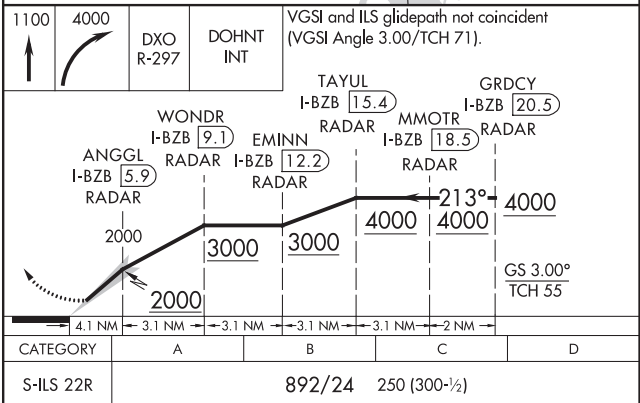
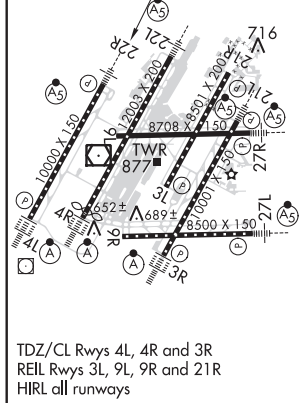
| | | | | |
|---|---------------|---|--|--|
| <p>DME or Radar required. Simultaneous approach authorized.</p> | <p>MALS R</p> | <p>MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME and hold.</p> | | |
| | | <p>CPDLC</p> | | |

| | | | | | |
|------------------------|---|--|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.25 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|--|--|---------------------------|-------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DETROIT, MICHIGAN
Amdt 1 10NOV16

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
42°13'N-83°21'W
ILS Y RWY 22R

| | | |
|---|------------------------|---|
| LOC/DME I-DTW 110.7 Chan 44 | APP CRS 036° | Rwy Idg TDZE Apt Elev 11494 638 645 |
|---|------------------------|---|

ILS RWY 4R (SA CAT I)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|---|---------------|--|
| <p>▼ DME or RADAR required. Simultaneous approach authorized. Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.</p> | <p>ALSF-2</p> | <p>MISSED APPROACH: Climb to 4000 on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME/15.6 DME/RADAR and hold.</p> |
|---|---------------|--|

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 132.72 (SW) 119.45 (NE) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|

ALTERNATE MISSED APCH FIX

PONTIAC PSI 111.0 Chan 47

R-304 124° 304°

LOCALIZER 110.7 I-DTW Chan 44

R-035 717 830 776 728 779 784± 781 776 711 786

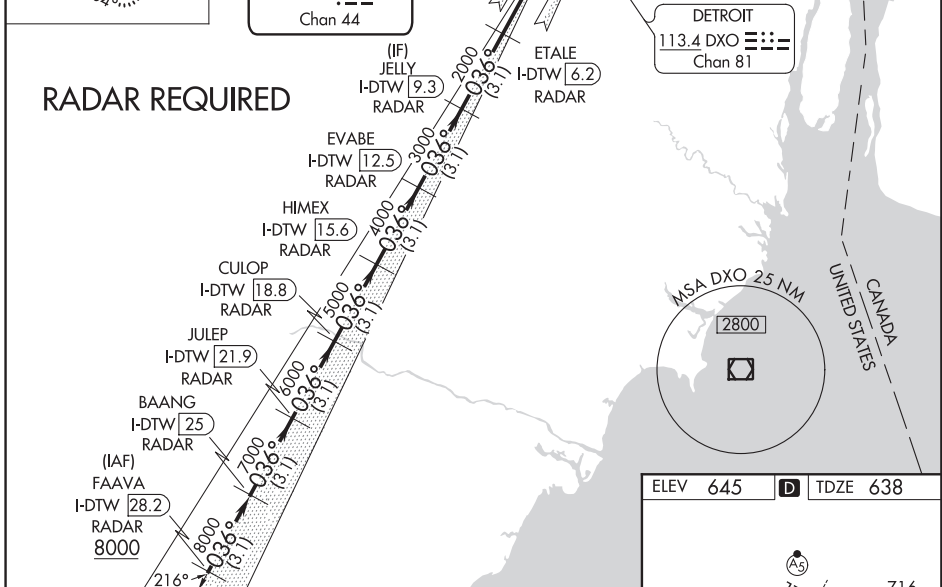
MISSED APCH FIX

LUPAY DXO 15.6 RADAR

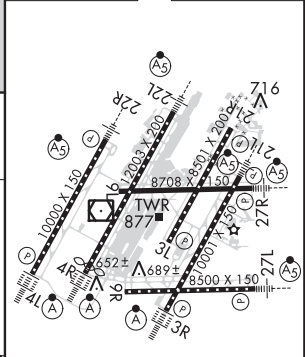
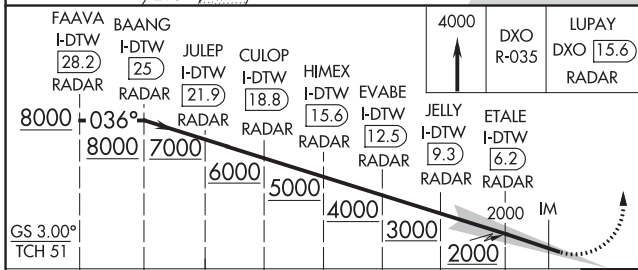
DETROIT 113.4 DXO Chan 81

1304 A

RADAR REQUIRED



| | |
|----------|-------------------|
| ELEV 645 | D TDZE 638 |
|----------|-------------------|



| | | | | |
|----------|-----------|---|------------|---|
| CATEGORY | A | B | C | D |
| S-ILS 4R | RA 154/14 | | 150 DA 788 | |

SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--------------------------------|------------------------|-----------------------------|---|
| LOC/DME I-EPA 110.15 | APP CRS 276° | Rwy Ldg TDZE Apt Elev | 8500 630 645 |
| Chan 38(Y) | | | |

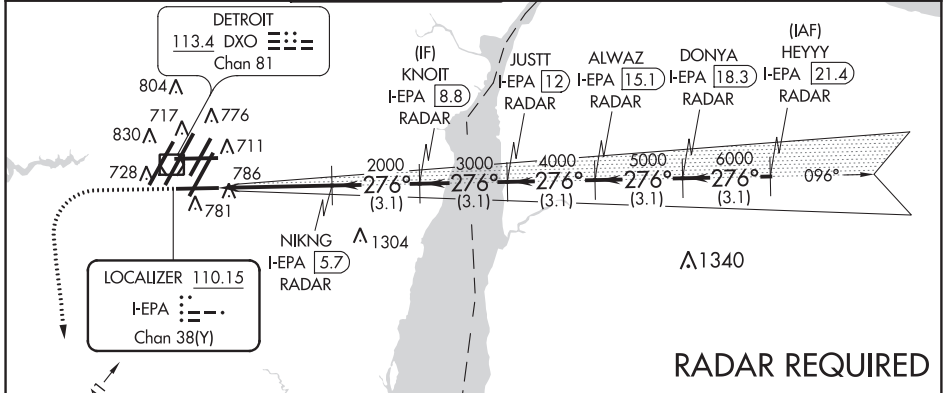
ILS RWY 27L (SA CAT I & II)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

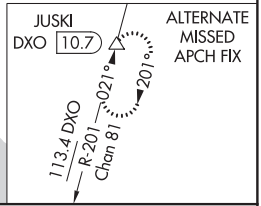
▽ DME or RADAR required. Simultaneous approach authorized.
SA Cat I: Requires specific OPSEC, MSPEC, or LOA approval and use of HUD to DH. SA Cat II: Reduced lighting: Requires specific OPSEC, MSPEC, or LOA approval and use of Autoland or HUD to touchdown.

MALSR

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on heading 180° and CRL VORTAC R-041 to CRL VORTAC and hold, continue climb-in-hold to 4000.



| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|

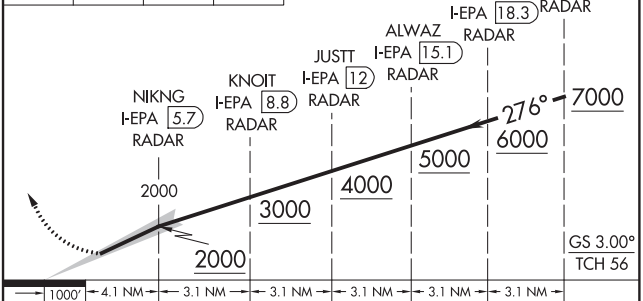
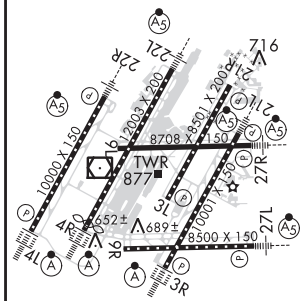


RADAR REQUIRED



| | | |
|-----------------|----------|-----------------|
| ELEV 645 | D | TDZE 630 |
|-----------------|----------|-----------------|

| | | | |
|--|----------|--|---|
| 1100 | 4000 | CRL R-041 | VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 67). |
|  | hdg 180° |  | |



| | | | | |
|-----------|---|--------------------|------------|---|
| CATEGORY | A | B | C | D |
| S-ILS 27L | | SA CAT I RA 146/16 | 150 DA 780 | |
| S-ILS 27L | | SA CAT II RA 96/16 | 100 DA 730 | |

SA CATEGORY I & II ILS SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|--|
| LOC/DME I-HUU 111.5 Chan 52 | APP CRS 036° | Rwy Idg 10001 TDZE 633 Apt Elev 645 |
|---|------------------------|--|

ILS RWY 3R (CAT II & III)

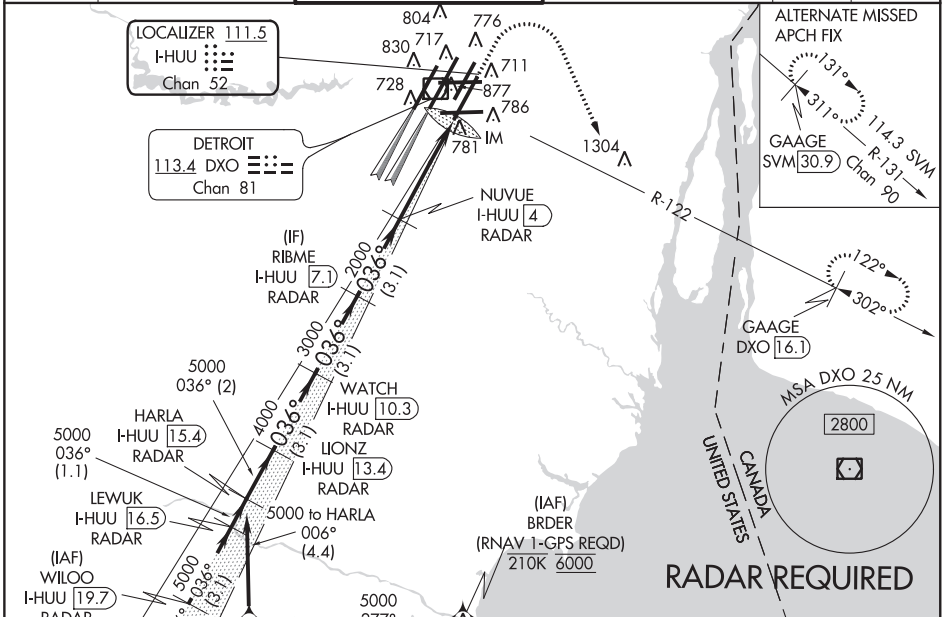
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

▽ DME or RADAR required. Simultaneous approach authorized. RVR 1000 authorized with specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown.

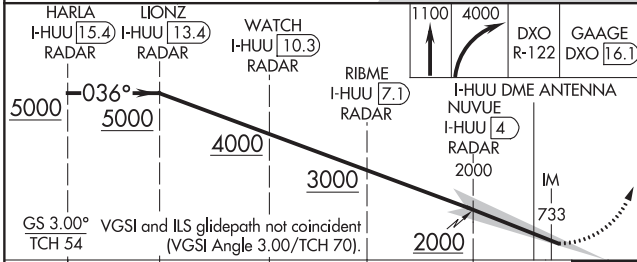
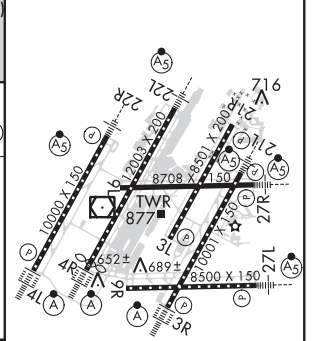
ALSf-2

MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 on DXO VOR/DME R-122 to GAAGE/DXO 16.1 DME and hold.

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | |
|----------|-------------------|
| ELEV 645 | D TDZE 633 |
|----------|-------------------|



| | | | | |
|----------|-----------------------------|---|---|---|
| CATEGORY | A | B | C | D |
| S-ILS 3R | CAT II RA 101/12 100 DA 733 | | | |
| S-ILS 3R | CAT III RVR 06 | | | |

CATEGORY II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-119 (FAA)

16315

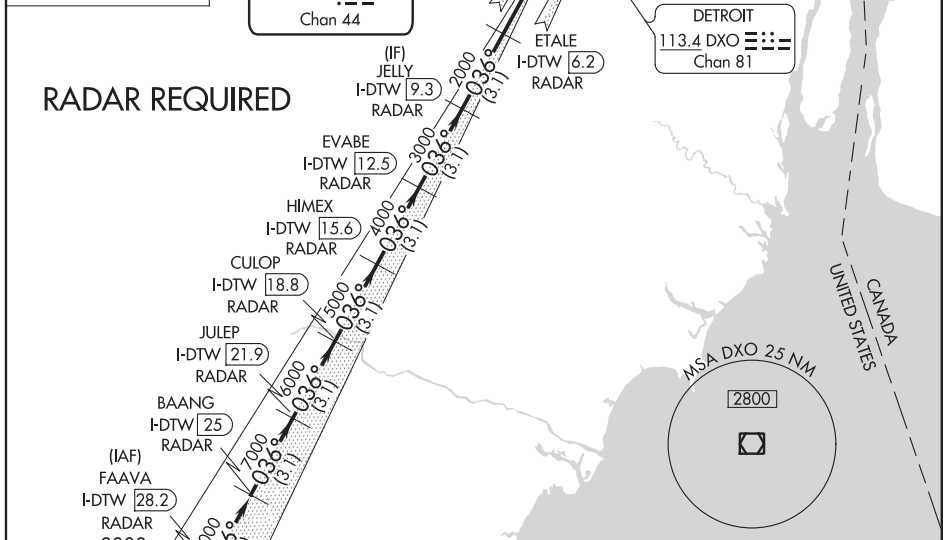
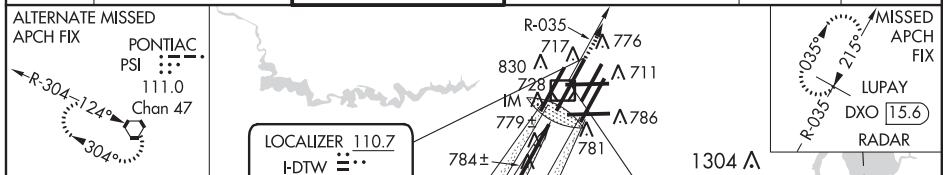
| | | |
|---|------------------------|---|
| LOC/DME I-DTW 110.7 Chan 44 | APP CRS 036° | Rwy Idg TDZE Apt Elev 11494 638 645 |
|---|------------------------|---|

ILS RWY 4R (CAT II & III)

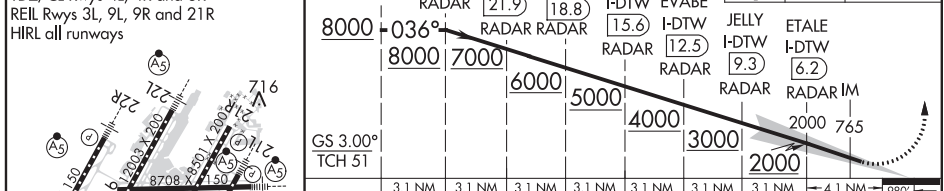
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|--|--------------------|--|
| ▼ DME or RADAR Required. Simultaneous approach authorized. | ALSIF-2 | MISSED APPROACH: Climb to 4000 on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME/15.6 DME/RADAR and hold. |
|--|--------------------|--|

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CINC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | | | | | | | | | | | |
|-------------------|------------------------|----------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|--------------------------|------|-----------|----------------------|
| ELEV 645 TDZE 638 | FAAVA I-DTW 28.2 RADAR | BAANG I-DTW 25 RADAR | JULEP I-DTW 21.9 RADAR | CULOP I-DTW 18.8 RADAR | HIMEX I-DTW 15.6 RADAR | EVABE I-DTW 12.5 RADAR | JELLY I-DTW 9.3 RADAR | ETALE I-DTW 6.2 RADAR IM | 4000 | DXO R-035 | LUPAY DXO 15.6 RADAR |
|-------------------|------------------------|----------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|--------------------------|------|-----------|----------------------|



| | | | | |
|----------|------------------|---|------------|---|
| CATEGORY | A | B | C | D |
| S-ILS 4R | CAT II RA 104/12 | | 100 DA 738 | |
| S-ILS 4R | CAT III | | RVR 06 | |

CATEGORY II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

DETROIT, MICHIGAN
Amdt 18 10NOV16

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
42°13'N-83°21'W
ILS RWY 4R (CAT II & III)

EC-1, 10 NOV 2016 to 05 JAN 2017

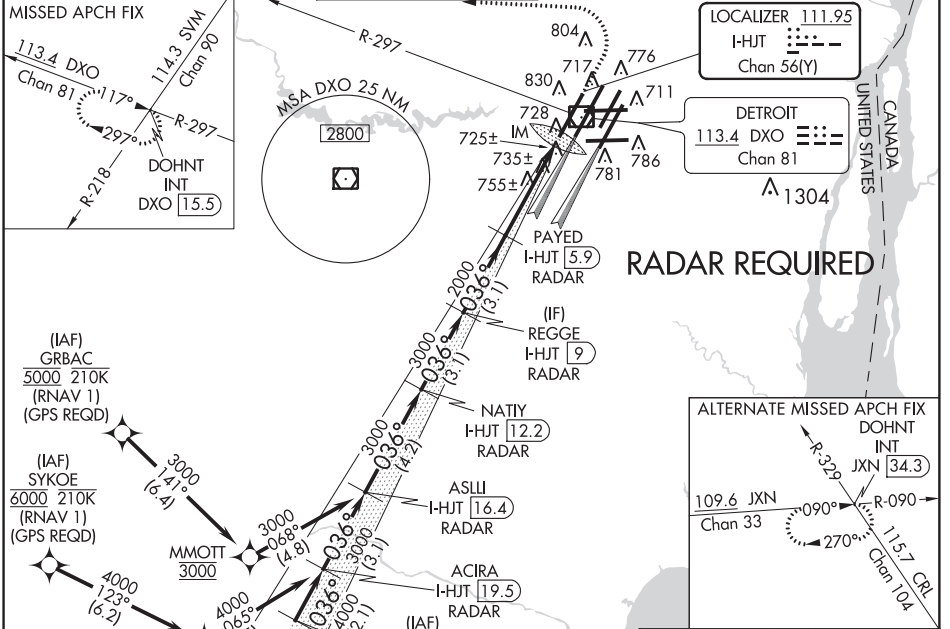
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|-----------------------------|--|
| LOC/DME I-HJT 111.95 Chan 56(Y) | APP CRS 036° | Rwy Idg TDZE Apt Elev | 10000 645 645 |
|---|------------------------|-----------------------------|--|

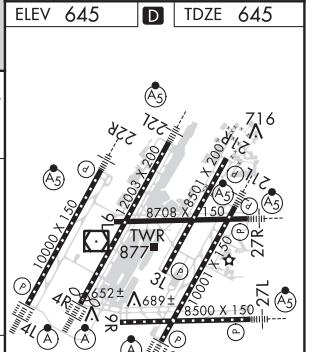
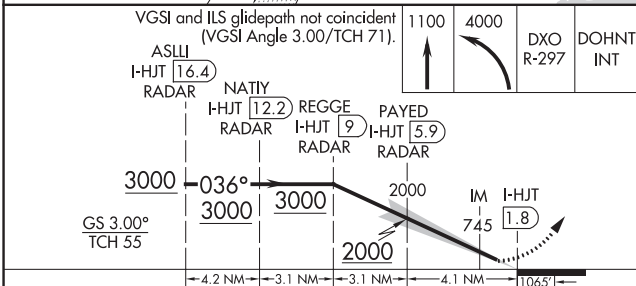
ILS Z RWY 4L (CAT II & III)
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|--|--------------------|---|
| <p>⚠ DME or RADAR required. Simultaneous approach authorized. CAT II: RVR 1000 authorized with specific OPSPEC, MSPEC, or LOA approval and use of Autoland or HUD to touchdown.</p> | <p>ALSF-2 </p> | <p>MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT./DXO 15.5 DME and hold.</p> |
|--|--------------------|---|

| | | | | | |
|--------------------------------|--|--|---|-----------------------------------|--------------|
| <p>ATIS 133.675</p> | <p>DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST)</p> | <p>METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST)</p> | <p>GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE)</p> | <p>CLNC DEL 120.65</p> | <p>CPDLC</p> |
|--------------------------------|--|--|---|-----------------------------------|--------------|



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



| | | | | |
|----------|------------------|---|------------|---|
| CATEGORY | A | B | C | D |
| S-ILS 4L | CAT II RA 101/12 | | 100 DA 745 | |
| S-ILS 4L | CAT III RVR 06 | | | |

CATEGORY II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-119 (FAA)

16315

| | | |
|--|------------------------|--|
| WAAS CH 61304 W03A | APP CRS 036° | Rwy Idg 10001 TDZE 633 Apt Elev 645 |
|--|------------------------|--|

RNAV (GPS) RWY 3R

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

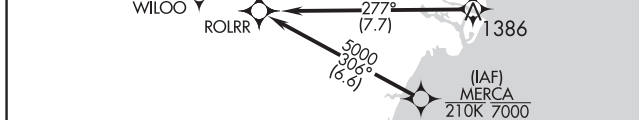
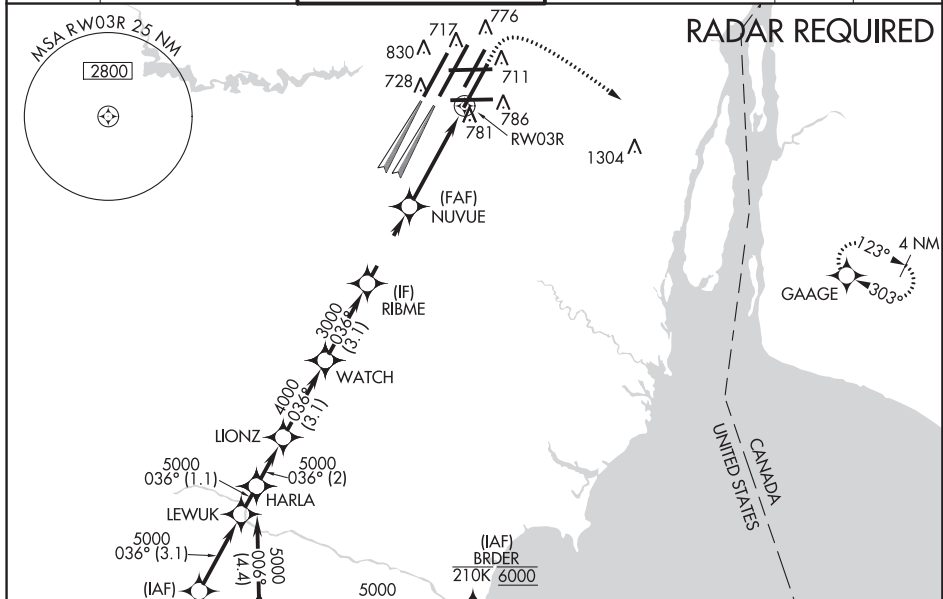
▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

ALSF-2

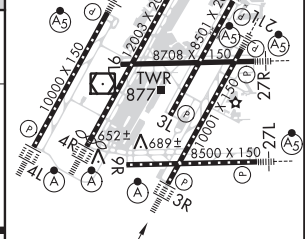
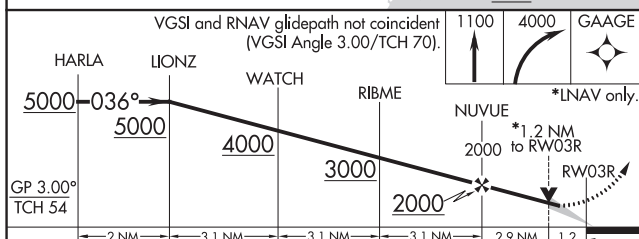


MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 direct GAAGE and hold, continue climb-in-hold to 4000.

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | | | |
|------|-----|------|-----|
| ELEV | 645 | TDZE | 633 |
|------|-----|------|-----|



| CATEGORY | A | B | C | D |
|--------------|---------|---------------|-----------------|---------------|
| LPV DA | | 833/24 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 942/24 | 309 (300-1/2) | |
| LNAV MDA | 1080/24 | 447 (500-1/2) | 1080/45 | 447 (500-3/8) |
| CIRCLING | 1180-1 | 535 (600-1) | 1180-1 1/2 | 1240-2 |
| | | | 535 (600-1 1/2) | 595 (600-2) |

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

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN
Amdt 3 10NOV16


DETROIT METROPOLITAN WAYNE COUNTY (DTW)
42°13'N-83°21'W
RNAV (GPS) RWY 3R

| | | |
|--|------------------------|--|
| WAAS CH 63004 W04B | APP CRS 036° | Rwy Idg 11494 TDZE 638 Apt Elev 645 |
|--|------------------------|--|

RNAV (GPS) RWY 4R

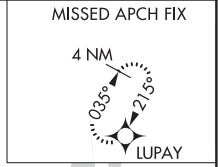
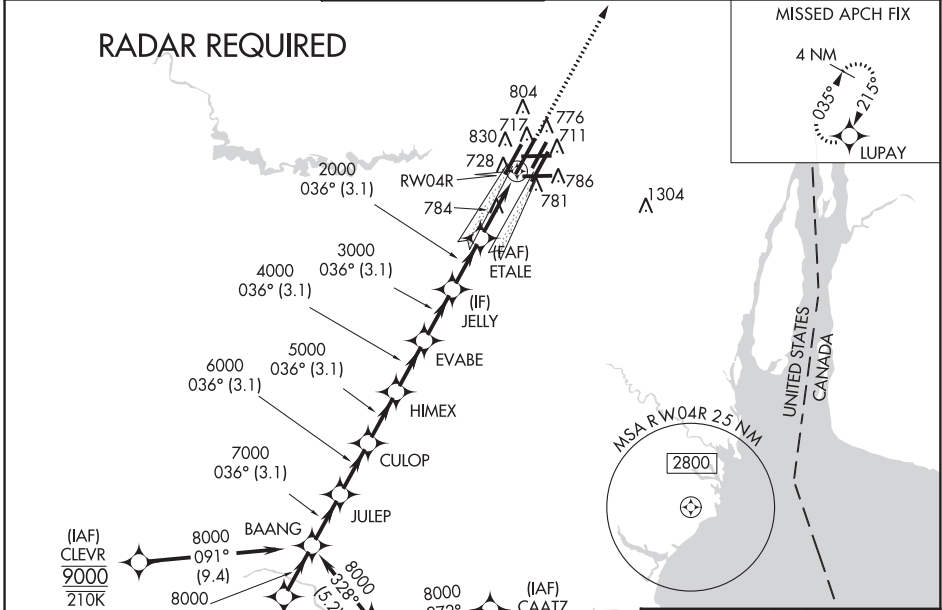
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations. Simultaneous approach authorized. For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500 and LNAV Cat C/D visibility to RVR 6000.

ALSF-2


MISSED APPROACH:
Climb to 4000 direct LUPAY and hold.

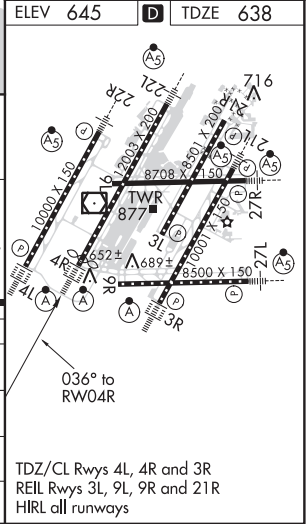
| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CINC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | | | | | | |
|--------------------|---------|--------|-------------|--------|-------------------------|--------|-----------------------|--------|
| | BAANG | JULEP | CULOP | HIMEX | EVABE | JELLY | ETALE | LUPAY |
| GP 3.00° TCH 51 | 8000 | 7000 | 6000 | 5000 | 4000 | 3000 | 2000 | 4000 |
| | -3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.0 NM | 1.1 NM |
| CATEGORY | A | | B | | C | | D | |
| LPV DA | | | 838/24 | | 200 (200-½) | | | |
| LNAV/VNAV DA | | | 920/24 | | 282 (300-½) | | | |
| LNAV MDA | 1040/24 | | 402 (400-½) | | 1040/40 | | 402 (400-¾) | |
| C CIRCLING | 1180-1 | | 535 (600-1) | | 1180-1½ 535 (600-1½) | | 1240-2 595 (600-2) | |



DETROIT, MICHIGAN

AL-119 (FAA)

16315

| | | |
|--|------------------------|--|
| WAAS CH 81820 W21A | APP CRS 216° | Rwy Idg 10001 TDZE 632 Apt Elev 645 |
|--|------------------------|--|

RNAV (GPS) RWY 21L

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

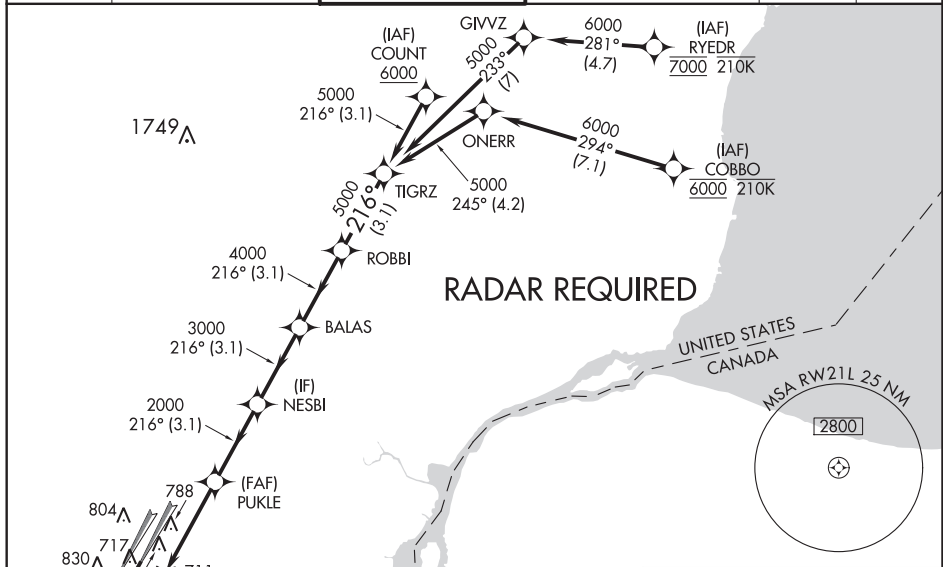
▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. For inop ALS increase LNAV/VNAV all Cats visibility to 1 3/8 SM and LNAV Cats C and D visibility to RVR 6000. Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

MALSR

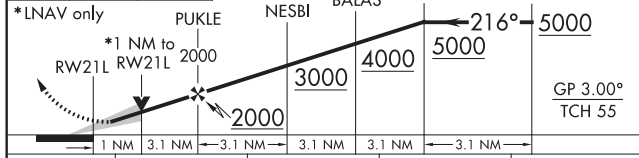


MISSED APPROACH:
Climb to 1100 then climbing left turn to 4000 direct GAAGE and hold.

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|

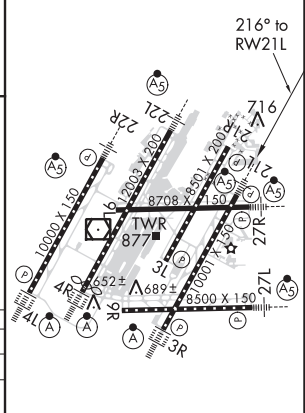


1100 4000 GAAGE
VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 80).



| | | | | |
|--------------|---------|---------------|---------------------------|-----------------------|
| CATEGORY | A | B | C | D |
| LPV DA | | 832/24 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 1062/50 | 430 (500-1) | |
| LNAV MDA | 1040/24 | 408 (400-1/2) | 1040/40 | 408 (400-3/4) |
| CIRCLING | 1180-1 | 535 (600-1) | 1180-1/2 535 (600-1/2) | 1240-2 595 (600-2) |

ELEV 645 **D** TDZE 632



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

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN
Amdt 3 10NOV16

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
42°13'N-83°21'W
RNAV (GPS) RWY 21L

DETROIT, MICHIGAN



AL-119 (FAA)

16315

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 53300 W27B | APP CRS 276° | Rwy Idg TDZE Apt Elev | 8500 630 645 |
|--|------------------------|-----------------------------|---|

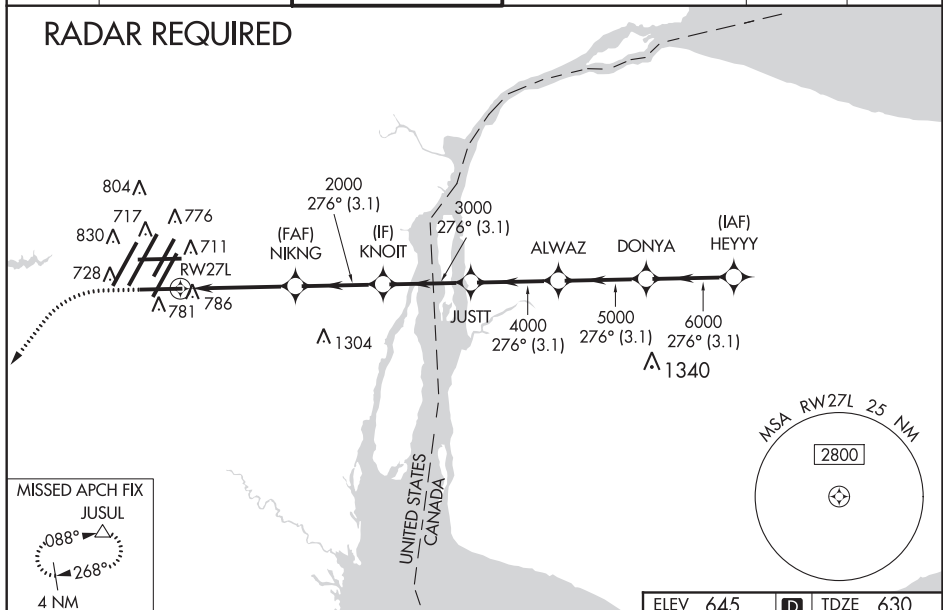
RNAV (GPS) RWY 27L




DETROIT METROPOLITAN WAYNE COUNTY (DTW)

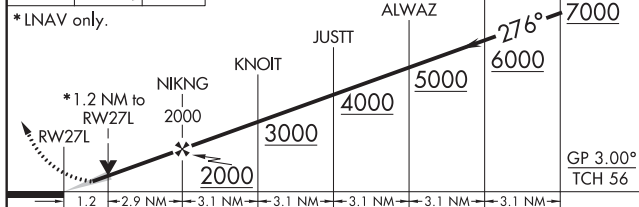
| | | |
|---|--|--|
| <p>▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Simultaneous approach authorized. LNAV procedure during simultaneous operations. Use of FD or AP providing track guidance required during simultaneous operations. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 5000.</p> | <p>MALSR</p>  | <p>MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 direct JUSUL and hold.</p> |
| |  | |

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|

RADAR REQUIRED

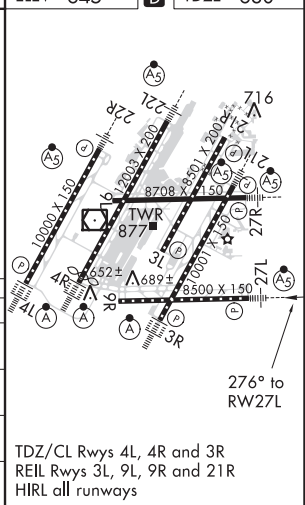


| | | | |
|--|--|--|--|
| 1100 | 4000 | JUSUL | VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 67). |
|  |  |  | |



| | | |
|----------|----------|----------|
| ELEV 645 | D | TDZE 630 |
|----------|----------|----------|

| CATEGORY | A | B | C | D |
|-------------------|---------|-------------|-------------------------|-----------------------|
| LPV DA | | 830/24 | 200 (200-½) | |
| LNAV/VNAV DA | | 958/30 | 328 (400-⅝) | |
| LNAV MDA | 1080/24 | 450 (500-½) | 1080/45 | 450 (500-⅞) |
| C CIRCLING | 1180-1 | 535 (600-1) | 1180-1½ 535 (600-1½) | 1240-2 595 (600-2) |



DETROIT, MICHIGAN
Amdt 3 10NOV16

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
42°13'N-83°21'W
RNAV (GPS) RWY 27L

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

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 86220 W27A | APP CRS 276° | Rwy Idg 8708 TDZE 635 Apt Elev 645 |
|--|------------------------|---|

RNAV (GPS) RWY 27R

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

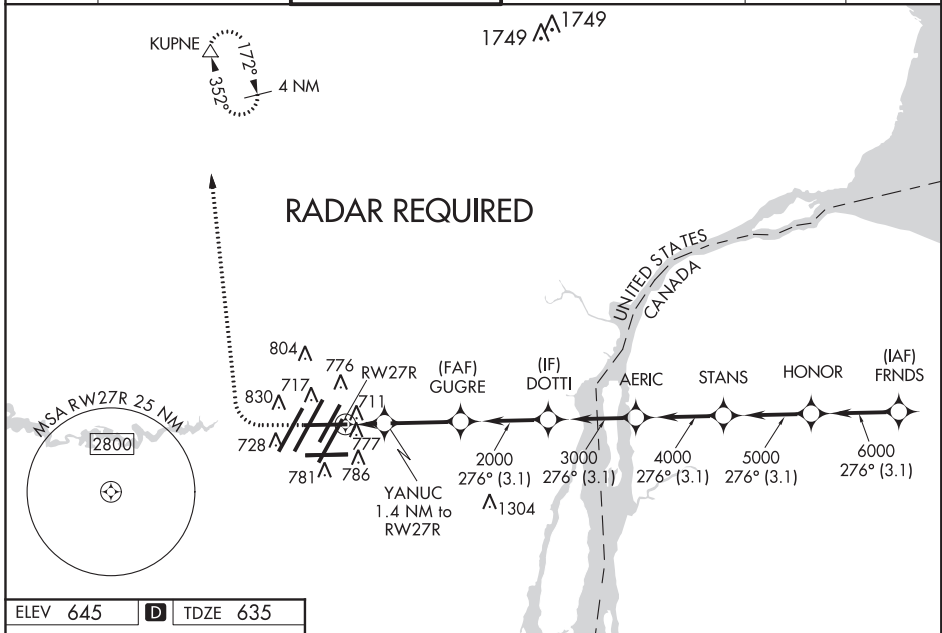
▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. For inop ALS, increase LNAV Cat C and D visibility to RVR 6000. Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

MALSR

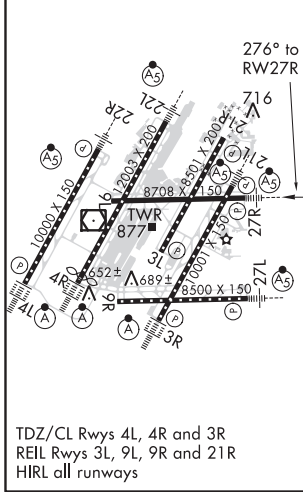


MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 direct KUPNE and hold, continue climb-in-hold to 4000

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | |
|----------|-------------------|
| ELEV 645 | D TDZE 635 |
|----------|-------------------|



| | | | | |
|-------------------|---------|----------------------------------|--|-----------------------|
| 1100 | 4000 | KUPNE | VGSi and RNAV glidepath not coincident (VGSi Angle 3.00/TCH 61). | |
| *LNAV only. | | | | |
| | | YANUC 1.4 NM to RWY 27R | GUGRE DOTTI AERIC STANS HONOR FRNDS | |
| | | RWY 27R | 2000 3000 4000 5000 6000 7000 | GP 3.00° TCH 50 |
| | | 1.4 NM 2.7 NM 3.1 3.1 3.1 3.1 NM | | |
| CATEGORY | A | B | C | D |
| LPV DA | | 835/24 | 200 (200-½) | |
| LNAV/VNAV DA | | 938/24 | 303 (300-½) | |
| LNAV MDA | 1040/24 | 405 (400-½) | 1040/40 | 405 (400-¾) |
| C CIRCLING | 1180-1 | 535 (600-1) | 1180-1½ 535 (600-1½) | 1240-2 595 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

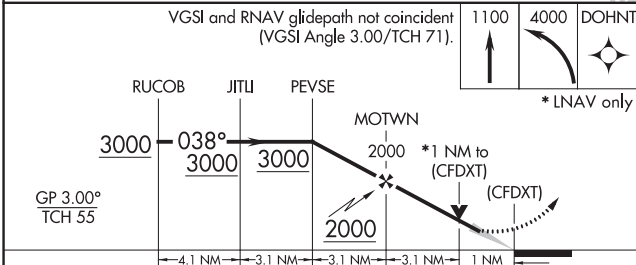
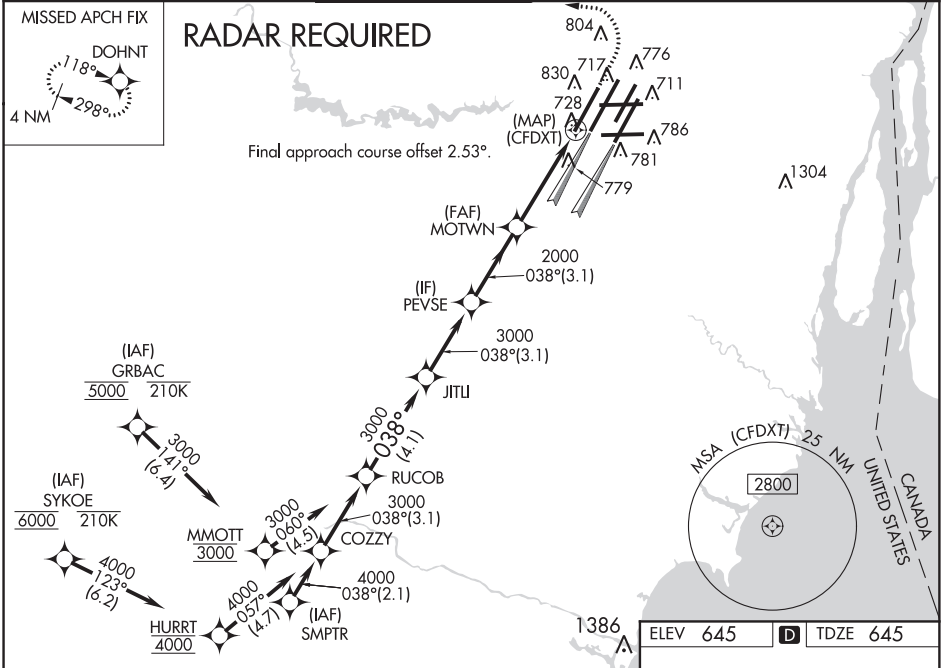
| | | |
|--|------------------------|--|
| WAAS CH 82439 W04A | APP CRS 038° | Rwy Idg 10000 TDZE 645 Apt Elev 645 |
|--|------------------------|--|

RNAV (GPS) Y RWY 4L

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|---|--------|--|
| For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations. | ALSF-2 | MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 direct DOHNT and hold. |
| | | |

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.25 (WEST) 118.4 317.25 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



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



| CATEGORY | A | B | C | D |
|-------------------|---------|-------------|-------------------------|-----------------------|
| LPV DA | | 895/24 | 250 (300-½) | |
| LNAV/VNAV DA | | 1068/45 | 423 (500-¾) | |
| LNAV MDA | 1040/24 | 395 (400-½) | 1040/35 | 395 (400-¾) |
| C CIRCLING | 1180-1 | 535 (600-1) | 1180-1½ 535 (600-1½) | 1240-2 595 (600-2) |

038° to (CFDXT)

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

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|--|
| WAAS CH 42939 W22B | APP CRS 213° | Rwy Idg TDZE Apt Elev | 10000 642 645 |
|--|------------------------|-----------------------------|--|

RNAV (GPS) Y RWY 22R

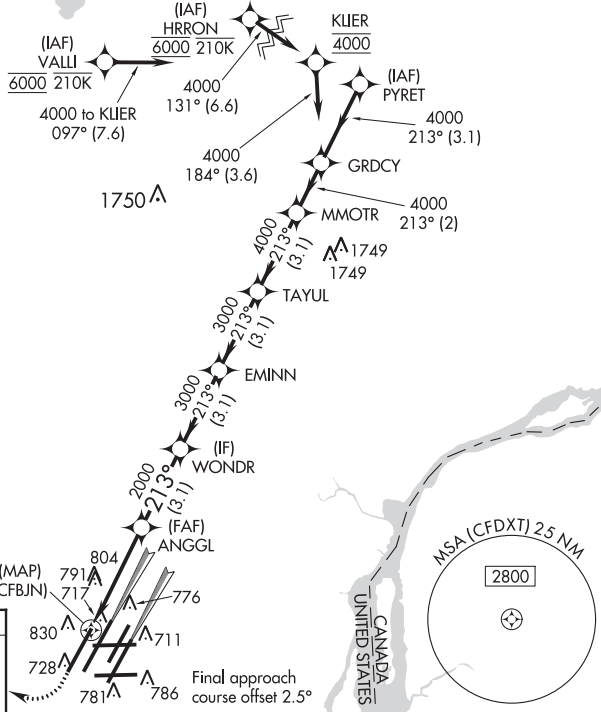
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

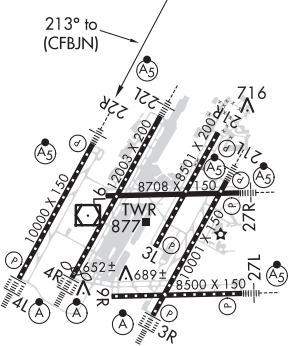
MALS/R
 MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 direct DOHNT and hold.

| | | | | | |
|-------------------------------|--|--|---|----------------------------------|--------------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|-------------------------------|--|--|---|----------------------------------|--------------|

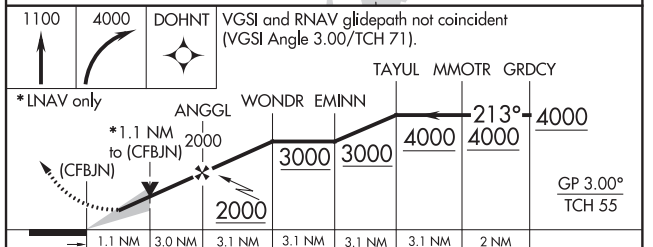
RADAR REQUIRED



ELEV 645 **D** TDZE 642



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



| CATEGORY | A | B | C | D |
|-------------------|---------|---------------|-------------------------------|-----------------------|
| LPV DA | 892/24 | | 250 (300-1/2) | |
| LNAV/VNAV DA | 1050/45 | | 408 (500-7/8) | |
| LNAV MDA | 1060/24 | 418 (500-1/2) | 1060/40 | 418 (500-3/4) |
| C CIRCLING | 1180-1 | 535 (600-1) | 1180-1 1/2 535 (600-1 1/2) | 1240-2 595 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ATTENTION ALL USERS PAGE (AAUP)

Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ATC facility as soon as practical, but at least 100 miles from destination.

Required Briefing: Brief the bullet points below.

ILS PRM Rwys 4R, 22L
ILS PRM Y Rwys 4L, 22R
RNAV (GPS) PRM Rwys 4R, 22L
RNAV (GPS) PRM Y Rwys 4L, 22R

Briefing Points:

- When in range, tune in the PRM monitor frequency audio and set the volume on a secondary radio, then deselect the audio until switched to the tower frequency.
- When instructed, immediately switch to the tower frequency and select the monitor frequency audio.
- Descending on the glideslope/glidepath ensures compliance with any charted crossing restrictions.
- **ILS/RNAV (GPS) PRM Y Rwys 4L, 22R:** Exit the runway as soon as practical; whenever possible, do not stop on taxiway A due to offset LOC critical area.

EXPANDED PROCEDURES (Optional, brief if necessary)

1. **ATIS.** When the ATIS broadcast advises that simultaneous PRM approaches are in progress, pilots should brief to fly the PRM approach. If later advised to expect a non-PRM approach, the PRM chart may be used after noting the following:

- (a) Minimums and missed approach procedures are unchanged.
- (b) Monitor frequency no longer required.
- (c) A lower glideslope/glidepath intercept altitude may be assigned when advised to expect a non-PRM approach.

(CONTINUED ON FOLLOWING PAGE)

ATTENTION ALL USERS PAGE (AAUP)

CONTINUED FROM PREVIOUS PAGE

2. **Dual VHF Communication required.** To avoid blocked transmissions, each runway will have two frequencies, a tower and a PRM monitor frequency. The tower controller will transmit on tower frequency only. The PRM Monitor controller's transmissions, if needed, will override both frequencies. Pilots will ONLY transmit on the tower controller's frequency, but will listen to both frequencies. When in range, on a second communications radio, select the PRM monitor frequency. Set the audio level to about the same volume as the primary communication radio so that transmissions on the PRM monitor frequency can be heard in the event the tower frequency is blocked. Then, deselect the PRM monitor audio. When instructed by ATC to contact the tower, reselect the PRM monitor frequency audio.

3. All **"Breakouts" are to be hand flown** to assure that the maneuver is accomplished in the shortest amount of time. Pilots, when directed by ATC to break off an approach, must assume that an aircraft is blundering toward their course and a breakout must be initiated immediately.

(a) **ATC Directed "Breakouts":** ATC directed breakouts will consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller instruction. Controllers will give a descending breakout only when there are no other reasonable options available, but in no case will the descent be below minimum vectoring altitude (MVA) which provides at least 1,000 feet required obstruction clearance.

(b) **Phraseology - "TRAFFIC ALERT":** If an aircraft enters the "NO TRANSGRESSION ZONE (NTZ)," the controller will breakout the threatened aircraft on the adjacent approach. The phraseology for the breakout will be:

"TRAFFIC ALERT, (aircraft call sign) TURN (left/right) IMMEDIATELY, HEADING (degrees), CLIMB/DESCEND AND MAINTAIN (altitude)".

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-119 (FAA)

16315

| | | | |
|---|------------------------|-----------------------------|--|
| LOC/DME I-DTW 110.7 Chan 44 | APP CRS 036° | Rwy Idg TDZE Apt Elev | 11494 638 645 |
|---|------------------------|-----------------------------|--|

ILS PRM RWY 4R (CLOSE PARALLEL)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|--|--|--|
| <p>DME or RADAR required. Simultaneous approach authorized. Procedure NA when glideslope not available. Dual VHF Comm required. See additional requirements on AAUP.</p> | <p>ALSIF-2</p> | <p>MISSED APPROACH: Climb to 4000 on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME 15.6 DME/RADAR and hold.</p> |
| | <p>ATIS 133.675</p> <p>DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST)</p> <p>METRO TOWER 135.0 317.725 PRM 135.775</p> <p>GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE)</p> <p>CLNC DEL 120.65 CPDLC</p> | |

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 PRM 135.775 | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|

ALTERNATE MISSED APCH FIX

PONTIAC PSI 111.0 Chan 47

←R-304=124° 304°

LOCALIZER 110.7 I-DTW Chan 44

DXO R-035 804A 717 776 830A 771 728A 786 781

ETALE I-DTW (6.2)

JELLY I-DTW (9.3)

EVABE I-DTW (12.5) RADAR

HIMEX I-DTW (15.6) RADAR

CULOP I-DTW (18.8) RADAR

JULEP I-DTW (21.9) RADAR

BAANG I-DTW (25) RADAR

(IAF) FAAVA I-DTW (28.2) RADAR 8000

1304A

DETROIT 113.4 DXO Chan 81

MSA DXO 25 NM 2800

(IF) RADAR

JELLY I-DTW (9.3) RADAR

EVABE I-DTW (12.5) RADAR

HIMEX I-DTW (15.6) RADAR

CULOP I-DTW (18.8) RADAR

JULEP I-DTW (21.9) RADAR

BAANG I-DTW (25) RADAR

(IAF) FAAVA I-DTW (28.2) RADAR 8000

1386A

MISSED APCH FIX

113.4 DXO Chan 81 15.6 RADAR

←R-035=215° 035°

ELEV 645 TDZE 638

FAAVA I-DTW (28.2) RADAR 8000

BAANG I-DTW (25) RADAR

JULEP I-DTW (21.9) RADAR

CULOP I-DTW (18.8) RADAR

HIMEX I-DTW (15.6) RADAR

EVABE I-DTW (12.5) RADAR

JELLY I-DTW (9.3) RADAR

ETALE I-DTW (6.2) RADAR

4000

DXO R-035 15.6 RADAR

LUPAY DXO 15.6 RADAR

8000 7000 6000 5000 4000 3000 2000

GS 3.00° TCH 51

3.1 NM 3.1 NM 3.1 NM 3.1 NM 3.1 NM 3.1 NM 4 NM

4R 22R 27R 27L 21R 21L 20R 20L 19R 19L 18R 18L 17R 17L 16R 16L 15R 15L 14R 14L 13R 13L 12R 12L 11R 11L 10R 10L 9R 9L 8R 8L 7R 7L 6R 6L 5R 5L 4R 4L 3R 3L 2R 2L 1R 1L

10000 X 150 8700 X 150 8500 X 150 8300 X 150 8100 X 150 7900 X 150 7700 X 150 7500 X 150 7300 X 150 7100 X 150 6900 X 150 6700 X 150 6500 X 150 6300 X 150 6100 X 150 5900 X 150 5700 X 150 5500 X 150 5300 X 150 5100 X 150 4900 X 150 4700 X 150 4500 X 150 4300 X 150 4100 X 150 3900 X 150 3700 X 150 3500 X 150 3300 X 150 3100 X 150 2900 X 150 2700 X 150 2500 X 150 2300 X 150 2100 X 150 1900 X 150 1700 X 150 1500 X 150 1300 X 150 1100 X 150 900 X 150 700 X 150 500 X 150 300 X 150 100 X 150

036°

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

FAAVA I-DTW (28.2) RADAR 8000

BAANG I-DTW (25) RADAR

JULEP I-DTW (21.9) RADAR

CULOP I-DTW (18.8) RADAR

HIMEX I-DTW (15.6) RADAR

EVABE I-DTW (12.5) RADAR

JELLY I-DTW (9.3) RADAR

ETALE I-DTW (6.2) RADAR

4000

DXO R-035 15.6 RADAR

LUPAY DXO 15.6 RADAR

8000 7000 6000 5000 4000 3000 2000

GS 3.00° TCH 51

3.1 NM 3.1 NM 3.1 NM 3.1 NM 3.1 NM 3.1 NM 4 NM

4R 22R 27R 27L 21R 21L 20R 20L 19R 19L 18R 18L 17R 17L 16R 16L 15R 15L 14R 14L 13R 13L 12R 12L 11R 11L 10R 10L 9R 9L 8R 8L 7R 7L 6R 6L 5R 5L 4R 4L 3R 3L 2R 2L 1R 1L

10000 X 150 8700 X 150 8500 X 150 8300 X 150 8100 X 150 7900 X 150 7700 X 150 7500 X 150 7300 X 150 7100 X 150 6900 X 150 6700 X 150 6500 X 150 6300 X 150 6100 X 150 5900 X 150 5700 X 150 5500 X 150 5300 X 150 5100 X 150 4900 X 150 4700 X 150 4500 X 150 4300 X 150 4100 X 150 3900 X 150 3700 X 150 3500 X 150 3300 X 150 3100 X 150 2900 X 150 2700 X 150 2500 X 150 2300 X 150 2100 X 150 1900 X 150 1700 X 150 1500 X 150 1300 X 150 1100 X 150 900 X 150 700 X 150 500 X 150 300 X 150 100 X 150

036°

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

| | | | | | | | | | | |
|-------------------------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|-------------------------|------|----------------------|----------------------|
| FAAVA I-DTW (28.2) RADAR 8000 | BAANG I-DTW (25) RADAR | JULEP I-DTW (21.9) RADAR | CULOP I-DTW (18.8) RADAR | HIMEX I-DTW (15.6) RADAR | EVABE I-DTW (12.5) RADAR | JELLY I-DTW (9.3) RADAR | ETALE I-DTW (6.2) RADAR | 4000 | DXO R-035 15.6 RADAR | LUPAY DXO 15.6 RADAR |
| 8000 | 7000 | 6000 | 5000 | 4000 | 3000 | 2000 | | | | |
| GS 3.00° TCH 51 | | | | | | | | | | |
| 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 4 NM | | | |
| CATEGORY | A | | B | | C | | D | | | |
| S-ILS 4R | 838/18 | | 200 (200-½) | | | | | | | |

DETROIT, MICHIGAN
Amdt 2 10NOV16

42°13'N-83°21'W

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
ILS PRM RWY 4R (CLOSE PARALLEL)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-119 (FAA)

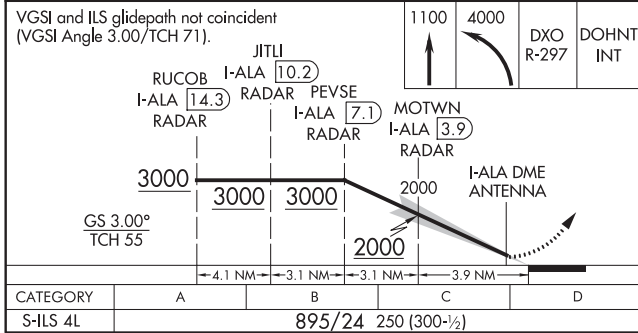
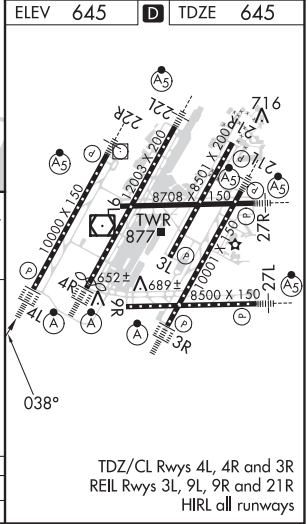
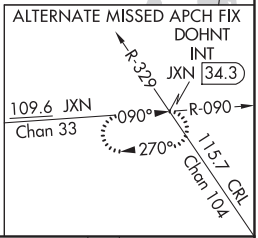
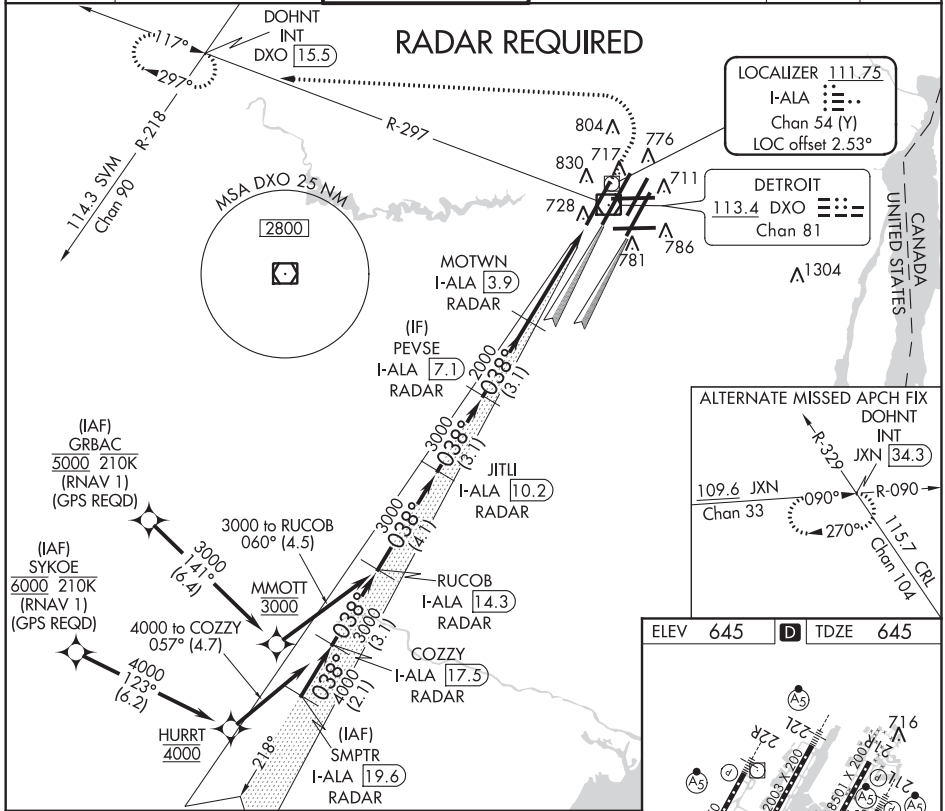
16315

| | | | |
|--------------------------------|------------------------|-----------------------------|--|
| LOC/DME I-ALA 111.75 | APP CRS 038° | Rwy Idg TDZE Apt Elev | 10000 645 645 |
| Chan 54 (Y) | | | |

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

| | | |
|---|-------------|---|
| <p>▼ DME or RADAR required. Simultaneous approach authorized. Procedure NA when glide slope not available. Dual VHF Comm required. See additional requirements on AAUP.</p> | ALSIF-2 | MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME and hold. |
| | | |

| | | | | | |
|------------------------|---|--|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 128.125 317.725 PRM 127.05 | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|--|--|---------------------------|-------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN
Amdt 1 10NOV16

42°13'N-83°21'W

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

ILS PRM Y RWY 22R (CLOSE PARALLEL)

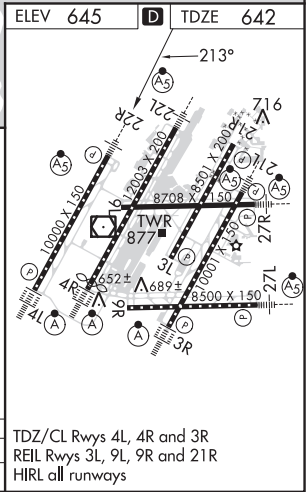
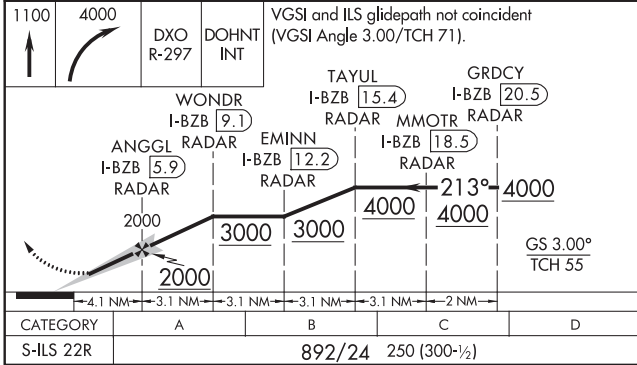
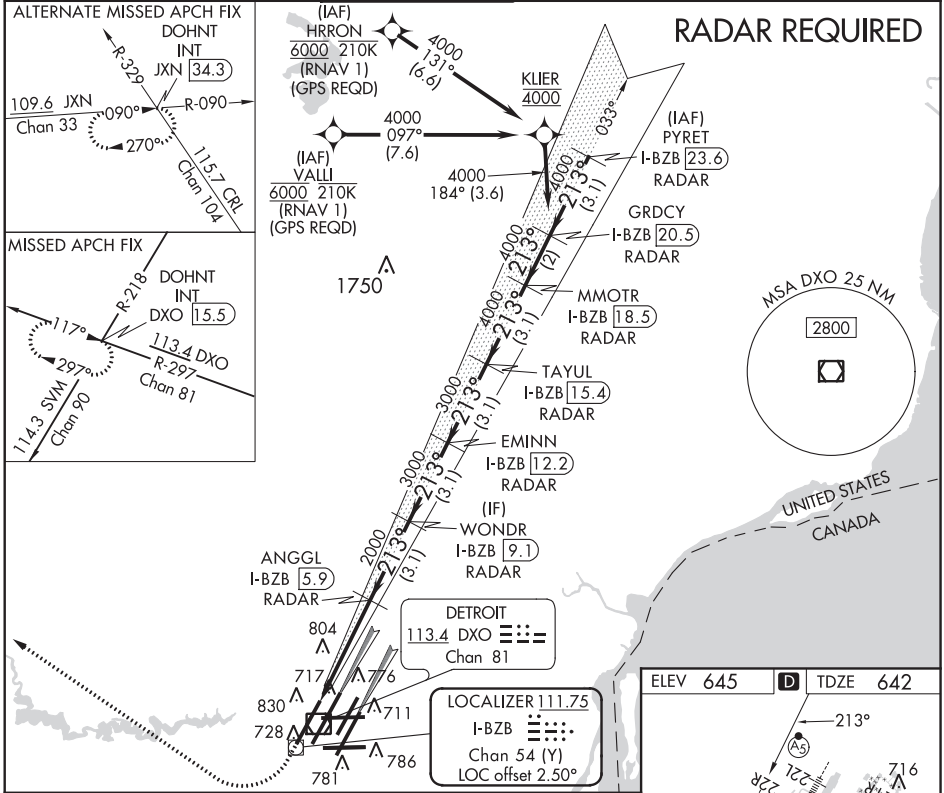
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | | |
|--------------------------------|------------------------|-----------------------------|--|
| LOC/DME I-BZB 111.75 | APP CRS 213° | Rwy Idg TDZE Apt Elev | 10000 642 645 |
| Chan 54 (Y) | | | |

▼ DME or RADAR required. Simultaneous approach authorized. Procedure NA when glide slope not available. Dual VHF Comm required. See additional requirements on AAUP.

MALSR  MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/ DXO 15.5 DME and hold.

| | | | | | |
|------------------------|---|--|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 128.125 317.725 PRM 127.05 | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|--|--|---------------------------|-------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-119 (FAA)

ILS PRM RWY 4R (SA CAT I)

16315

(CLOSE PARALLEL)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

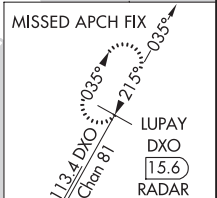
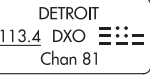
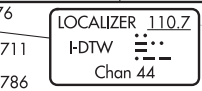
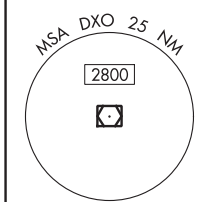
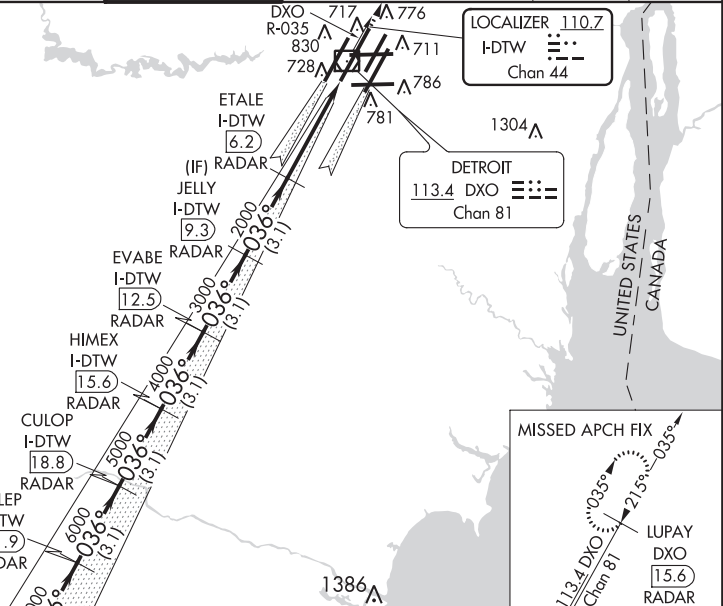
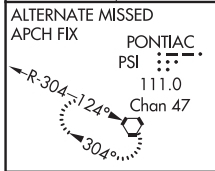
| | | |
|---|------------------------|---|
| LOC/DME I-DTW 110.7 Chan 44 | APP CRS 036° | Rwy Idg TDZE Apt Elev 11494 638 645 |
|---|------------------------|---|

▼ DME or RADAR required. Simultaneous approach authorized. Procedure NA when glideslope not available. Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH. Dual VHF Comm required. See additional requirements on AAUP.

ALSIF-2

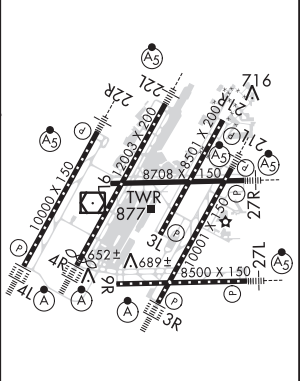
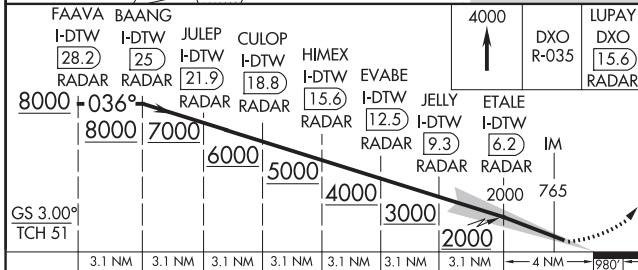
MISSED APPROACH: Climb to 4000 on heading 034° and on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME 15.6 DME/RADAR and hold.

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 PRM 135.775 | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | | | | | | | | |
|---|---|---|---|---|---|--|--|-----------|
| FAAVA I-DTW RADAR 28.2 8000 | BAANG I-DTW RADAR 25 7000 | JULEP I-DTW RADAR 21.9 6000 | CULOP I-DTW RADAR 18.8 5000 | HIMEX I-DTW RADAR 15.6 4000 | EVABE I-DTW RADAR 12.5 3000 | JELLY I-DTW RADAR 9.3 2000 | ETALE I-DTW RADAR 6.2 1500 | IM 765 |
|---|---|---|---|---|---|--|--|-----------|

ELEV 645 TDZE 638



| | | | | |
|--|-----------|---|------------|---|
| CATEGORY | A | B | C | D |
| S-ILS 4R | RA 154/14 | | 150 DA 788 | |
| SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED | | | | |

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

DETROIT, MICHIGAN
Amdt 2 10NOV16

42°13'N-83°21'W

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

ILS PRM RWY 4R (SA CAT I) (CLOSE PARALLEL)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-119 (FAA)

16315

ILS PRM RWY 4R (CAT II & III)

(CLOSE PARALLEL)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

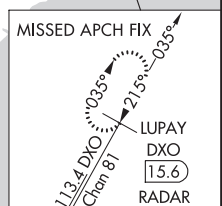
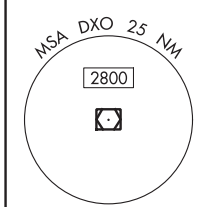
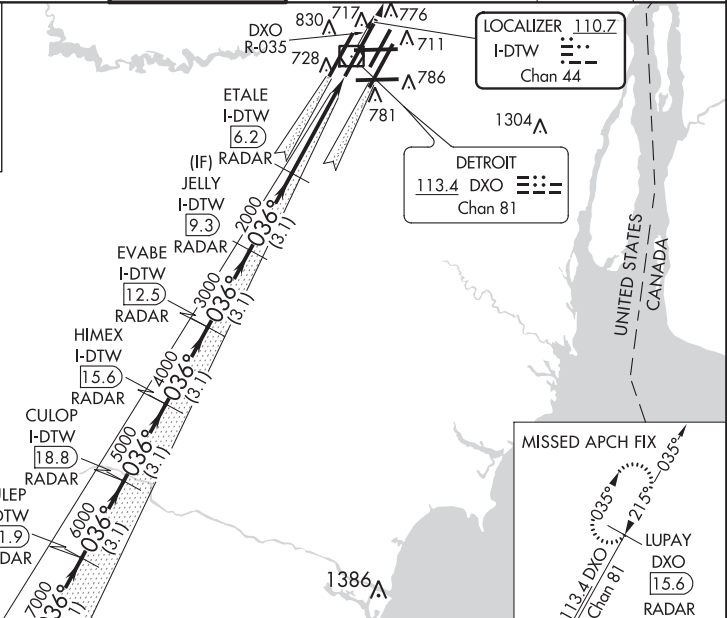
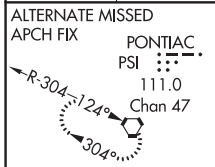
| | | | |
|---|------------------------|-----------------------------|--|
| LOC/DME I-DTW 110.7 Chan 44 | APP CRS 036° | Rwy Idg TDZE Apt Elev | 11494 638 645 |
|---|------------------------|-----------------------------|--|

▼ DME or RADAR required. Simultaneous approach authorized.
Procedure NA when glide slope not available.
Dual VHF Comm required. See additional requirements on AAUP.



MISSED APPROACH: Climb to 4000 on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME/15.6 DME/RADAR and hold.

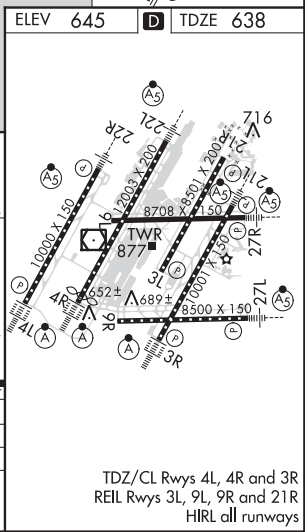
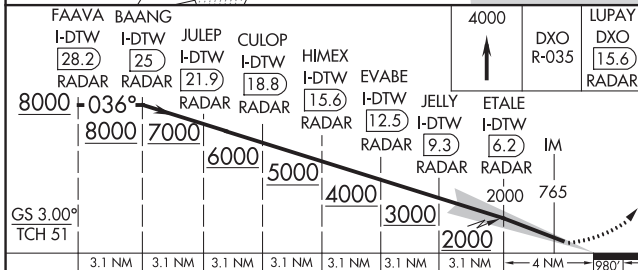
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|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 PRM 135.775 | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | | | | | | |
|-----------------------------|----------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|----------------------|
| FAAVA I-DTW 28.2 RADAR 8000 | BAANG I-DTW 25 RADAR | JULEP I-DTW 21.9 RADAR | CULOP I-DTW 18.8 RADAR | HIMEX I-DTW 15.6 RADAR | EVABE I-DTW 12.5 RADAR | JELLY I-DTW 9.3 RADAR | ETALE I-DTW 6.2 RADAR | LUPAY DXO 15.6 RADAR |
|-----------------------------|----------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|----------------------|



| | | | | | | | | | |
|-----------------|------------------|--------|------------|--------|--------|--------|--------|------|------|
| GS 3.00° TCH 51 | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 4 NM | 980' |
| CATEGORY | A | | B | | C | | D | | |
| S-ILS 4R | CAT II RA 104/12 | | 100 DA 738 | | | | | | |
| S-ILS 4R | CAT III | | RVR 06 | | | | | | |

CATEGORY II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

DETROIT, MICHIGAN
Amdt 2 10NOV16

42°13'N-83°21'W

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

ILS PRM RWY 4R (CAT II & III) (CLOSE PARALLEL)

DETROIT, MICHIGAN

AL-119 (FAA)

RNAV (GPS) PRM RWY 4R (CLOSE PARALLEL)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

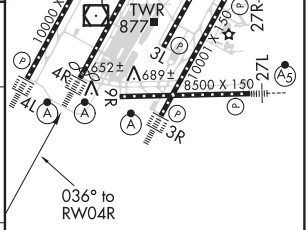
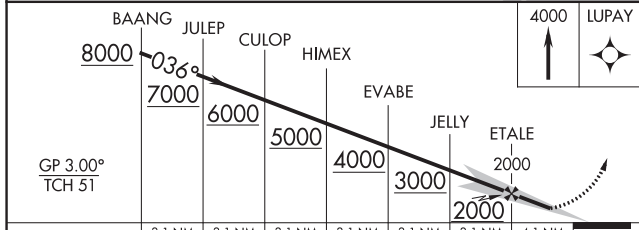
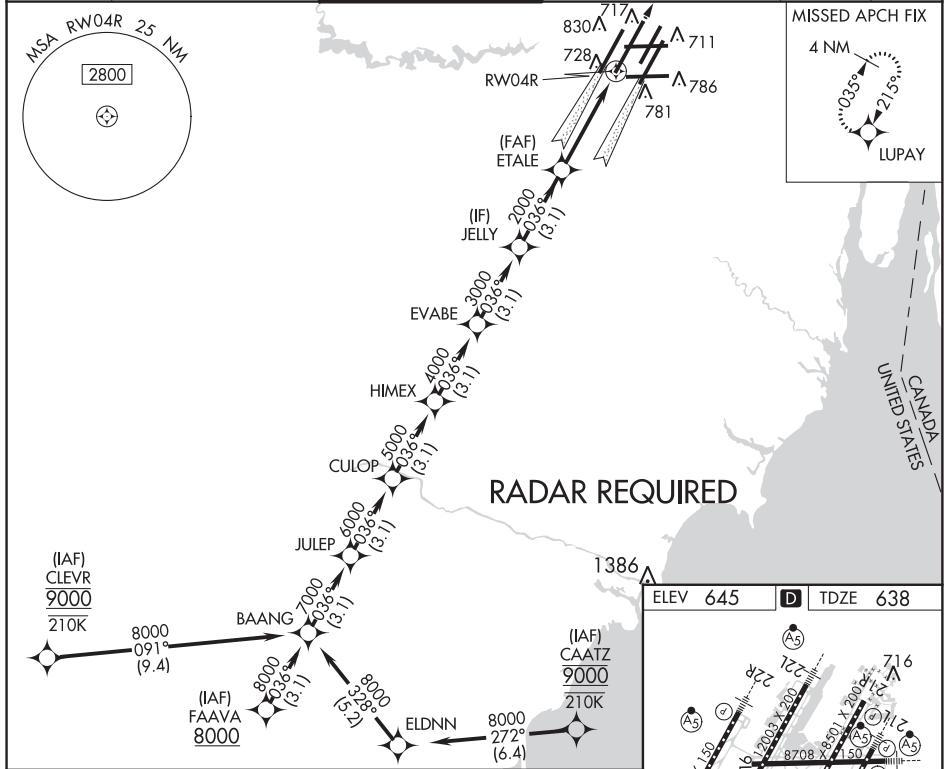
| | | |
|--|------------------------|--|
| WAAS CH 63004 W04B | APP CRS 036° | Rwy Idg 11494 TDZE 638 Apt Elev 645 |
|--|------------------------|--|

▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Use of FD or AP providing RNAV track guidance required during simultaneous operations. Simultaneous approach authorized. Dual VHF comm required. See additional requirements on AAUP. For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.

ALS-F2

MISSED APPROACH:
Climb to 4000 direct LUPAY and hold.

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 PRM 135.775 | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CINC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | | | | |
|--------------|---|--------|-------------|---|
| CATEGORY | A | B | C | D |
| LPV DA | | 838/24 | 200 (200-½) | |
| LNAV/VNAV DA | | 920/24 | 282 (300-½) | |

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

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN
Orig 10NOV16

42°13'N-83°21'W

RNAV (GPS) PRM RWY 4R (CLOSE PARALLEL)

DETROIT, MICHIGAN

AL-119 (FAA)

RNAV (GPS) PRM RWY 22L (CLOSE PARALLEL)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

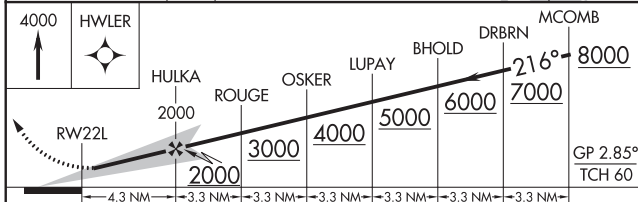
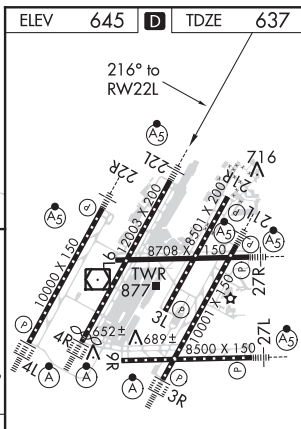
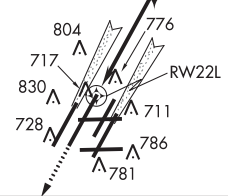
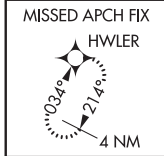
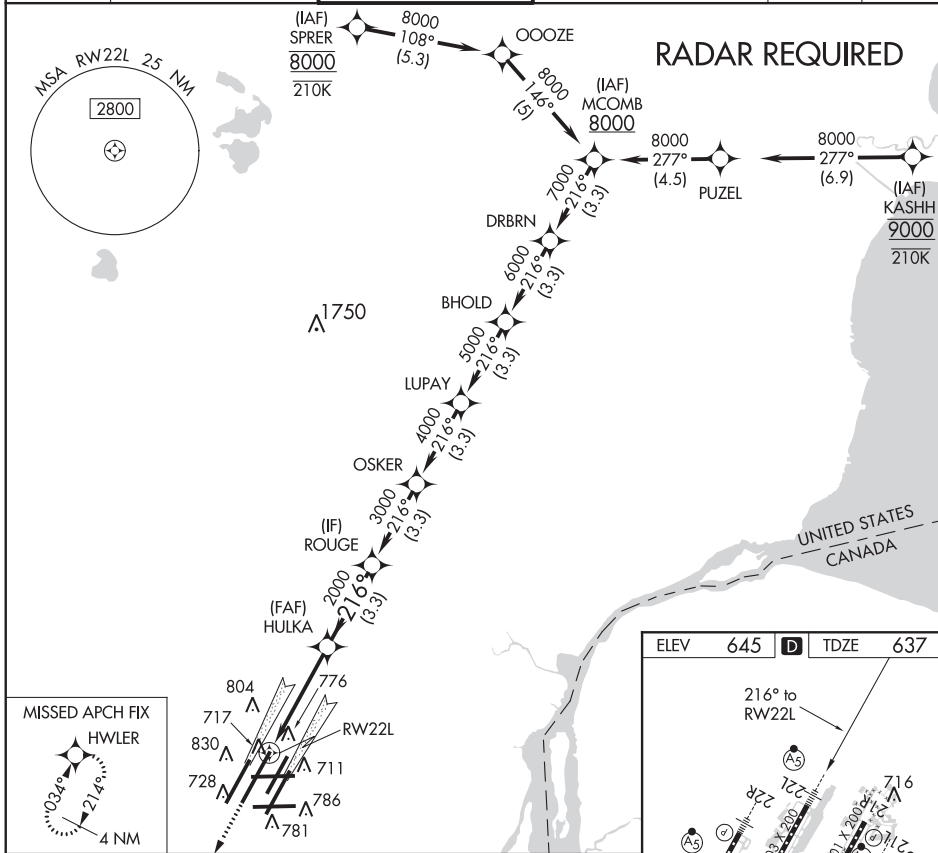
| | | |
|--|------------------------|-------------------------|
| WAAS CH 99601 W22A | APP CRS 216° | Rwy Idg 12003 |
| | | TDZE 637 |
| | | Apt Elev 645 |

▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -10°C (14°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Use of FD or AP providing RNAV track guidance required during simultaneous operations. Simultaneous approach authorized. Dual VHF comm required. See additional requirements on AAUP.



MISSED APPROACH:
Climb to 4000 direct
HWLER and hold.

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | | | | |
|--------------|---|--------|-------------|---|
| CATEGORY | A | B | C | D |
| LPV DA | | 837/24 | 200 (200-½) | |
| LNAV/VNAV DA | | 938/24 | 301 (300-½) | |

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

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN
Orig 10NOV16

42°13'N-83°21'W

DETROIT METROPOLITAN WAYNE COUNTY (DTW) RNAV (GPS) PRM RWY 22L (CLOSE PARALLEL)

DETROIT, MICHIGAN

AL-119 (FAA)

RNAV (GPS) PRM RWY 4L

(CLOSE PARALLEL)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

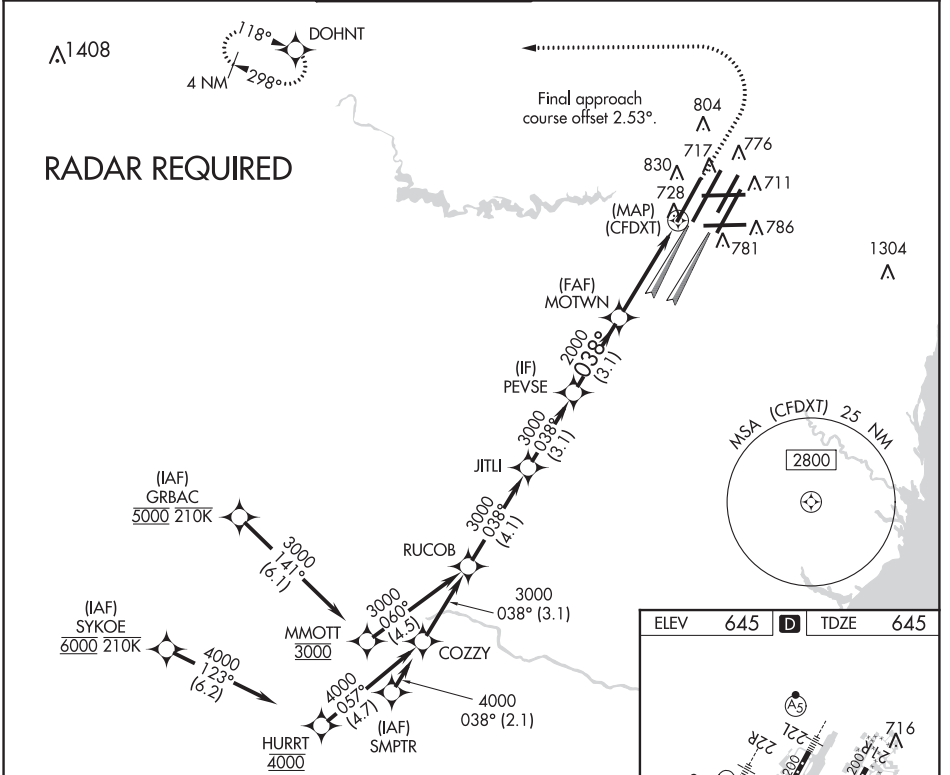
| | | |
|--|------------------------|--|
| WAAS CH 82439 W04A | APP CRS 038° | Rwy Idg 10000 TDZE 645 Apt Elev 645 |
|--|------------------------|--|

⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Use of FD or AP providing RNAV track guidance required during simultaneous operations. Simultaneous approach authorized. Dual VHF comm required. See additional requirements on AAUP.



MISSED APPROACH:
Climb to 1100 then climbing left turn to 4000 direct DOHNT and hold.

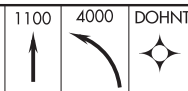
| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



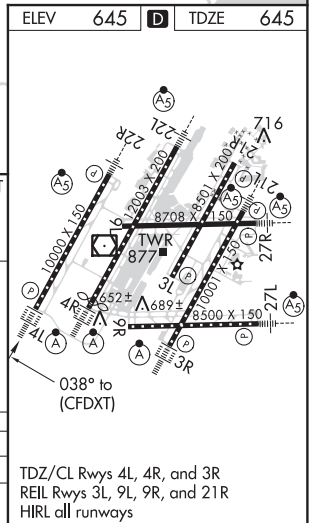
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 71).



| | | | | | |
|--------------------|----------|----------|-------------|----------|---------|
| | RUCOB | JITLI | PEVSE | MOTWN | |
| GP 3.00° TCH 55 | 3000 | 3000 | 3000 | 2000 | (CFDXT) |
| | ←4.1 NM→ | ←3.1 NM→ | ←3.1 NM→ | ←4.1 NM→ | |
| CATEGORY | A | B | C | D | |
| LPV DA | | 895/24 | 250 (300-½) | | |
| LNAV/VNAV DA | | 1068/45 | 423 (500-¾) | | |



DETROIT, MICHIGAN
Orig 10NOV16

42°13'N-83°21'W

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

RNAV (GPS) PRM RWY 4L

(CLOSE PARALLEL)

DETROIT, MICHIGAN


AL-119 (FAA) **RNAV (GPS) PRM Y RWY 22R**

(CLOSE PARALLEL)

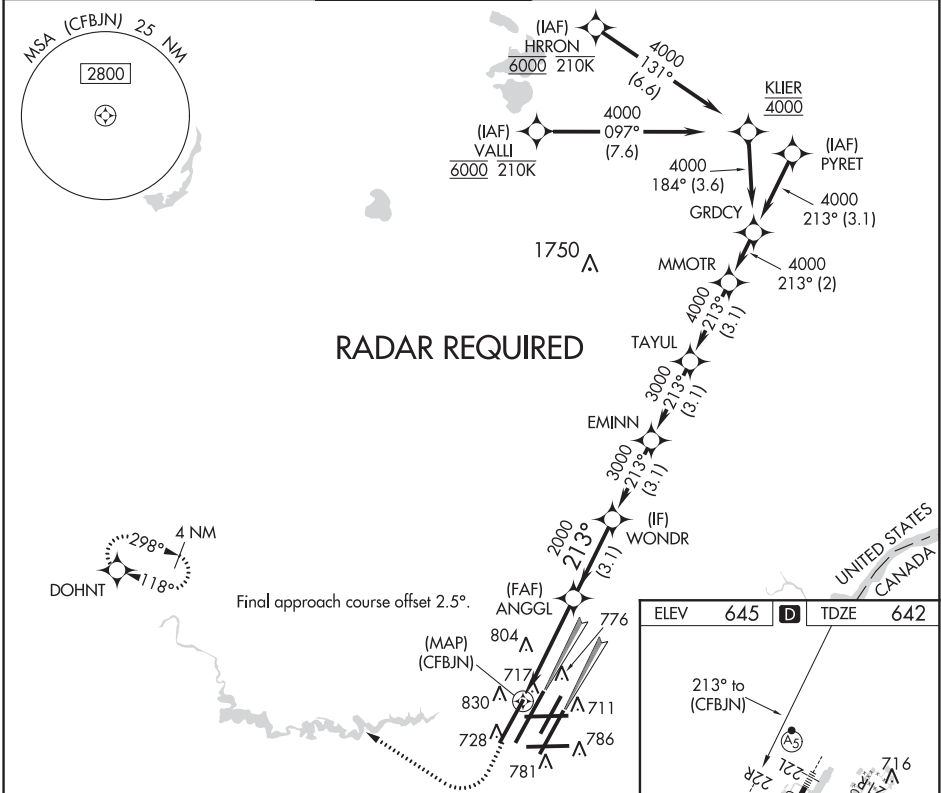
DETROIT METROPOLITAN WAYNE COUNTY (DTW)

| | | |
|--|------------------------|---|
| WAAS CH 42939 W22B | APP CRS 213° | Rwy Idg TDZE 642 Apt Elev 645 |
|--|------------------------|---|

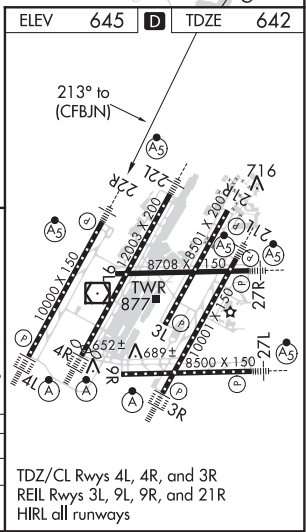
▼ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Use of FD or AP providing RNAV track guidance required during simultaneous operations. Simultaneous approach authorized. Dual VHF comm required. See additional requirements on AAUP.

MALSR  MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 direct DOHNT and hold.

| | | | | | |
|------------------------|---|---|--|---------------------------|-------|
| ATIS 133.675 | DETROIT APP CON 124.05 363.2 (WEST) 125.15 363.2 (EAST) | METRO TOWER 135.0 317.725 (WEST) 118.4 317.725 (EAST) | GND CON 121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE) | CLNC DEL 120.65 | CPDLC |
|------------------------|---|---|--|---------------------------|-------|



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------|---------|--|--------|--------|-------|--|-------|-------|-------|-------|-------|-------|--|------|------|------|------|------|------|--|------|--|--|--|--|--|--|--------|--------|--------|--------|--------|------|
| 1100 | 4000 | DOHNT | VGS1 and RNAV glidepath not coincident (VGS1 Angle 3.00/TCH 71). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td></td> <td>ANGLL</td> <td>WONDR</td> <td>EMINN</td> <td>TAYUL</td> <td>MMOTR</td> <td>GRDCY</td> </tr> <tr> <td></td> <td>2000</td> <td>3000</td> <td>3000</td> <td>4000</td> <td>4000</td> <td>4000</td> </tr> <tr> <td></td> <td>2000</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>4.1 NM</td> <td>3.1 NM</td> <td>3.1 NM</td> <td>3.1 NM</td> <td>3.1 NM</td> <td>2 NM</td> </tr> </table> | | | | | | | | ANGLL | WONDR | EMINN | TAYUL | MMOTR | GRDCY | | 2000 | 3000 | 3000 | 4000 | 4000 | 4000 | | 2000 | | | | | | | 4.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 2 NM |
| | ANGLL | WONDR | EMINN | TAYUL | MMOTR | GRDCY | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2000 | 3000 | 3000 | 4000 | 4000 | 4000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 3.1 NM | 2 NM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CATEGORY | A | B | C | D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LPV DA | | 892/24 | 250 (300-½) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LNAV/VNAV DA | | 1050/45 | 408 (500-¾) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN
Orig 10NOV16

42°13'N-83°21'W DETROIT METROPOLITAN WAYNE COUNTY (DTW)
RNAV (GPS) PRM Y RWY 22R (CLOSE PARALLEL)
149

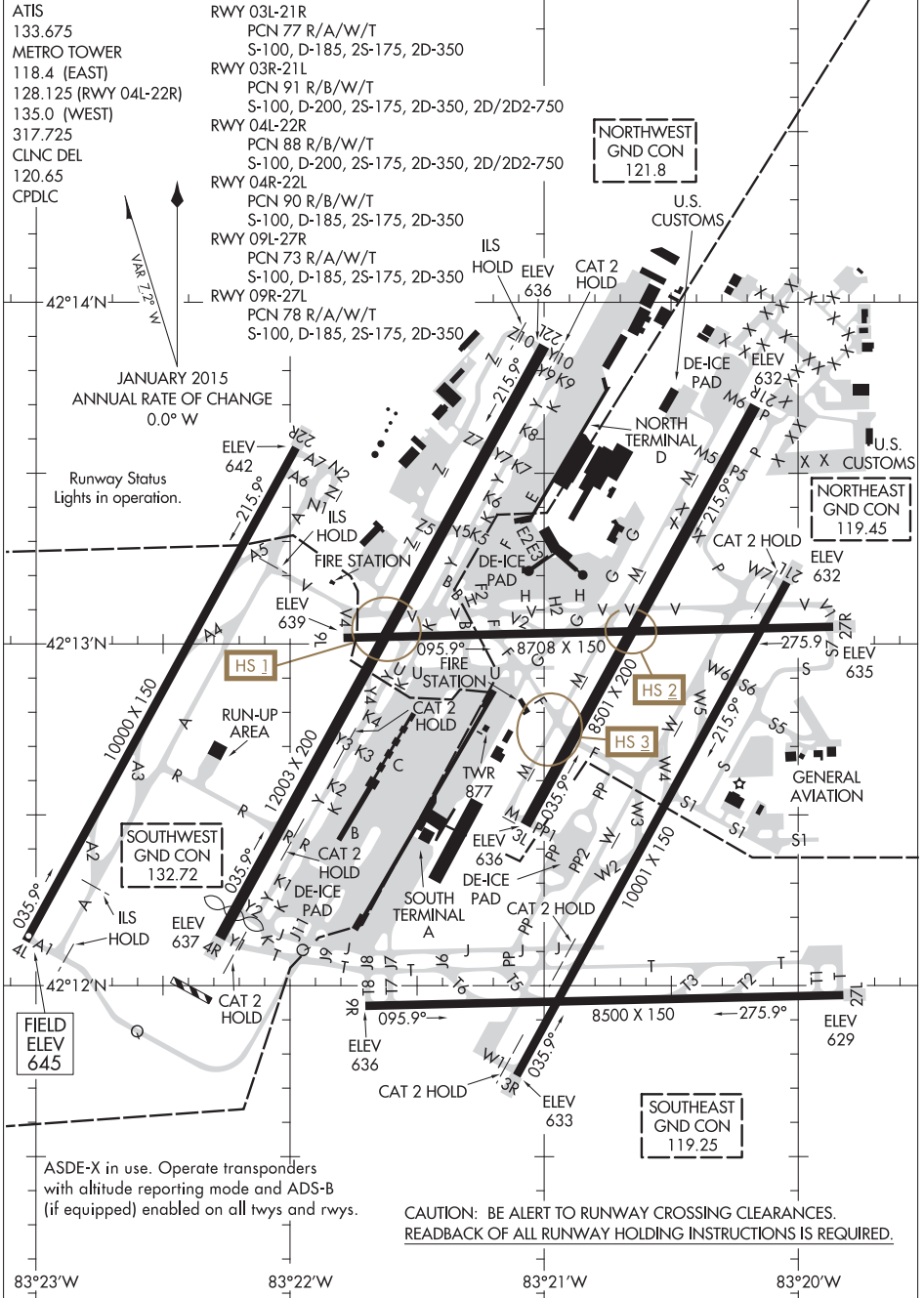
AIRPORT DIAGRAM

DETROIT METROPOLITAN WAYNE COUNTY (D'TW)
AL-119 (FAA)
DETROIT, MICHIGAN

- ATIS 133.675
- METRO TOWER 118.4 (EAST)
- 128.125 (RWY 04L-22R)
- 135.0 (WEST)
- 317.725
- CLNC DEL 120.65
- CPDLC
- RWY 03L-21R
PCN 77 R/A/W/T
S-100, D-185, 2S-175, 2D-350
- RWY 03R-21L
PCN 91 R/B/W/T
S-100, D-200, 2S-175, 2D-350, 2D/2D2-750
- RWY 04L-22R
PCN 88 R/B/W/T
S-100, D-200, 2S-175, 2D-350, 2D/2D2-750
- RWY 04R-22L
PCN 90 R/B/W/T
S-100, D-185, 2S-175, 2D-350
- RWY 09L-27R
PCN 73 R/A/W/T
S-100, D-185, 2S-175, 2D-350
- RWY 09R-27L
PCN 78 R/A/W/T
S-100, D-185, 2S-175, 2D-350

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



JANUARY 2015
ANNUAL RATE OF CHANGE
0.0° W

Runway Status
Lights in operation.

FIELD
ELEV
645

SOUTHWEST
GND CON
132.72

NORTHWEST
GND CON
121.8

NORTHEAST
GND CON
119.45

SOUTHEAST
GND CON
119.25

ASDE-X in use. Operate transponders
with altitude reporting mode and ADS-B
(if equipped) enabled on all twys and rwys.

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AIRPORT DIAGRAM

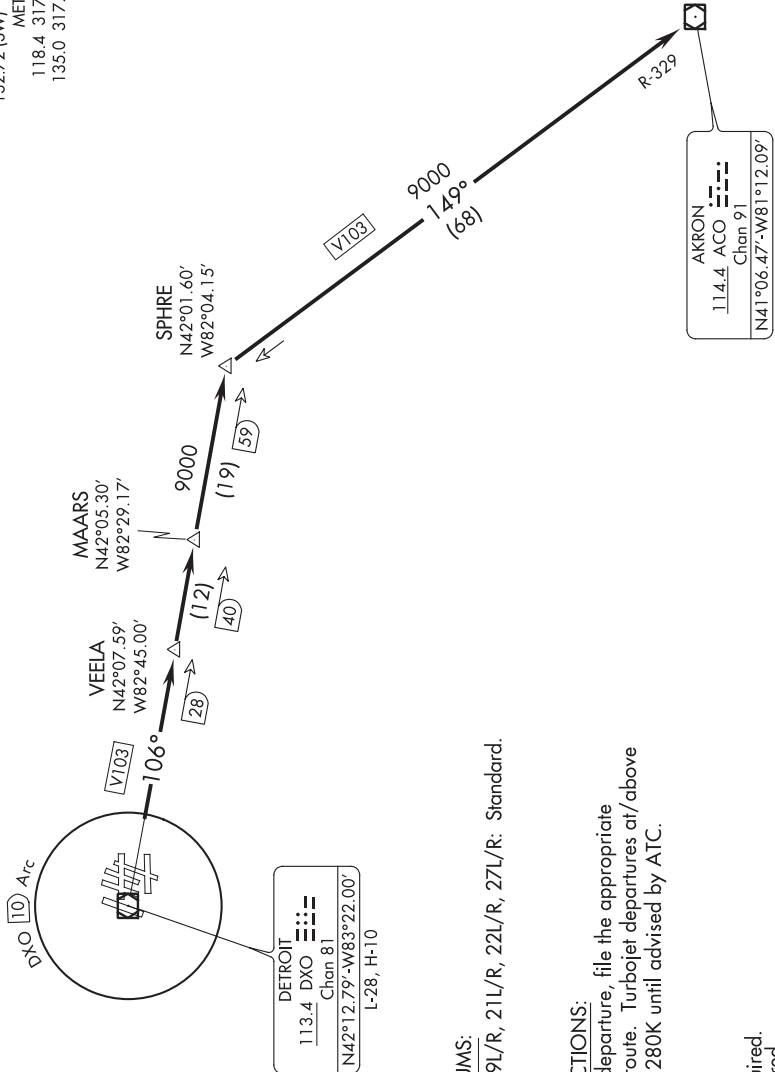
DETROIT, MICHIGAN
DETROIT METROPOLITAN WAYNE COUNTY (D'TW)

AKRON FIVE DEPARTURE

SL-119 (FAA)

DETROIT, MICHIGAN

ATIS 133.675
 CLNC DEL 120.65
 CPDLC
 GND CON
 121.8 (NW) 119.45 (NE)
 132.72 (SW) 119.25 (SE)
 METRO TOWER
 118.4 317.725 (EAST)
 135.0 317.725 (WEST)



**TOP ALTITUDE:
ASSIGNED BY ATC**

TAKEOFF MINIMUMS:
 Rwy 3L/R, 4L/R, 9L/R, 21L/R, 22L/R, 27L/R: Standard.

SPECIAL INSTRUCTIONS:
 When using this departure, file the appropriate depicted fix and route. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Radar required.
NOTE: DME required
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AKRON FIVE DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS:

Climb on assigned heading for radar vectors to intercept DXO VOR/DME R-106, to SPHRE INT, then on ACO R-329 to ACO VOR/DME. When the ATC assigned altitude is at or above 5000, cross DXO 10 DME Arc at or above 5000 for noise abatement. If unable to comply, advise ATC prior to departure. Expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 3L: Tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL.
- Rwy 3R: Headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL.
- Rwy 4L: Transmission towers beginning 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL.
Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL.
- Rwy 4R: Trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL.
Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL.
- Rwy 9L: Trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL.
Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL.
- Rwy 9R: Trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL.
- Rwy 21L: Trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL.
Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL.
- Rwy 21R: Tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL.
Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL.
- Rwy 22L: Bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL.
Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL.
Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL.
- Rwy 22R: Trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL.
Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL.
- Rwy 27L: Trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL.
Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.
- Rwy 27R: Trees beginning 2998' from DER, 949' left of centerline up to 100' AGL/754' MSL.
Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL.
Trees beginning 3289' from DER, 1239' right of centerline up to 100' AGL/744' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

(ERRTH6.ERRTH) 16203
ERRTH SIX DEPARTURE

DETROIT METROPOLITAN WAYNE COUNTY (DTW)
 SL-119 (FAA) DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

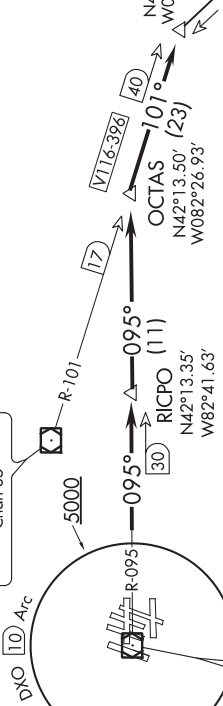
**TOP ALTITUDE:
 ASSIGNED BY ATC**

SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted departure fix and route. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

WINDSOR
 113.8 YQG Chan 85

DETROIT
 113.4 DXO Chan 81
 N42°12.79' W83°22.00'



NOTE: DME required.
 NOTE: RADAR required.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for RADAR vectors to intercept DXO VOR/DME R-095 to OCTAS then on YQG R-101 to ERRTH. When the ATC assigned altitude is at or above 5000, cross DXO 10 DME Arc at or above 5000 for noise abatement. If unable to comply, advise ATC prior to departure. Expect clearance to filed altitude/flight level ten (10) minutes after departure.

KEATING TRANSITION (ERRTH6.ETG): From over ERRTH to CXR VOR/DME, then on CXR R-102 and ETG R-289 to MIDGET, then on ETG R-289 to ETG VORTAC.

CHARDON TRANSITION (ERRTH6.CXR): From over ERRTH to CXR VOR/DME.

TAKEOFF MINIMUMS:

Rwys 3L/R, 4L/R, 9L/R, 21L/R, 22L/R, 27L/R: Standard.

ATIS 133.675
 CLNC DEL 120.65
 CPDIC
 GND CON
 121.8 (NW) 119.45 (NE)
 132.72 (SW) 119.25 (SE)
 METRO TOWER
 118.4 317.725 (EAST)
 135.0 317.725 (WEST)



JAMESTOWN
 114.7 JHW Chan 94

MIGET
 N41°17.67' W78°51.86'

CHARDON
 112.7 CXR Chan 74
 N41°31.02' W81°09.79'
 L-30, H-10

KEATING
 116.0 ETG Chan 107
 N41°12.90' W78°08.57'
 L-30, H-10-12

(NOTES CONTINUED ON FOLLOWING PAGE)

NOTE: Chart not to scale.

(ERRTH6.ERRTH) 30APR15
ERRTH SIX DEPARTURE

DETROIT, MICHIGAN
 DETROIT METROPOLITAN WAYNE COUNTY (DTW)

EC-1, 10 NOV 2016 to 05 JAN 2017

ERRTH SIX DEPARTURE

TAKEOFF OBSTACLE NOTES

- Rwy 3L: Tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL.
- Rwy 3R: Headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL.
- Rwy 4L: Transmission towers beginning 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL. Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL.
- Rwy 4R: Trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL. Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL.
- Rwy 9L: Trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL. Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL.
- Rwy 9R: Trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL.
- Rwy 21L: Trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL. Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL.
- Rwy 21R: Tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL. Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL.
- Rwy 22L: Bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL. Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL. Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL.
- Rwy 22R: Trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL. Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL.
- Rwy 27L: Trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL. Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.
- Rwy 27R: Trees beginning 2998' from DER, 949' left of centerline, up to 100' AGL/754' MSL. Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL. Trees beginning 3289' from DER, 1239' right of centerline, up to 100' AGL/744' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to intercept DXO VOR/DME R-217 to ILLIE INT, then on FWA R-071 to FWA VORTAC. When the ATC assigned altitude is at or above 5000, cross DXO 10 DME Arc at or above 5000 for noise abatement. If unable to comply, advise ATC prior to departure. Expect clearance to filed altitude/flight level (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 3L: Tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL.
- Rwy 3R: Headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL.
- Rwy 4L: Transmission towers beginning 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL.
Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL.
- Rwy 4R: Trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL.
Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL.
- Rwy 9L: Trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL.
Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL.
- Rwy 9R: Trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL.
- Rwy 21L: Trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL.
Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL.
- Rwy 21R: Tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL.
Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL.
- Rwy 22L: Bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL.
Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL.
Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL.
- Rwy 22R: Trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL.
Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL.
- Rwy 27L: Trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL.
Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.
- Rwy 27R: Trees beginning 2998' from DER, 949' left of centerline up to 100' AGL/754' MSL.
Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL.
Trees beginning 3289' from DER, 1239' right of centerline up to 100' AGL/744' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to intercept DXO VOR/DME R-083 to MOONN. Then on (transition). When the ATC assigned altitude is at or above 5000, cross DXO 10 DME Arc at or above 5000 for noise abatement. If unable to comply, advise ATC prior to departure. Expect clearance to filed altitude/flight level ten (10) minutes after departure.

DUNKIRK TRANSITION (MOONN7.DKK): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on DKK R-267 to DKK VORTAC.

JAMESTOWN TRANSITION (MOONN7.JHW): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on JHW R-282 to JHW VOR/DME.

LONDON TRANSITION (MOONN7.YXU): From over MOONN on SVM R-095 to BROKK, then on YXU R-212 to YXU VOR/DME.

TAKEOFF OBSTACLES:

- Rwy 3L: Tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL.
 Rwy 3R: Headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL.
 Rwy 4L: Transmission towers beginning 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL.
 Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL.
 Rwy 4R: Trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL.
 Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL.
 Rwy 9L: Trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL.
 Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL.
 Rwy 9R: Trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL.
 Rwy 21L: Trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL.
 Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL.
 Rwy 21R: Tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL.
 Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL.
 Rwy 22L: Bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL.
 Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL.
 Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL.
 Rwy 22R: Trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL.
 Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL.
 Rwy 27L: Trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL.
 Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.
 Rwy 27R: Trees beginning 2998' from DER, 949' left of centerline up to 100' AGL/754' MSL.
 Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL.
 Trees beginning 3289' from DER, 1239' right of centerline up to 100' AGL/744' MSL.

PALACE NINE DEPARTURE

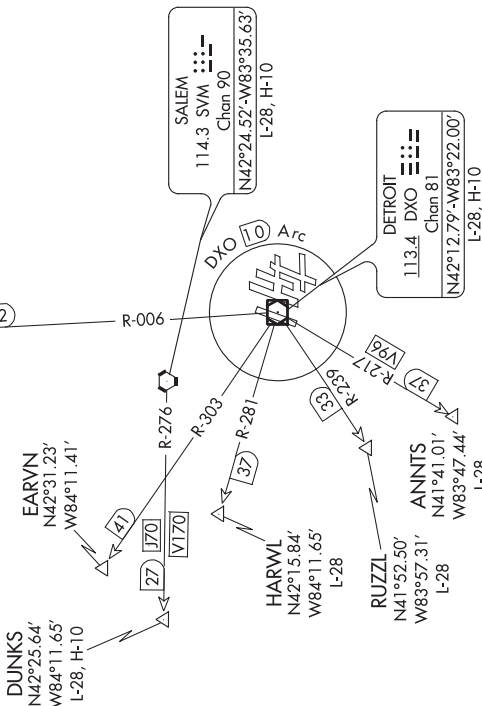
EC-1, 10 NOV 2016 to 05 JAN 2017

SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted departure fix and route.
 Aircraft landing/overflying Lansing (LAN) or overflying Flint (FNT) at 10000' or below, file via EARVN. Aircraft landing Flint (FNT) at 10000' or below, file via LAYNE.
 Aircraft landing/overflying Toledo (TOL) at 10000' or below, file via RUZZL. Aircraft over HARWL must file FL 220 and below. PROP AIRCRAFT departing Rwy21L/R and 22L/R westbound cross DXO 3.5 DME at above 2500 MSL. If unable advise ATC prior to departure.
 Aircraft landing Cincinnati (CVG) must file via ANNTS. PROPS NA over ANNTS. JETS use DEP CON frequency 125.525. Props use DEP CON frequency 118.95. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

- ATIS 133.675
- CLNC DEL 120.65
- CPDLC
- GND CON
- 119.25 (SOUTHEAST)
- 119.45 (NORTHEAST)
- 121.8 (NORTHWEST)
- 132.72 (SOUTHWEST)
- METRO TOWER
- 118.4 317.725 (EAST)
- 135.0 317.725 (WEST)

TOP ALTITUDE: ASSIGNED BY ATC.



TAKEOFF MINIMUMS:

- Rwys 3L, 3R, 4L, 4R,
- 9L, 9R, 21L, 21R,
- 22L, 22R, 27L, 27R:
- Standard.

- NOTE: ATC requested only.
- NOTE: DME required.
- NOTE: RADAR required.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

PALACE NINE DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to join the assigned airway or radial, then proceed to the assigned departure fix, thence on assigned route. When the ATC assigned altitude is at or above 5000, cross DXO 10 DME Arc at or above 5000 for noise abatement. If unable to comply, advise ATC prior to departure. Expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLE NOTES:

- Rwy 3L: Tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL.
- Rwy 3R: Headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL.
- Rwy 4L: Transmission towers beginng 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL.
Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL.
- Rwy 4R: Trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL.
Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL.
- Rwy 9L: Trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL.
Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL.
- Rwy 9R: Trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL.
- Rwy 21L: Trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL.
Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL.
- Rwy 21R: Tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL.
Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL.
- Rwy 22L: Bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL.
Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL.
Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL.
- Rwy 22R: Trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL.
Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL.
- Rwy 27L: Trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL.
Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.
- Rwy 27R: Trees beginning 2998' from DER, 949' left of centerline up to 100' AGL/754' MSL.
Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL.
Trees beginning 3289' from DER, 1239' right of centerline, up to 100' AGL/744' MSL

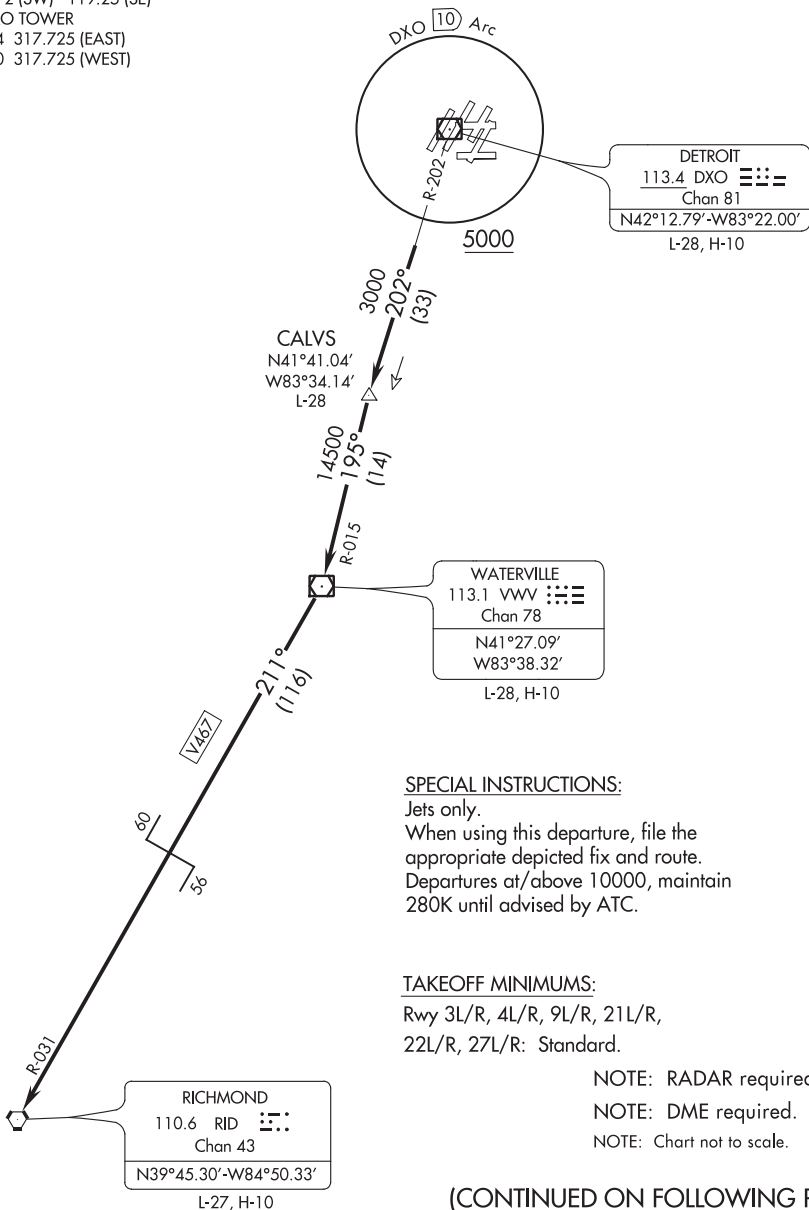
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

RICHMOND EIGHT DEPARTURE

ATIS 133.675
 CLNC DEL 120.65
 CPDLC
 GND CON
 121.8 (NW) 119.45 (NE)
 132.72 (SW) 119.25 (SE)
 METRO TOWER
 118.4 317.725 (EAST)
 135.0 317.725 (WEST)

**TOP ALTITUDE:
ASSIGNED BY ATC**



SPECIAL INSTRUCTIONS:

Jets only.
 When using this departure, file the appropriate depicted fix and route.
 Departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwy 3L/R, 4L/R, 9L/R, 21L/R,
 22L/R, 27L/R: Standard.

- NOTE: RADAR required.
- NOTE: DME required.
- NOTE: Chart not to scale.

(CONTINUED ON FOLLOWING PAGE)

RICHMOND EIGHT DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

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DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for RADAR vectors to intercept DXO VOR/DME R-202 to CALVS, then on VWV R-015 to VWV VOR/DME. Then right turn on VWV R-211 and RID R-031 to RID VORTAC. When the ATC assigned altitude is at or above 5000, cross DXO 10 DME Arc at or above 5000 for noise abatement. If unable to comply, advise ATC prior to departure. Expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 3L: Tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL.
 Rwy 3R: Headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL.
 Rwy 4L: Transmission towers beginning 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL.
 Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL.
 Rwy 4R: Trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL.
 Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL.
 Rwy 9L: Trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL.
 Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL.
 Rwy 9R: Trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL.
 Rwy 21L: Trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL.
 Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL.
 Rwy 21R: Tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL.
 Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL.
 Rwy 22L: Bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL.
 Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL.
 Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL.
 Rwy 22R: Trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL.
 Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL.
 Rwy 27L: Trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL.
 Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.
 Rwy 27R: Trees beginning 2998' from DER, 949' left of centerline up to 100' AGL/754' MSL.
 Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL.
 Trees beginning 3289' from DER, 1239' right of centerline up to 100' AGL/744' MSL.

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EC-1, 10 NOV 2016 to 05 JAN 2017

ROSEWOOD FIVE DEPARTURE

ATIS 133.675
 CLNC DEL 120.65
 CPDLC
 GND CON
 121.8 (NW) 119.45 (NE)
 132.72 (SW) 119.25 (SE)
 METRO TOWER
 118.4 317.725 (EAST)
 135.0 317.725 (WEST)

**TOP ALTITUDE:
 ASSIGNED BY ATC**



DETROIT
 113.4 DXO
 Chan 81
 N42°12.79'-W83°22.00'
 L-28, H-10

3100
 184°
 (32)

SCORR
 N41°40.31'
 W83°20.49'

R-047
 (41)

CHOO T
 N41°31.54'
 W83°20.09'

WATERVILLE
 113.1 VWV
 Chan 78

FLAG CITY
 108.2 FBC
 Chan 19

SPECIAL INSTRUCTIONS:
 When using this departure, file the appropriate depicted fix and route.
 Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
 Rwy's 3L/R, 4L/R, 9L/R, 21L/R, 22L/R, 27L/R: Standard.

6500
 208°
 (81)

ROSEWOOD
 117.5 ROD
 Chan 122
 N40°17.27'
 W84°02.59'
 L-27, H-10

NOTE: Radar required.
 NOTE: DME required.
 NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

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EC-1, 10 NOV 2016 to 05 JAN 2017

ROSEWOOD FIVE DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to intercept DXO VOR/DME R-184 to CHOOT, then right turn on ROD R-028 to ROD VORTAC. When the ATC assigned altitude is at or above 5000, cross DXO 10 DME Arc at or above 5000 for noise abatement. If unable to comply, advise ATC prior to departure. Expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 3L: Tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL.
 Rwy 3R: Headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL.
 Rwy 4L: Transmission towers beginning 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL.
 Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL.
 Rwy 4R: Trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL.
 Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL.
 Rwy 9L: Trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL.
 Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL.
 Rwy 9R: Trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL.
 Rwy 21L: Trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL.
 Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL.
 Rwy 21R: Tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL.
 Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL.
 Rwy 22L: Bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL.
 Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL.
 Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL.
 Rwy 22R: Trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL.
 Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL.
 Rwy 27L: Trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL.
 Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.
 Rwy 27R: Trees beginning 2998' from DER, 949' left of centerline up to 100' AGL/754' MSL.
 Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL.
 Trees beginning 3289' from DER, 1239' right of centerline up to 100' AGL/744' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ST. CLAIR NINE DEPARTURE

SL-119 (FAA)

DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

TOP ALTITUDE: ASSIGNED BY ATC

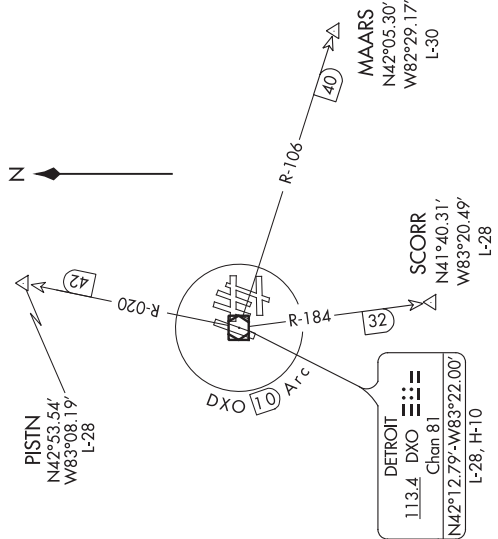
ATIS 133.675
 CLNC DEL 120.65
 CPDIC
 GND CON
 121.8 (NW) 119.45 (NE)
 132.72 (SW) 119.25 (SE)
 METRO TOWER
 118.4 317.725 (EAST)
 135.0 317.725 (WEST)

TAKEOFF MINIMUMS:

Rwy 3L/R, 4L/R, 9L/R, 21L/R,
 22L/R, 27L/R: Standard.

SPECIAL INSTRUCTIONS: When using this departure, file the appropriate depicted fix and route. Aircraft landing Columbus (CMH) must file via SCORR. Aircraft filed over APE must file via SCORR. Aircraft landing Cleveland (CLE) must file via MAARS. Departures at/above 10000, maintain 280K until advised by ATC.

- NOTE: ATC requested only.
- NOTE: Radar required.
- NOTE: DME required.
- NOTE: JETS only except for aircraft landing CMH, CLE, YYZ, or prop aircraft filed over APE.



NOTE: Chart not to scale.

(NOTES CONTINUED ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to join the assigned airway or radial, then proceed to the assigned departure fix, then on assigned route. When the ATC assigned altitude is at or above 5000, cross DXO 10 DME Arc at or above 5000 for noise abatement. If unable to comply, advise ATC prior to departure. Expect clearance to filed altitude/flight level ten (10) minutes after departure.

ST. CLAIR NINE DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

ST. CLAIR NINE DEPARTURE

TAKEOFF OBSTACLES:

- Rwy 3L: Tree 3794' from DER, 1441' left of centerline, 100' AGL/734' MSL.
- Rwy 3R: Headwall 399' from DER, 566' right of centerline, 17' AGL/647' MSL.
- Rwy 4L: Transmission towers beginning 1516' from DER, 827' left of centerline, up to 60' AGL/690' MSL.
Rods on towers beginning 2751' from DER, 762' right of centerline, up to 41' AGL/714' MSL.
- Rwy 4R: Trees beginning 2850' from DER, 1058' left of centerline, up to 100' AGL/744' MSL.
Antenna on building 3348' from DER, 1301' left of centerline, 100' AGL/736' MSL.
- Rwy 9L: Trees beginning 968' from DER, 461' left of centerline, up to 15' AGL/682' MSL.
Trees beginning 987' from DER, 607' right of centerline, up to 45' AGL/715' MSL.
- Rwy 9R: Trees beginning 1172' from DER, 686' right of centerline, up to 100' AGL/729' MSL.
- Rwy 21L: Trees beginning 1079' from DER, 586' left of centerline, up to 100' AGL/739' MSL.
Tree 3910' from DER, 1188' right of centerline, 101' AGL/733' MSL.
- Rwy 21R: Tree 1963' from DER, 554' left of centerline, 100' AGL/739' MSL.
Trees beginning 2468' from DER, 721' right of centerline, up to 100' AGL/739' MSL.
- Rwy 22L: Bush 514' from DER, 619' right of centerline, 17' AGL/652' MSL.
Trees beginning 794' from DER, 611' right of centerline, up to 100' AGL/739' MSL.
Trees beginning 1726' from DER, 921' left of centerline, up to 100' AGL/744' MSL.
- Rwy 22R: Trees beginning 1014' from DER, 729' left of centerline, up to 100' AGL/749' MSL.
Trees beginning 1039' from DER, 680' right of centerline, up to 100' AGL/749' MSL.
- Rwy 27L: Trees beginning 2623' from DER, 693' left of centerline, up to 100' AGL/744' MSL.
Tree 3589' from DER, 777' right of centerline, 100' AGL/739' MSL.
- Rwy 27R: Trees beginning 2998' from DER, 949' left of centerline, up to 100' AGL/754' MSL.
Rod on OL ASR 4461' from DER, 464' left of centerline, 106' AGL/756' MSL.
Trees beginning 3289' from DER, 1239' right of centerline, up to 100' AGL/744' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ST. CLAIR NINE DEPARTURE

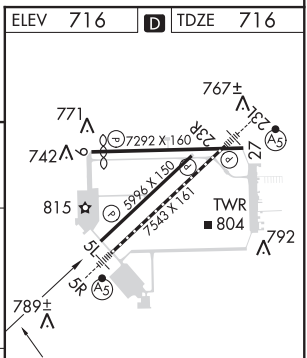
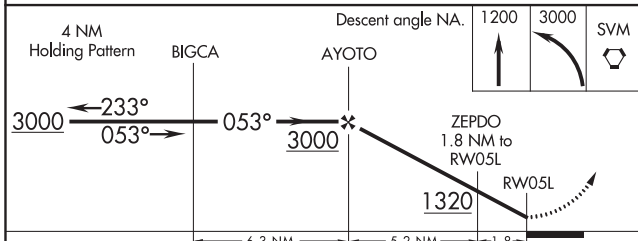
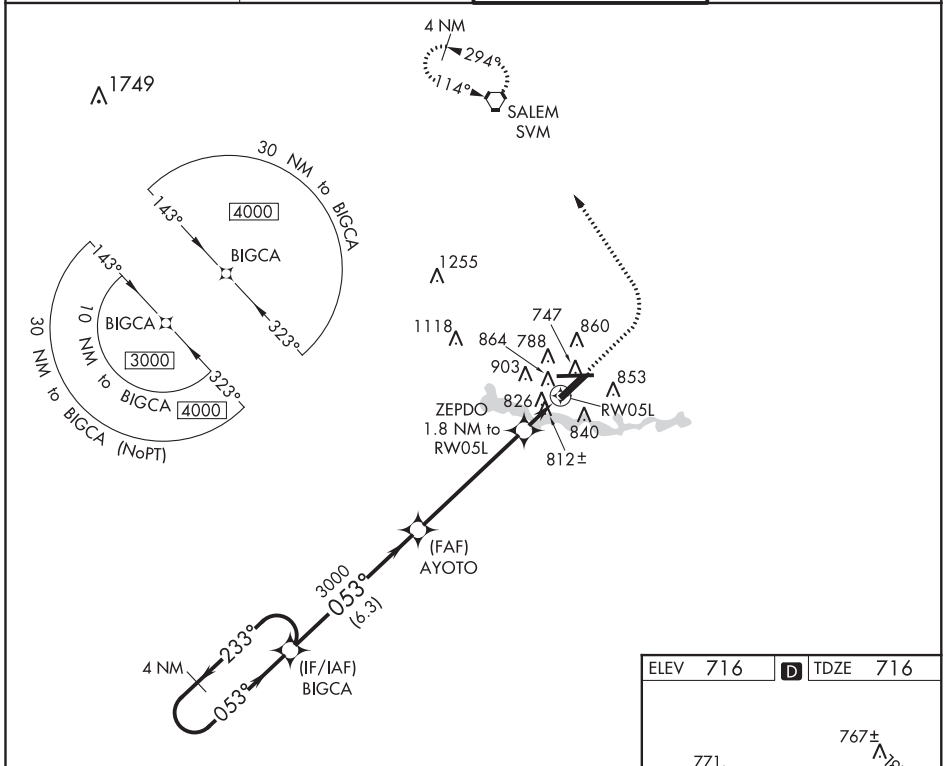
| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 78435 W05B | APP CRS 053° | Rwy Idg TDZE Apt Elev | 5996 716 716 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 5L

WILLOW RUN (YIP)

| | |
|--|--|
| <p>⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below ¾ SM NA.</p> | <p>MISSED APPROACH: Climb to 1200, then climbing left turn to 3000 direct SVM VORTAC and hold.</p> |
|--|--|

| | | | |
|------------------------|--|--|--------------------------|
| ATIS 127.425 | DETROIT APP CON 118.95 363.2 | WILLOW RUN TOWER 125.275 256.9 | GND CON 121.75 |
|------------------------|--|--|--------------------------|



| | | | | |
|-------------------|--------------------|----------------------|----------------------|---|
| ELEV 716 | D TDZE 716 | | | |
| CATEGORY | A | B | C | D |
| LP MDA | 1080-1 364 (400-1) | | | |
| LNAV MDA | 1120-1 404 (500-1) | 1120-1½ 404 (500-1½) | | |
| C CIRCLING | 1220-1 504 (600-1) | 1220-1½ 504 (600-1½) | 1400-2¼ 684 (700-2¼) | |

TDZ/CL Rwy 5R
HIRL Rwy 5R-23L
MIRL Rwy 5L-23R, and 9-27

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|-------------------------|------------------------|----------------------------|-------------|
| WAAS CH 97718 | APP CRS 053° | Rwy Idg TDZE 716 | 7543 |
| W05A | | Apt Elev 716 | |

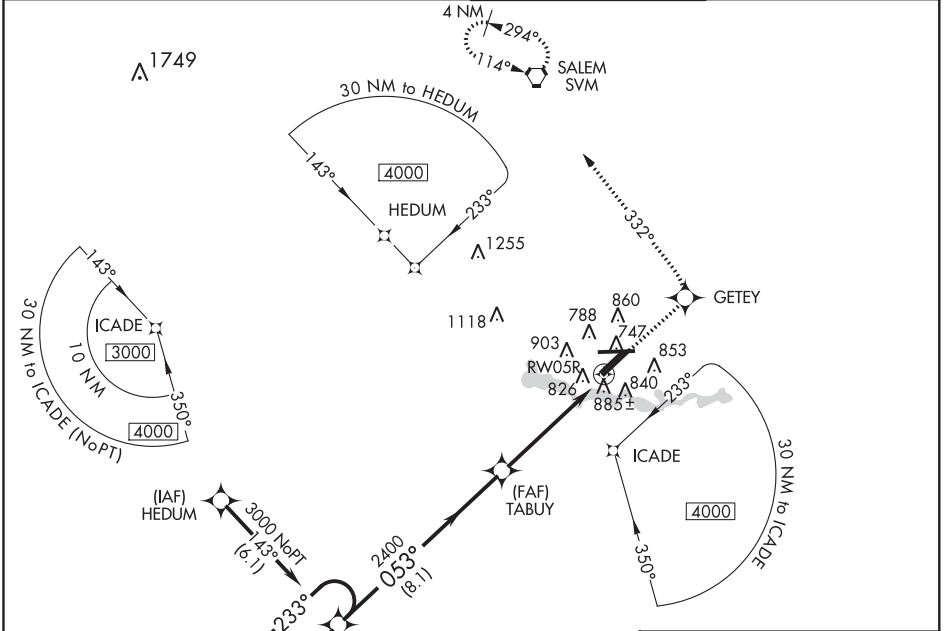
RNAV (GPS) RWY 5R

WILLOW RUN (YIP)

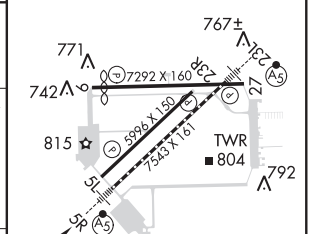
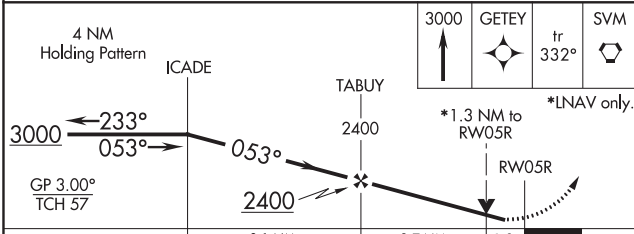
⚠ Inoperative table does not apply to LPV all Cats. For inoperative MALSR, increase Cat A/B visibility to RVR 5000 and Cat C/D visibility to 1 3/8. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below 3/4 SM NA.

MALSR
 MISSED APPROACH: Climb to 3000 direct GETEY and on track 332° to SVM VORTAC and hold.

| | | | |
|------------------------|--|--|--------------------------|
| ATIS 127.425 | DETROIT APP CON 118.95 363.2 | WILLOW RUN TOWER 125.275 256.9 | GND CON 121.75 |
|------------------------|--|--|--------------------------|



| | | |
|----------|----------|----------|
| ELEV 716 | D | TDZE 716 |
|----------|----------|----------|



| | | | | |
|-------------------|----------------------|---------------|-----------------|-----------------|
| CATEGORY | A | B | C | D |
| LPV DA | 966/40 250 (300-3/4) | | | |
| LNAV/VNAV DA | 1186/50 470 (500-1) | | | |
| LNAV MDA | 1200/40 | 484 (500-3/4) | 1200/50 | 484 (500-1) |
| C CIRCLING | 1220-1 | 504 (600-1) | 1220-1 1/2 | 1400-2 1/4 |
| | | | 504 (600-1 1/2) | 684 (700-2 1/4) |

TDZ/CL Rwy 5R
 HIRL Rwy 5R-23L
 MIRL Rwy 5L-23R, and 9-27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 73035 W09A | APP CRS 094° | Rwy Idg TDZE Apt Elev | 6716 715 716 |
|--|------------------------|-----------------------------|---|

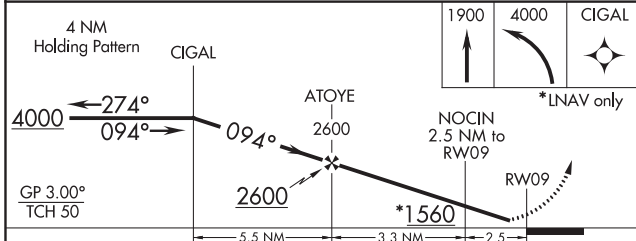
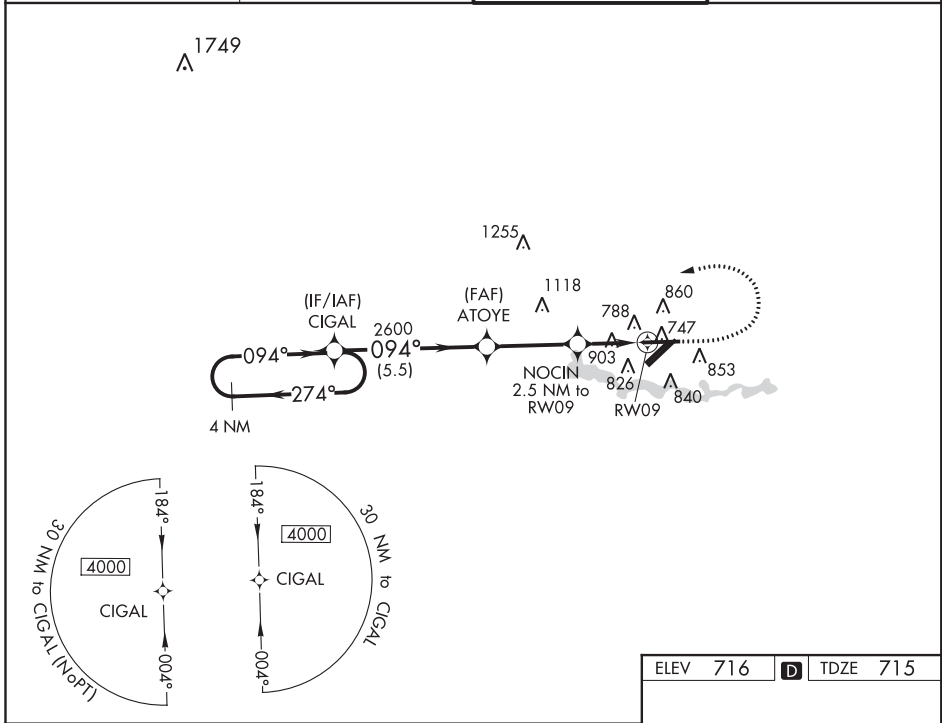
RNAV (GPS) RWY 9

WILLOW RUN (YIP)

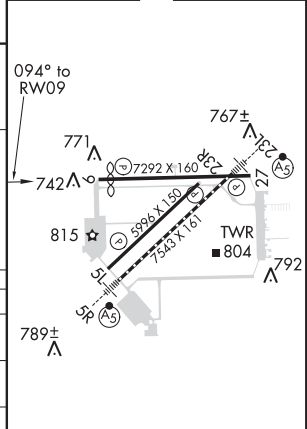
⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F).

MISSED APPROACH: Climb to 1900 then climbing left turn to 4000 direct CIGAL and hold.

| | | | |
|------------------------|--|--|--------------------------|
| ATIS 127.425 | DETROIT APP CON 118.95 363.2 | WILLOW RUN TOWER 125.275 256.9 | GND CON 121.75 |
|------------------------|--|--|--------------------------|



| | | |
|----------|----------|----------|
| ELEV 716 | D | TDZE 715 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|----------------------|----------------------|----------------------|---|
| LPV DA | 965-1 250 (300-1) | | | |
| LNAV/VNAV DA | 1197-1½ 482 (500-1½) | | | |
| LNAV MDA | 1160-1 445 (500-1) | 1160-1¾ 445 (500-1¾) | | |
| C CIRCLING | 1220-1 504 (600-1) | 1220-1½ 504 (600-1½) | 1400-2¼ 684 (700-2¼) | |

TDZ/CL Rwy 5R
HIRL Rwy 5R-23L
MIRL Rwy 5L-23R, and 9-27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-467 (FAA)


16007

| | | |
|--|------------------------|---|
| WAAS CH 81910 W23A | APP CRS 233° | Rwy ldg 7543 TDZE 710 Apt Elev 716 |
|--|------------------------|---|

RNAV (GPS) RWY 23L

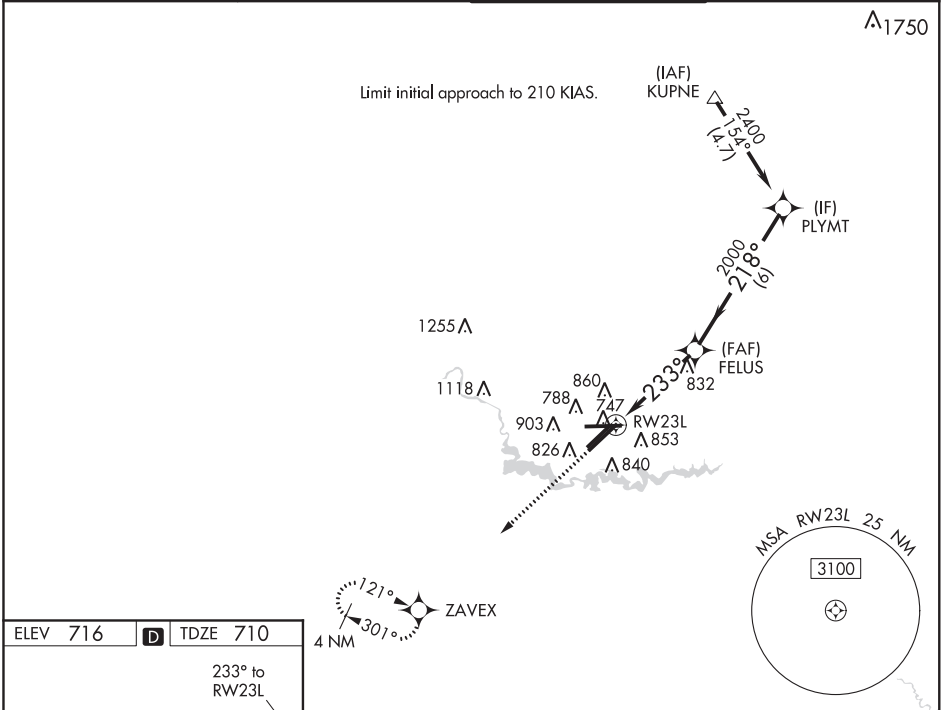
WILLOW RUN (YIP)

⚠ Inoperative table does not apply to LPV. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). For inop MALSR, increase visibility LNAV/VNAV all Cats to ½ mile and LNAV Cat A/B to 1 mile, Cat C/D to 1½ mile. DME/DME RNP-0.3 NA. Helicopter visibility reduction below ¾ SM NA.

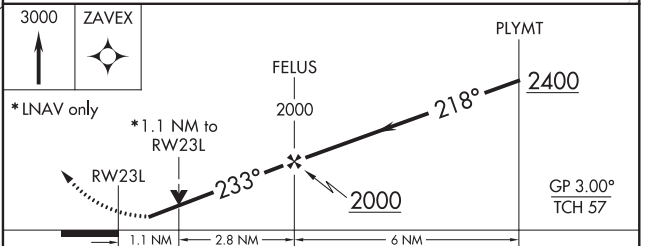
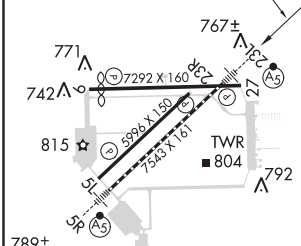
MALSR 

MISSED APPROACH: Climb to 3000 direct ZAVEX and hold.

| | | | |
|------------------------|--|--|--------------------------|
| ATIS 127.425 | DETROIT APP CON 118.95 363.2 | WILLOW RUN TOWER 125.275 256.9 | GND CON 121.75 |
|------------------------|--|--|--------------------------|



| | | |
|----------|----------|----------|
| ELEV 716 | D | TDZE 710 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|--------|-------------|-------------------------|-------------------------|
| LPV DA | | 959-¾ | 249 (300-¾) | |
| LNAV/VNAV DA | | 974-¾ | 264 (300-¾) | |
| LNAV MDA | | 1100-¾ | 390 (400-¾) | |
| C CIRCLING | 1220-1 | 504 (600-1) | 1220-1½ 504 (600-1½) | 1400-2½ 684 (700-2½) |

TDZ/CL Rwy 5R
HIRL Rwy 5R-23L
MIRL Rwy 5L-23R, and 9-27

DETROIT, MICHIGAN
Amdt 2 07JAN16

42°14'N-83°32'W

RNAV (GPS) RWY 23L

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 93622 W23B | APP CRS 233° | Rwy Idg TDZE Apt Elev | 5596 712 716 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 23R

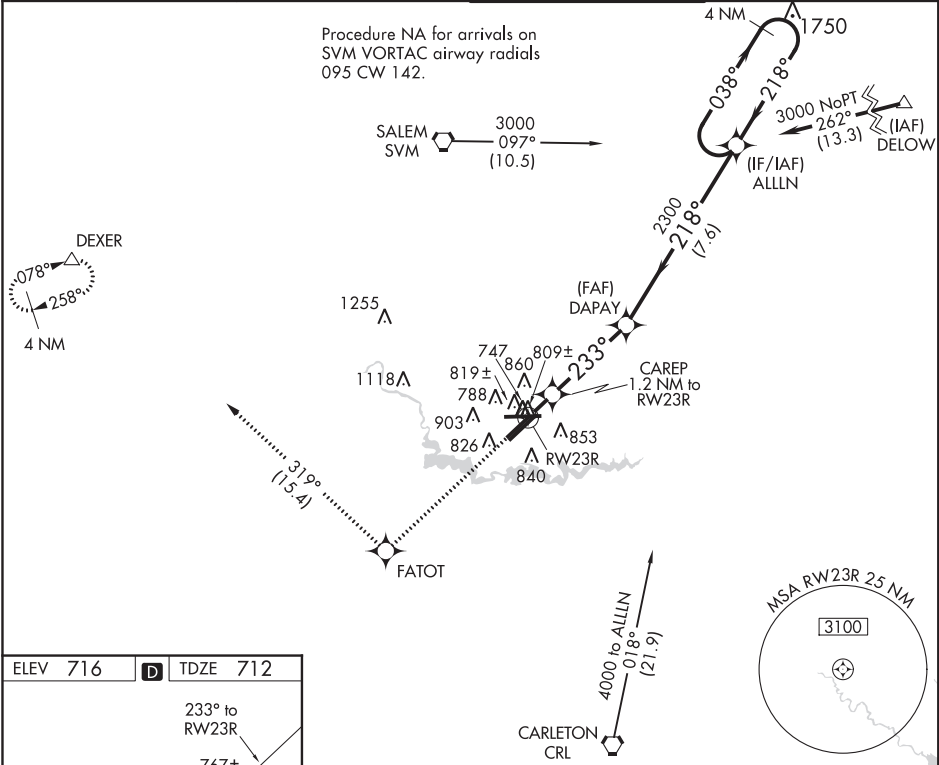
WILLOW RUN (YIP)



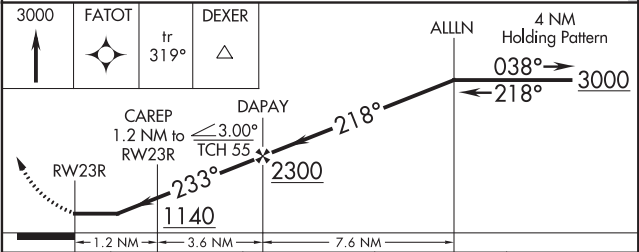
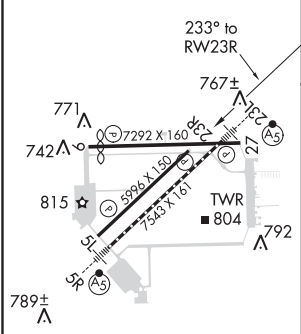
DME/DME RNP-0.3 NA. Helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 3000 direct FATOT and on track 319° to DEXER and hold.

| | | | |
|------------------------|--|--|--------------------------|
| ATIS 127.425 | DETROIT APP CON 118.95 363.2 | WILLOW RUN TOWER 125.275 256.9 | GND CON 121.75 |
|------------------------|--|--|--------------------------|



| | | |
|----------|----------|----------|
| ELEV 716 | D | TDZE 712 |
|----------|----------|----------|



| | | | | |
|-------------------|--------------------|----------------------|---|----------------------|
| CATEGORY | A | B | C | D |
| LP MDA | 1060-1 348 (400-1) | | | |
| LNAV MDA | 1080-1 368 (400-1) | | | |
| C CIRCLING | 1220-1 504 (600-1) | 1220-1½ 504 (600-1½) | | 1400-2¼ 684 (700-2¼) |

TDZ/CL Rwy 5R
HIRL Rwy 5R-23L
MIRL Rwy 5L-23R, and 9-27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

DETROIT, MICHIGAN

AL-467 (FAA)

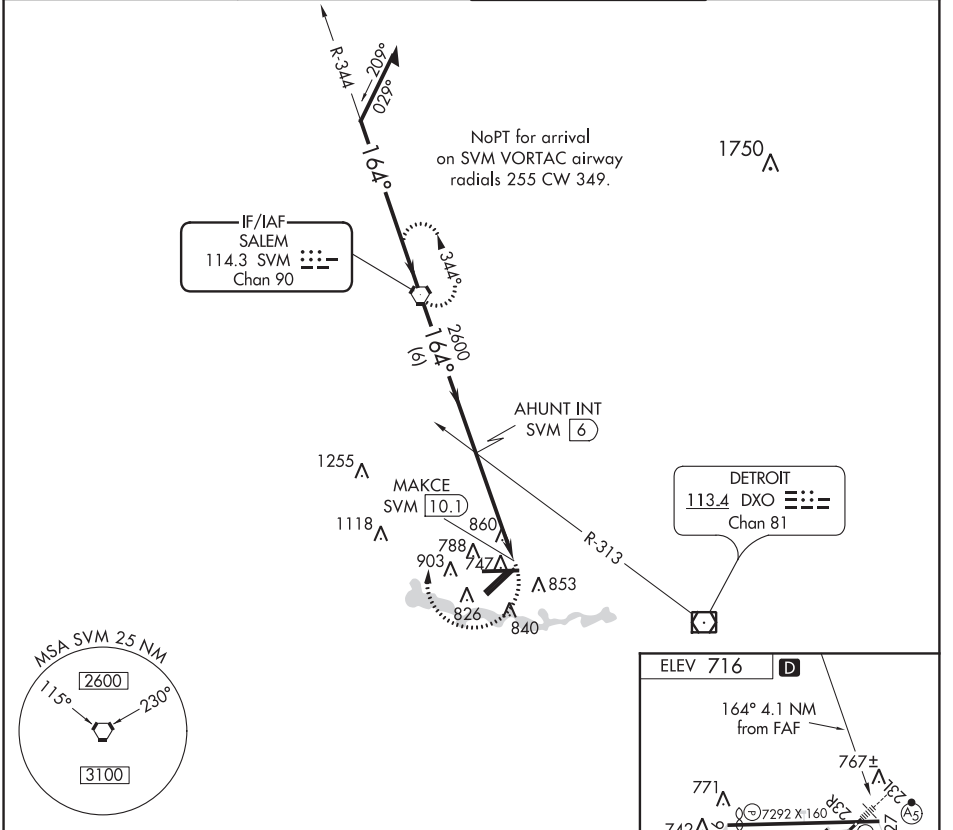
15344

| | | | |
|--|------------------------|-----------------------------|--|
| VORTAC SVM 114.3 Chan 90 | APP CRS 164° | Rwy Idg TDZE Apt Elev | N/A N/A 716 |
|--|------------------------|-----------------------------|--|

VOR-A
WILLOW RUN (YIP)

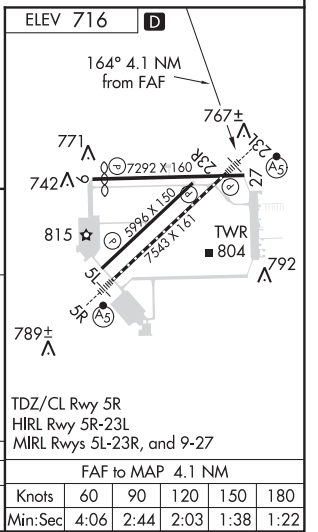
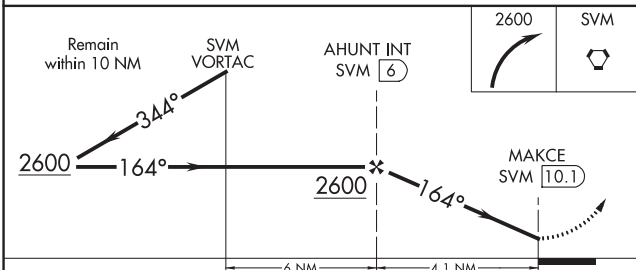
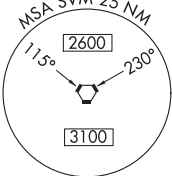
⚠ Helicopter visibility reduction below 3/4 SM NA. MISSED APPROACH: Climbing right turn to 2600 direct SVM VORTAC and hold.

| | | | |
|------------------------|--|--|--------------------------|
| ATIS 127.425 | DETROIT APP CON 118.95 363.2 | WILLOW RUN TOWER 125.275 256.9 | GND CON 121.75 |
|------------------------|--|--|--------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | | | | | | | | | |
|----------|--------------------|---|--------------------|----------------------------|-------------------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 4.1 NM | | | | | |
| CIRCLING | 1420-1 704 (800-1) | | 1420-2 704 (800-2) | 1420-2 1/4 704 (800-2 1/4) | Knots | 60 | 90 | 120 | 150 | 180 |
| | | | | | Min:Sec | 4:06 | 2:44 | 2:03 | 1:38 | 1:22 |

DETROIT, MICHIGAN
Amdt 1A 25JUN15

42°14'N-83°32'W

WILLOW RUN (YIP)
VOR-A

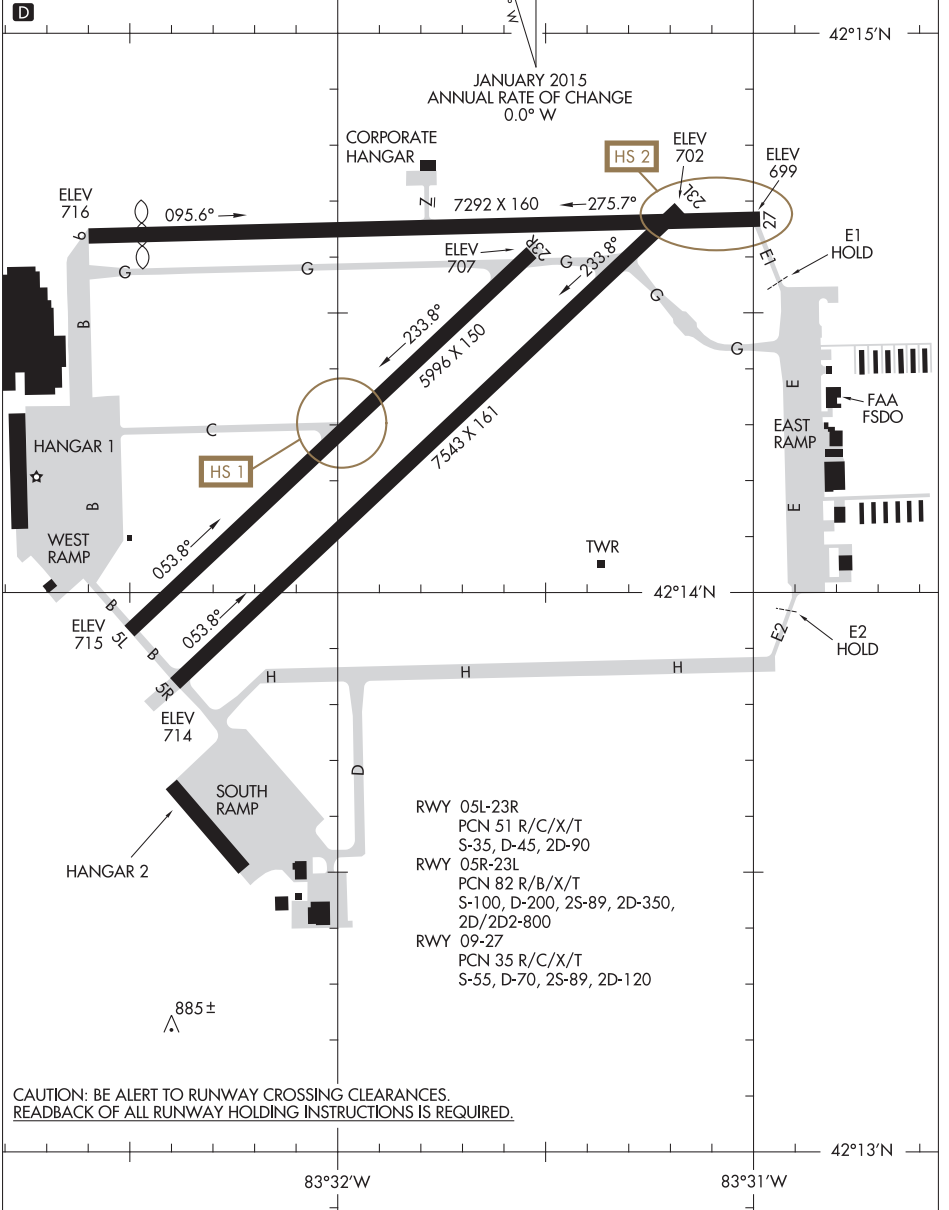
AIRPORT DIAGRAM

WILLOW RUN (YIP)
DETROIT, MICHIGAN

AL-467 (FAA)

ATIS
127.425
WILLOW RUN TOWER
125.275 256.9
GND CON
121.75

FIELD
ELEV
716



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READEBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AIRPORT DIAGRAM

DETROIT, MICHIGAN
WILLOW RUN (YIP)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AKRON FIVE DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted fix and route. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

ATIS 127.425
GND CON 121.75
WILLOW RUN TOWER
125.275, 256.9
DETROIT DEP CON
118.95 239.275

TOP ALTITUDE:
3000



V103

VEELA
N42°07' 59"
W82°45'00"

9000
(112)

MAARS
N42°05' 30"
W82°29' 17"

SPHIRE
N42°01' 60"
W82°04' 15"

9000
(19)

DETROIT
113.4 DXO
Chan 81
N42°12' 79"-W83°22' 00"
L-28, H-10

V103

9000
149°
(68)

TAKEOFF MINIMUMS:
Rwys 5L/R, 9, 23L/R: Standard.
Rwy 27: 300-1½ or Standard with minimum climb of 206' per NM to 1000 or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

NOTE: Radar required.
NOTE: DME required
NOTE: Chart not to scale.

AKRON
114.4 ACO
Chan 91
N41°06' 47"-W81°12' 09"
L-30, H-10

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

AKRON FIVE DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors, thence....

....to intercept DXO VOR/DME R-106 to SPHRE INT, then on ACO R-329 to ACO VOR/DME. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 5L: Trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL.
- Rwy 5R: Trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL.
Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL.
- Rwy 23L: Sign 44' from DER, 499' right of centerline, 8' AGL/718' MSL.
Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL.
Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL.
- Rwy 23R: Sign 73' from DER, 255' left of centerline, 10' AGL/718' MSL.
Vehicle on road, 587' from DER, 294' right of centerline, 15' AGL/732' MSL.
Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL.
Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL.
- Rwy 27: Tree and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL.
Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL.
Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL.
Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ERRTH SIX DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

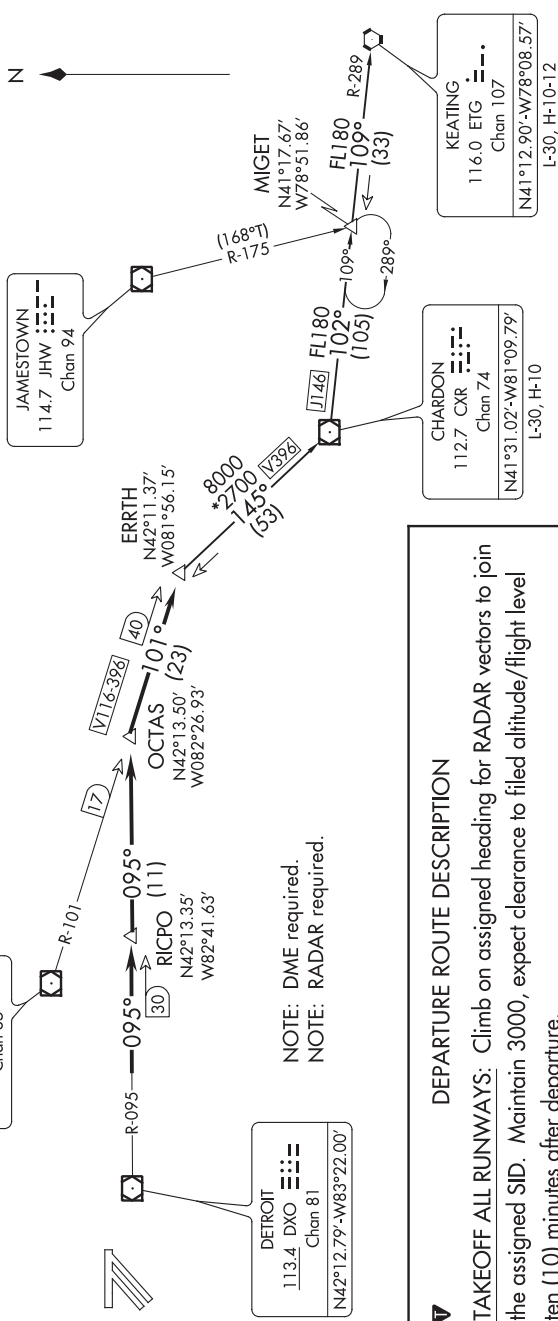
TOP ALTITUDE:
3000

SPECIAL INSTRUCTIONS:
Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
Rwys 5L/R, 9, 23L/R: Standard.
Rwy 27: 300'-1 1/2' or Standard with a minimum climb of 206' per NM to 1000, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

ATIS 127.425
GND CON 121.75
WILLOW RUN TOWER 125.275 256.9

WINDSOR
113.8 YQG
Chan 85



DETROIT
113.4 DXO
Chan 81
N42°12.79' W83°22.00'

NOTE: DME required.
NOTE: RADAR required.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for RADAR vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

KEATING TRANSITION (ERRTH6.ETG): From over ERRTH to CXR VOR/DME, then on CXR R-102 and ETG R-289 to MIDGET, then on ETG R-289 to VORTAC.

CHARDON TRANSITION (ERRTH6.CXR): From over ERRTH to CXR VOR/DME.

(NOTES CONTINUED ON FOLLOWING PAGE)
NOTE: Chart not to scale.

TAKEOFF OBSTACLES:

- Rwy 5L: Trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL.
- Rwy 5R: Trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL.
Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL.
- Rwy 23L: Sign 44' from DER, 499' right of centerline, 8' AGL/718' MSL.
Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL.
Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL.
- Rwy 23R: Sign 73' from DER, 255' left of centerline, 10' AGL/718' MSL.
Vehicle on road 587' from DER, 294' right of centerline, 15' AGL/732' MSL.
Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL.
Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL.
- Rwy 27: Tree and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL.
Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL.
Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL.
Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

(FWA6.FWA) 15120

FORT WAYNE SIX DEPARTURE

SL-467 (FAA)

WILLOW RUN (YIP)
DETROIT, MICHIGAN

ATIS 127.425
GND CON 121.75
WILLOW RUN TOWER
125.275 256.9
DETROIT DEP CON
118.95 239.275

**TOP ALTITUDE:
3000**

SPECIAL INSTRUCTIONS:

Jets only. When using this departure, file the appropriate depicted fix and route. Departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwys 5L/R, 9, 23L/R: Standard.
Rwy 27: 300-1½ or standard with a minimum climb of 206' per NM to 1000 or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

DETROIT
113.4 DXO
Chan 81
N42°12.79'-W83°22.00'
L-28, H-10

FORT WAYNE
117.8 FWA
Chan 125
N40°58.74'-W85°11.28'
L-27, H-5-10

ILLIE
N41°14.91'
W84°07.96'

WATERVILLE
113.1 VVV
Chan 78

FLAG CITY
108.2 FBC
Chan 19

NOTE: Radar required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FORT WAYNE SIX DEPARTURE

(FWA6.FWA) 15120

DETROIT, MICHIGAN
WILLOW RUN (YIP)



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors, thence....

....to intercept DXO VOR/DME R-217 to ILLIE INT, then on FWA R-071 to FWA VORTAC. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 5L: Trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL.
- Rwy 5R: Trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL.
Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL.
- Rwy 23L: Sign 44' from DER, 499' right of centerline, 8' AGL/718' MSL.
Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL.
Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL.
- Rwy 23R: Sign 73' from DER, 255' left of centerline, 10' AGL/718' MSL.
Vehicle on road, 587' from DER, 294' right of centerline, 15' AGL/732' MSL.
Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL.
Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL.
- Rwy 27: Tree and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL.
Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL.
Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL.
Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MOONN SEVEN DEPARTURE SL-467 (FAA)

EC-1, 10 NOV 2016 to 05 JAN 2017

ATIS 127.425
GND CON 121.75
WILLOW RUN TOWER
125.275 256.9
DETROIT DEP CON
118.95 239.275

TAKEOFF MINIMUMS:

Rvys 5L/R, 9, 23L/R: Standard.
Rwy 27: 300-1½ or standard with a minimum climb of 206' per NM to 1000, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

TOP ALTITUDE:
3000

SALEM
114.3 SVM
Chan 90

LONDON
117.2 YXU
Chan 119
N43°02.27'
W81°08.94'
L-30-31, H-10-11

DUNKIRK
116.2 DKK
Chan 109
N42°29.43'
W79°16.45'
L-30, H-10

MOONN
N42°22.16'
W82°27.12'

WEPIL
N42°20.22'
W82°38.69'

PUIRE
N42°17.78'
W82°53.15'

BROKK
N42°19.88'
W81°34.92'

BEWEL
N42°17.39'
W80°45.72'

JAMESTOWN
114.7 JHW
Chan 94
N42°11.32'
W79°07.28'
L-30, H-10

DETROIT
113.4 DXO
Chan 81
N42°12.79'-W83°22.00'
L-28, H-10

MOONN SEVEN DEPARTURE
(MOONN7.MOONN) 15120

DETROIT, MICHIGAN
WILLOW RUN (YIP)

SPECIAL INSTRUCTIONS:
When using this departure, file the appropriate depicted fix and route. Turbojet departures at/above 10000, maintain 280K until advised by ATC. LONDON TRANSITION for use by Props only. DUNKIRK TRANSITION for use FL270 and below.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Radar required.
NOTE: DME required.
NOTE: Chan not to scale.

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

DUNKIRK TRANSITION (MOONN7.DKK): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on DKK R-267 to DKK VORTAC.

JAMESTOWN TRANSITION (MOONN7.JHW): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on JHW R-282 to JHW VOR/DME.

LONDON TRANSITION (MOONN7.YXU): From over MOONN on SVM R-095 to BROKK, then on YXU R-212 to YXU VOR/DME.

TAKEOFF OBSTACLES:

Rwy 5R: Trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL. Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL.

Rwy 5L: Trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL.

Rwy 23R: Sign 73' from DER, 255' left of centerline, 10' AGL/718' MSL. Vehicle on road 587' from DER, 294' right of centerline, 15' AGL/732' MSL. Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL. Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL.

Rwy 23L: Sign 44' from DER, 499' right of centerline, 8' AGL/718' MSL. Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL. Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL.

Rwy 27: Tree and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL. Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL. Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL. Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ATIS 127.425
GND CON
121.75
WILLOW RUN TOWER
125.275 256.9

SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted departure fix and route. Aircraft landing/overflying Lansing (LAN) or overflying Flint (FNT) at 10000 or below, file via EARVN. Aircraft landing Flint (FNT) at 10000 or below, file via LAYNE. Aircraft landing/overflying Toledo (TOL) at 10000 or below, file via RUZZL. Aircraft over HARWL must file FL 220 and below. Aircraft landing Cincinnati (CVG) must file via ANNTS. PROPS NA over ANNTS. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwy 14: NA
Rwys 5L, 5R, 9, 23L, 23R, 32: Standard
Rwy 27: 300-1½ or Standard with a minimum climb of 206' per NM to 1000', or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

TOP ALTITUDE:
3000

N

LAYNE
N42°54.80'
W83°22.00'
L-28

DUNKS
N42°25.64'
W84°11.65'
L-28, H-10

EARVN
N42°31.23'
W84°11.41'

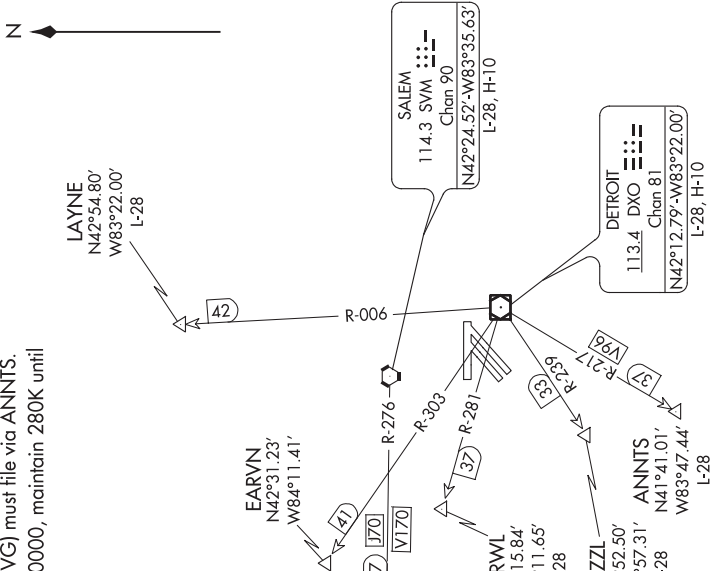
SALEM
114.3 SVM
Chan 90
N42°24.57'-W83°35.63'
L-28, H-10

DETROIT DXO
113.4
Chan 81
N42°12.79'-W83°22.00'
L-28, H-10

ANNTS
N41°41.01'
W83°47.44'
L-28

HARWL
N42°15.84'
W84°11.65'
L-28

RUZZL
N41°52.50'
W83°57.31'
L-28



NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLE NOTES:

- Rwy 5L: Trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL.
- Rwy 5R: Trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL. Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL.
- Rwy 23L: Sign, 44' from DER, 499' right of centerline, 8' AGL/718' MSL. Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL. Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL.
- Rwy 23R: Sign, 73' from DER, 255' left of centerline, 10' AGL/718' MSL. Vehicle on road 587' from DER, 294' right of centerline, 15' AGL/732' MSL. Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL. Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL.
- Rwy 27: Tree and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL. Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL. Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL. Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.
- Rwy 32: Poles and trees beginning 1302' from DER, 79' left of centerline, up to 84' AGL/798' MSL. Tree 1758' from DER, 125' right of centerline, 70' AGL/780' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

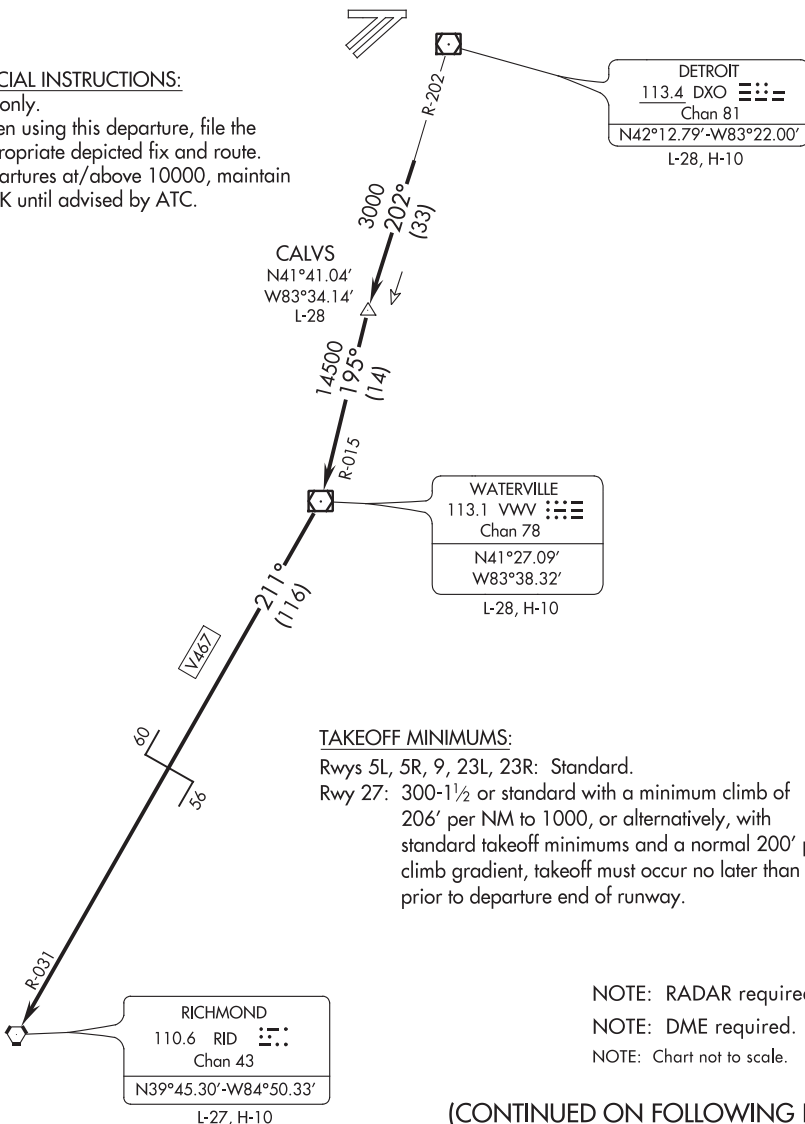
RICHMOND EIGHT DEPARTURE

ATIS 127.425
GND CON 121.75
WILLOW RUN TOWER
125.275 256.9

TOP ALTITUDE:
3000

SPECIAL INSTRUCTIONS:

Jets only.
When using this departure, file the appropriate depicted fix and route.
Departures at/above 10000, maintain 280K until advised by ATC.



(CONTINUED ON FOLLOWING PAGE)

RICHMOND EIGHT DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for RADAR vectors, thence....

....to intercept DXO VOR/DME R-202 to CALVS, then on VWV R-015 to VWV VOR/DME, then right turn on VWV R-211 and RID R-031 to RID VORTAC.

TAKEOFF OBSTACLES:

- Rwy 5L: Trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL.
- Rwy 5R: Trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL.
Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL.
- Rwy 23L: Sign 44' from DER, 499' right of centerline, 8' AGL/718' MSL.
Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL.
Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL.
- Rwy 23R: Sign 73' from DER, 255' left of centerline, 10' AGL/718' MSL.
Vehicle on road 587' from DER, 294' right of centerline, 15' AGL/732' MSL.
Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL.
Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL.
- Rwy 27: Trees and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL.
Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL.
Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL.
Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

(ROD5.ROD) 15120

ROSEWOOD FIVE DEPARTURE

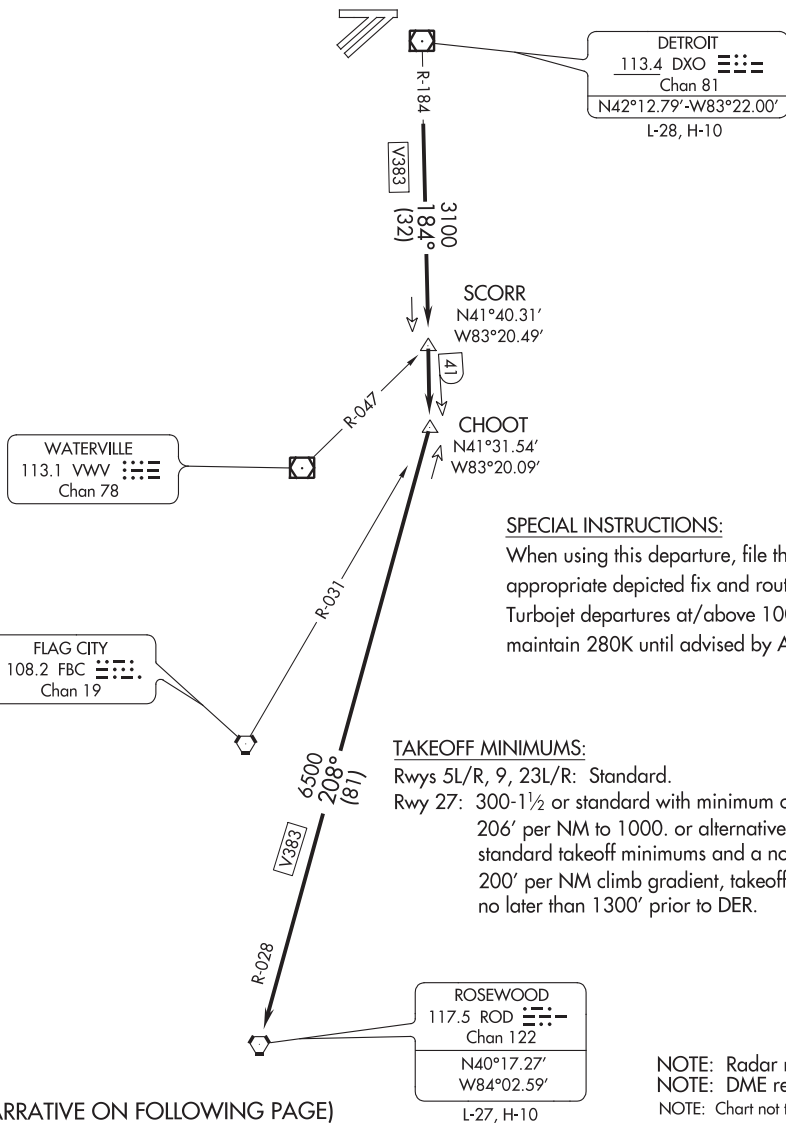
SL-467 (FAA)

WILLOW RUN (YIP)

DETROIT, MICHIGAN

ATIS 127.425
 GND CON 121.75
 WILLOW RUN TOWER
 125.275 256.9
 DETROIT DEP CON
 118.95 239.275

TOP ALTITUDE:
3000



(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ROSEWOOD FIVE DEPARTURE

(ROD5.ROD) 15120

DETROIT, MICHIGAN

WILLOW RUN (YIP)



DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 5L: Trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL.
- Rwy 5R: Trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL. Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL.
- Rwy 23L: Sign 44' from DER, 499' right of centerline, 8' AGL/718' MSL. Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL. Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL.
- Rwy 23R: Sign 73' from DER, 255' left of centerline, 10' AGL/718' MSL. Vehicle on road 587' from DER, 294' right of centerline, 15' AGL/732' MSL. Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL. Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL.
- Rwy 27: Trees and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL. Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL. Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL. Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ST. CLAIR NINE DEPARTURE

SL-467 (FAA)

WILLOW RUN (YIP)
DETROIT, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

TAKEOFF MINIMUMS:

Rwys 5/R, 9, 23L/R: Standard.

Rwy 27: 300-1½ or standard with minimum climb of 206' per NM to 1000 or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1300' prior to DER.

TOP ALTITUDE:
3000

ATIS 127.425
GND CON 121.75
WILLOW RUN TOWER
125.275 256.9

TAKEOFF OBSTACLES:

Rwy 5L: Trees beginning 2091' from DER, 224' left of centerline, up to 100' AGL/809' MSL.

Rwy 5R: Trees beginning 1877' from DER, 803' right of centerline, up to 78' AGL/763' MSL.

Trees beginning 2028' from DER, 134' left of centerline, up to 80' AGL/777' MSL.

Rwy 23L: Sign 44' from DER, 499' right of centerline, 8' AGL/718' MSL.

Tree 1304' from DER, 438' right of centerline, 42' AGL/757' MSL.

Tree 2457' from DER, 720' left of centerline, 66' AGL/781' MSL.

Rwy 23R: Sign 73' from DER, 255' left of centerline, 10' AGL/718' MSL.

Vehicle on road, 587' from DER, 294' right of centerline, 15' AGL/732' MSL.

Trees beginning 1020' from DER, 281' right of centerline, up to 60' AGL/793' MSL.

Tree 1333' from DER, 316' left of centerline, 55' AGL/757' MSL.

Tree and poles beginning 102' from DER, 353' right of centerline, up to 56' AGL/771' MSL.

Railroad and lights beginning 564' from DER, 4' left of centerline, up to 55' AGL/770' MSL.

Light on building 724' from DER, 333' left of centerline, 35' AGL/746' MSL.

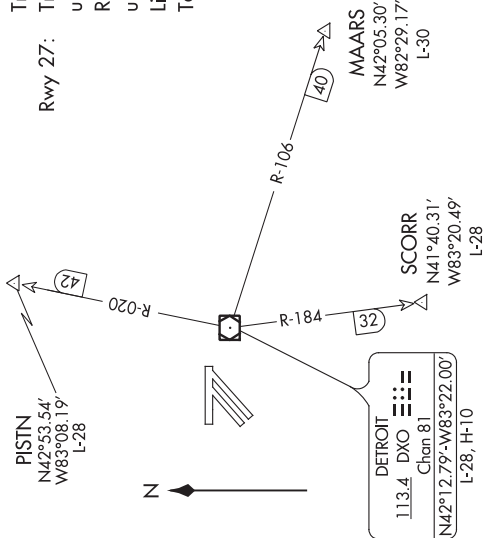
Tower 7161' from DER, 502' left of centerline, 162' AGL/900' MSL.

NOTE: ATC requested only.

NOTE: Radar required

NOTE: DME required

NOTE: JETS only except for aircraft landing CMH, CLE, YYZ, or prop aircraft filed over APE.



SPECIAL INSTRUCTIONS: When using this departure, file the appropriate depicted fix and route. Aircraft landing Columbus (CMH) must file via SCORR. Aircraft filed over APE must file via SCORR. Aircraft landing Cleveland (CLE) must file via MAARS. Departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

NOTE: Chart not to scale.

ST. CLAIR NINE DEPARTURE

DETROIT, MICHIGAN
WILLOW RUN (YIP)

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|------------------------|
| APP CRS 037° | Rwy Idg 4846 |
| | TDZE 590 |
| | Apt Elev 591 |

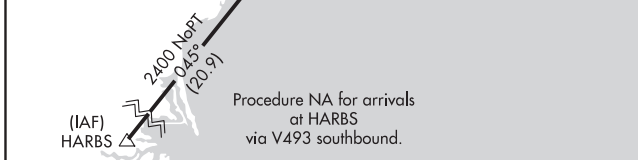
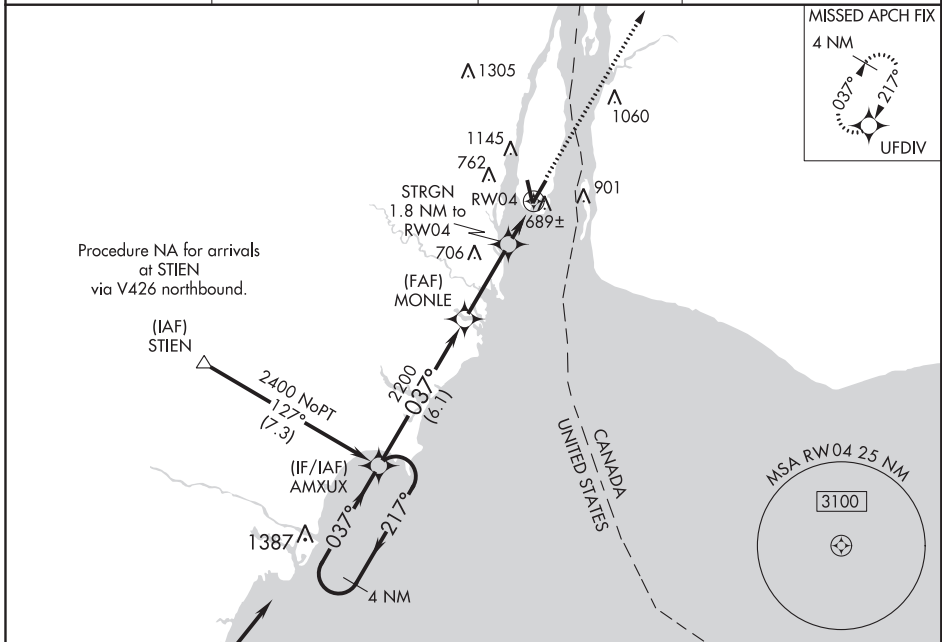
RNAV (GPS) RWY 4

GROSSE ILE MUNI (ONZ)

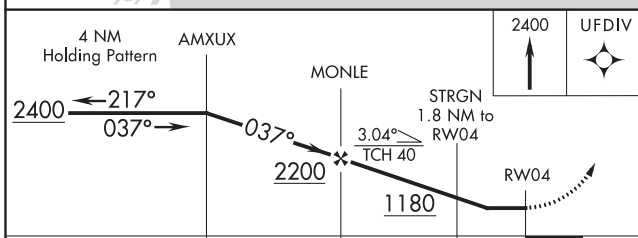
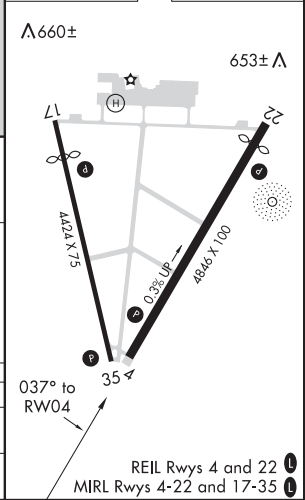
⚠ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase all MDA 40 feet and Circling visibilities Cat A, C, and D ¼ mile.

⚠ MISSED APPROACH: Climb to 2400 direct UFDIV and hold.

| | | | |
|--------------------------|---------------------------------------|-----------------------|--|
| AWOS-3 119.675 | DETROIT APP CON 134.3 363.2 | GCO 121.725 | UNICOM 123.0 (CTAF) 📻 |
|--------------------------|---------------------------------------|-----------------------|--|



| | |
|----------|----------|
| ELEV 591 | TDZE 590 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------|-------------------------|-------------------------|
| LNVA MDA | 940-1 | 350 (400-1) | | 940-1¼ 350 (400-1¼) |
| CIRCLING | 1460-1 869 (900-1) | 1460-1¼ 869 (900-1¼) | 1460-2½ 869 (900-2½) | 1460-2¾ 869 (900-2¾) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

RNAV (GPS) RWY 22

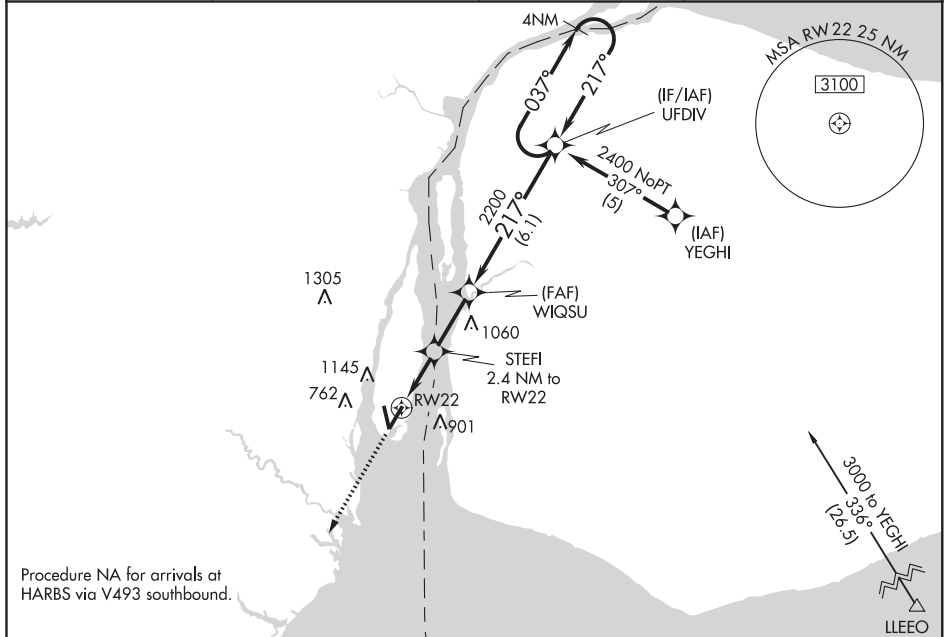
GROSSE ILE MUNI (ONZ)

| | |
|------------------------|------------------------|
| APP CRS 217° | Rwy Idg 4418 |
| | TDZE 591 |
| | Apt Elev 591 |

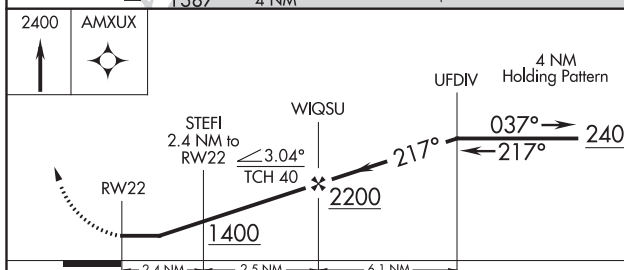
⚠ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase all MDA 40 feet. Increase LNAV Cat C and Circling Cat A, C, and D visibilities ¼ mile.

MISSSED APPROACH: Climb to 2400 direct AMXUX and hold.

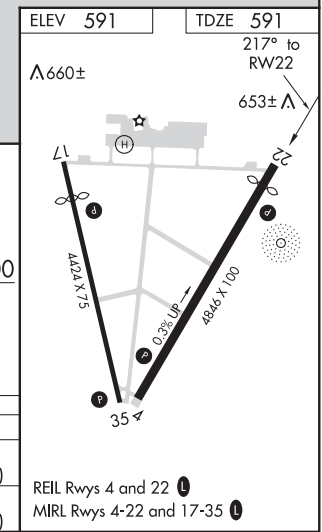
| | | | |
|--------------------------|---------------------------------------|-----------------------|---------------------------------|
| AWOS-3 119.675 | DETROIT APP CON 134.3 363.2 | GCO 121.725 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|---------------------------------------|-----------------------|---------------------------------|



Procedure NA for arrivals at HARBS via V493 southbound.



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------|-------------------------|-------------------------|
| LNAV MDA | 960-1 | | 369 (400-1) | 960-1¼ 369 (400-1¼) |
| CIRCLING | 1460-1 869 (900-1) | 1460-1¼ 869 (900-1¼) | 1460-2½ 869 (900-2½) | 1460-2¾ 869 (900-2¾) |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

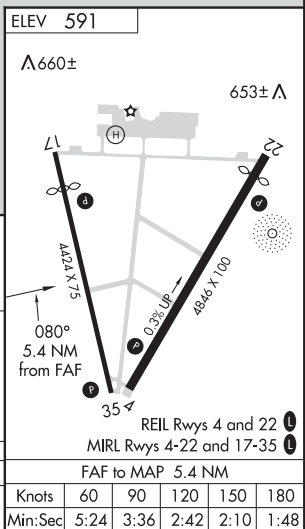
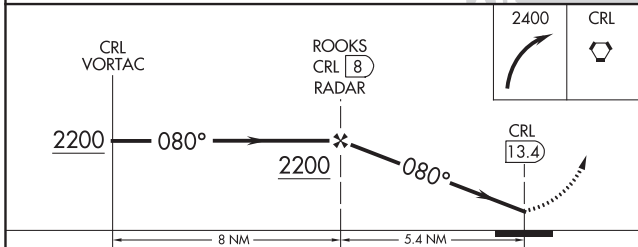
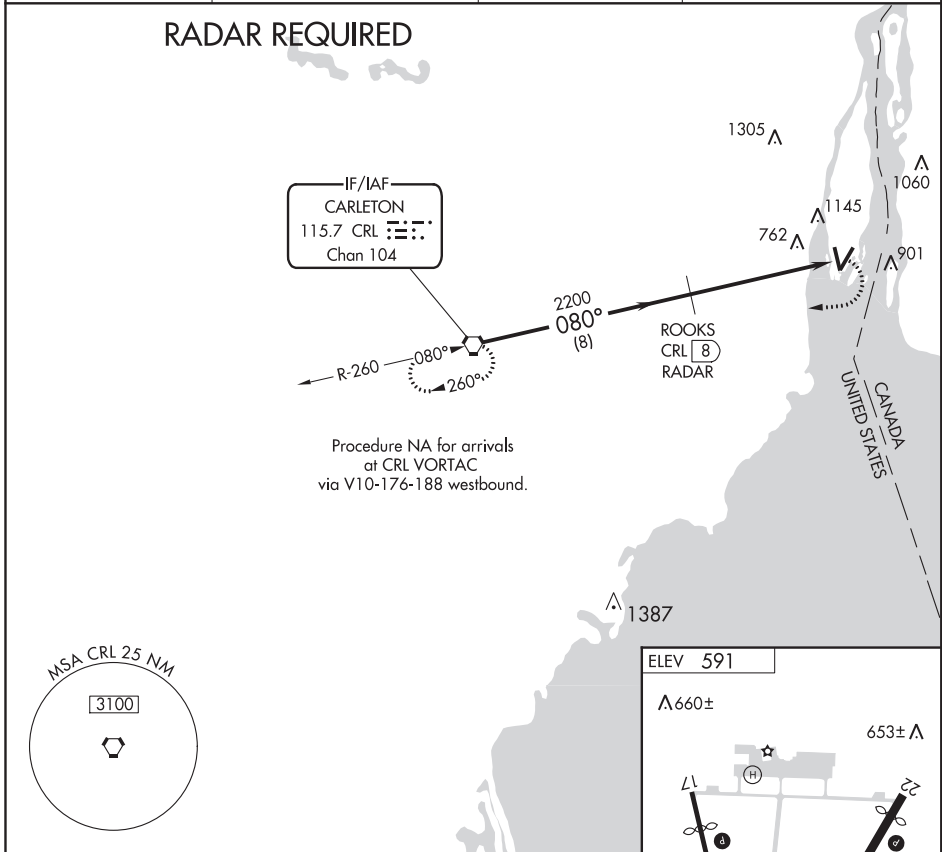
| | | |
|---|------------------------|---|
| VORTAC CRL 115.7 Chan 104 | APP CRS 080° | Rwy Idg TDZE Apt Elev N/A N/A 591 |
|---|------------------------|---|

VOR-A
GROSSE ILE MUNI (ONZ)

⚠ When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase all MDA 40 feet and Cat A, C, and D visibilities ¼ mile.

⚠ MISSED APPROACH: Climbing right turn to 2400 direct CRL VORTAC and hold.

| | | | |
|--------------------------|---------------------------------------|-----------------------|--|
| AWOS-3 119.675 | DETROIT APP CON 134.3 363.2 | GCO 121.725 | UNICOM 123.0 (CTAF) Ⓛ |
|--------------------------|---------------------------------------|-----------------------|--|



| | | | | |
|----------|-------------------------|---------------------------|---------------------------|---------------------------|
| CATEGORY | A | B | C | D |
| CIRCLING | 1460 - 1 869 (900-1) | 1460 - 1¼ 869 (900-1¼) | 1460 - 2½ 869 (900-2½) | 1460 - 2¾ 869 (900-2¾) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

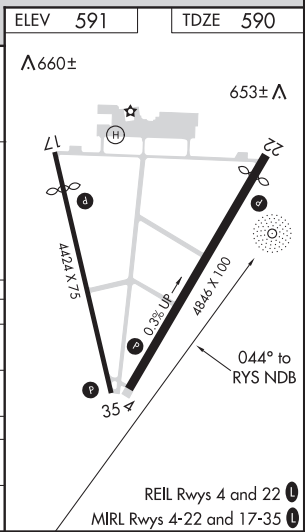
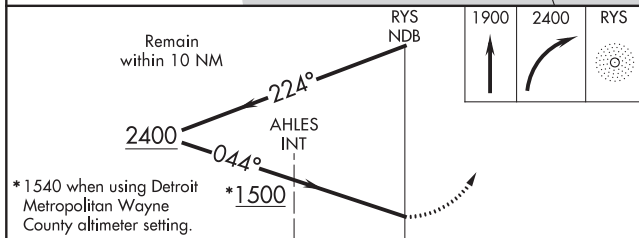
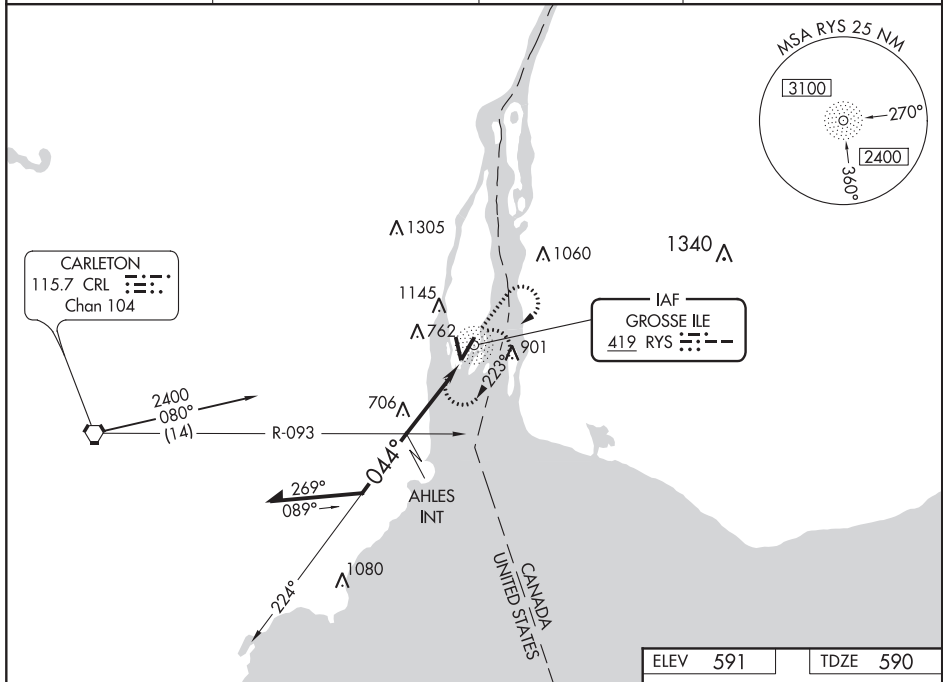
| | | |
|-----------------------|------------------------|------------------------|
| NDB RYS 419 | APP CRS 044° | Rwy Idg 4846 |
| | | TDZE 590 |
| | | Apt Elev 591 |

NDB RWY 4
GROSSE ILE MUNI (ONZ)

⚠ Visibility reduction by helicopters NA. When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase all MDA 40 feet. Increase AHLES fix minimums Circling Cat A, C, and D visibilities ¼ mile.

⚠ MISSED APPROACH: Climb to 1900 then climbing right turn to 2400 direct RYS NDB and hold.

| | | | |
|--------------------------|---------------------------------------|-----------------------|--|
| AWOS-3 119.675 | DETROIT APP CON 134.3 363.2 | GCO 121.725 | UNICOM 123.0 (CTAF) ⓪ |
|--------------------------|---------------------------------------|-----------------------|--|



| CATEGORY | A | B | C | D |
|--------------------|-------------------------|---------------------------|----------------------------|---------------------------|
| S-4 | 1500-1¼ | 910 (1000-1¼) | 1500 - 2¾ 910 (1000-2¾) | 1500 - 3 910 (1000-3) |
| CIRCLING | 1500-1¼ | 909 (1000-1¼) | 1500 - 2¾ 909 (1000-2¾) | 1500 - 3 909 (1000-3) |
| AHLES FIX MINIMUMS | | | | |
| S-4 | 1140 - 1 | 550 (600-1) | 1140 - 1½ 550 (600-1½) | 1140 - 1¾ 550 (600-1¾) |
| CIRCLING | 1460 - 1 869 (900-1) | 1460 - 1¼ 869 (900-1¼) | 1460 - 2½ 869 (900-2½) | 1460 - 2¾ 869 (900-2¾) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4700 |
| 095° | TDZE | 740 |
| | Apt Elev | 747 |

RNAV (GPS) RWY 9

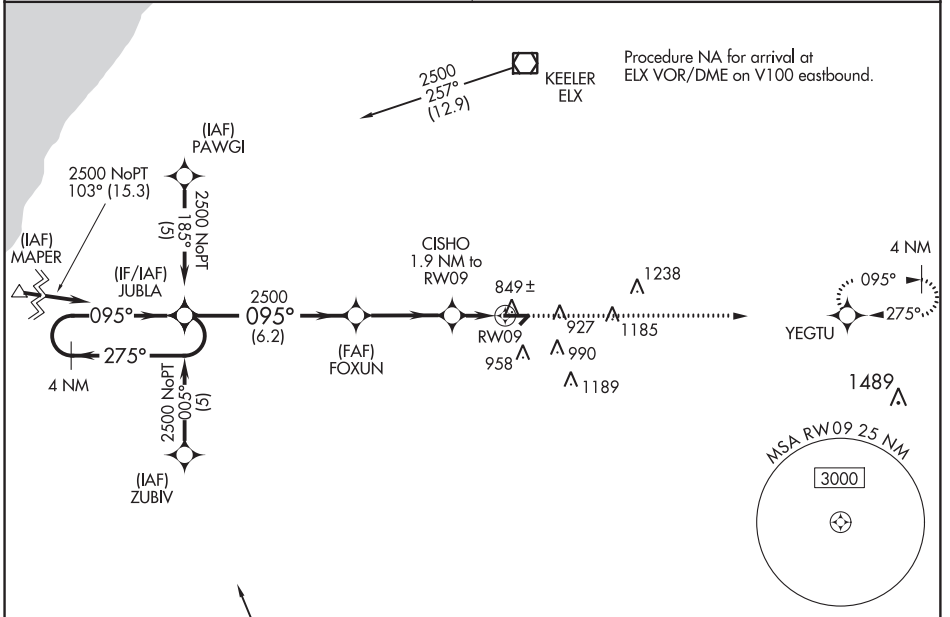
DOWAGIAC MUNI (C91)

▼ DME/DME RNP-0.3 NA. Procedure NA at night.
▲ NA Visibility reduction by helicopters NA. Obtain local altimeter setting on CTAF, when not received, use Elkhart altimeter setting and increase all MDA 60 feet; increase LNAV and Circling Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 2700 direct YEGTU and hold.

SOUTH BEND APP CON *
118.55 257.8

UNICOM
122.8 (CTAF) 0



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 747 | TDZE 740 |
|----------|----------|

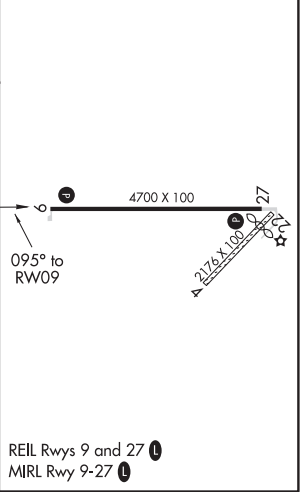
4 NM Holding Pattern

2700 YEGTU

JUBLA FOXUN CISHO 1.9 NM to RWY09 RWY09

275° 095° 095° 3.04° TCH 35 1380

6.2 NM 3.5 NM 1.9 NM



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------|----------------------|
| LNAV MDA | 1100-1 360 (400-1) | | | 1100-1¼ 360 (400-1¼) |
| CIRCLING | 1320-1 573 (600-1) | | 1340-1½ 593 (600-1½) | 1340-2 593 (600-2) |

DOWAGIAC, MICHIGAN

AL-5321 (FAA)

13122

| | |
|------------------------|------------------------|
| APP CRS 275° | Rwy Idg 4700 |
| | TDZE 747 |
| | Apt Elev 747 |

RNAV (GPS) RWY 27

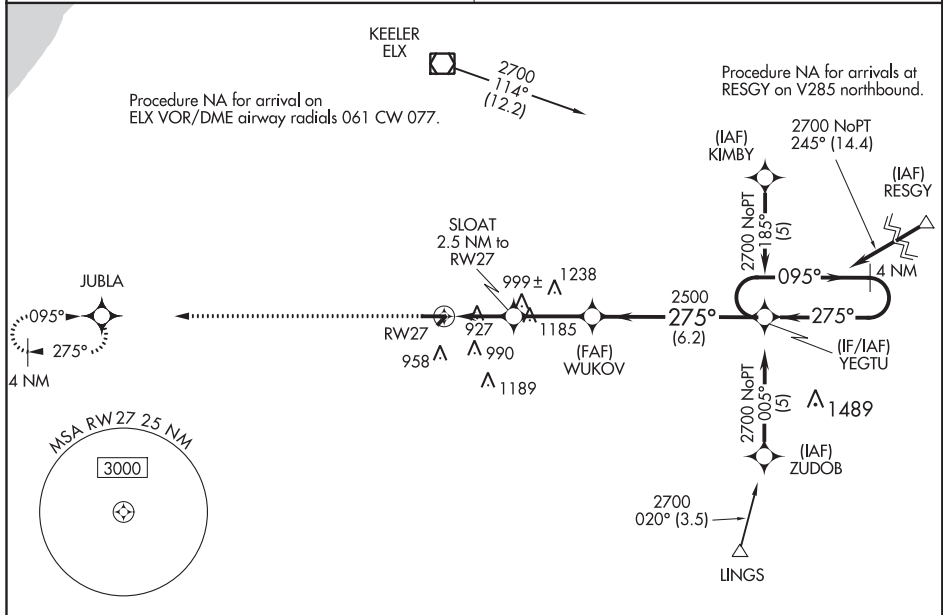
DOWAGIAC MUNI (C91)

NA DME/DME RNP-0.3 NA. Procedure NA at night. Visibility reduction by helicopters NA. Obtain local altimeter setting on CTAF, when not received, use Elkhart altimeter setting and increase all MDA 60 feet; increase circling Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 2500 direct JUBLA and hold.

SOUTH BEND APP CON ★ **118.55 257.8**

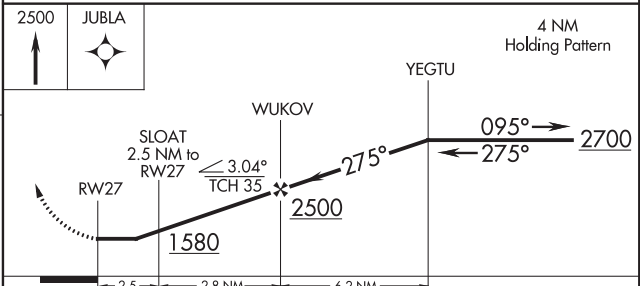
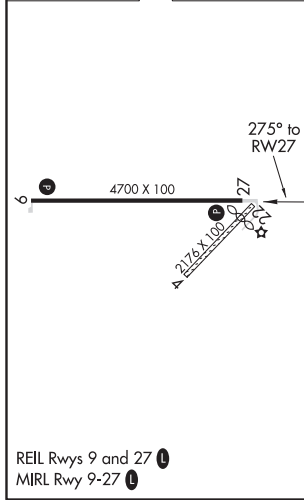
UNICOM **122.8 (CTAF) 0**



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|-----------------|-----------------|
| ELEV 747 | TDZE 747 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------|----------------------|
| LNVA MDA | 1260-1 513 (600-1) | | 1260-1½ 513 (600-1½) | 1260-1¾ 513 (600-1¾) |
| CIRCLING | 1320-1 573 (600-1) | | 1340-1½ 593 (600-1½) | 1340-2 593 (600-2) |

DOWAGIAC, MICHIGAN
Orig 29JUL10

42°00'N-86°08'W

RNAV (GPS) RWY 27

| | | |
|--|------------------------|--|
| VOR/DME ELX 116.6 Chan 113 | APP CRS 181° | Rwy Idg TDZE Apt Elev N/A N/A 747 |
|--|------------------------|--|

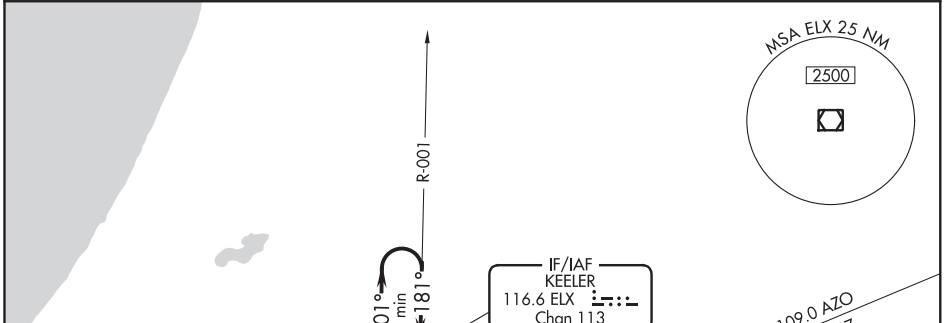
VOR-A
DOWAGIAC MUNI (C91)

▽ Circling to Rwy 9 NA at night. Visibility reduction by helicopters NA. Obtain local altimeter setting on CTAF; when not received, use Elkhart altimeter setting and increase all MDA 60 feet; increase Circling Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 2500 then right turn direct ELX VOR/DME and hold.

SOUTH BEND APP CON ★
118.55 257.8

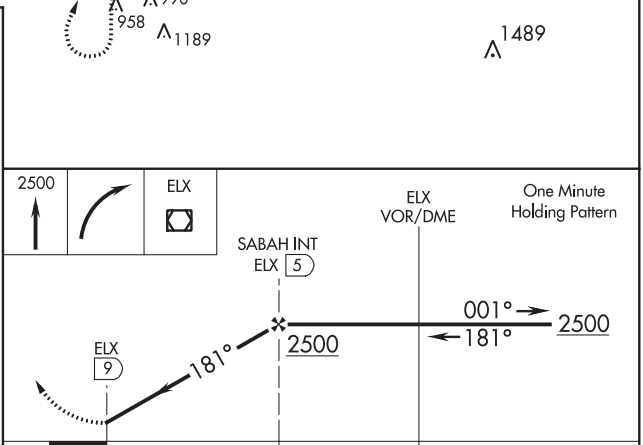
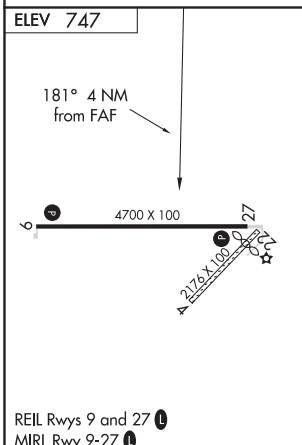
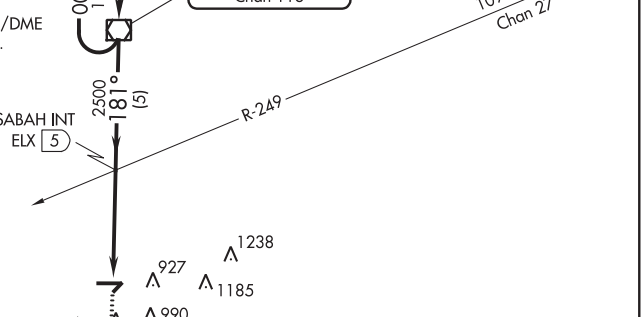
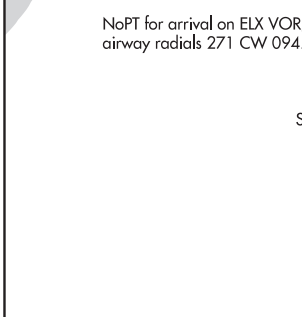
UNICOM
122.8 (CTAF) 0



NoPT for arrival on ELX VOR/DME airway radials 271 CW 094.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | | | | |
|-----------------|------|------|------|------|------|
| FAF to MAP 4 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:00 | 2:40 | 2:00 | 1:36 | 1:20 |

| | | | | |
|----------|--------|-------------|-------------------------|-----------------------|
| CATEGORY | A | B | C | D |
| CIRCLING | 1320-1 | 573 (600-1) | 1340-1½ 593 (600-1½) | 1340-2 593 (600-2) |

DRUMMOND ISLAND, MICHIGAN

AL-6718 (FAA)

11237

| | | |
|------------------------|-----------------------------|---|
| APP CRS 079° | Rwy Idg TDZE Apt Elev | 3350 661 668 |
|------------------------|-----------------------------|---|

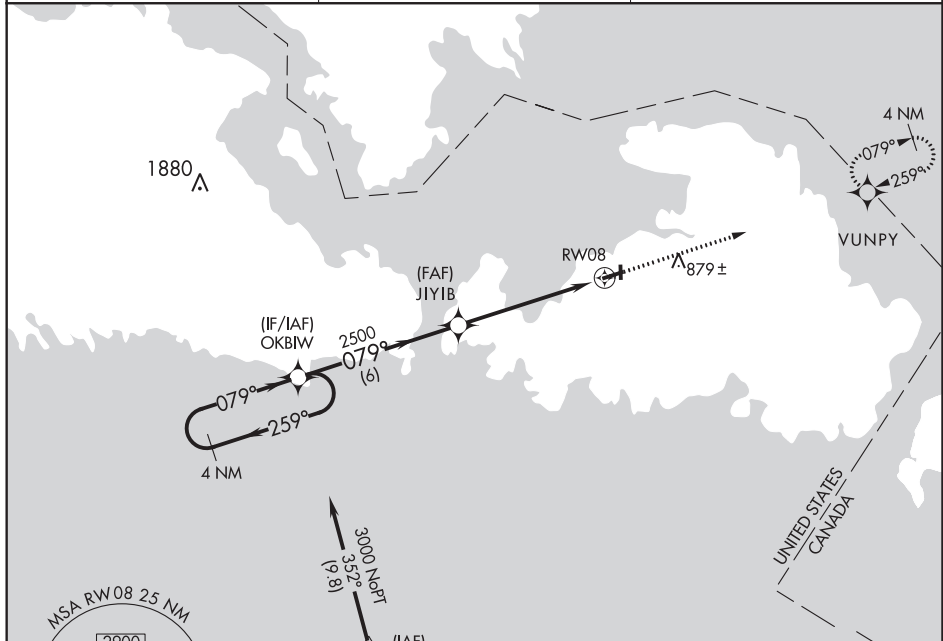
RNAV (GPS) RWY 8

DRUMMOND ISLAND (DRM)

⚠ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Circling to Rwy 1-19 NA. When local altimeter setting not received, use Sault Ste Marie altimeter setting and increase all MDA 100 feet, increase LNAV Cat C visibility ¼ mile.

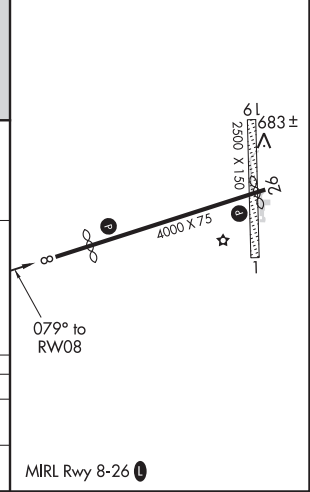
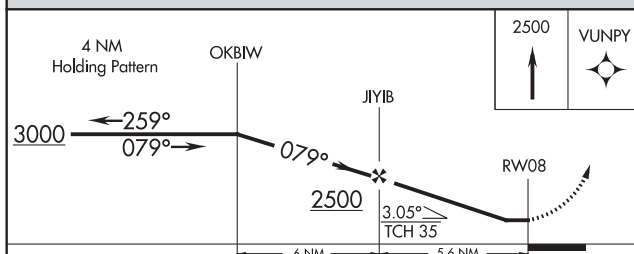
⚠ MISSED APPROACH: Climb to 2500 direct VUNPY and hold.

| | | |
|--------------------------|---------------------------------------|--|
| AWOS-3 118.325 | TORONTO CENTER 132.65 344.5 | UNICOM 122.8 (CTAF) Ⓛ |
|--------------------------|---------------------------------------|--|



Procedure NA for arrivals at REEFY on V45 southbound.

| | |
|----------|----------|
| ELEV 668 | TDZE 661 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|----|
| LNAV MDA | 1120-1 | 459 (500-1) | 1120-1¼ 459 (500-1¼) | NA |
| CIRCLING | 1160-1 | 492 (500-1) | 1160-1½ 492 (500-1½) | NA |

DRUMMOND ISLAND, MICHIGAN
Orig 29JUL10

46°01'N - 83°45'W

DRUMMOND ISLAND (DRM) RNAV (GPS) RWY 8

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|------------------------|-----------------------------|---|
| APP CRS 259° | Rwy Idg TDZE Apt Elev | 3830 661 668 |
|------------------------|-----------------------------|---|

RNAV (GPS) RWY 26

DRUMMOND ISLAND (DRM)

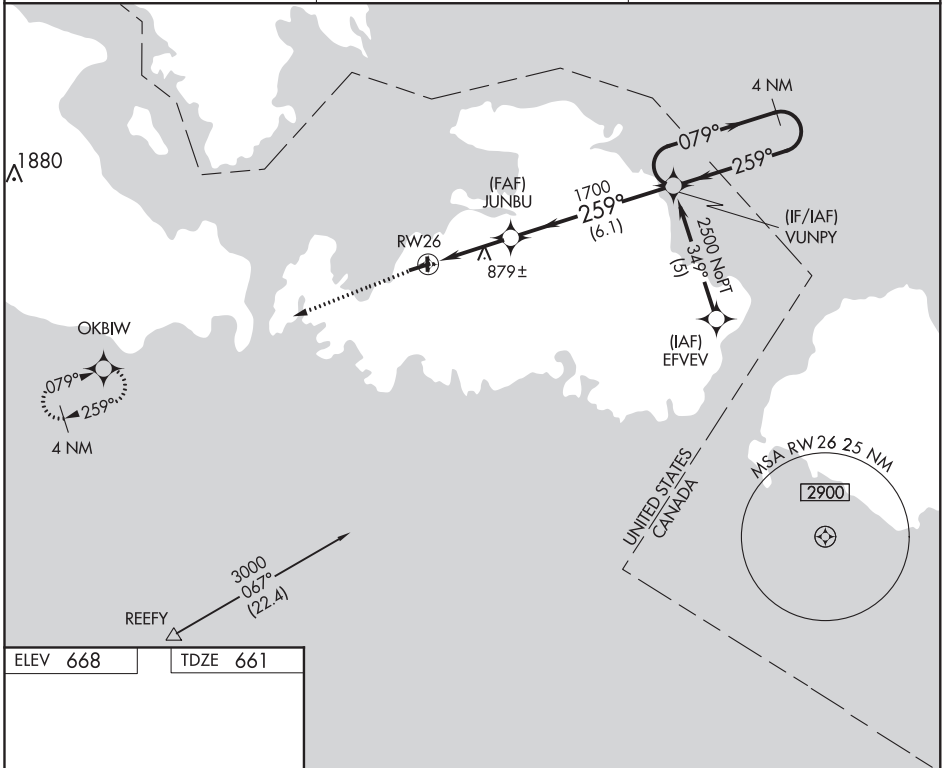
▼ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Circling to Rwy 1-19 NA.
▲ When local altimeter setting not received, use Sault Ste Marie altimeter setting and increase all MDA 100 feet and increase LNAV Cat C and Circling Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 3000 direct OKBIW and hold.

AWOS-3
118.325

TORONTO CENTER
132.65 344.5

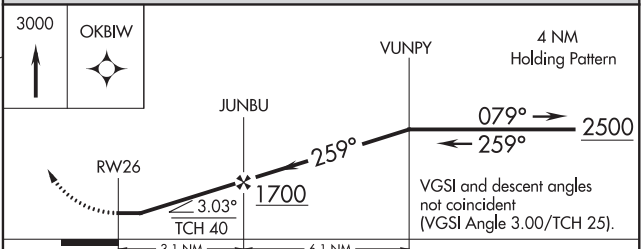
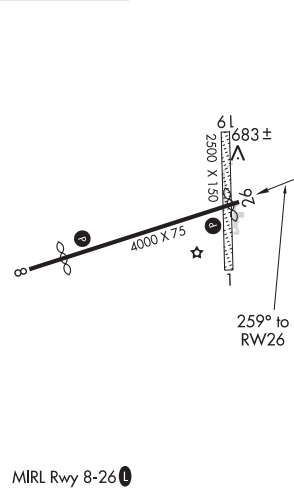
UNICOM
122.8 (CTAF) 0



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 668 | TDZE 661 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|----|
| LNAV MDA | 1180-1 | 519 (600-1) | 1180-1½ 519 (600-1½) | NA |
| CIRCLING | 1180-1 | 512 (600-1) | 1180-1½ 512 (600-1½) | NA |

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4802 |
| 086° | TDZE | 605 |
| | Apt Elev | 606 |

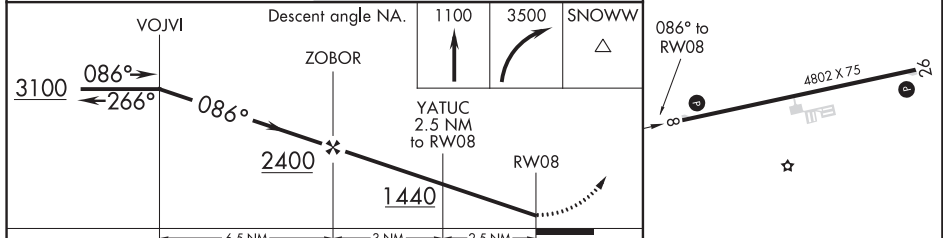
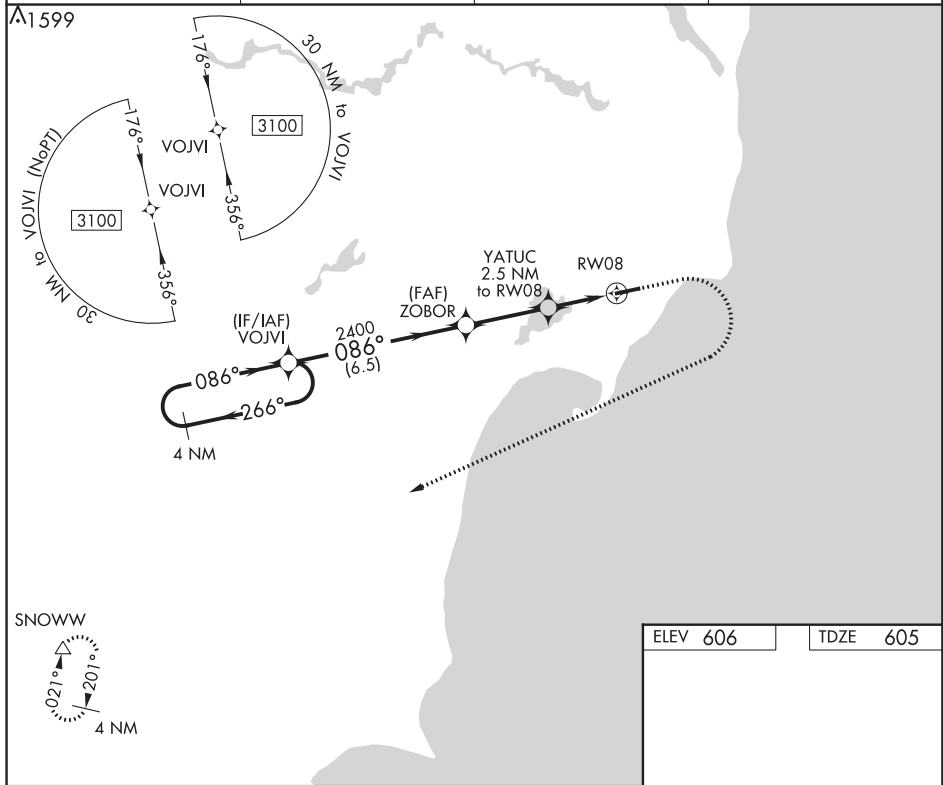
RNAV (GPS) RWY 8

IOSCO COUNTY (6D9)

▼ DME/DME RNP-0.3 NA. Procedure NA at night. Helicopter visibility reduction below 1 SM NA. Use Oscoda altimeter setting: when not received, use Bad Axe altimeter setting and increase all MDA 100 feet; increase LNAV Cats C and D visibilities ¼ mile, increase Circling visibility Cat C ¼ mile.

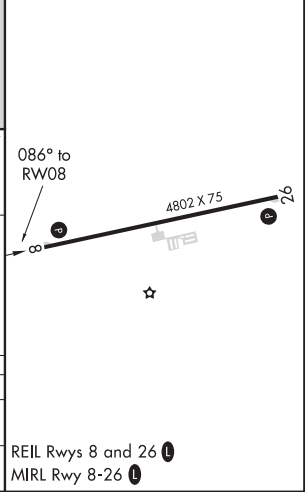
▲ NA MISSED APPROACH: Climb to 1100 then climbing right turn to 3500 direct SNOWW and hold.

| | | | |
|--|---|-------------------------------|------------------------|
| OSCODA-WURTSMITH AWOS-3 118.7 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 122.8 (CTAF) | 122.85 ① |
|--|---|-------------------------------|------------------------|



| CATEGORY | A | B | C | D |
|-------------------|----------|-------------|-----------|-------------------------|
| LNAV MDA | 1000 - 1 | 395 (400-1) | 1000 - 1½ | 395 (400-1½) |
| C CIRCLING | 1120 - 1 | 514 (600-1) | 1120 - 1½ | 1160 - 2 554 (600-2) |

| | |
|----------|----------|
| ELEV 606 | TDZE 605 |
|----------|----------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

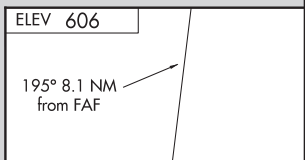
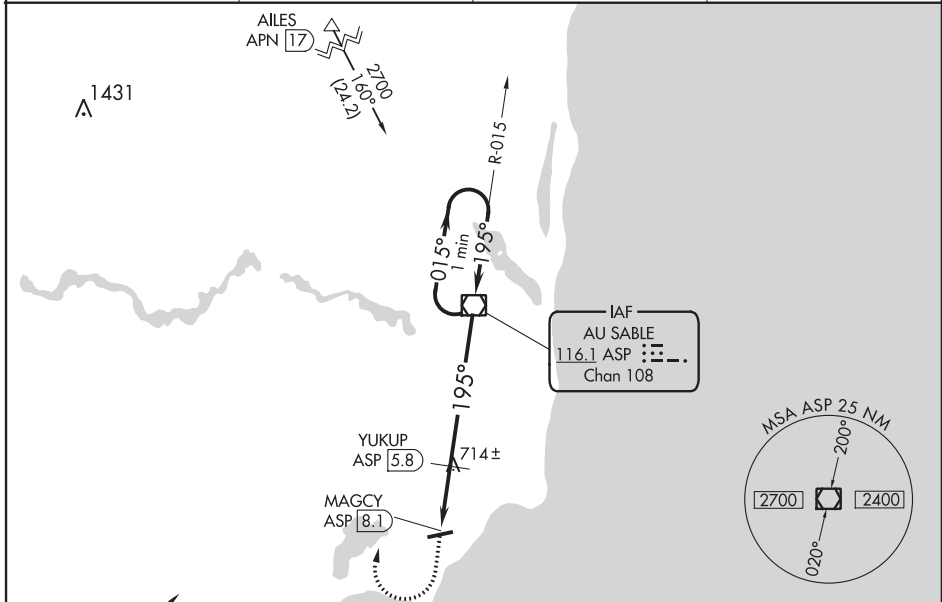
| | | | |
|--|------------------------|-----------------------------|--|
| VOR/DME ASP 116.1 Chan 108 | APP CRS 195° | Rwy Idg TDZE Apt Elev | N/A N/A 606 |
|--|------------------------|-----------------------------|--|

VOR-A
IOSCO COUNTY (6D9)

NA Procedure NA at night. Helicopter visibility reduction below 1 SM NA. Use Oscoda altimeter setting: when not received, use Bad Axe altimeter setting and increase all MDA 100 feet; increase Circling Cat C and D visibility ¼ mile. YUKUP Minimums: when using Bad Axe altimeter increase Cat C visibility ¼ mile. *1320 when using Bad Axe altimeter setting.

MISSED APPROACH: Climb to 2500 then right turn direct ASP VOR/DME and hold.

| | | | |
|--|---|-------------------------------|------------------------|
| OSCODA-WURTSMITH AWOS-3 118.7 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 122.8 (CTAF) | 122.85 0 |
|--|---|-------------------------------|------------------------|



| | | | |
|---------------|---------------|-------------|----------------------------|
| 2500 | ASP | ASP VOR/DME | One Minute Holding Pattern |
| MAGCY ASP 8.1 | YUKUP ASP 5.8 | 015° → | ← 195° 2500 |
| *1220 | | | |
| -2.3 NM | | 5.8 NM | |

| CATEGORY | A | B | C | D | |
|-----------------------------------|--------------------|---|----------------------|--------------------|---|
| C CIRCLING | 1220-1 614 (700-1) | | 1220-1¾ 614 (700-1¾) | 1220-2 614 (700-2) | REIL Rwys 8 and 26 L MIRL Rwy 8-26 0 |
| YUKUP FIX MINIMUMS (DME REQUIRED) | | | | | FAF to MAP 8.1 NM |
| C CIRCLING | 1120-1 514 (600-1) | | 1120-1½ 514 (600-1½) | 1160-2 554 (600-2) | Knots 60 90 120 150 180 Min:Sec 8:06 5:24 4:03 3:14 2:42 |

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EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|--|
| LOC/DME I-ESC 109.3 Chan 30 | APP CRS 094° | Rwy Idg TDZE Apt Elev 6498 609 609 |
|--|------------------------|--|

ILS or LOC RWY 9

DELTA COUNTY (E/SC)

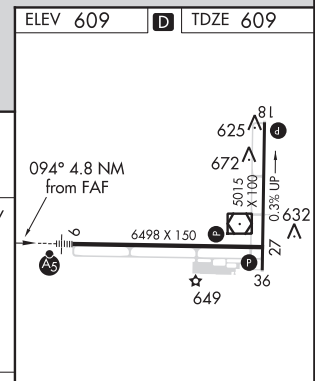
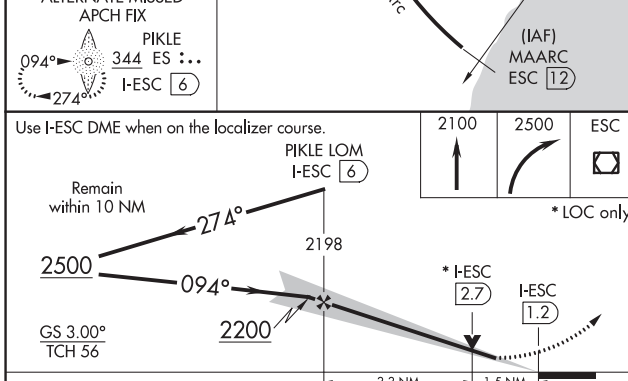
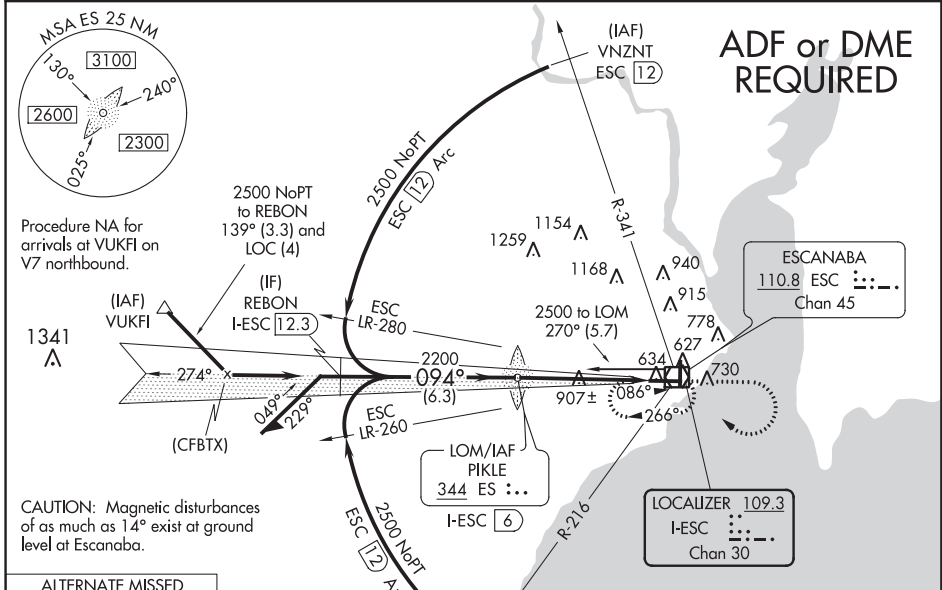
ADF or DME required. Night landing: Rwy 18 NA. When local altimeter setting not received, use Marquette altimeter setting and increase all DA 178 feet and all MDA 180 feet, increase S-ILS 9 all Cats visibility 1/8 mile, S-LOC 9 Cats C/D visibility 1/2 mile, Circling Cats C visibility 1/2 mile and Circling Cat D visibility 1/4 mile. For inoperative MALSRL when using Marquette altimeter setting, increase S-ILS 9 all Cats visibility to 1 mile, and S-LOC 9 Cats C/D visibility to 2 miles.

MALSRL
MISSED APPROACH: Climb to 2100 then climbing right turn to 2500 direct ESC VOR/DME and hold.

AWOS-3PT
121.425

MINNEAPOLIS CENTER
127.65

UNICOM
122.8 (CTAF)



| CATEGORY | A | B | C | D |
|----------|----------|---------------|-----------------------|-------------------------------|
| S-ILS 9 | | 809-1/2 | 200 (200-1/2) | |
| S-LOC 9 | 1160-1/2 | 551 (600-1/2) | 1160-1 1/8 | 551 (600-1 1/8) |
| CIRCLING | 1160-1 | 551 (600-1) | 1280-2 671 (700-2) | 1480-2 3/4 871 (900-2 3/4) |

| | |
|--------------------|--------------------------|
| HIRL Rwy 9-27 | |
| MIRL Rwy 18-36 | |
| REIL Rwy 27 and 36 | |
| FAF to MAP 4.8 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 4:48 3:12 2:24 1:55 1:36 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 70511 W09A | APP CRS 094° | Rwy Idg TDZE Apt Elev | 6498 609 609 |
|--|------------------------|-----------------------------|---|

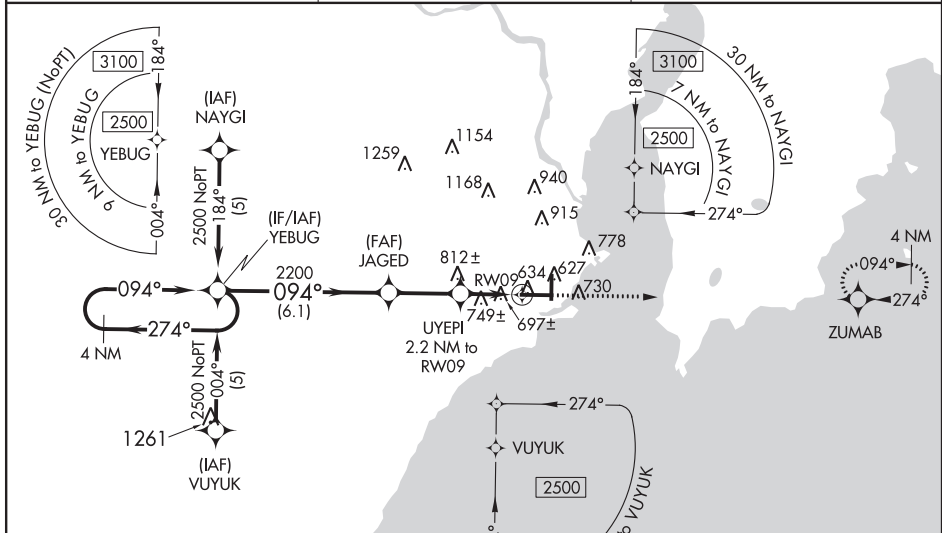
RNAV (GPS) RWY 9

DELTA COUNTY (ESC)

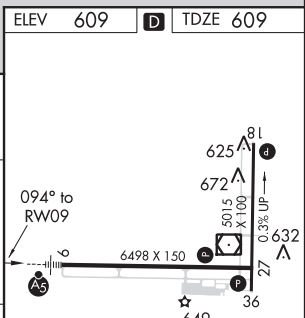
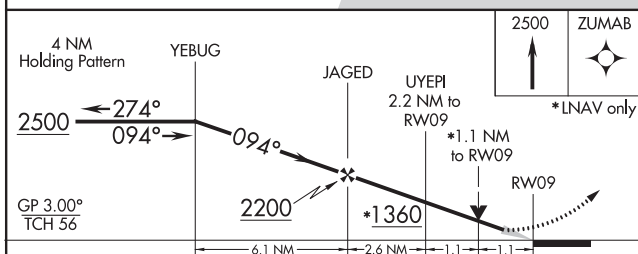
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Marquette altimeter setting and increase all DA 178 feet and all MDA 180 feet and increase LPV all Cats visibility 1/8 mile, LNAV/VNAV all Cats visibility 3/8 mile, LNAV Cat C and D visibility 3/8 mile, and Circling Cat C visibility 1/2 mile, Cat D visibility 1/4 mile. For inoperative MALSR, increase LNAV/VNAV all Cats visibility to 1 mile. For inoperative Marquette altimeter setting, increase LPV all Cats visibility to 1 mile, LNAV Cat C and D visibility to 1 3/8 mile. VDP NA when using Marquette altimeter setting. Baro-VNAV NA when using Marquette altimeter setting. Circling to Rwy 18 NA at night.

MALSR
A5
MISSED APPROACH:
Climb to 2500 direct ZUMAB and hold.

| | | |
|----------------------------|-------------------------------------|---------------------------------|
| AWOS-3PT 121.425 | MINNEAPOLIS CENTER 127.65 | UNICOM 122.8 (CTAF) 0 |
|----------------------------|-------------------------------------|---------------------------------|



CAUTION: Magnetic disturbances of as much as 14° exist at ground level at Escanaba.



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-----------------------|-------------------------------|
| LPV DA | | 809-1/2 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 967-5/8 | 358 (400-5/8) | |
| LNAV MDA | 1000-1/2 | 391 (400-1/2) | 1000-5/8 | 391 (400-5/8) |
| C CIRCLING | 1060-1 451 (500-1) | 1080-1 471 (500-1) | 1280-2 671 (700-2) | 1480-2 3/4 871 (900-2 3/4) |

HIRL Rwy 9-27 **0**
MRL Rwy 18-36 **0**
REIL Rwy 27 and 36 **0**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 63128 W27A | APP CRS 274° | Rwy Idg TDZE Apt Elev | 6498 596 609 |
|--|------------------------|-----------------------------|---|

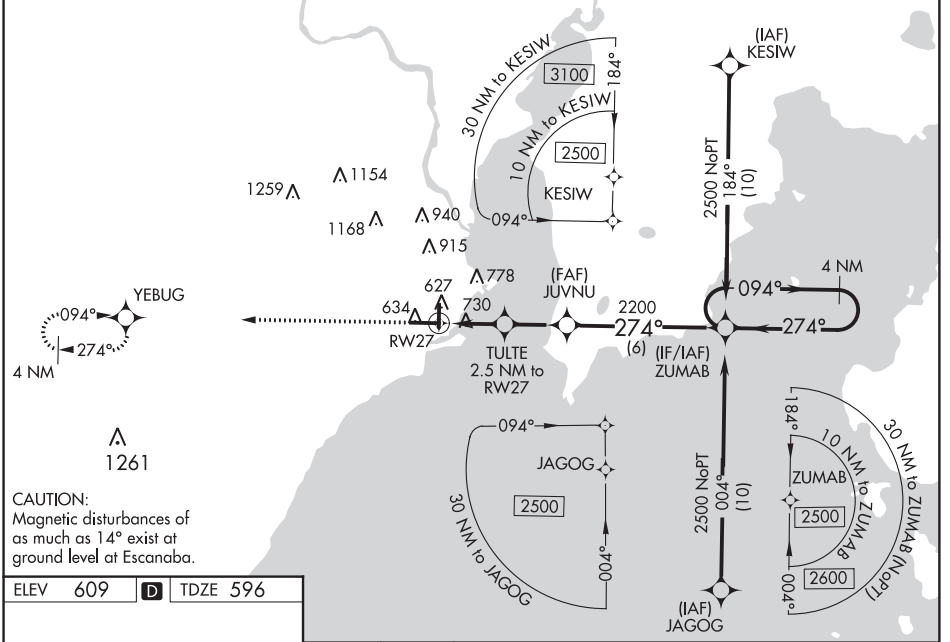
RNAV (GPS) RWY 27

DELTA COUNTY (ESC)

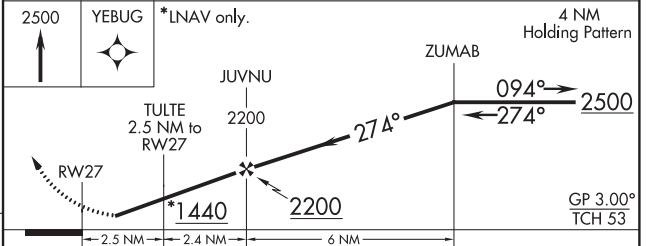
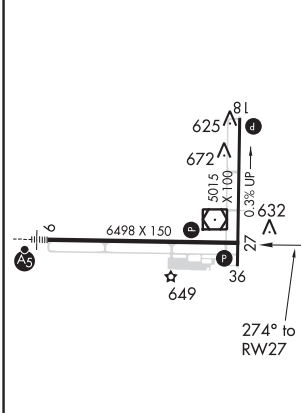
⚠ Baro-VNAV NA when using Marquette altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16 (4°F) or above 54°C (130°F). Rwy 27 Straight-in and Circling and Circling to Rwy 18 NA at night. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Marquette altimeter setting and increase all DA 178 feet and all MDA 180 feet and increase LPV all Cats visibility $\frac{3}{8}$ mile, LNAV/VNAV all Cats visibility $\frac{3}{8}$ mile, LNAV Cat C and D visibility $\frac{3}{8}$ mile, and Circling Cat C visibility $\frac{1}{2}$ mile and Cat D visibility $\frac{1}{4}$ mile.

MISSED APPROACH:
Climb to 2500 direct YEBUG and hold.

| | | |
|----------------------------|-------------------------------------|---------------------------------|
| AWOS-3PT 121.425 | MINNEAPOLIS CENTER 127.65 | UNICOM 122.8 (CTAF) 0 |
|----------------------------|-------------------------------------|---------------------------------|



| | | |
|----------|----------|----------|
| ELEV 609 | D | TDZE 596 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|----------------------------|--|
| LPV DA | 846-1 | | 250 (300-1) | |
| LNAV/VNAV DA | 1076-1 $\frac{5}{8}$ | | 480 (500-1 $\frac{5}{8}$) | |
| LNAV MDA | 1040-1 | 444 (500-1) | 1040-1 $\frac{3}{8}$ | 444 (500-1 $\frac{3}{8}$) |
| C CIRCLING | 1060-1 451 (500-1) | 1080-1 471 (500-1) | 1280-2 671 (700-2) | 1480-2 $\frac{3}{4}$ 871 (900-2 $\frac{3}{4}$) |

HIRL Rwy 9-27 **L**
MIRL Rwy 18-36 **L**
REIL Rwy 27 and 36 **L**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 69333 W36A | APP CRS 004° | Rwy Idg TDZE Apt Elev | 5015 601 609 |
|--|------------------------|-----------------------------|---|

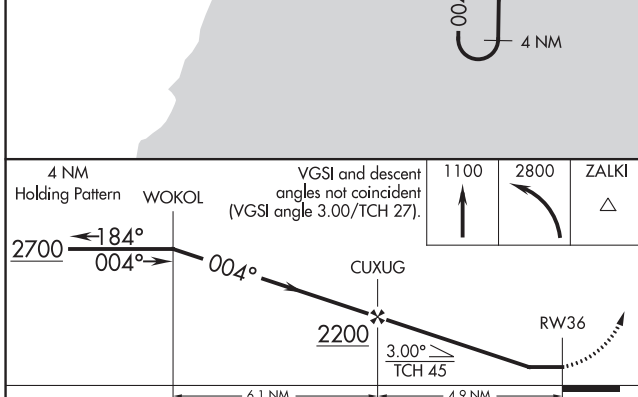
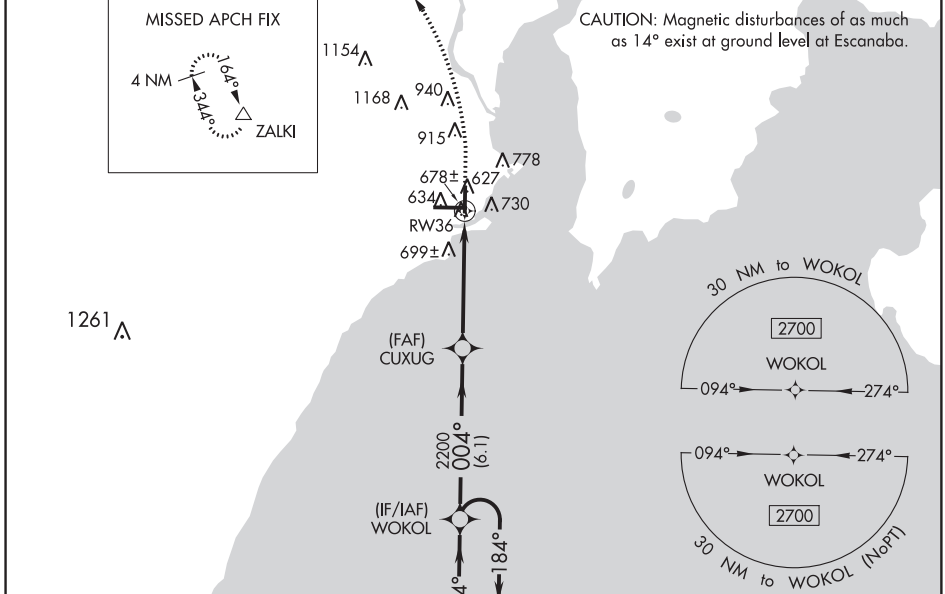
RNAV (GPS) RWY 36

DELTA COUNTY (ESC)

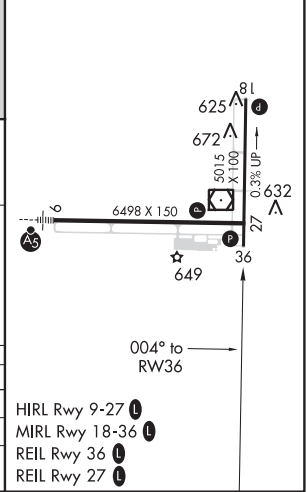
⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Rwy 36 Straight-in and Circling to Rwy 18 NA at night. When local altimeter setting not received, use Marquette altimeter setting and increase all MDA 180 feet and increase LP Cat C and D visibility 1/2 mile, LNAV Cat C and D visibility 3/8 mile, and Circling Cat C visibility 1/2 mile and Cat D visibility 1/4 mile.

MISSED APPROACH: Climb to 1100, then climbing left turn to 2800 direct ZALKI and hold.

| | | |
|----------------------------|-------------------------------------|---------------------------------|
| AWOS-3PT 121.425 | MINNEAPOLIS CENTER 127.65 | UNICOM 122.8 (CTAF) 0 |
|----------------------------|-------------------------------------|---------------------------------|



| | | |
|----------|----------|----------|
| ELEV 609 | D | TDZE 601 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-----------------------|--|
| LP MDA | | 940-1 | 339 (400-1) | |
| LNAV MDA | | 960-1 | 359 (400-1) | |
| C CIRCLING | 1060-1 451 (500-1) | 1080-1 471 (500-1) | 1280-2 671 (700-2) | 1480-2 ³ / ₄ 871 (900-2 ³ / ₄) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|--|
| VOR/DME ESC 110.8 Chan 45 | APP CRS 351° | Rwy Idg TDZE Apt Elev 5015 601 609 |
|---|------------------------|--|

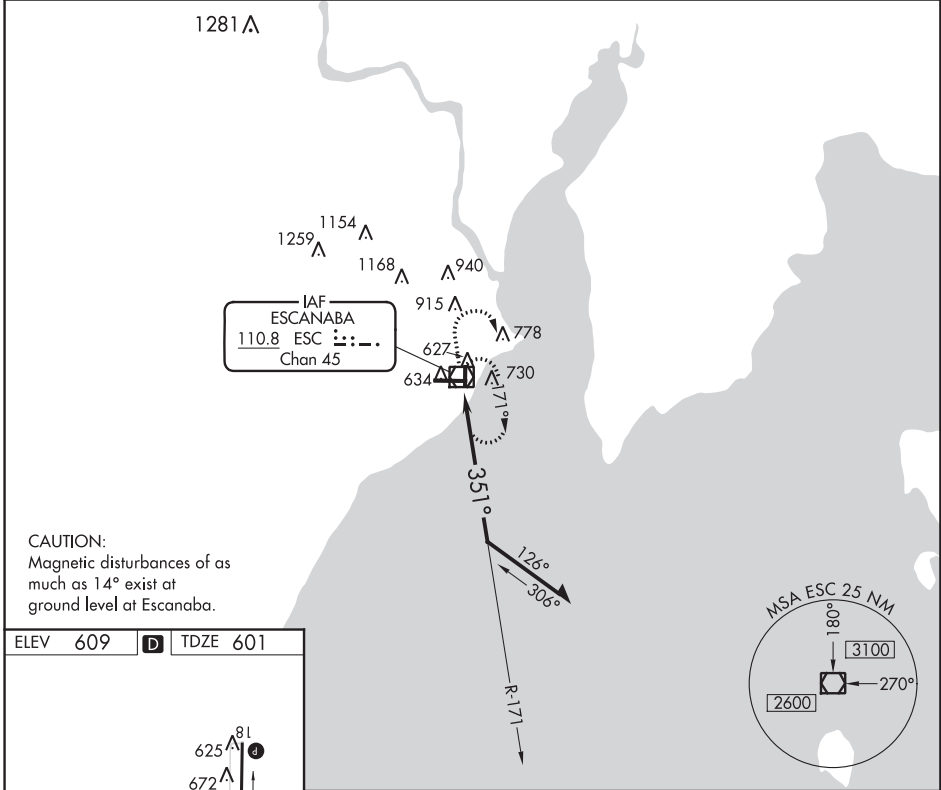
VOR RWY 36

DELTA COUNTY (ESC)

⚠ Helicopter visibility reduction below 1SM NA. Rwy 36 Straight-in and Circling and Circling to Rwy 18 NA at night. When local altimeter setting not received, use Marquette altimeter setting and increase all MDA 180 feet and increase S-36 Cat C and D visibility ½ mile, and Circling Cat C visibility ½ mile and Cat D visibility ¼ mile.

MISSED APPROACH: Climb to 2400, then right turn direct ESC VOR/DME and hold.

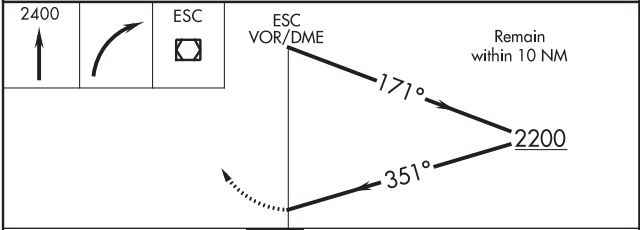
| | | |
|----------------------------|-------------------------------------|--|
| AWOS-3PT 121.425 | MINNEAPOLIS CENTER 127.65 | UNICOM 122.8 (CTAF) 📞 |
|----------------------------|-------------------------------------|--|



CAUTION:
Magnetic disturbances of as much as 14° exist at ground level at Escanaba.

| | | |
|----------|----------|----------|
| ELEV 609 | D | TDZE 601 |
|----------|----------|----------|

HIRL Rwy 9-27 **📴**
MIRL Rwy 18-36 **📴**
REIL Rwy 27 and 36 **📴**



| CATEGORY | A | B | C | D |
|-------------------|--------------------|---|---|---|
| S-36 | 1080-1 479 (500-1) | | 1080-1 ³ / ₈ 479 (500-1 ³ / ₈) | |
| C CIRCLING | 1080-1 471 (500-1) | | 1280-2 671 (700-2) | 1480-2 ³ / ₄ 871 (900-2 ³ / ₄) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

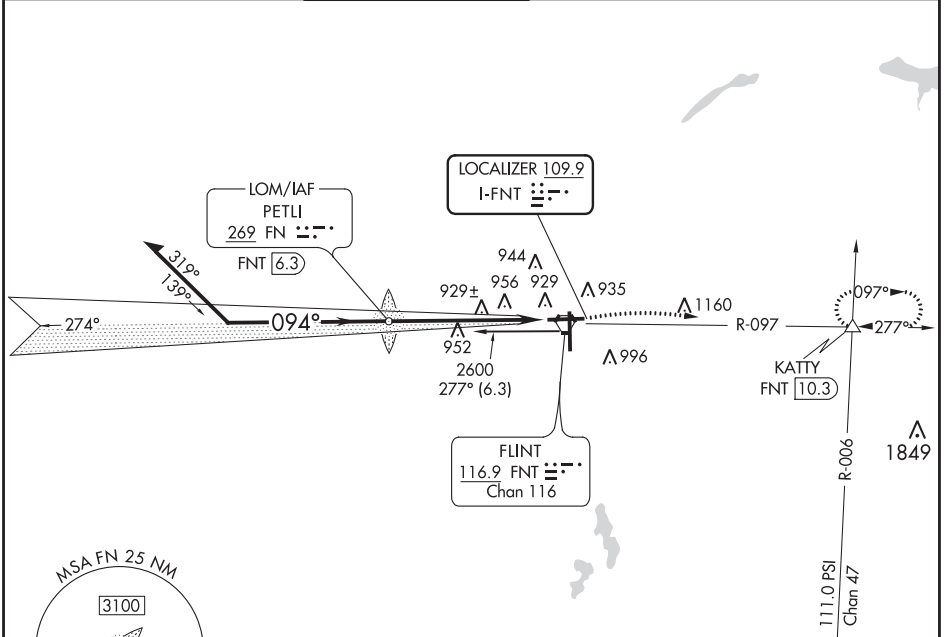
| | | | |
|---------------------------|------------------------|-----------------------------|---|
| LOC I-FNT 109.9 | APP CRS 094° | Rwy Idg TDZE Apt Elev | 7201 771 782 |
|---------------------------|------------------------|-----------------------------|---|

ILS or LOC RWY 9

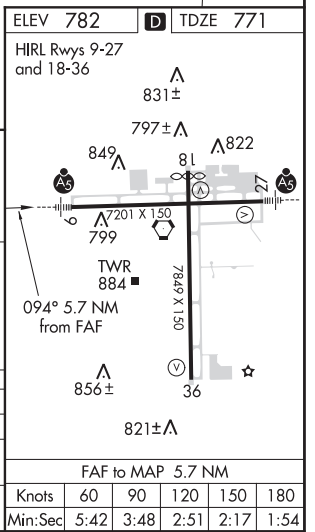
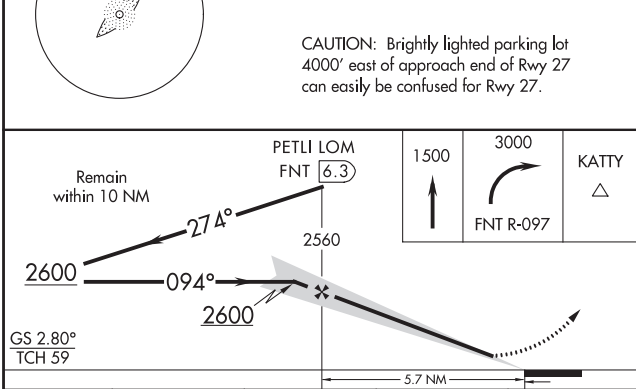
BISHOP INTL (F'NT)

| | |
|--|--|
| RVR 1800 authorized with the use of FD or AP or HUD to DA. | MISSED APPROACH: Climb to 1500, then climbing right turn to 3000 via FNT R-097 to KATTY INT/FNT 10.3 DME and hold. |
|--|--|

| | | | | | |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 133.15 | FLINT APP CON * 118.8 257.9 | FLINT TOWER * 126.3 (CTAF) 257.9 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|



CAUTION: Brightly lighted parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.



| CATEGORY | A | B | C | D |
|----------|---------|-------------|-------------------------|-----------------------|
| S-ILS 9 | 971/24 | | 200 (200-½) | |
| S-LOC 9 | 1220/24 | 449 (500-½) | 1220/45 | 449 (500-¾) |
| CIRCLING | 1300-1 | 518 (600-1) | 1300-1½ 518 (600-1½) | 1340-2 558 (600-2) |

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:42 | 3:48 | 2:51 | 2:17 | 1:54 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FLINT, MICHIGAN

AL-618 (FAA)

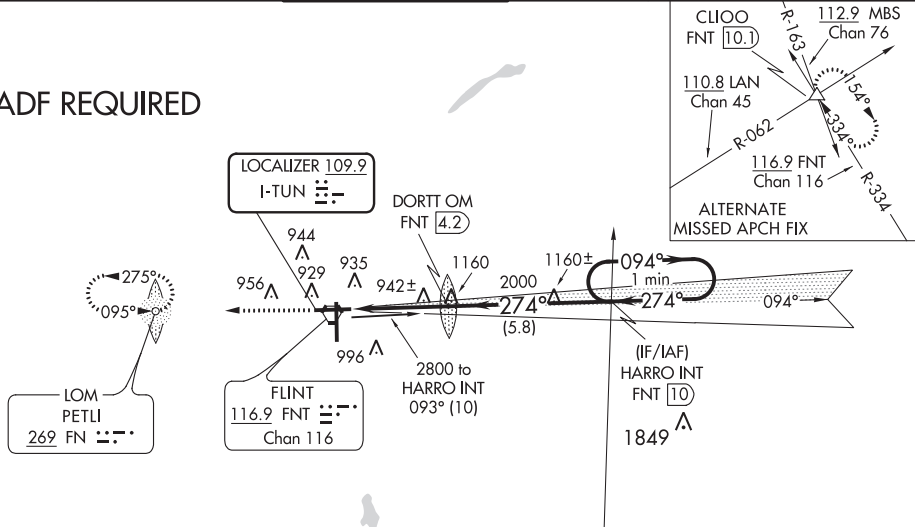
15344

| | | |
|---------------------------|------------------------|---|
| LOC I-TUN 109.9 | APP CRS 274° | Rwy Idg 7201 TDZE 770 Apt Elev 782 |
|---------------------------|------------------------|---|

ILS or LOC RWY 27
BISHOP INTL (F'NT)

| | | | | | |
|---|-------------------------------|---|--|---------------------------------|-----------------------------------|
| <p>⚠ When local altimeter setting not received, use Owosso altimeter setting and increase all DA 47 feet and all MDA 60 feet, and S-LOC 27 visibilities Cat C/D ¼ mile.</p> <p>ASR</p> | <p>MALSRL A5</p> | | <p>MISSED APPROACH: Climb to 2800 direct PETLI LOM and hold.</p> | | |
| | <p>ATIS 133.15</p> | <p>FLINT APP CON * 118.8 257.9</p> | <p>FLINT TOWER * 126.3 (CTAF) 257.9</p> | <p>GND CON 121.9</p> | <p>CLNC DEL 121.75</p> |

ADF REQUIRED



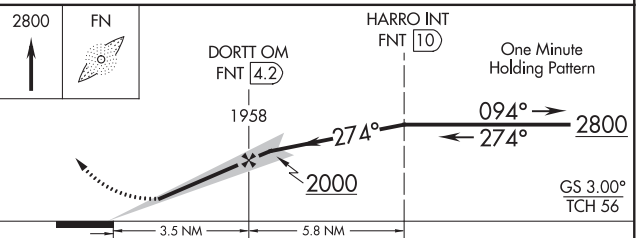
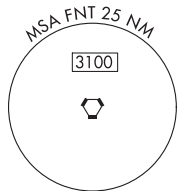
CAUTION: Brightly lighted parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | | | | | | | | | | | | |
|---|----------|----------|-------|------|------|-----|-----|-----|---------|------|------|------|------|------|
| ELEV 782 | D | TDZE 770 | | | | | | | | | | | | |
| <p>HIRL Rwy 9-27 and 18-36</p> <p>831± Δ 274° 3.5 NM from FAF</p> <p>797± Δ</p> <p>849 Δ</p> <p>81 Δ 822</p> <p>799 Δ 27</p> <p>7201 X 150</p> <p>TWR 884</p> <p>7840 X 150</p> <p>856± Δ</p> <p>36</p> <p>821± Δ</p> | | | | | | | | | | | | | | |
| <p>FAF to MAP 3.5 NM</p> <table border="1"> <tr> <td>Knots</td> <td>60</td> <td>90</td> <td>120</td> <td>150</td> <td>180</td> </tr> <tr> <td>Min:Sec</td> <td>3:30</td> <td>2:20</td> <td>1:45</td> <td>1:24</td> <td>1:10</td> </tr> </table> | | | Knots | 60 | 90 | 120 | 150 | 180 | Min:Sec | 3:30 | 2:20 | 1:45 | 1:24 | 1:10 |
| Knots | 60 | 90 | 120 | 150 | 180 | | | | | | | | | |
| Min:Sec | 3:30 | 2:20 | 1:45 | 1:24 | 1:10 | | | | | | | | | |

PONTIAC 111.0 PSI Chan 47



| | | | | |
|----------|--------------------|--------------------|----------------------|--------------------|
| CATEGORY | A | B | C | D |
| S-ILS 27 | 970-½ 200 (200-½) | | | |
| S-LOC 27 | 1260-½ 490 (500-½) | 1260-¾ 490 (500-¾) | 1260-1 490 (500-1) | 1260-1 490 (500-1) |
| CIRCLING | 1260-1 478 (500-1) | 1300-1 518 (600-1) | 1300-1½ 518 (600-1½) | 1340-2 558 (600-2) |

FLINT, MICHIGAN
Amdt 5 06MAY10

42°58'N-83°45'W

ILS or LOC RWY 27
BISHOP INTL (F'NT)

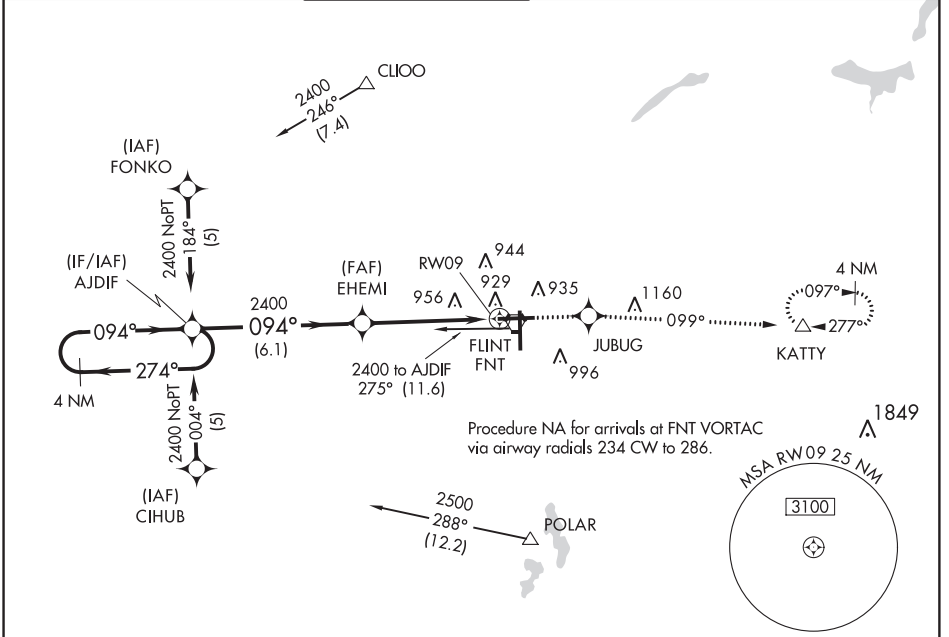
| | | |
|--------------------------|------------------------|---|
| WAAS CH 45714 W09A | APP CRS 094° | Rwy Idg 7201 TDZE 771 Apt Elev 782 |
|--------------------------|------------------------|---|

RNAV (GPS) RWY 9

BISHOP INTL (F'NT)

| | | |
|---|--------|---|
| ASR 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. | MALS R | MISSED APPROACH: Climb to 3000 direct JUBUG and via track 099° to KATTY and hold. |
|---|--------|---|

| | | | | | |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 133.15 | FLINT APP CON * 118.8 257.9 | FLINT TOWER * 126.3 (CTAF) 257.9 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|

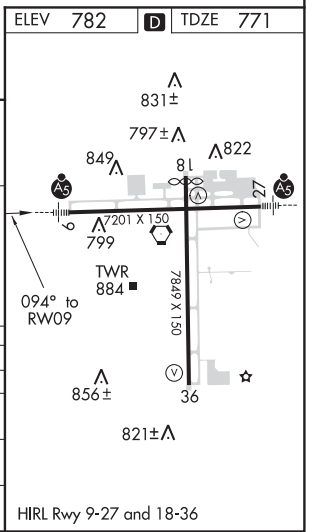


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CAUTION: Brightly lighted parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.

| | | | | | | | |
|----------------------|---------|-------------|---------|-----------------|---------|-------------|-------|
| 4 NM Holding Pattern | | AJDIF | EHEMI | 3000 | JUBUG | tr 099° | KATTY |
| 2400 ← 274° / 094° → | | 2400 | | *1.4 NM to RW09 | | *LNAV only | |
| GP 3.00° TCH 50 | | 6.1 NM | | 3.5 NM | | 1.4 | |
| CATEGORY | A | B | C | D | | | |
| LPV DA | 971/24 | | | 200 (200-½) | | | |
| LNAV/VNAV DA | 1227/50 | | | 456 (500-1) | | | |
| LNAV MDA | 1260/24 | 489 (500-½) | 1260/40 | 489 (500-¾) | 1260/50 | 489 (500-1) | |
| CIRCLING | 1300-1 | 518 (600-1) | 1300-1½ | 518 (600-1½) | 1340-2 | 558 (600-2) | |



FLINT, MICHIGAN

AL-618 (FAA)

15344

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 99514 W18A | APP CRS 185° | Rwy Idg TDZE Apt Elev | 7648 776 782 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 18

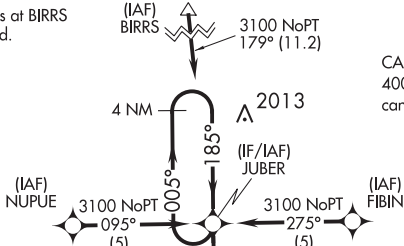
BISHOP INTL (F'NT)

ASR 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. Helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 3000 direct HAGEM and on track 182° to POLAR and hold.

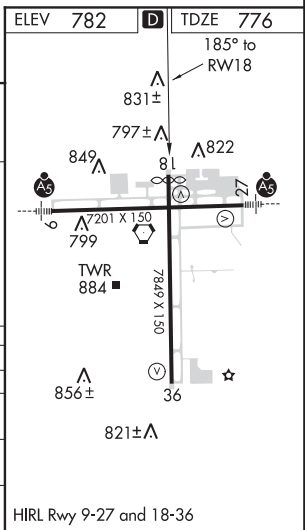
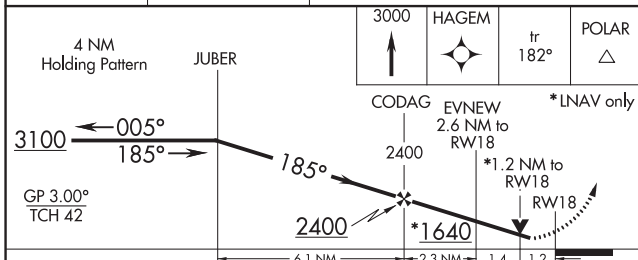
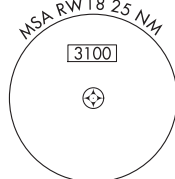
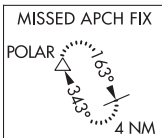
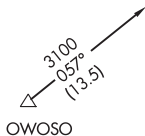
| | | | | | |
|-----------------------|---------------------------------------|---|-------------------------|---------------------------|-------------------------|
| ATIS 133.15 | FLINT APP CON * 118.8 257.9 | FLINT TOWER * 126.3 (CTAF) 0257.9 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|---------------------------------------|---|-------------------------|---------------------------|-------------------------|

Procedure NA for arrivals at BIRRS on V320 northwest bound.



CAUTION: Brightly lighted parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.

Procedure NA for arrivals at OWOSO on V450 westbound.



| | | | | |
|----------------------|--------|-------------|----------------------|-----------------------|
| 4 NM Holding Pattern | JUBER | HAGEM | tr 182° | POLAR |
| GP 3.00° TCH 42 | | CODAG | EVNEW 2.6 NM to RW18 | *LNAV only |
| | | | *1.2 NM to RW18 | |
| | | | *1.640 | |
| CATEGORY | A | B | C | D |
| LPV DA | | 1109-1¼ | 333 (400-1¼) | |
| LNAV/DA VNAV | | 1253-1¾ | 477 (500-1¾) | |
| LNAV MDA | 1200-1 | 424 (500-1) | 1200-1 ¼ | 424 (500-1 ¼) |
| CIRCLING | 1300-1 | 518 (600-1) | 1300-1 ½ | 1340-2 558 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FLINT, MICHIGAN
Amdt 1A 13NOV14

42°58'N-83°45'W

RNAV (GPS) RWY 18

BISHOP INTL (F'NT)

HIRL Rwy 9-27 and 18-36

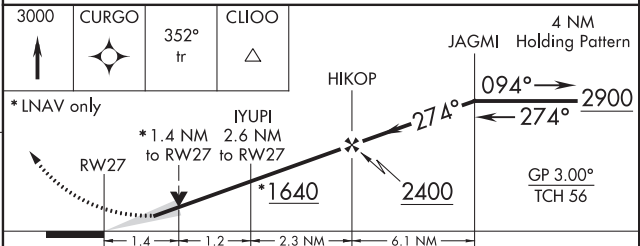
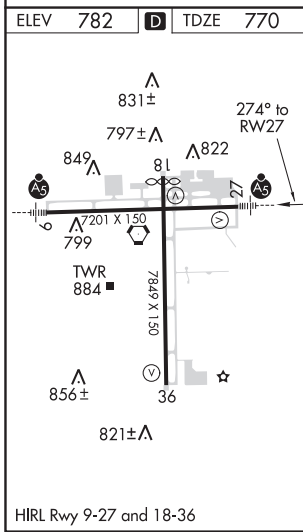
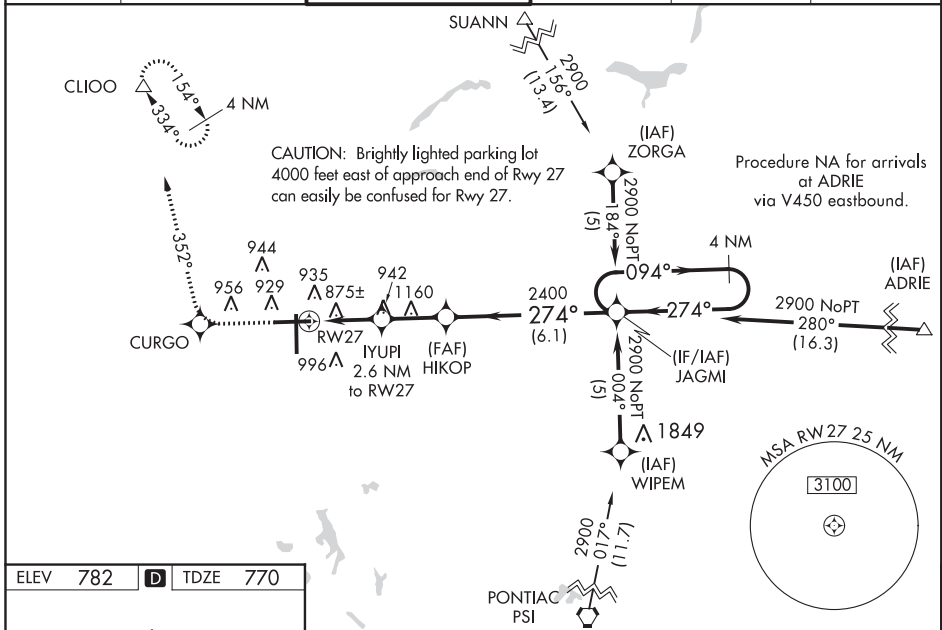
| | | | |
|--|------------------------|---|-------------|
| WAAS CH 72810 W27A | APP CRS 274° | Rwy Idg TDZE 770 Apt Elev 782 | 7201 |
|--|------------------------|---|-------------|

RNAV (GPS) RWY 27

BISHOP INTL (F'NT)

| | | |
|--|--------------|--|
| <p>When local altimeter setting not received, use Owosso altimeter setting and increase all DA 47 feet, and all MDA 60 feet; and LNAV visibilities Cat C/D ¼ mile. VDP NA when using Owosso altimeter setting. Baro-VNAV NA when using Owosso altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). For inoperative MALSR, increase LPV all Cats visibility to 1¼. DME/DME RNP-0.3 NA.</p> | <p>MALSR</p> | <p>MISSED APPROACH: Climb to 3000 direct CURGO and via 352° track to CLIOO and hold.</p> |
| | | |

| | | | | | |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 133.15 | FLINT APP CON ★ 118.8 257.9 | FLINT TOWER ★ 126.3 (CTAF) 257.9 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-----------------------|-----------------------|
| LPV DA | | 1098-¾ | 328 (400-¾) | |
| LNAV/VNAV DA | | 1240-1¼ | 470 (500-1¼) | |
| LNAV MDA | 1260-½ | 490 (500-½) | 1260-¾ 490 (500-¾) | 1260-1 490 (500-1) |
| CIRCLING | 1260-1 478 (500-1) | 1300-1 518 (600-1) | 1300-½ 518 (600-½) | 1340-2 558 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FLINT, MICHIGAN

AL-618 (FAA)

15344

| | | |
|--|------------------------|---|
| WAAS CH 65914 W36A | APP CRS 005° | Rwy Idg 7648 TDZE 782 Apt Elev 782 |
|--|------------------------|---|

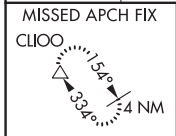
RNAV (GPS) RWY 36

BISHOP INTL (F'NT)

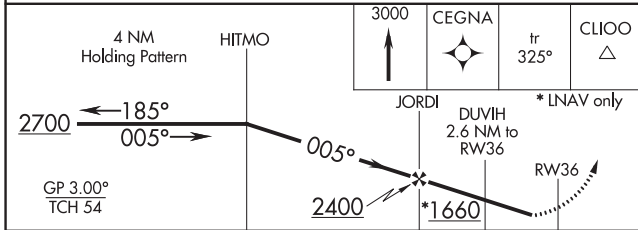
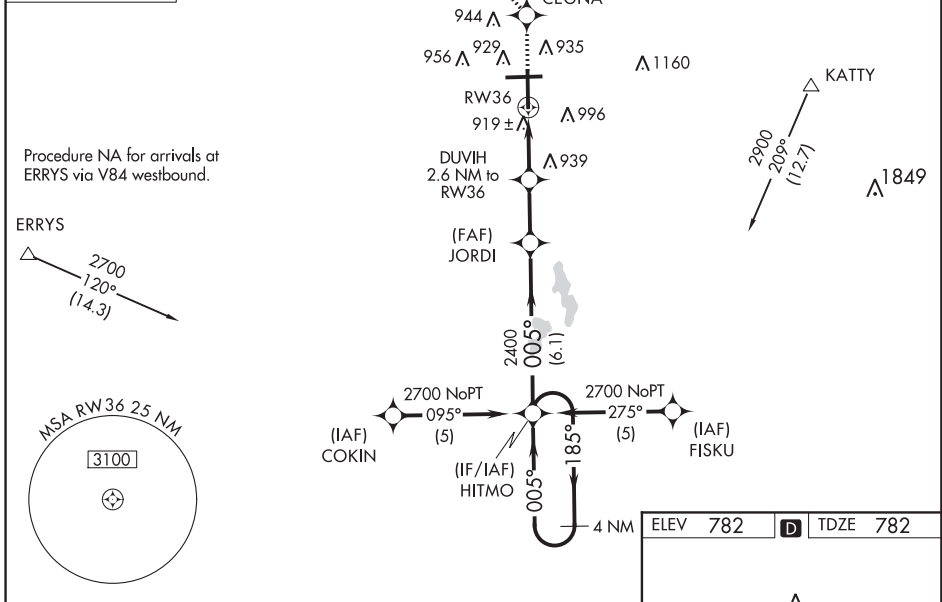
ASR For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F).
DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 3000 direct CEGNA and via track 325° to CLIOO and hold.

| | | | | | |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 133.15 | FLINT APP CON * 118.8 257.9 | FLINT TOWER * 126.3 (CTAF) 257.9 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|

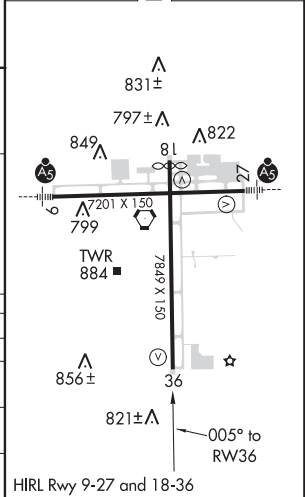


CAUTION: Brightly lit parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.



| | | | | |
|------|-----|---|------|-----|
| ELEV | 782 | D | TDZE | 782 |
|------|-----|---|------|-----|

| | | | | |
|--------------|--------|-------------|-------------------------|-------------------------|
| CATEGORY | A | B | C | D |
| LPV DA | | 1123-1¼ | 341 (400-1¼) | |
| LNAV/VNAV DA | | 1254-1¾ | 472 (500-1¾) | |
| LNAV MDA | 1260-1 | 478 (500-1) | 1260-1¼ 478 (500-1¼) | 1260-1½ 478 (500-1½) |
| CIRCLING | 1300-1 | 518 (600-1) | 1300-1½ 518 (600-1½) | 1340-2 558 (600-2) |



FLINT, MICHIGAN
Amdt 1 27AUG09

42°58'N-83°45'W

RNAV (GPS) RWY 36

BISHOP INTL (F'NT)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

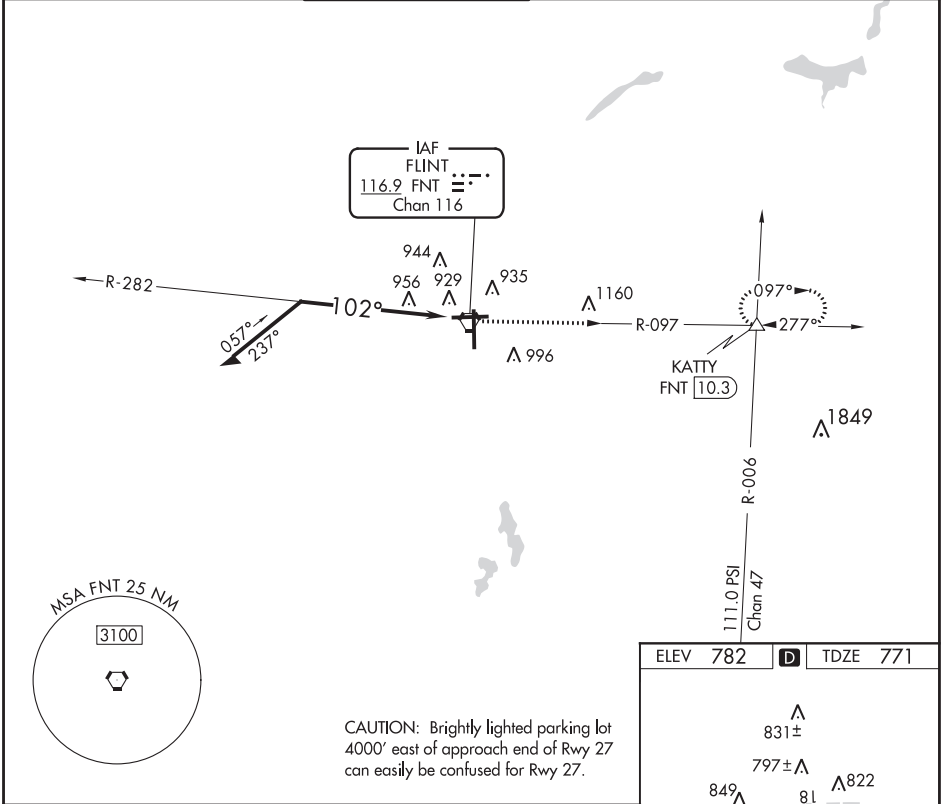
| | | |
|---|------------------------|---|
| VORTAC FNT 116.9 Chan 116 | APP CRS 102° | Rwy Idg 7201 TDZE 771 Apt Elev 782 |
|---|------------------------|---|

VOR RWY 9

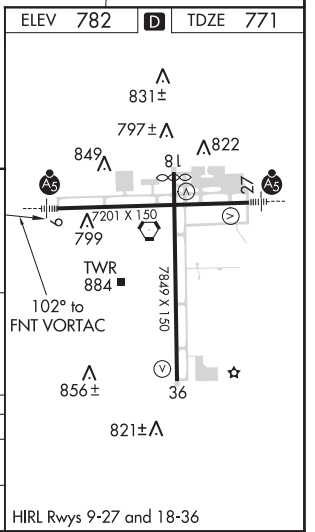
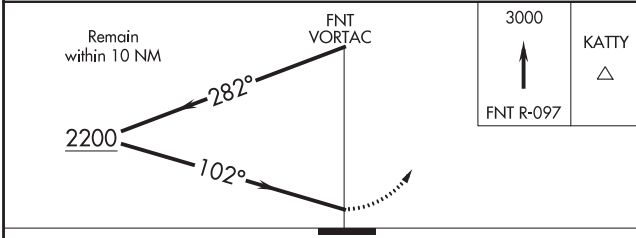
BISHOP INTL (FNT)

| | | |
|-----|-------|--|
| ASR | MALSR | MISSED APPROACH: Climb to 3000 via FNT R-097 to KATTY INT/FNT 10.3 DME and hold. |
|-----|-------|--|

| | | | | | |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 133.15 | FLINT APP CON ★ 118.8 257.9 | FLINT TOWER ★ 126.3 (CTAF) 257.9 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|



CAUTION: Brightly lighted parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.



| CATEGORY | A | B | C | D |
|----------|---------------------|---|----------------------|----------------------|
| S-9 | 1300/24 529 (600-½) | | 1300/50 529 (600-1) | 1300/60 529 (600-1¼) |
| CIRCLING | 1300-1 518 (600-1) | | 1300-1½ 518 (600-1½) | 1340-2 558 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FLINT, MICHIGAN

AL-618 (FAA)

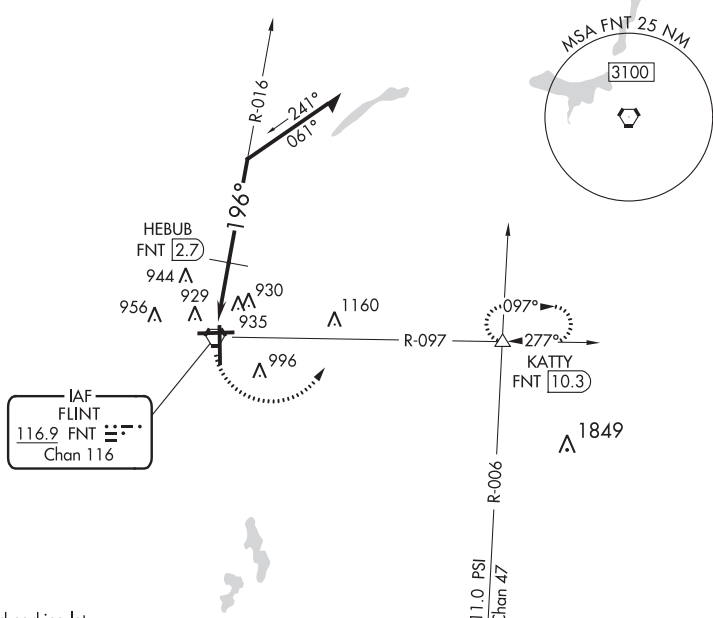
15344

| | | |
|---|------------------------|---|
| VORTAC FNT 116.9 Chan 116 | APP CRS 196° | Rwy Idg 7648 TDZE 779 Apt Elev 782 |
|---|------------------------|---|

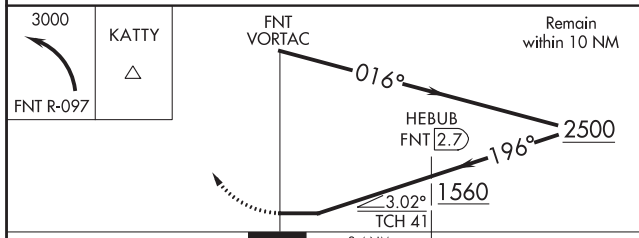
VOR RWY 18

BISHOP INTL (F'NT)

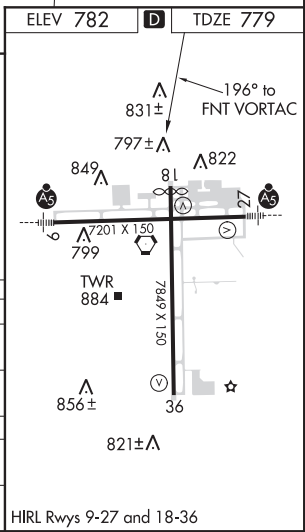
| | | | | | |
|-----------------------|---------------------------------------|---|-------------------------|---------------------------|-------------------------|
| ASR | | MISSED APPROACH: Climbing left turn to 3000 via fnt R-097 to KATY INT and hold. | | | |
| ATIS 133.15 | FLINT APP CON * 118.8 257.9 | FLINT TOWER * 126.3(CTAF) 257.9 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |



CAUTION: Brightly lighted parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-------------------------|-------------------------|-------------------------|
| S-18 | 1560-1 781 (800-1) | 1560-1¼ 781 (800-1¼) | 1560-2¼ 781 (800-2¼) | 1560-2½ 781 (800-2½) |
| CIRCLING | 1560-1 778 (800-1) | 1560-1¼ 778 (800-1¼) | 1560-2¼ 778 (800-2¼) | 1560-2½ 778 (800-2½) |
| DME MINIMUMS | | | | |
| S-18 | 1300-1 523 (600-1) | 1300-1½ 523 (600-1½) | 1300-1¾ 523 (600-1¾) | 1300-2 523 (600-2) |
| CIRCLING | 1300-1 518 (600-1) | 1300-1½ 518 (600-1½) | 1300-1¾ 518 (600-1¾) | 1300-2 518 (600-2) |



FLINT, MICHIGAN
Orig-A 13APR06

42°58'N-83°45'W

BISHOP INTL (F'NT)

VOR RWY 18

EC-1, 10 NOV 2016 to 05 JAN 2017

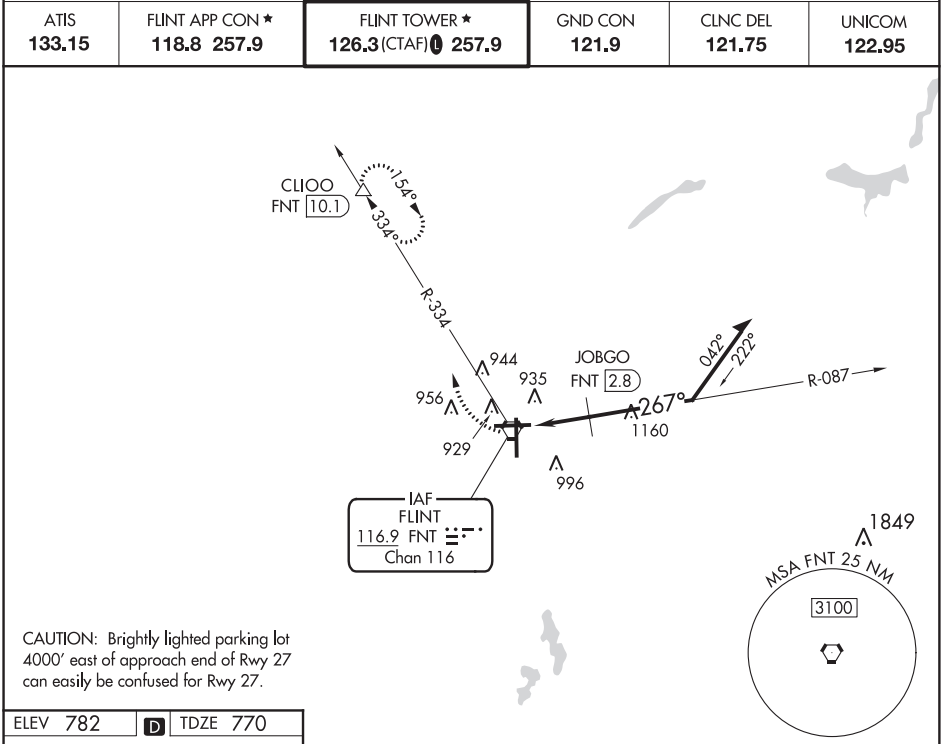
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|-----------------------------|---|
| VORTAC FNT 116.9 Chan 116 | APP CRS 267° | Rwy Idg TDZE Apt Elev | 7201 770 782 |
|---|------------------------|-----------------------------|---|

VOR RWY 27

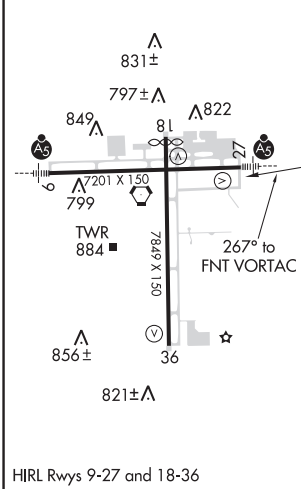
BISHOP INTL (F'NT)

| | | | | | |
|----------------------|--------|---|---------------------------------------|---|-------------------------|
| DME Required. ASR | MALS R | MISSED APPROACH: Climbing right turn to 3000 on FNT R-334 to CLIOO/FNT 10.1 DME and hold. | | | |
| | | ATIS 133.15 | FLINT APP CON ★ 118.8 257.9 | FLINT TOWER ★ 126.3(CTAF) 257.9 | GND CON 121.9 |

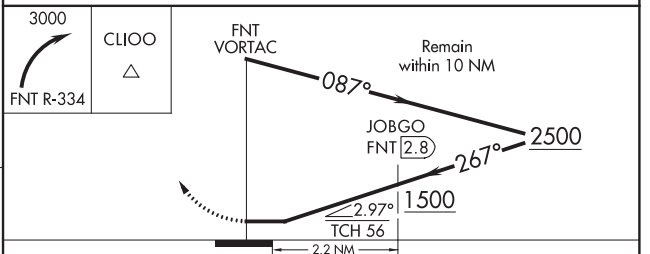


CAUTION: Brightly lighted parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.

| | | |
|----------|----------|----------|
| ELEV 782 | D | TDZE 770 |
|----------|----------|----------|



FLINT, MICHIGAN
Orig-A 07FEB13



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------|-------------------------|
| S-27 | 1500-½ | 730 (800-½) | 1500-1½ 730 (800-1½) | 1500-1¾ 730 (800-1¾) |
| CIRCLING | 1500-1 | 718 (800-1) | 1500-2 718 (800-2) | 1500-2¼ 718 (800-2¼) |
| DME MINIMUMS | | | | |
| S-27 | 1260-½ | 490 (500-½) | 1260-¾ 490 (500-¾) | 1260-1 490 (500-1) |
| CIRCLING | 1280-1 498 (500-1) | 1300-1 518 (600-1) | 1300-1½ 518 (600-1½) | 1340-2 558 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FLINT, MICHIGAN

AL-618 (FAA)

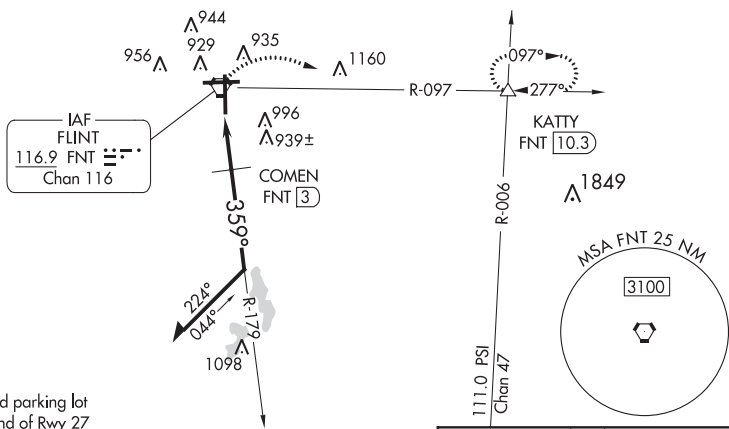
15344

| | | |
|---|------------------------|---|
| VORTAC FNT 116.9 Chan 116 | APP CRS 359° | Rwy Idg 7648 TDZE 782 Apt Elev 782 |
|---|------------------------|---|

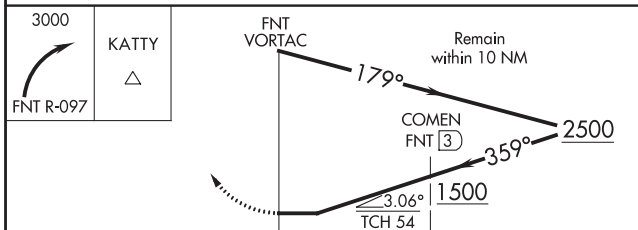
VOR RWY 36

BISHOP INTL (FNT)

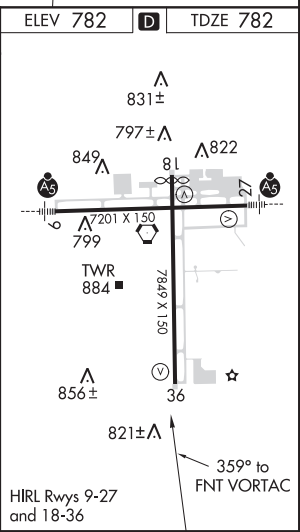
| | | | | | |
|-----------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ASR | | MISSED APPROACH: Climbing right turn to 3000 via FNT R-097 to KATTY INT/10.3 DME and hold. | | | |
| ATIS 133.15 | FLINT APP CON ★ 118.8 257.9 | FLINT TOWER ★ 126.3(CTAF) 257.9 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |



CAUTION: Brightly lighted parking lot 4000' east of approach end of Rwy 27 can easily be confused for Rwy 27.



| CATEGORY | A | | B | | C | | D | |
|--------------|-----------------------|-----------------------|-------------------------------|-------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | S-36 | 1500-1 | 718 (800-1) | 1500-2 | 718 (800-2) | 1500-2 1/4 | 718 (800-2 1/4) | 1500-2 1/4 |
| CIRCLING | 1500-1 | 718 (800-1) | 1500-2 | 718 (800-2) | 1500-2 1/4 | 718 (800-2 1/4) | 1500-2 1/4 | 718 (800-2 1/4) |
| DME MINIMUMS | | | | | | | | |
| S-36 | 1200-1 | 418 (500-1) | 1200-1 1/4 | 418 (500-1 1/4) | 1200-1 1/4 | 418 (500-1 1/4) | 1200-1 1/4 | 418 (500-1 1/4) |
| CIRCLING | 1280-1 498 (500-1) | 1300-1 518 (600-1) | 1300-1 1/2 518 (600-1 1/2) | 1300-1 1/2 518 (600-1 1/2) | 1340-2 558 (600-2) | 1340-2 558 (600-2) | 1340-2 558 (600-2) | 1340-2 558 (600-2) |



FLINT, MICHIGAN
Orig 10MAY07

42°58'N-83°45'W

BISHOP INTL (FNT) VOR RWY 36

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FRANKFORT, MICHIGAN

AL-6732 (FAA)

15120

| | | |
|------------------------|-----------------------------|---|
| APP CRS 128° | Rwy Idg TDZE Apt Elev | 2956 623 633 |
|------------------------|-----------------------------|---|

RNAV (GPS) RWY 15

FRANKFORT DOW MEMORIAL FIELD (F'KS)

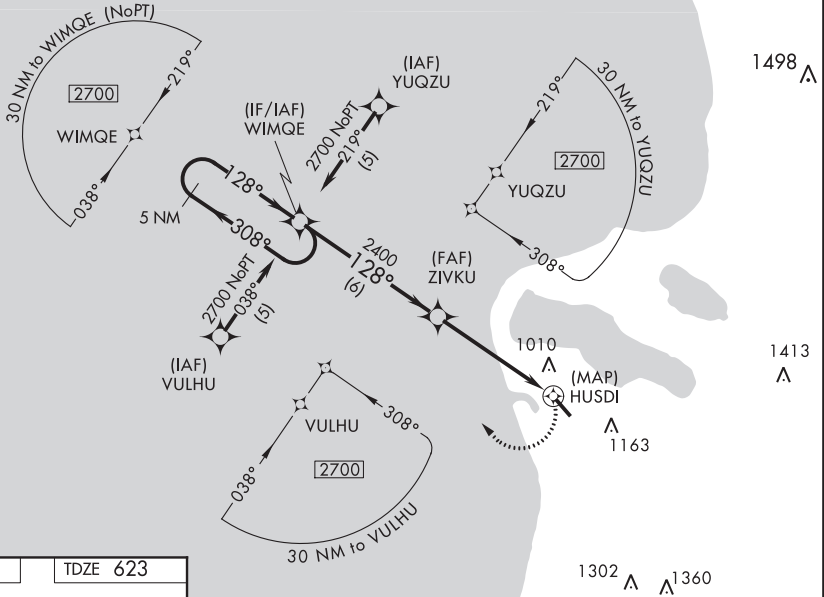
⚠ If local altimeter setting not received, use Manistee altimeter setting and increase all MDA's 60 feet. Procedure NA at night. Helicopter visibility reduction below 1 SM NA. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climbing right turn to 2700 direct WIMQE and hold.

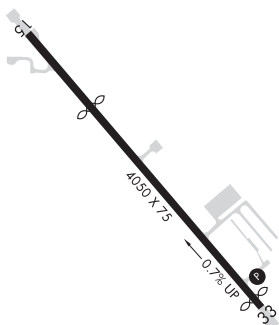
AWOS-3
118.325

MINNEAPOLIS CENTER
132.9 338.3

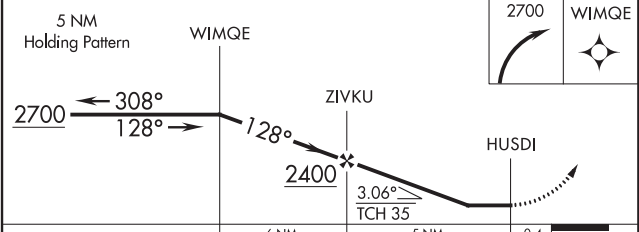
UNICOM
123.05 (CTAF) ①



| | |
|----------|----------|
| ELEV 633 | TDZE 623 |
|----------|----------|



MIRL Rwy 15-33 ①
REIL Rwy 33 ①



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|----|
| LNAV MDA | 1220-1 | 597 (600-1) | 1220-1½ 597 (600-1½) | NA |
| CIRCLING | 1320-1 | 687 (700-1) | 1520-2¾ 887 (900-2¾) | NA |

FRANKFORT, MICHIGAN
Amdt 1A 30APR15

44°38'N - 86°12'W

FRANKFORT DOW MEMORIAL FIELD (F'KS) RNAV (GPS) RWY 15

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|------------------------|-----------------------------|---|
| APP CRS 338° | Rwy ldg TDZE Apt Elev | 3939 606 633 |
|------------------------|-----------------------------|---|

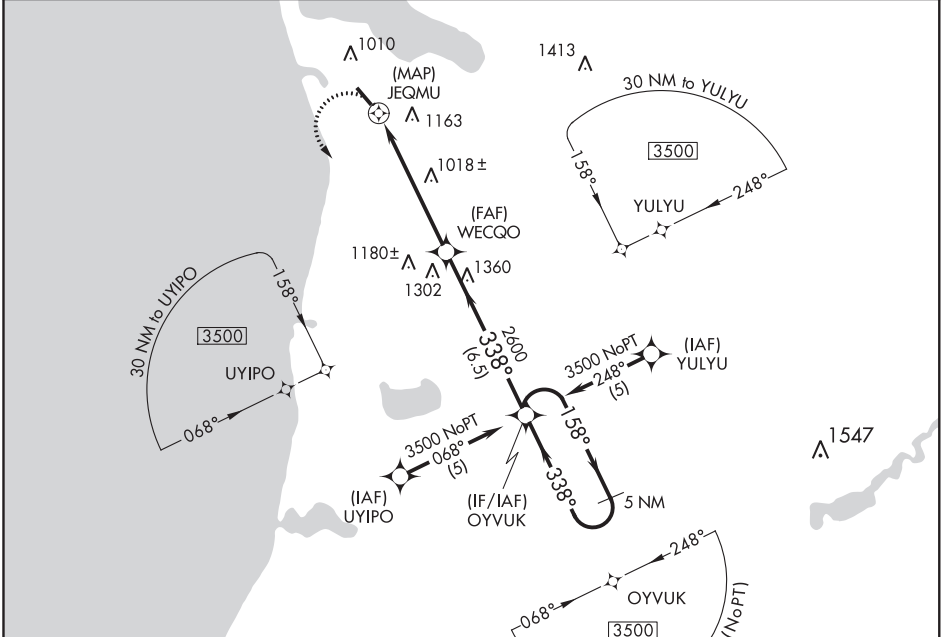
RNAV (GPS) RWY 33

FRANKFORT DOW MEMORIAL FIELD (F'KS)

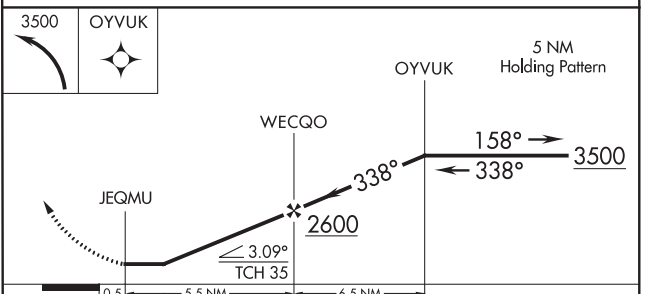
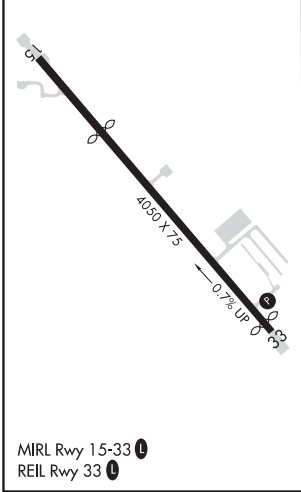
⚠ DME/DME RNP-0.3 NA. If local altimeter setting not received, use Manistee altimeter setting and increase all MDAs 60 feet. Helicopter visibility reduction below 1 SM NA. Procedure NA at night.

⚠ MISSED APPROACH: Climbing left turn to 3500 direct OYVUK and hold.

| | | |
|--------------------------|--|----------------------------------|
| AWOS-3 118.325 | MINNEAPOLIS CENTER 132.9 338.3 | UNICOM 123.05 (CTAF) 1 |
|--------------------------|--|----------------------------------|



| | |
|----------|----------|
| ELEV 633 | TDZE 606 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|----|
| LNAV MDA | 1320-1 | 714 (700-1) | 1320-2 714 (700-2) | NA |
| CIRCLING | 1320-1 | 687 (700-1) | 1520-2¾ 887 (900-2¾) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FRANKFORT, MICHIGAN

AL-6732 (FAA)

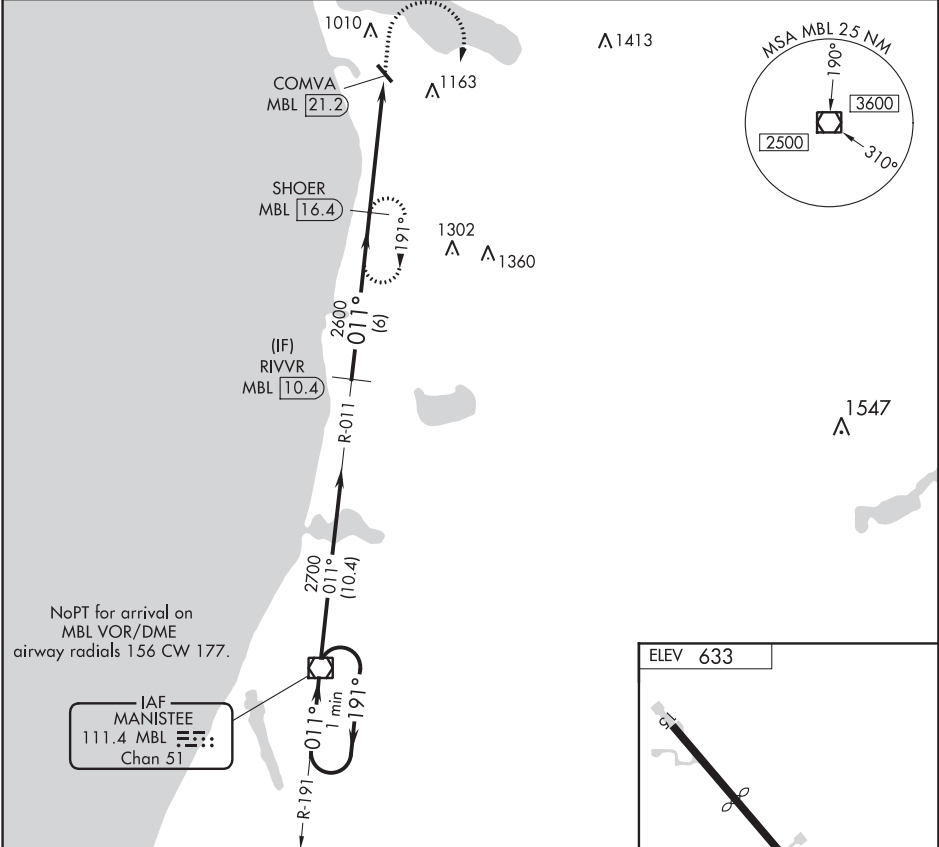
15120

| | | | |
|---|------------------------|-----------------------------|--|
| VOR/DME MBL 111.4 Chan 51 | APP CRS 011° | Rwy Idg TDZE Apt Elev | N/A N/A 633 |
|---|------------------------|-----------------------------|--|

VOR/DME-A
FRANKFORT DOW MEMORIAL FIELD (F/KS)

- ⚠** If local altimeter setting not received, use Manistee altimeter setting and increase all MDA's 60 feet. Procedure NA at night.
 - ⚠** Helicopter visibility reduction below 1 SM NA.
- MISSED APPROACH: Climb to 2000, then climbing right turn to 2600 via MBL R-011 to SHOER/MBL 16.4 DME and hold.

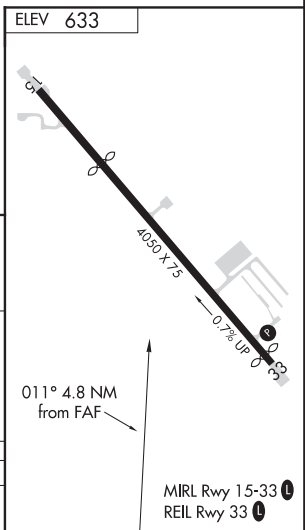
| | | |
|--------------------------|--|---|
| AWOS-3 118.325 | MINNEAPOLIS CENTER 132.9 338.3 | UNICOM 123.05 (CTAF) U |
|--------------------------|--|---|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | | | |
|----------------------------|-----------------------|-------------------------|-------------------------|--------|----------------|
| One Minute Holding Pattern | MBL VOR/DME | RIVVR MBL 10.4 | 2000 | 2600 | SHOER MBL 16.4 |
| 2700 ← 191° | 011° → | 2700 | 011° | 2600 | SHOER MBL 16.4 |
| | | 10.4 NM | | 6 NM | |
| | | 6 NM | | 4.8 NM | |
| CATEGORY | A | B | C | D | |
| CIRCLING | 1480-1 847 (900-1) | 1480-1¼ 847 (900-1¼) | 1520-2¾ 887 (900-2¾) | NA | |



FRANKFORT, MICHIGAN
Amdt 1A 30APR15

44°38'N-86°12'W

FRANKFORT DOW MEMORIAL FIELD (F/KS)
VOR/DME-A

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS Chan 82405 W18A | APP CRS 184° | Rwy Idg TDZE Apt Elev | 6501 770 772 |
|--|------------------------|-----------------------------|---|

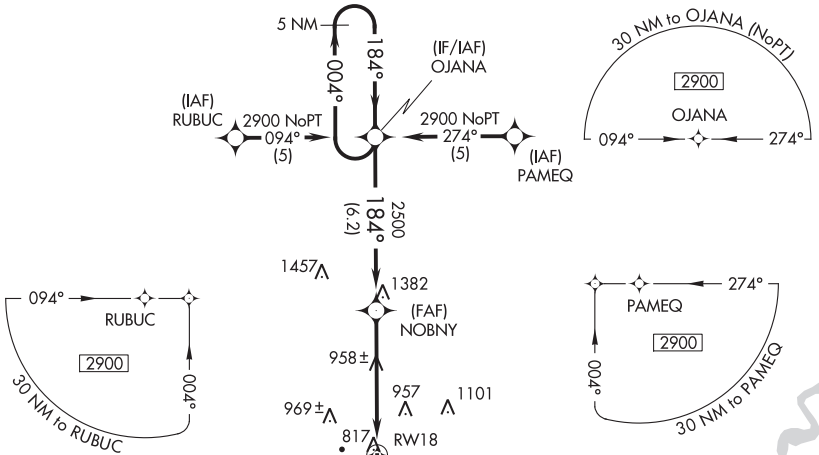
RNAV (GPS) RWY 18

FREMONT MUNI (F'FX)

When local altimeter setting not received, use Muskegon altimeter setting and increase all DA 65 feet, and all visibilities ¼ mile, increase all MDA 80 feet, and Cat C/D visibilities ¼ mile. VDP NA when using Muskegon altimeter setting. Baro-VNAV NA when using Muskegon altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

MISSED APPROACH:
Climb to 2900 direct
SACOL and hold.

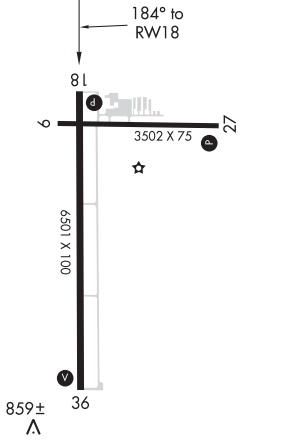
| | | | |
|--------------------------|---|---------------------------|--|
| AWOS-3 118.775 | MUSKEGON APP CON ★ 119.8 290.35 | CLNC DEL 118.25 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|---|---------------------------|--|



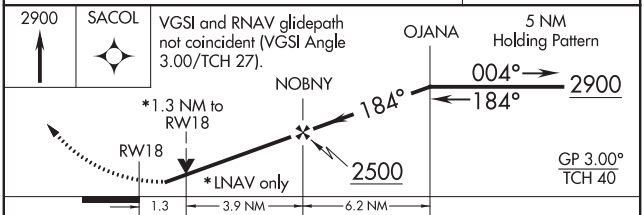
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 772 | TDZE 770 |
|----------|----------|



REIL Rwy 18 and 36 **0**
MIRL Rwy 9-27 and 18-36 **0**



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------|-------------------------|
| LPV DA | | 1075-1 | 305 (400-1) | |
| LNAV/VNAV DA | | 1296-2 | 526 (600-2) | |
| LNAV MDA | 1220-1 | 450 (500-1) | 1220-1¼ 450 (500-1¼) | 1220-1½ 450 (500-1½) |
| CIRCLING | 1260-1 | 488 (500-1) | 1260-1½ 488 (500-1½) | 1340-2 568 (600-2) |

FREMONT, MICHIGAN

AL-5260 (FAA)

16035

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS Chan 56505 W36A | APP CRS 004° | Rwy Idg TDZE Apt Elev | 6501 760 772 |
|--|------------------------|-----------------------------|---|

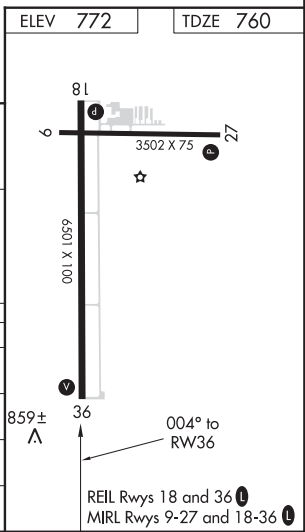
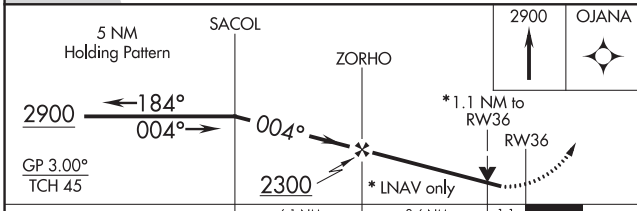
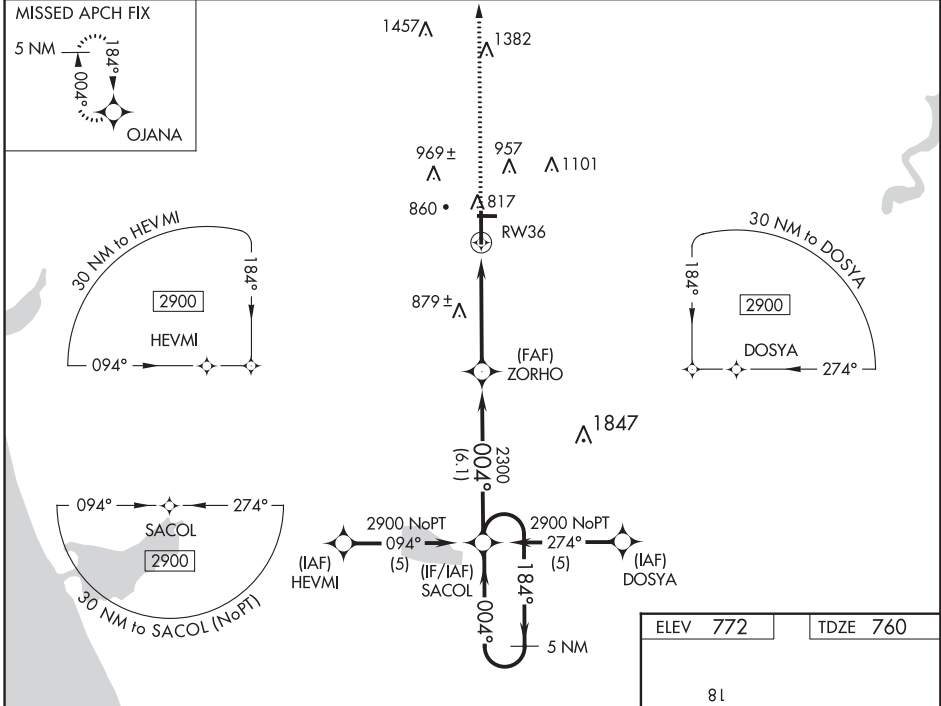
RNAV (GPS) RWY 36

FREMONT MUNI (F'FX)

▼ When local altimeter setting not received, use Muskegon altimeter setting and increase all DA 65 feet, and all visibilities ¼ mile, increase all MDA 80 feet, and Cat C/D visibilities ¼ mile. VDP NA when using Muskegon altimeter setting. Baro-VNAV NA when using Muskegon altimeter setting. 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. Visibility reduction by helicopters NA.

MISSED APPROACH:
Climb to 2900 direct OJANA and hold.

| | | | |
|--------------------------|---|---------------------------|---------------------------------|
| AWOS-3 118.775 | MUSKEGON APP CON ★ 119.8 290.35 | CLNC DEL 118.25 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|---|---------------------------|---------------------------------|



| CATEGORY | A | B | C | D |
|---------------|--------------------|---|---|---|
| LPV DA | 1036-1 | | 276 (300-1) | |
| LNAV/ VNAV DA | 1129-1¼ | | 369 (400-1¼) | |
| LNAV MDA | 1140-1 380 (400-1) | | 1140-1¼ 380 (400-1¼) | |
| CIRCLING | 1260-1 488 (500-1) | | 1260-1½ 1340-2 488 (500-1½) 568 (600-2) | |

FREMONT, MICHIGAN
Amdt 1B 30JUL09

43°26'N-86°00'W

FREMONT MUNI (F'FX)

RNAV (GPS) RWY 36

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

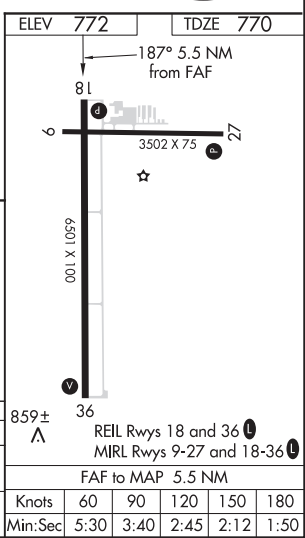
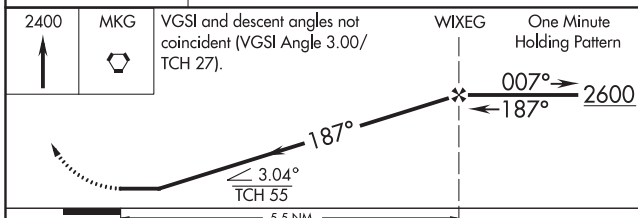
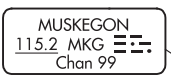
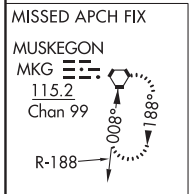
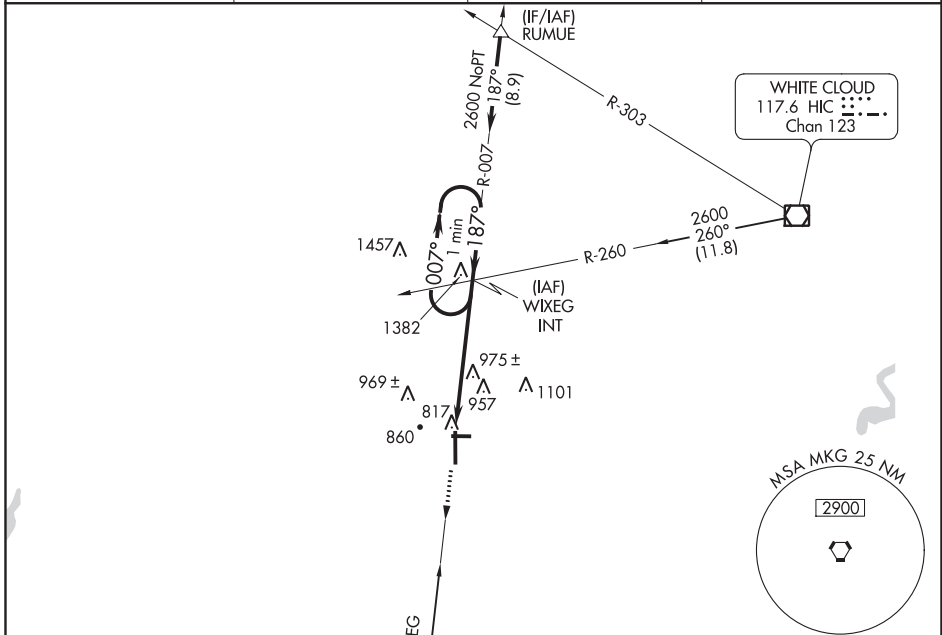
| | | | |
|--|------------------------|-----------------------------|---|
| VORTAC MKG 115.2 Chan 99 | APP CRS 187° | Rwy Idg TDZE Apt Elev | 6501 770 772 |
|--|------------------------|-----------------------------|---|

VOR RWY 18

FREMONT MUNI (F'FX)

▼ Visibility reduction by helicopters NA. When local altimeter setting not received, use Muskegon altimeter setting and increase all MDA 80 feet and increase S-18 Cat D visibility ¼ mile.
▲ MISSED APPROACH: Climb to 2400 direct MKG VORTAC and hold.

| | | | |
|--------------------------|---|---------------------------|--|
| AWOS-3 118.775 | MUSKEGON APP CON ★ 119.8 290.35 | CLNC DEL 118.25 | UNICOM 123.0 (CTAF) 1 |
|--------------------------|---|---------------------------|--|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------|--------------------|
| S-18 | 1280-1 510 (600-1) | | 1280-1½ 510 (600-1½) | |
| CIRCLING | 1280-1 508 (600-1) | | 1280-1½ 508 (600-1½) | 1340-2 568 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FREMONT, MICHIGAN

AL-5260 (FAA)

16035

| | | |
|--|------------------------|---|
| VORTAC MKG 115.2 Chan 99 | APP CRS 008° | Rwy Idg 6501 TDZE 760 Apt Elev 772 |
|--|------------------------|---|

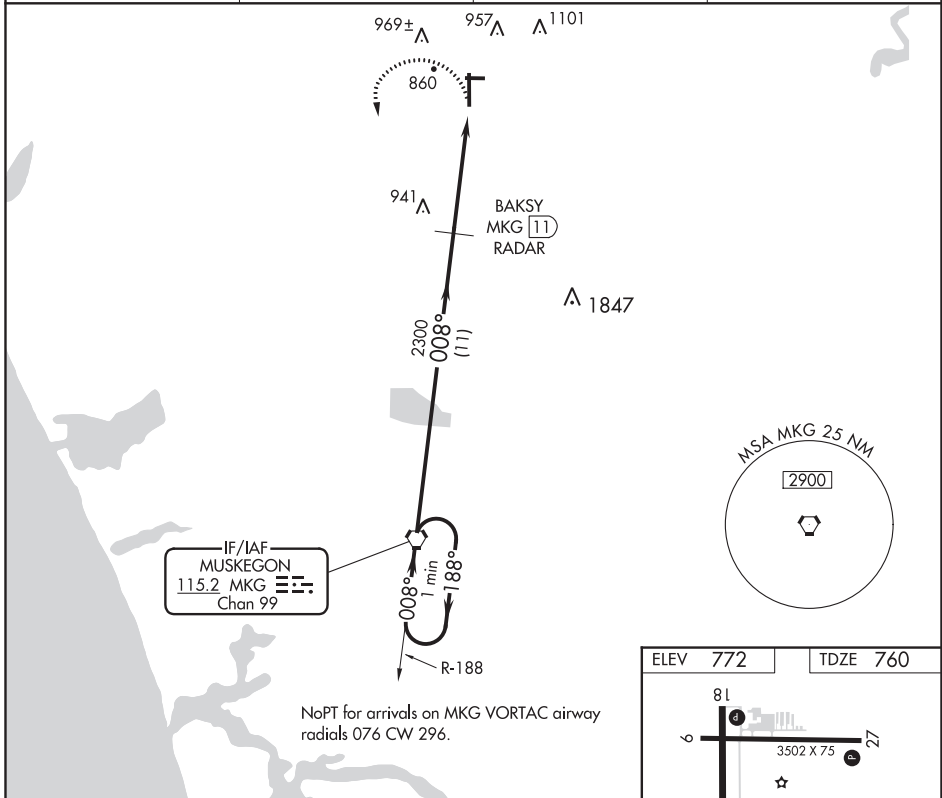
VOR RWY 36

FREMONT MUNI (F'F'X)

T DME or RADAR required. Visibility reduction by helicopters NA. When local altimeter setting not received, use Muskegon altimeter setting and increase all S-36 MDA 80 feet, and Circling Cats A/B/C MDA 80 feet; increase S-36 Cat D visibility 1/4 mile.
A VDP NA when using Muskegon altimeter setting.

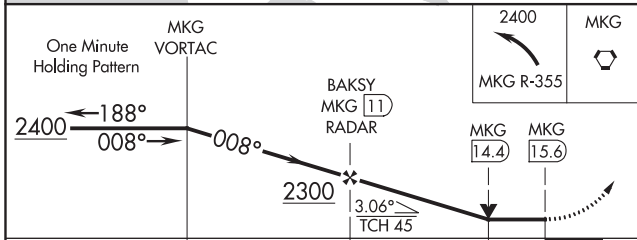
MISSED APPROACH: Climbing left turn to 2400 via MKG VORTAC R-355 to MKG VORTAC and hold.

| | | | |
|--------------------------|---|---------------------------|---------------------------------|
| AWOS-3 118.775 | MUSKEGON APP CON * 119.8 290.35 | CLNC DEL 118.25 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|---|---------------------------|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | | |
|------|-----|------|-----|
| ELEV | 772 | TDZE | 760 |
|------|-----|------|-----|

REIL Rwy 18 and 36
MIRL Rwy 9-27 and 18-36

008° 4.6 NM from FAF

FAF to MAP 4.6 NM

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

| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------------|----------------------------|
| S-36 | 1200-1 440 (500-1) | | 1200-1 1/4 440 (500-1 1/4) | 1200-1 1/2 440 (500-1 1/2) |
| CIRCLING | 1260-1 488 (500-1) | | 1260-1 1/2 488 (500-1 1/2) | 1340-2 568 (600-2) |

FREMONT, MICHIGAN
Amdt 7A 17DEC09

43°26'N-86°00'W

FREMONT MUNI (F'F'X) VOR RWY 36

| | | | |
|---------------------------|------------------------|-----------------------------|---|
| LOC I-GLR 111.1 | APP CRS 096° | Rwy ldg TDZE Apt Elev | 6579 1321 1328 |
|---------------------------|------------------------|-----------------------------|---|

ILS or LOC RWY 9

GAYLORD RGNL (GLR)

NA When local altimeter setting not received, use Grayling altimeter setting and increase all DA 71 feet and all MDA 80 feet; increase S-LOC 9 and Circling Cat C/D visibility ¼ mile. For inop MALSRL when using Grayling altimeter setting, increase S-ILS all Cats visibility to ¾ mile. Night landing: Rwy 18,36 NA.



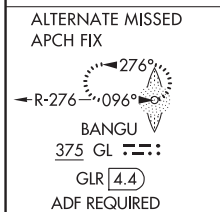
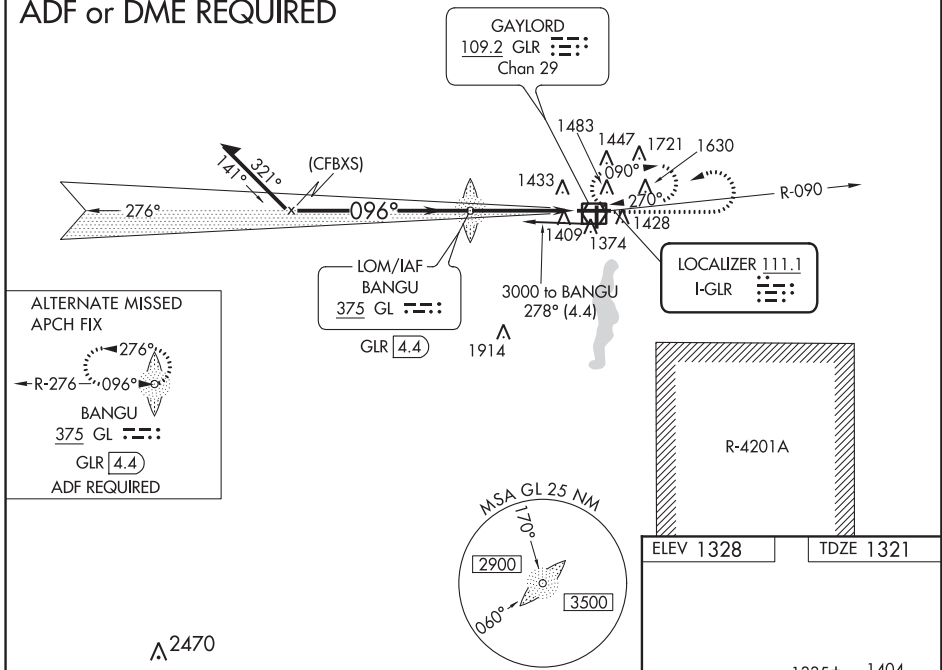
MISSED APPROACH:
Climb to 3000 then left turn direct GLR VOR/DME and hold.

ASOS
118.375

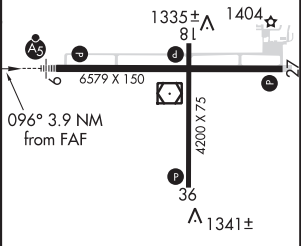
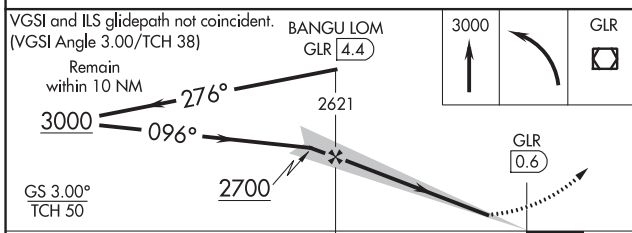
MINNEAPOLIS CENTER
134.6 354.05

UNICOM
122.8 (CTAF)

ADF or DME REQUIRED



| | |
|-----------|-----------|
| ELEV 1328 | TDZE 1321 |
|-----------|-----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-------------------------|
| S-ILS 9 | 1521-½ 200 (200-½) | | | |
| S-LOC 9 | 1860-½ | 539 (600-½) | 1860-1 | 539 (600-1) |
| CIRCLING | 1860-1 532 (600-1) | 1940-1 612 (700-1) | 1940-1¾ 612 (700-1¾) | 2080-2½ 752 (800-2½) |

REIL Rwy 27, 18 and 36
MIRL Rwy 18-36
HIRL Rwy 9-27

FAF to MAP 3.9 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:54 | 2:36 | 1:57 | 1:34 | 1:18 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

GAYLORD, MICHIGAN

AL-5373 (FAA)

16287

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 97427 W09A | APP CRS 096° | Rwy Idg TDZE Apt Elev | 6579 1321 1328 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 9

GAYLORD RGNL (GLR)

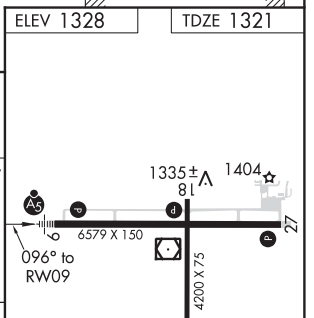
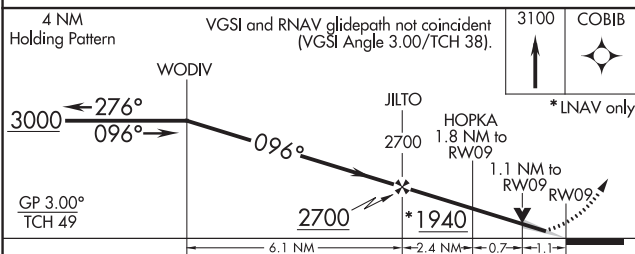
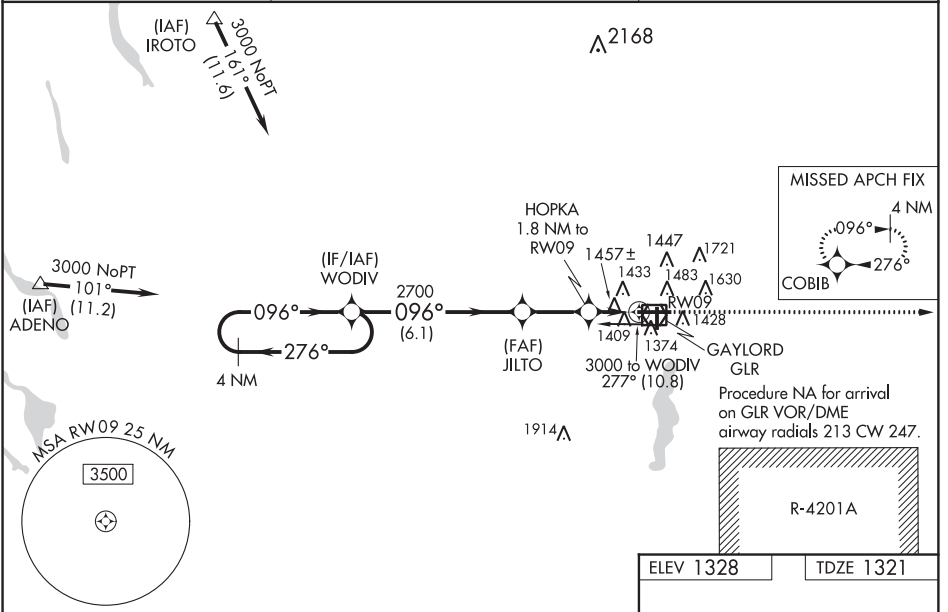
V Circling to Rwy 18 and Rwy 36 NA at night. Baro-VNAV and VDP NA when using Grayling altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 17°C (2°F) or above 35°C (95°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Grayling altimeter setting and increase all DA 71 feet and all MDA 80 feet. Increase LNAV/VNAV all Cats visibility 1/8 mile and Circling Cats C and D visibility 1/4 mile. Inoperative table does not apply to LNAV Cats A and B. For inoperative MALSR increase LNAV Cats C and D visibility to 1/8. When using Grayling altimeter setting increase LNAV Cats C and D visibility to 1/8.

MALSR



MISSED APPROACH:
Climb to 3100 direct COBIB and hold.

| | | |
|------------------------|---|-------------------------------|
| ASOS 118.375 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) |
|------------------------|---|-------------------------------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------------|-------------------------------|
| LPV DA | | 1571-1 | 250 (300-1) | |
| LNAV/VNAV DA | | 1732-1 | 411 (500-1) | |
| LNAV MDA | | 1720-1 | 399 (400-1) | |
| CIRCLING | 1840-1 512 (600-1) | 1940-1 612 (700-1) | 1940-1 3/4 612 (700-1 3/4) | 2080-2 1/2 752 (800-2 1/2) |

REIL Rwy 18, 27 and 36 **(1)**
 MRL Rwy 18-36 **(1)**
 HIRL Rwy 9-27 **(1)**

GAYLORD, MICHIGAN
 Orig-B 13OCT16

45°01'N-84°42'W

GAYLORD RGNL (GLR)
RNAV (GPS) RWY 9

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 56327 W27A | APP CRS 276° | Rwy Idg TDZE Apt Elev | 6579 1328 1328 |
|--|------------------------|-----------------------------|---|

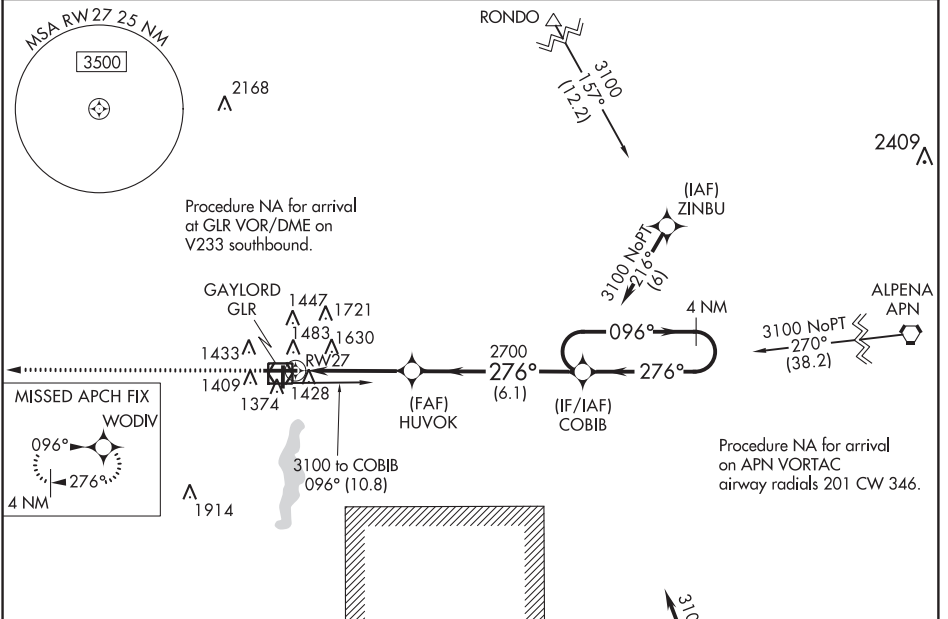
RNAV (GPS) RWY 27

GAYLORD RGNL (GLR)

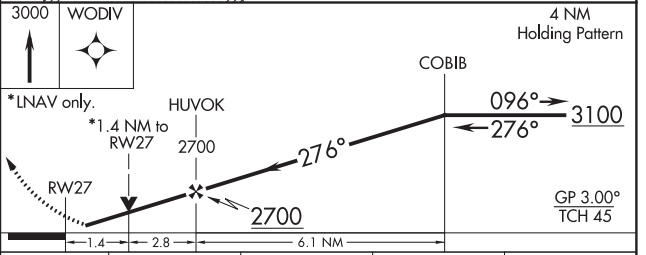
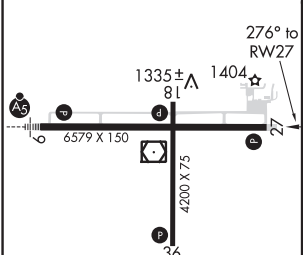
⚠ Circling to Rwy 18 and Rwy 36 NA at night. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Grayling altimeter setting and increase all DA 71 feet and all MDA 80 feet. Increase LNAV and Circling Cats C and D visibility ¼ mile. Rwy 27 Helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 3000 direct WODIV and hold.

| | | |
|------------------------|---|---------------------------------|
| ASOS 118.375 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) 0 |
|------------------------|---|---------------------------------|



| | |
|-----------|-----------|
| ELEV 1328 | TDZE 1328 |
|-----------|-----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|--|--|
| LPV DA | 1578-1 | | 250 (300-1) | |
| LNAV MDA | 1820-1 | 492 (500-1) | 1820-1 $\frac{3}{8}$ | 492 (500-1 $\frac{3}{8}$) |
| CIRCLING | 1840-1 512 (600-1) | 1940-1 612 (700-1) | 1940-1 $\frac{3}{4}$ 612 (700-1 $\frac{3}{4}$) | 2080-2 $\frac{1}{2}$ 752 (800-2 $\frac{1}{2}$) |

REIL Rwy 18, 27 and 36 **0**
MIRL Rwy 18-36 **0**
HIRL Rwy 9-27 **0**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

GAYLORD, MICHIGAN

AL-5373 (FAA)

16287

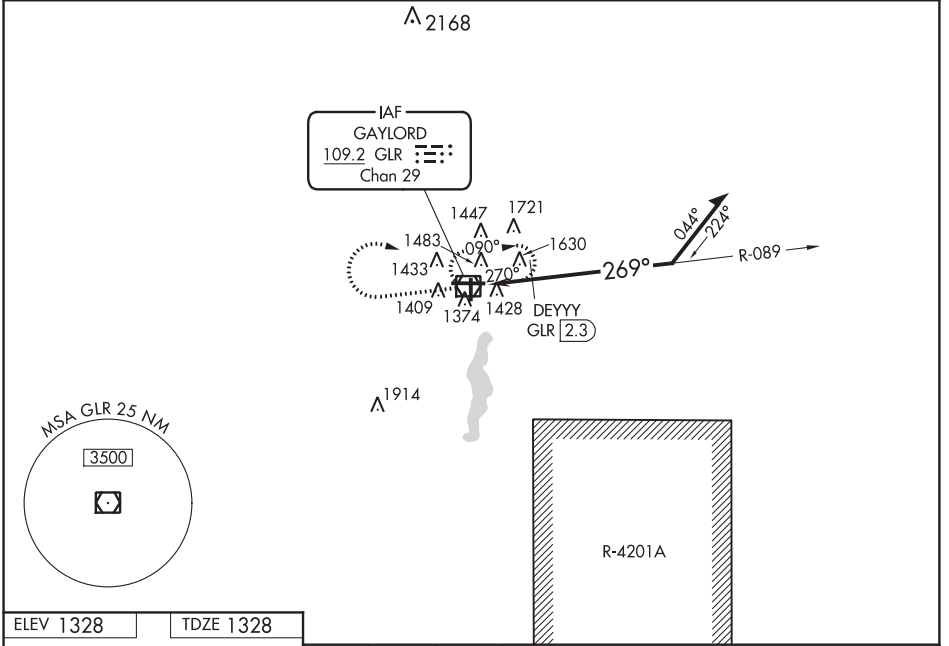
| | | | |
|---|------------------------|-----------------------------|---|
| VOR/DME GLR 109.2 Chan 29 | APP CRS 269° | Rwy Idg TDZE Apt Elev | 6579 1328 1328 |
|---|------------------------|-----------------------------|---|

VOR RWY 27
GAYLORD RGNL (GLR)

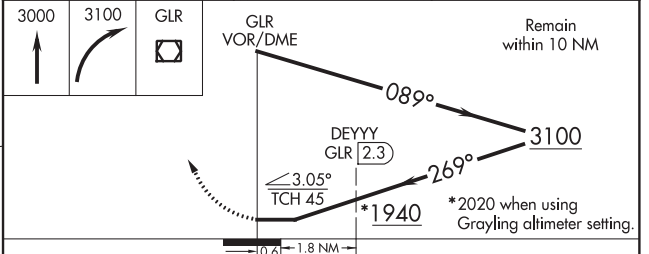
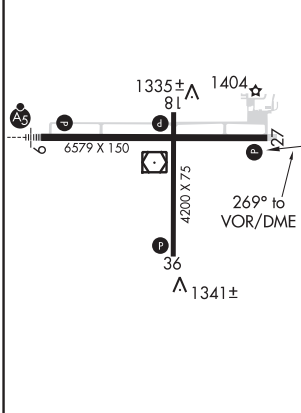
⚠ Circling Rwy 18, 36 NA at night. Rwy 27 helicopter visibility reduction below 3/4 SM NA. When altimeter setting not received, use Grayling altimeter setting and increase all MDA 80 feet. Increase S-27 and Circling Cat C/D visibility 1/4 mile. Increase DEYYY FIX minimums S-27 and Circling Cat C/D visibility 1/4 mile.

⚠ **LOWEASE APPROACH:**
Climb to 3000 then climbing right turn to 3100 GLR VOR/DME and hold.

| | | |
|------------------------|---|-------------------------------|
| ASOS 118.375 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) |
|------------------------|---|-------------------------------|



| | |
|-----------|-----------|
| ELEV 1328 | TDZE 1328 |
|-----------|-----------|



| CATEGORY | A | B | C | D |
|--------------------|--------|-----------------------|-------------------------------|-------------------------------|
| S-27 | 1940-1 | 612 (700-1) | 1940-1 3/4 | 612 (700-1 3/4) |
| CIRCLING | 1940-1 | 612 (700-1) | 1940-1 3/4 612 (700-1 3/4) | 2080-2 1/2 752 (800-2 1/2) |
| DEYYY FIX MINIMUMS | | | | |
| S-27 | 1880-1 | 552 (600-1) | 1880-1 5/8 | 552 (600-1 5/8) |
| CIRCLING | 1880-1 | 1940-1 552 (600-1) | 1940-1 3/4 612 (700-1 3/4) | 2080-2 1/2 752 (800-2 1/2) |

HIRL Rwy 9-27 **Ⓛ**
MIRL Rwy 18-36 **Ⓛ**
REIL Rwy 18, 27 and 36 **Ⓛ**

GAYLORD, MICHIGAN
Amdt 2B 13OCT16

45°01'N-84°42'W

GAYLORD RGNL (GLR)
VOR RWY 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---------------------------------|------------------------|-----------------------------|---|
| WAAS CH 48826 W09A | APP CRS 092° | Rwy ldg TDZE Apt Elev | 4699 774 774 |
|---------------------------------|------------------------|-----------------------------|---|

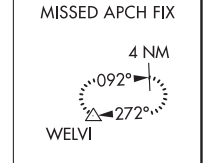
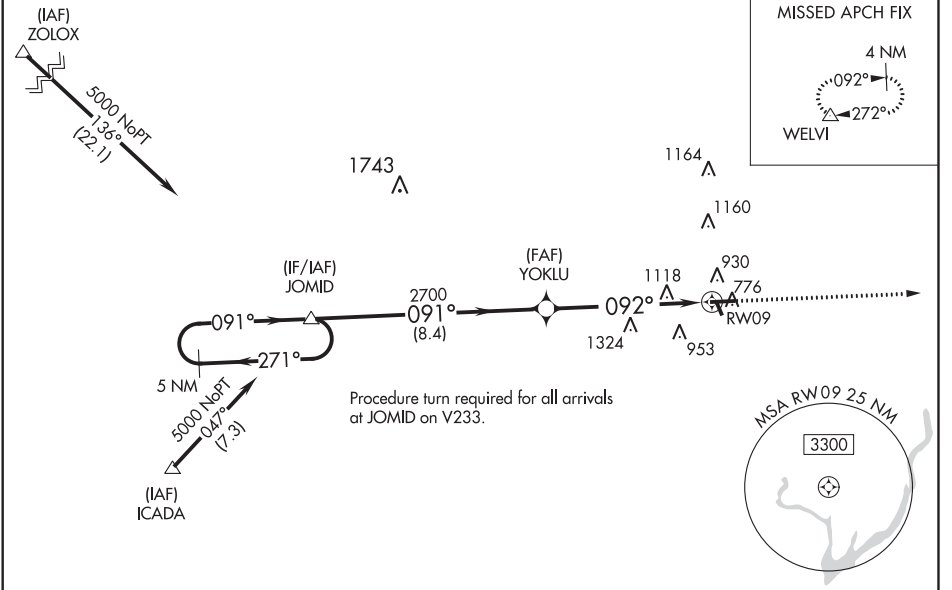
RNAV (GPS) RWY 9

GLADWIN ZETTEL MEMORIAL (GDW)

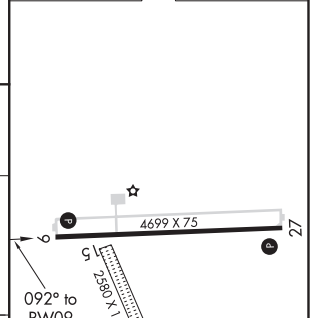
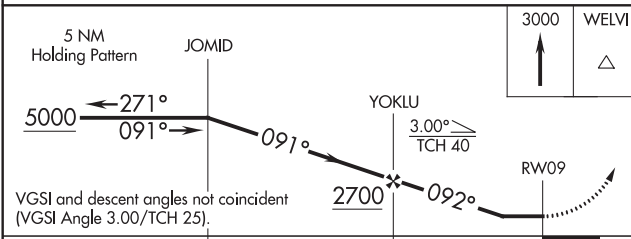
NA DME/DME RNP-0.30 NA. Visibility reduction by helicopters NA. Use Mount Pleasant altimeter setting; when not received, use Midland altimeter setting and increase all MDA 20 feet. Increase LP and LNAV MDA Cat C and D visibility $\frac{1}{8}$ mile and Circling Cat C and D visibility $\frac{1}{4}$ mile. When VGSI inop, Straight-in/Circling Rwy 9 procedure NA at night. MISSED APPROACH: Climb to 3000 direct WELVI and hold.

SAGINAW APP CON *
126.45 235.625

UNICOM
122.8 (CTAF)



| | |
|----------|----------|
| ELEV 774 | TDZE 774 |
|----------|----------|



| CATEGORY | A | | B | | C | | D | |
|----------|--------|-------------|----------------------|----------------------------|----------------------|----------------------------|----------------------|----------------------------|
| | LP | MDA | LP | MDA | LP | MDA | LP | MDA |
| LNAV | 1440-1 | 666 (700-1) | 1440-1 $\frac{7}{8}$ | 666 (700-1 $\frac{7}{8}$) | 1440-1 $\frac{7}{8}$ | 666 (700-1 $\frac{7}{8}$) | 1440-1 $\frac{7}{8}$ | 666 (700-1 $\frac{7}{8}$) |
| CIRCLING | 1440-1 | 666 (700-1) | 1500-1 | 726 (800-1) | 1500-2 | 726 (800-2) | 1500-2 $\frac{1}{4}$ | 726 (800-2 $\frac{1}{4}$) |

MIRL Rwy 9-27
REIL Rwy 9 and 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

GLADWIN, MICHIGAN

AL-6672 (FAA)

15148

| | | |
|--|------------------------|---|
| WAAS CH 99326 W27A | APP CRS 272° | Rwy Idg 4699 TDZE 773 Apt Elev 774 |
|--|------------------------|---|

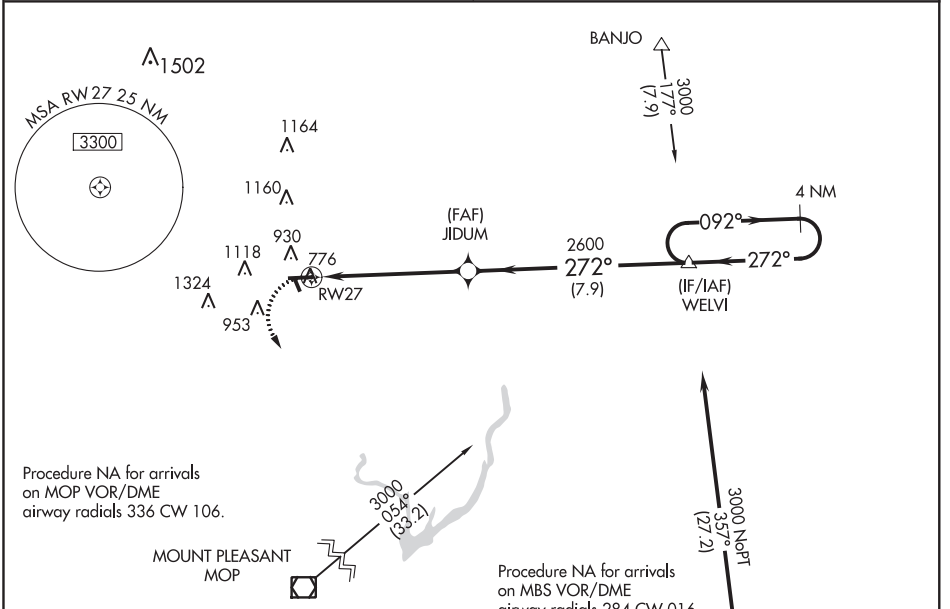
RNAV (GPS) RWY 27

GLADWIN ZETTEL MEMORIAL (GDW)

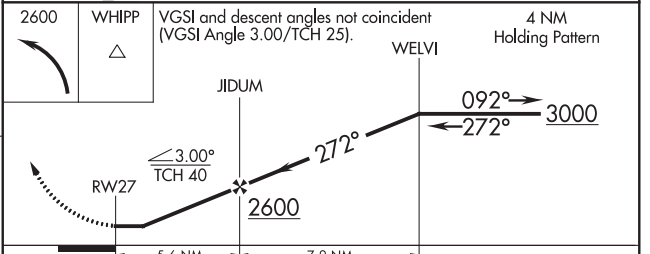
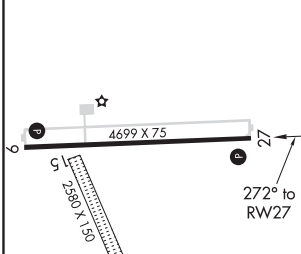
⚠ NA DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Use Mount Pleasant altimeter setting; when not received, use Midland altimeter setting and increase all MDA 20 feet. Increase LP and LNAV Cat C and D visibility $\frac{1}{8}$ mile and Circling Cat C and D visibility $\frac{1}{4}$ mile. When VGSI inop, Straight-In/Circling Rwy 9 NA at night. When VGSI inop, Straight-In/Circling Rwy 27 procedure NA at night.

MISSED APPROACH: Climbing left turn to 2600 direct WHIPP and hold.

| | |
|--|---------------------------------|
| SAGINAW APP CON * 126.45 235.625 | UNICOM 122.8 (CTAF) 0 |
|--|---------------------------------|



| | |
|-----------------|-----------------|
| ELEV 774 | TDZE 773 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-----------------------|--|
| LP MDA | 1280-1 | 507 (600-1) | 1280-1 $\frac{3}{8}$ | 507 (600-1 $\frac{3}{8}$) |
| LNAV MDA | 1280-1 | 507 (600-1) | 1280-1 $\frac{3}{8}$ | 507 (600-1 $\frac{3}{8}$) |
| CIRCLING | 1420-1 646 (700-1) | 1500-1 726 (800-1) | 1500-2 726 (800-2) | 1500-2 $\frac{1}{4}$ 726 (800-2 $\frac{1}{4}$) |

MIRL Rwy 9-27 **0**
REIL Rwy 9 and 27 **0**

GLADWIN, MICHIGAN
Orig-A 28MAY15

43°58'N - 84°29'W

GLADWIN ZETTEL MEMORIAL (GDW) RNAV (GPS) RWY 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

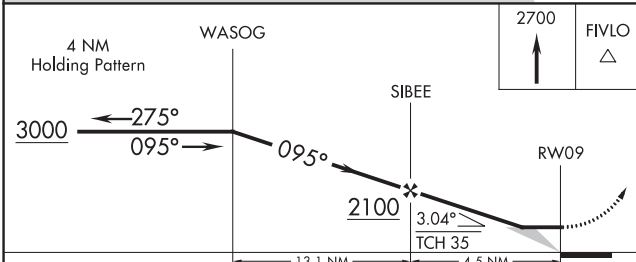
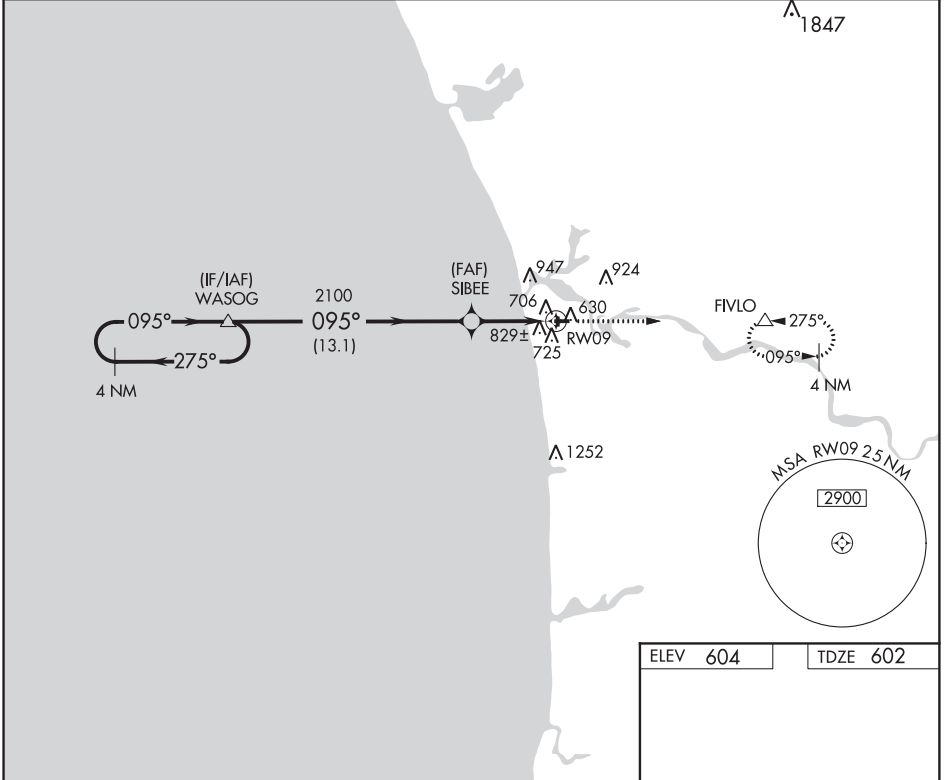
| | |
|------------------------|------------------------|
| APP CRS 095° | Rwy Idg 3752 |
| | TDZE 602 |
| | Apt Elev 604 |

RNAV (GPS) RWY 9

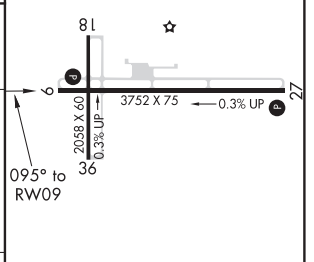
GRAND HAVEN MEMORIAL AIRPARK (3GM)

| | |
|--|---|
| <p>▽ DME/DME RNP-0.3 NA. △ NA Use Muskegon altimeter setting. Circling NA at night to Rwy 18/36.</p> | MISSED APPROACH: Climb to 2700 direct FIVLO and hold. |
|--|---|

| | |
|---|-------------------------------|
| MUSKEGON APP CON ★ 119.8 290.35 | UNICOM 122.7 (CTAF) |
|---|-------------------------------|



| | |
|----------|----------|
| ELEV 604 | TDZE 602 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|----|
| LNVA MDA | 1120-1 | 518 (600-1) | 1120-1½ 518 (600-1½) | NA |
| CIRCLING | 1160-1 556 (600-1) | 1180-1 576 (600-1) | 1180-1½ 576 (600-1½) | NA |

REIL Rwy 9 and 27
MIRL Rwy 9-27 and 18-36

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

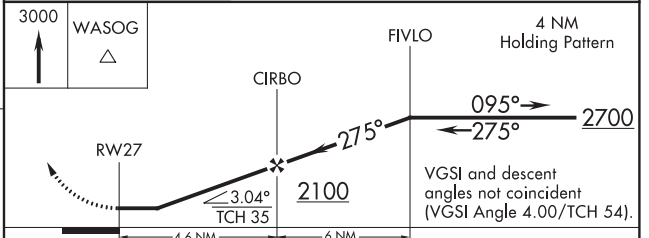
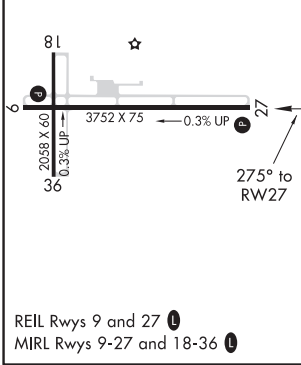
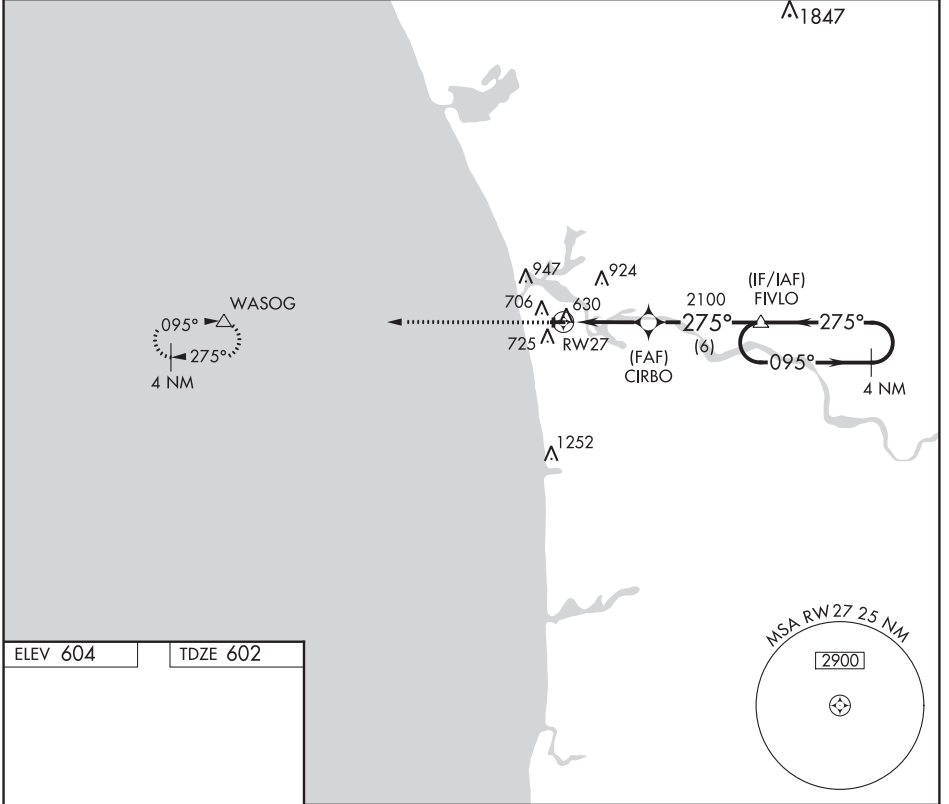
| | |
|------------------------|------------------------|
| APP CRS 275° | Rwy Idg 3752 |
| | TDZE 602 |
| | Apt Elev 604 |

RNAV(GPS) RWY 27

GRAND HAVEN MEMORIAL AIRPARK (3GM)

| | |
|--|--|
| <p>▼ DME/DME RNP-0.3 NA. ▲ NA Use Muskegon altimeter setting. Circling NA at night to Rwy 18/36.</p> | <p>MISSED APPROACH: Climb to 3000 direct WASOG and hold.</p> |
|--|--|

| | |
|---|---|
| <p>MUSKEGON APP CON ★ 119.8 290.35</p> | <p>UNICOM 122.7 (CTAF) 0</p> |
|---|---|



| | | | | |
|----------|-----------------------|-----------------------|-------------------------|----|
| CATEGORY | A | B | C | D |
| LNAV MDA | 1000-1 398 (400-1) | | | NA |
| CIRCLING | 1160-1 556 (600-1) | 1180-1 576 (600-1) | 1180-1½ 576 (600-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

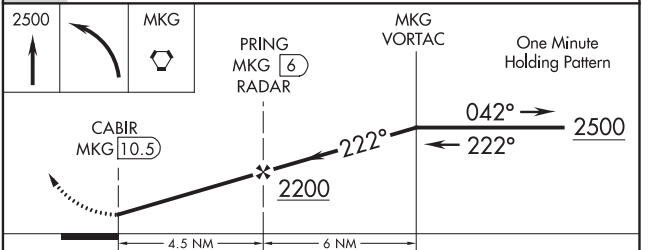
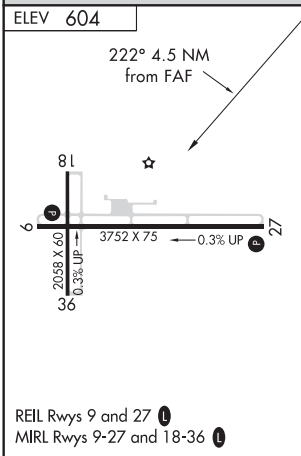
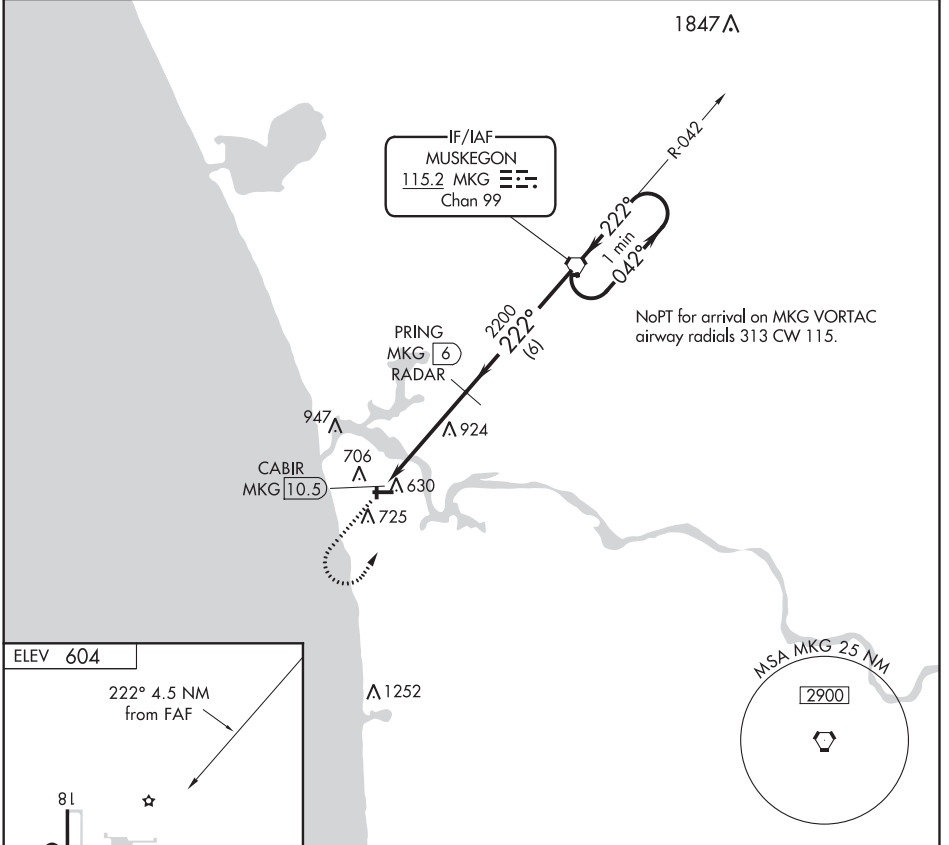
| | | |
|--|------------------------|--|
| VORTAC MKG 115.2 Chan 99 | APP CRS 222° | Rwy ldg TDZE Apt Elev N/A 604 |
|--|------------------------|--|

VOR-A

GRAND HAVEN MEMORIAL AIRPARK (3GM)

| | |
|--|--|
| <p>▼ Use Muskegon altimeter setting. DME or RADAR required. ▲ NA Night landing: Rwy 18, 36 NA.</p> | <p>MISSED APPROACH: Climb to 2500 then left turn direct MKG VORTAC and hold.</p> |
|--|--|

| | |
|---|--|
| <p>MUSKEGON APP CON ★ 119.8 290.35</p> | <p>UNICOM 122.7 (CTAF) 0</p> |
|---|--|



| | | | | | |
|-------------------|--------|-------------|-------------------------|------|------|
| FAF to MAP 4.5 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:30 | 3:00 | 2:15 | 1:48 | 1:30 |
| CATEGORY | A | B | C | D | |
| CIRCLING | 1260-1 | 656 (700-1) | 1260-1¾ 656 (700-1¾) | NA | |

EC-1, 10 NOV 2016 to 05 JAN 2017

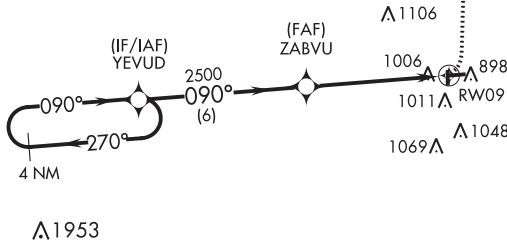
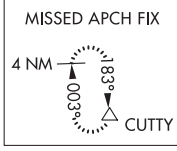
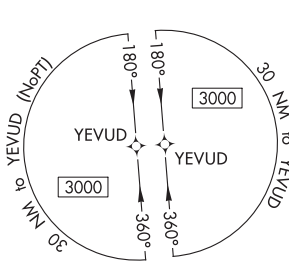
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 58334 W09A | APP CRS 090° | Rwy Idg 3199 TDZE 841 Apt Elev 841 |
|--|------------------------|---|

RNAV (GPS) RWY 9

ABRAMS MUNI (4D0)

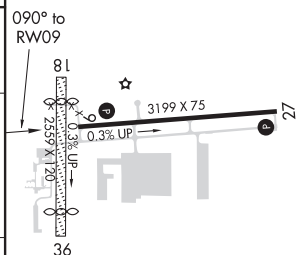
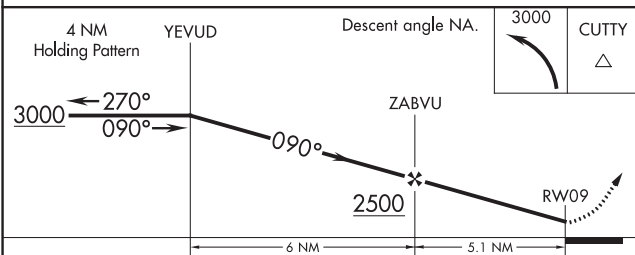
| | | |
|---|--|---|
| <p>▼ NA Use Lansing altimeter setting. DME/DME RNP-0.3 NA. Circling NA to Rwy 18 and 36. Helicopter visibility reduction below 3/4 SM NA. Night Landing Rwy 27 NA.</p> | <p>MISSED APPROACH: Climbing left turn 3000 direct CUTTY and hold.</p> | |
| <p>LANSING ATIS 119.75</p> | <p>LANSING APP CON 118.65 226.4</p> | <p>UNICOM 122.7 (CTAF) 0</p> |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|------|-----|------|-----|
| ELEV | 841 | TDZE | 841 |
|------|-----|------|-----|



| | | | | |
|-------------------|-----------------------|-----------------------|---|----|
| CATEGORY | A | B | C | D |
| LP MDA | 1380-1 | 539 (600-1) | | NA |
| LN AV MDA | 1400-1 | 559 (600-1) | | NA |
| C CIRCLING | 1400-1 559 (600-1) | 1420-1 579 (600-1) | | NA |

| | |
|---------------|----------|
| REIL Rwy 27 | 0 |
| MIRL Rwy 9-27 | 0 |

| | | | |
|--|------------------------|-----------------------------|--|
| VORTAC LAN 110.8 Chan 45 | APP CRS 345° | Rwy Idg TDZE Apt Elev | N/A N/A 842 |
|--|------------------------|-----------------------------|--|

VOR or GPS-A
ABRAMS MUNI (4DØ)

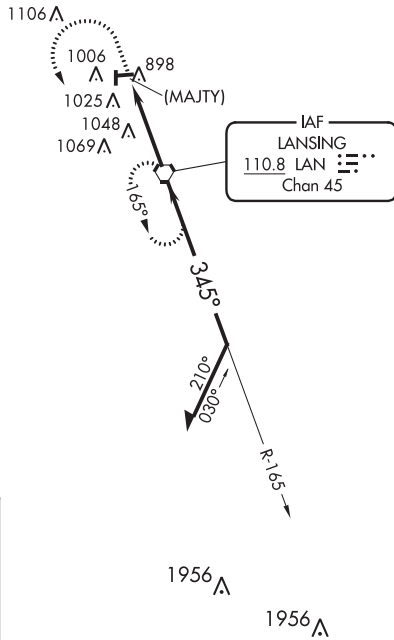
⚠ NA Use Lansing altimeter setting. Helicopter visibility reduction below 1 SM NA. Circling NA to Rwys 18 and 36. Night landing Rwy 27 NA.

MISSED APPROACH: Climb to 2500, then turn left direct LAN VORTAC and hold.

LANSING ATIS
119.75

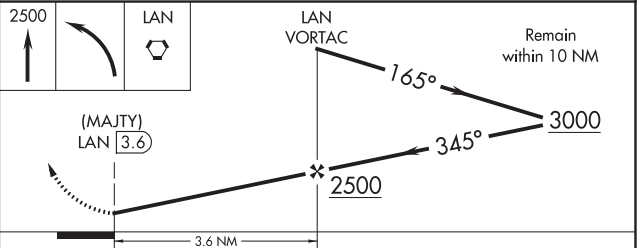
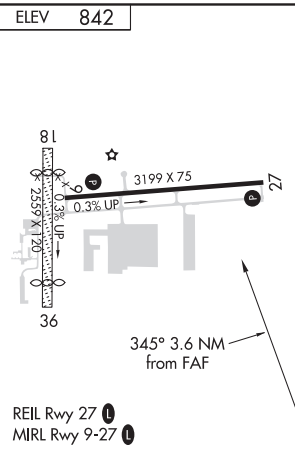
LANSING APP CON
118.65 226.4

UNICOM
122.7 (CTAF) 0



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 3.6 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:36 | 2:24 | 1:48 | 1:26 | 1:12 |

| | | | | |
|----------|--------|-------------|-------------------------|----|
| CATEGORY | A | B | C | D |
| CIRCLING | 1400-1 | 558 (600-1) | 1400-1½ 558 (600-1½) | NA |

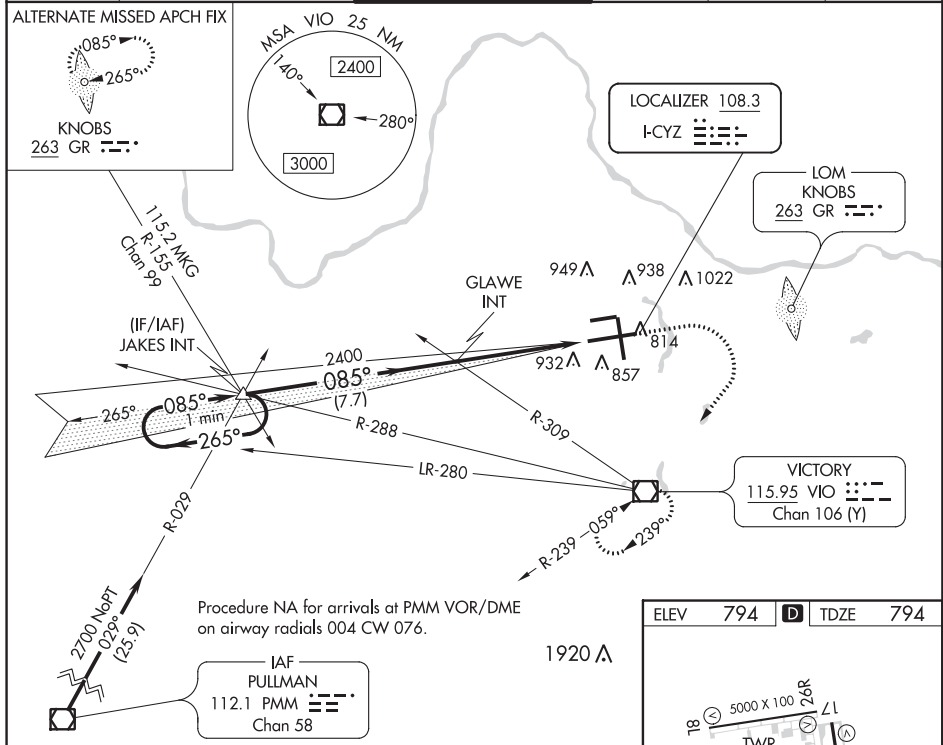
| | | |
|---------------------------|------------------------|-------------------------|
| LOC I-CYZ 108.3 | APP CRS 085° | Rwy Ldg 10000 |
| | | TDZE 794 |
| | | Apt Elev 794 |

ILS or LOC RWY 8R

GERALD R FORD INTL (G.R.R.)

| | | |
|--|---------------|---|
| <p>When local altimeter setting not received, use Holland altimeter setting and increase all DA 76 feet and all MDA 80 feet, increase S-LOC 8R Cat C/D visibility to RVR 5500. For inoperative MALSRR when using Holland altimeter setting, increase S-ILS 8R all Cats visibility to RVR 4500. *RVR 1800 authorized with the use of FD or AP or HUD to DA.</p> | <p>MALSRR</p> | <p>MISSED APPROACH: Climb to 1300 then climbing right turn to 3000 direct VIO VOR/DME and hold.</p> |
| | | |

| | | | | | |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|
| ATIS 118.725 | GRAND RAPIDS APP CON * 128.4 257.6 | GRAND RAPIDS TOWER * 135.65 (CTAF) 339.8 | GND CON 121.8 | CLNC DEL 119.3 | UNICOM 122.95 |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|



| | | | | | |
|----------------------------|-----------|-------------|--------------|-------------|-----|
| One Minute Holding Pattern | JAKES INT | GLAWE INT | 1300 | 3000 | VIO |
| 2700 ← 265° | ← 085° → | 2400 | ↑ | ↷ | ☐ |
| GS 3.00° TCH 51 | | 2400 | | | |
| | 7.7 NM | 4.8 NM | | | |
| CATEGORY | A | B | C | D | |
| S-ILS 8R | | *994/24 | 200 (200-½) | | |
| S-LOC 8R | 1240/24 | 446 (500-½) | 1240/45 | 446 (500-¾) | |
| CIRCLING | 1280-1 | 486 (500-1) | 1280-1½ | 1360-2 | |
| | | | 486 (500-1½) | 566 (600-2) | |

| | |
|----------|----------|
| ELEV 794 | TDZE 794 |
|----------|----------|

085° 4.8 NM from FAF

MIRL Rwy 8L-26R
REIL Rwy 8L, 26R and 17
HIRL Rwy 8R-26L and 17-35

FAF to MAP 4.8 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:48 | 3:12 | 2:24 | 1:55 | 1:36 |

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---------------------------|------------------------|--|
| LOC I-GRR 109.7 | APP CRS 265° | Rwy Idg 10000 TDZE 790 Apt Elev 794 |
|---------------------------|------------------------|--|

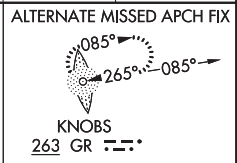
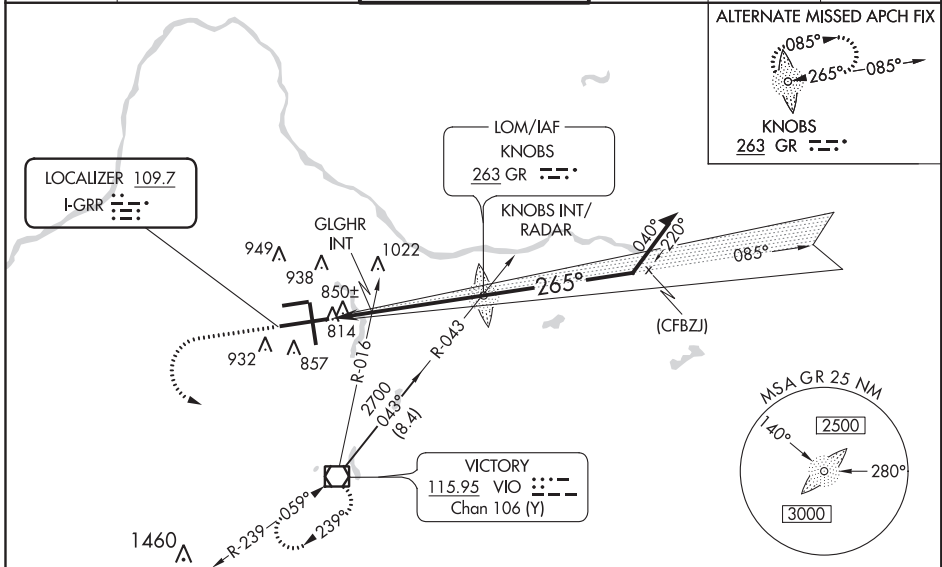
ILS or LOC RWY 26L

GERALD R FORD INTL (G.R.R)

ASR When local altimeter setting not received, use Holland altimeter setting and increase all DA 76 feet and all MDA 80 feet, increase S-LOC 26L Cat C visibility to RVR 6000, Cat D to 1½ miles, Circling Cat C to 1¾ miles, GLGHR INT minimums S-LOC 26L Cat C to RVR 4000. For inoperative MALSR when using GLGHR INT minimums, increase S-LOC 26L Cat D visibility to RVR 5000. For inoperative MALSR when using Holland altimeter setting, increase S-ILS 26L all Cats visibility to RVR 5000. # RVR 1800 authorized with the use of FD or AP or HUD to DA.

MALSR  MISSED APPROACH: Climb to 1300 then climbing left turn to 3000 direct VIO VOR/DME and hold.

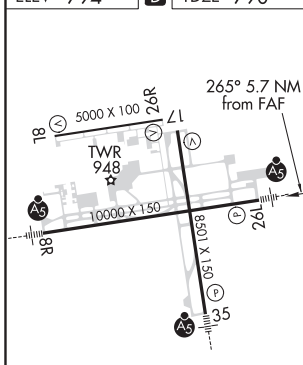
| | | | | | |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|
| ATIS 118.725 | GRAND RAPIDS APP CON * 128.4 257.6 | GRAND RAPIDS TOWER * 135.65 (CTAF) 339.8 | GND CON 121.8 | CLNC DEL 119.3 | UNICOM 122.95 |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

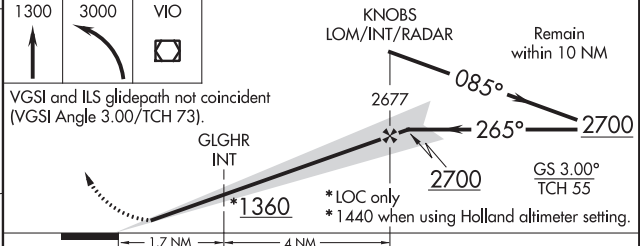
| | | |
|----------|----------|----------|
| ELEV 794 | D | TDZE 790 |
|----------|----------|----------|



MIRR Rwy 8L-26R
REIL Rwys 8L, 26R and 17
HIRL Rwys 8R-26L and 17-35

FAF to MAP 5.7 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:42 | 3:48 | 2:51 | 2:17 | 1:54 |




| CATEGORY | A | B | C | D |
|--|---------------------|-------------|-------------------------|-------------------------|
| S-ILS 26L | #990/24 200 (200-½) | | | |
| S-LOC 26L | 1360/24 | 570 (600-½) | 1360/50 570 (600-1) | 1360/60 570 (600-1¼) |
| CIRCLING | 1360-1 | 566 (600-1) | 1360-1½ 566 (600-1½) | 1360-2 566 (600-2) |
| GLGHR INT MINIMUMS (DUAL VOR RECEIVERS REQUIRED) | | | | |
| S-LOC 26L | 1120/24 330 (400-½) | | 1120/40 330 (400-¾) | |
| CIRCLING | 1280-1 | 486 (500-1) | 1280-1½ 486 (500-1½) | 1360-2 566 (600-2) |

| | | | |
|---------------------------|------------------------|---|------------------------|
| LOC I-DVS 111.9 | APP CRS 355° | Rwy Idg TDZE 8501 790 | Apt Elev 794 |
|---------------------------|------------------------|---|------------------------|

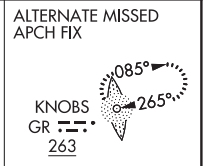
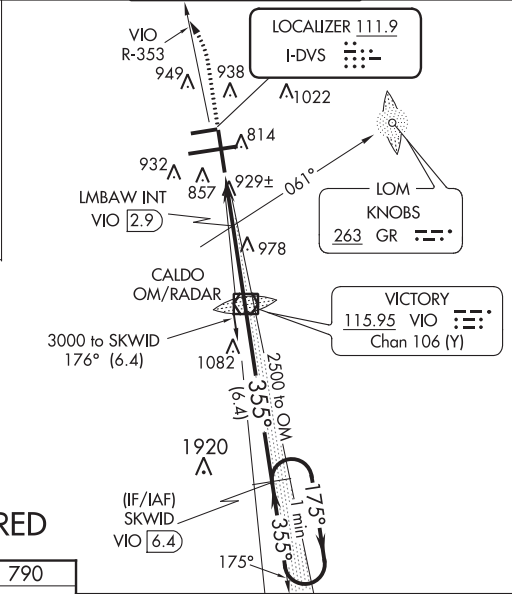
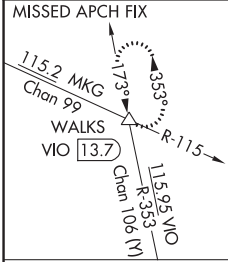
ILS or LOC RWY 35

GERALD R FORD INTL (G.R.R.)

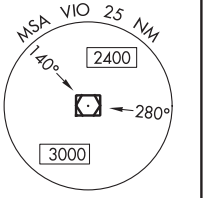
ASR When local altimeter setting not received, use Holland altimeter setting and increase all DA 76 feet and all MDA 80 feet. Increase S-LOC 35 Cat B visibility to RVR 4000 and Cat C/D visibility 1/4 mile. Increase Cats C/D Circling visibility 1/4 mile. LMBAW INT minimums: Increase S-LOC 35 Cat C/D visibility to RVR 5000. For inoperative MALSR when using Holland altimeter setting, increase S-ILS 35 all Cats visibility to RVR 4500. Increase S-LOC 35 Cats C/D visibility to 2 1/2 mile. LMBAW INT minimums: Increase S-LOC 35 Cats C/D visibility to 1 3/8 mile. ** RVR 1800 authorized with the use of FD or AP or HUD to DA.

MALSR

MISSED APPROACH: Climb to 1300 then climbing left turn to 3000 on VIO VOR/DME R-353 to WALKS INT 13.7 DME and hold.

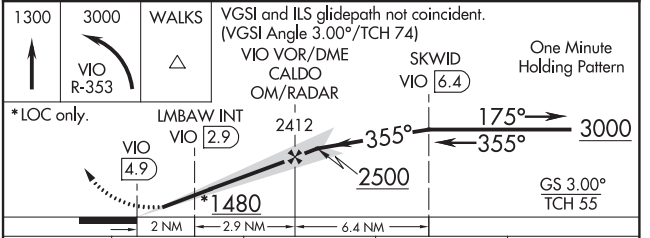
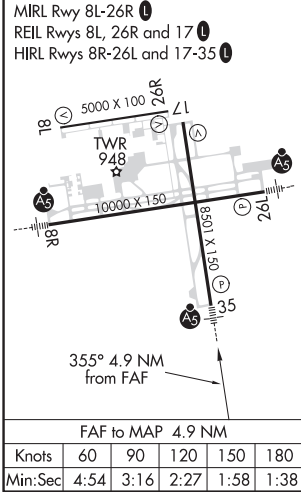
| | | | | | |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|
| ATIS 118.725 | GRAND RAPIDS APP CON * 128.4 257.6 | GRAND RAPIDS TOWER * 135.65 (CTAF) 0 339.8 | GND CON 121.8 | CLNC DEL 119.3 | UNICOM 122.95 |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|



DME or RADAR REQUIRED



| | | |
|----------|----------|----------|
| ELEV 794 | D | TDZE 790 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|--|----------|---------------|-------------------------------|-------------------------------|
| S-ILS 35 | **990/24 | | 200 (200-1/2) | |
| S-LOC 35 | 1480/24 | 690 (700-1/2) | 1480-1 1/2 | 690 (700-1 1/2) |
| CIRCLING | 1480-1 | 686 (700-1) | 1480-2 686 (700-2) | 1480-2 1/4 686 (700-2 1/4) |
| LMBAW FIX MINIMUMS (DUAL VOR RECEIVERS OR DME REQUIRED) | | | | |
| S-LOC 35 | 1180/24 | 390 (400-1/2) | 1180/35 | 390 (400-3/4) |
| CIRCLING | 1260-1 | 466 (500-1) | 1260-1 1/2 466 (500-1 1/2) | 1360-2 566 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 40213 W08A | APP CRS 085° | Rwy Idg TDZE Apt Elev | 5000 787 794 |
|--|------------------------|-----------------------------|---|

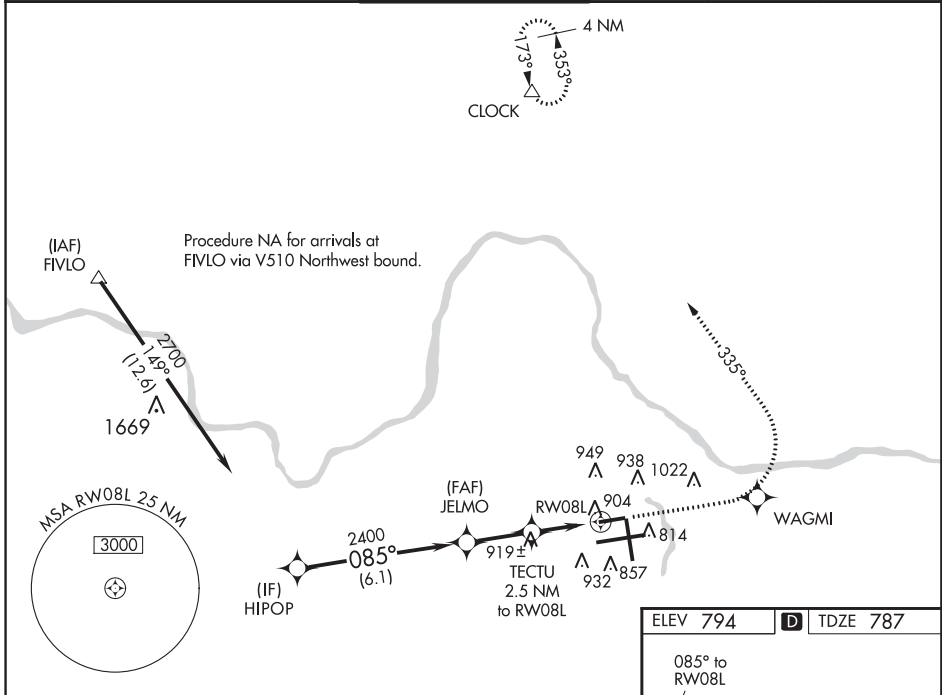
RNAV (GPS) RWY 8L

GERALD R FORD INTL (G.R.R.)

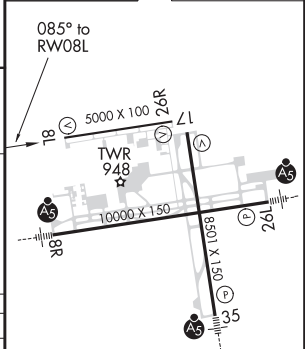
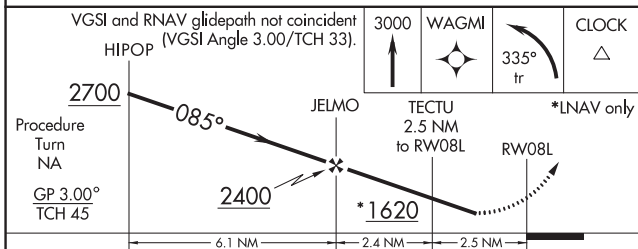
⚠ Baro-VNAV NA when using Holland altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA.
⚠ Visibility reduction by helicopters NA. When local altimeter setting not received, use Holland altimeter setting and increase all DA 76 feet and all MDA 80 feet. Increase LPV and LNAV/VNAV visibility ¼ mile all Cats. Increase LNAV Cat C/D visibility ¼ mile.

MISSED APPROACH: Climb to 3000 direct WAGMI and left turn via track 335° to CLOCK and hold.

| | | | | | |
|------------------------|---|---|-------------------------|--------------------------|-------------------------|
| ATIS 118.725 | GRAND RAPIDS APP CON* 128.4 257.6 | GRAND RAPIDS TOWER* 135.65 (CTAF) 339.8 | GND CON 121.8 | CLNC DEL 119.3 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|--------------------------|-------------------------|



| | | |
|----------|----------|----------|
| ELEV 794 | D | TDZE 787 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------------------|---|---|---|
| LPV DA | 1037-1 | | 250 (300-1) | |
| LNAV/VNAV DA | 1204-1½ | | 417 (500-1½) | |
| LNAV MDA | 1180-1 393 (400-1) | | 1180-1¼ 393 (400-1¼) | |
| CIRCLING | 1260-1 466 (500-1) | | 1260-1½ 466 (500-1½) 1360-2 566 (600-2) | |

MIRL Rwy 8L-26R
 REIL Rws 8L, 26R and 17
 HIRL Rws 8R-26L and 17-35

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|--|
| WAAS CH 40113 W08B | APP CRS 085° | Rwy Idg 10000 TDZE 794 Apt Elev 794 |
|--|------------------------|--|

RNAV (GPS) RWY 8R

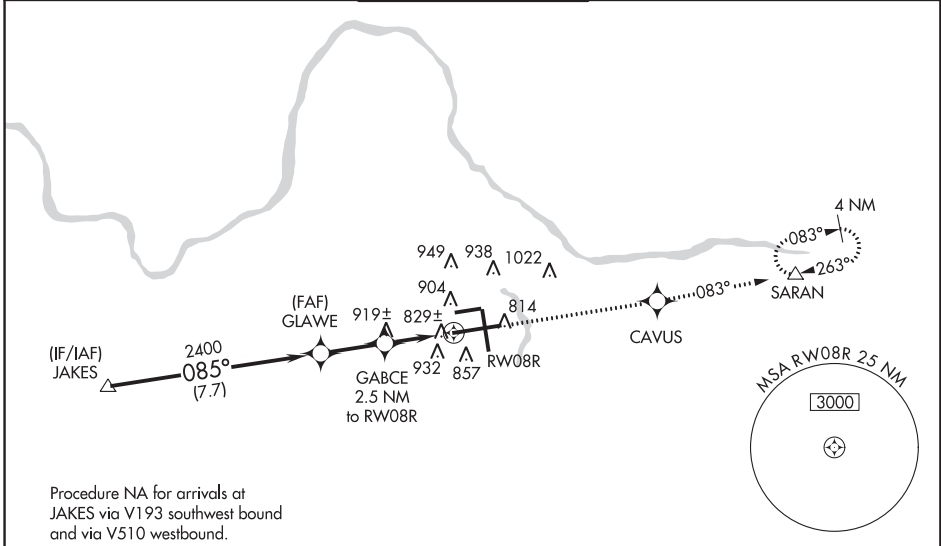
GERALD R FORD INTL (G.R.R.)

ASR 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. VDP and Baro-VNAV NA when using Holland altimeter setting. When local altimeter setting not received, use Holland altimeter setting and increase all DA 76 feet and all MDA 80 feet, LNAV/VNAV all Cats visibility to RVR 6000, LNAV Cat C to RVR 4000. For inoperative MALSR, increase LNAV Cat D visibility to RVR 6000. For inoperative MALSR when using Holland altimeter setting, increase LPV all Cats visibility to RVR 5000.

MALSR

MISSED APPROACH:
Climb to 2700 direct CAVUS and via track 083° to SARAN and hold.

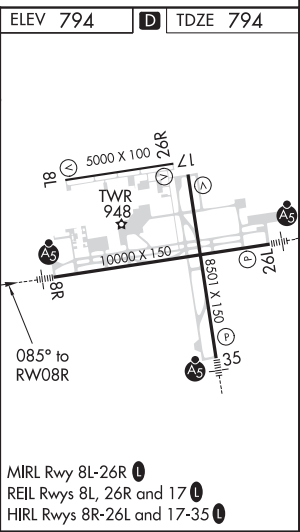
| | | | | | |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|
| ATIS 118.725 | GRAND RAPIDS APP CON * 128.4 257.6 | GRAND RAPIDS TOWER * 135.65 (CTAF) 339.8 | GND CON 121.8 | CLNC DEL 119.3 | UNICOM 122.95 |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|-------------------|-----------------------|--------------------------|---------------------|
| ELEV 794 | | D TDZE 794 | |
| 1920 | | | |
| JAKES | GLAWE | CAVUS | SARAN |
| 2700 | | 2700 | tr 083° |
| Procedure Turn NA | | * NNAV only | |
| GP 3.00° | GABCE 2.5 NM to RW08R | *1.1 NM to RW08R | |
| TCH 51 | *1640 | RW08R | |
| 7.7 NM | | 2.3 NM | |
| A | | B | |
| CATEGORY | A B C D | | |
| LPV DA | 994/24 200 (200-1/2) | | |
| LNAV/VNAV DA | 1213/50 419 (500-1) | | |
| LNAV MDA | 1180/24 386 (400-1/2) | | 1180/50 386 (400-1) |
| CIRCLING | 1260-1 466 (500-1) | 1260-1 1/2 466 (500-1/2) | 1360-2 566 (600-2) |



RNAV (GPS) RWY 26L

GERALD R FORD INTL (G.R.R.)

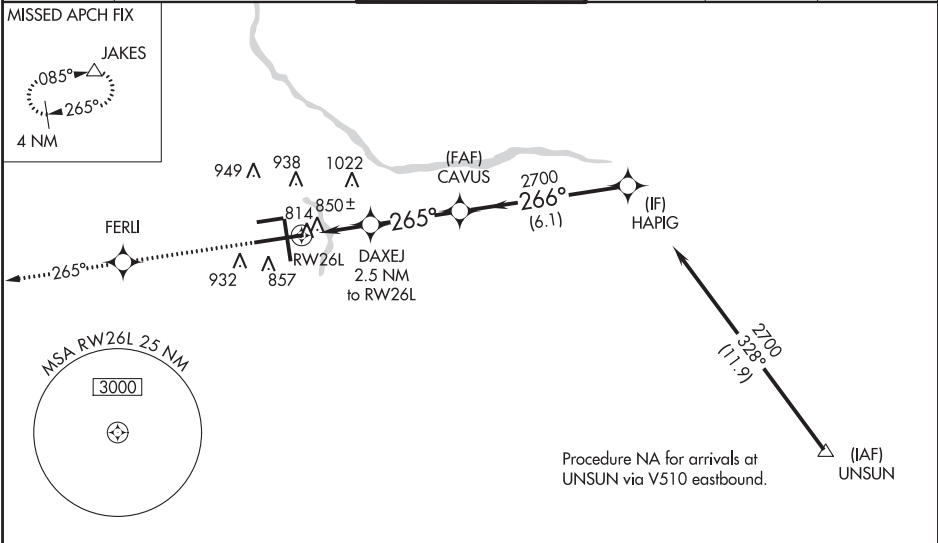
| | | |
|---|------------------------|--|
| WAAS CH 86713 W 26B | APP CRS 265° | Rwy Idg 10000 TDZE 790 Apt Elev 794 |
|---|------------------------|--|

ASR
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. VDP and Baro-VNAV NA when using Holland altimeter setting. When local altimeter setting not received, use Holland altimeter setting and increase all DA 76 feet and all MDA 80 feet, LNAV/VNAV Cats A/B/C visibility to RVR 4000, LNAV Cat C to RVR 5000, Cat D to RVR 6000. For inoperative MALSR, increase LNAV/VNAV Cat D visibility to RVR 5000. For inoperative MALSR when using Holland altimeter setting, increase LPV all Cats visibility to RVR 5000.

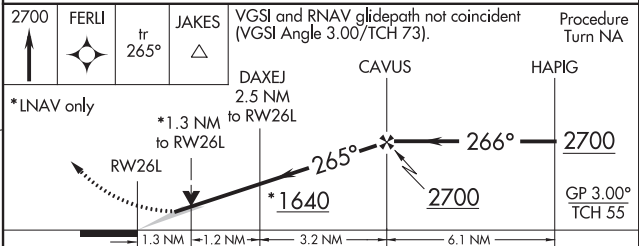
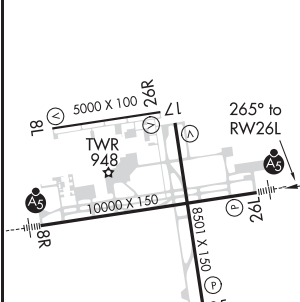
MALSR

MISSED APPROACH:
Climb to 2700 direct FERLI and via 265° track to JAKES and hold.

| | | | | | |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|
| ATIS 118.725 | GRAND RAPIDS APP CON * 128.4 257.6 | GRAND RAPIDS TOWER * 135.65 (CTAF) 339.8 | GND CON 121.8 | CLNC DEL 119.3 | UNICOM 122.95 |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|



| | | |
|----------|----------|----------|
| ELEV 794 | D | TDZE 790 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|---------------------|-------------|----------------------|---------------------|
| LPV DA | 990/24 200 (200-½) | | | |
| LNAV/VNAV DA | 1114/24 324 (400-½) | | | 1114/40 324 (400-¾) |
| LNAV MDA | 1280/24 | 490 (500-½) | 1280/40 490 (500-¾) | 1280/50 490 (500-1) |
| CIRCLING | 1280-1 | 486 (500-1) | 1280-1½ 486 (500-1½) | 1360-2 566 (600-2) |

MIRL Rwy 8L-26R
REIL Rwy 8L, 26R and 17
HIRL Rwy 8R-26L and 17-35

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017


| | | |
|--|------------------------|--|
| WAAS CH 87112 W35A | APP CRS 355° | Rwy Idg 8501 TDZE 790 Apt Elev 794 |
|--|------------------------|--|

RNAV (GPS) RWY 35

GERALD R FORD INTL (G.R.R.)

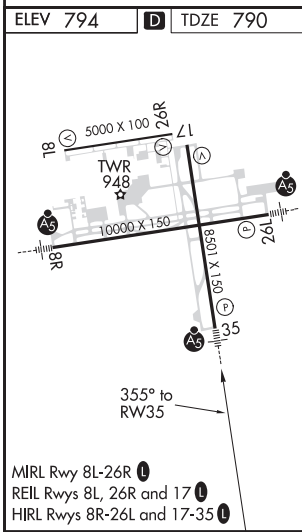
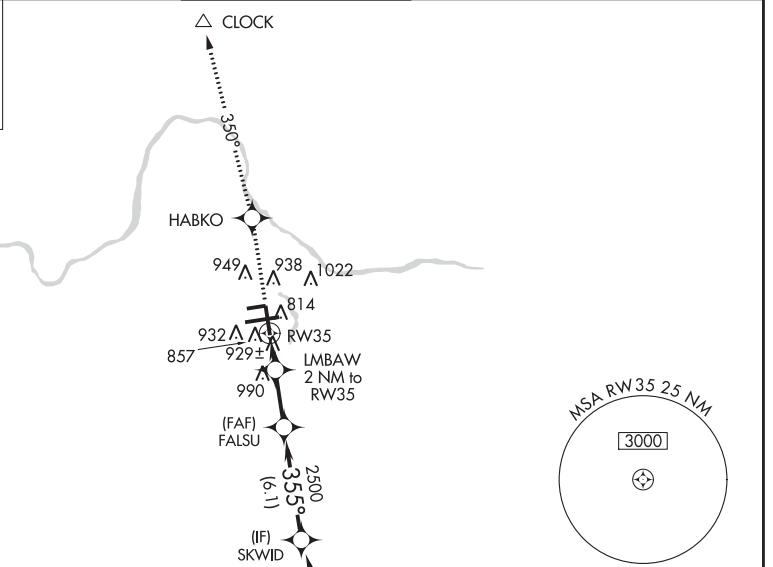
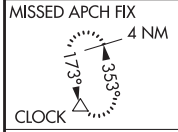
ASR For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Holland altimeter setting and increase all DA 76 feet and all MDA 80 feet. Increase LNAV/VNAV visibility to RVR 6000 all Cats and LNAV Cat C visibility to RVR 4000. For inoperative MALSR, increase LNAV Cat D visibility to RVR 6000. For inoperative MALSR when using Holland altimeter setting increase LPV all Cats visibility to RVR 5000. Baro-VNAV and VDP NA when using Holland altimeter setting.

MALSR

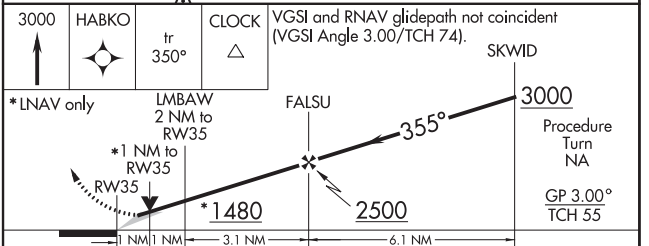


MISSED APPROACH:
Climb to 3000 direct HABKO and via track 350° to CLOCK and hold.

| | | | | | |
|------------------------|---|---|-------------------------|--------------------------|-------------------------|
| ATIS 118.725 | GRAND RAPIDS APP CON* 128.4 257.6 | GRAND RAPIDS TOWER* 135.65 (CTAF) 339.8 | GND CON 121.8 | CLNC DEL 119.3 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|--------------------------|-------------------------|



| | | | |
|------|-------|---------|---|
| 3000 | HABKO | CLOCK | Procedure NA for arrivals at BOHRR via V285 Southbound. |
| ↑ | ✦ | tr 350° | |



| CATEGORY | A | B | C | D |
|--------------|---------------------|---|---------------------|---|
| LPV DA | 990/24 200 (200-½) | | | |
| LNAV/VNAV DA | 1236/50 446 (500-1) | | | |
| LNAV MDA | 1180/24 390 (400-½) | | 1180/50 390 (400-1) | |
| CIRCLING | 1260-1 466 (500-1) | | 1260-1½ 566 (600-2) | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|---|---|
| VOR/DME VIO 115.95 Chan 106 (Y) | APP CRS 175° | Rwy Idg TDZE 789 Apt Elev 794 | 8501 789 794 |
|---|------------------------|---|---|

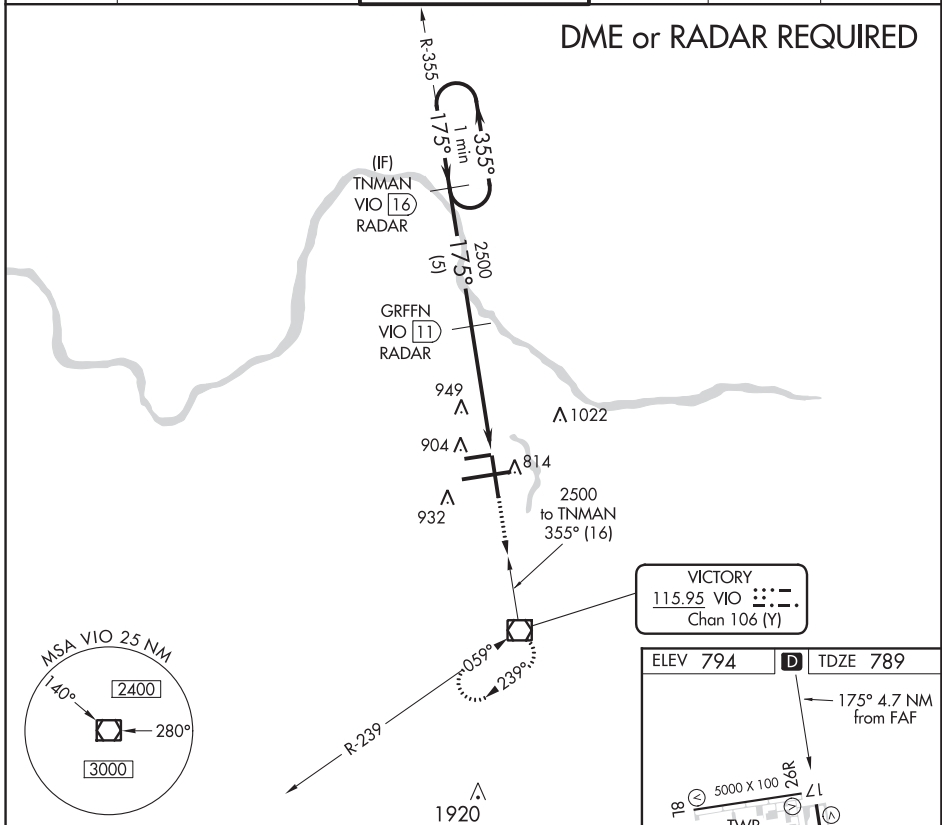
VOR RWY 17

GERALD R FORD INTL (G.R.R.)

ASR DME or RADAR required. When local altimeter setting not received, use Holland altimeter setting and increase all MDA 80 feet and increase S-17 Cat D visibility ¼ mile

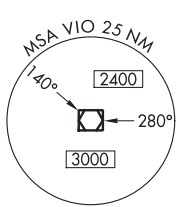
MISSED APPROACH: Climb to 3000 direct VIO VOR/DME and hold.

| | | | | | |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|
| ATIS 118.725 | GRAND RAPIDS APP CON ★ 128.4 257.6 | GRAND RAPIDS TOWER ★ 135.65 (CTAF) 339.8 | GND CON 121.8 | CLNC DEL 119.3 | UNICOM 122.95 |
|------------------------|--|--|-------------------------|--------------------------|-------------------------|

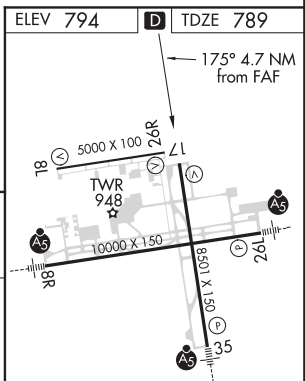


EC-1, 10 NOV 2016 to 05 JAN 2017

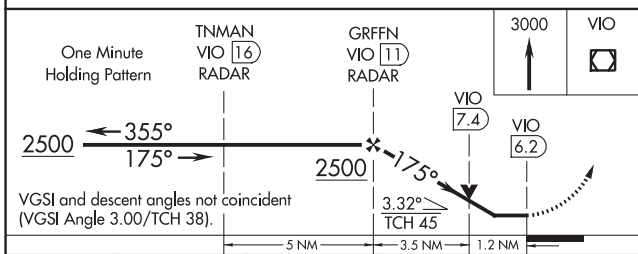
EC-1, 10 NOV 2016 to 05 JAN 2017



VICTORY
115.95 VIO
Chan 106 (Y)



| | |
|---------------------------|--------------------------|
| ELEV 794 | TDZE 789 |
| MIRL Rwy 8L-26R | |
| REIL Rws 8L, 26R and 17 | |
| HIRL Rws 8R-26L and 17-35 | |
| FAF to MAP 4.7 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 4:42 3:08 2:21 1:53 1:34 |

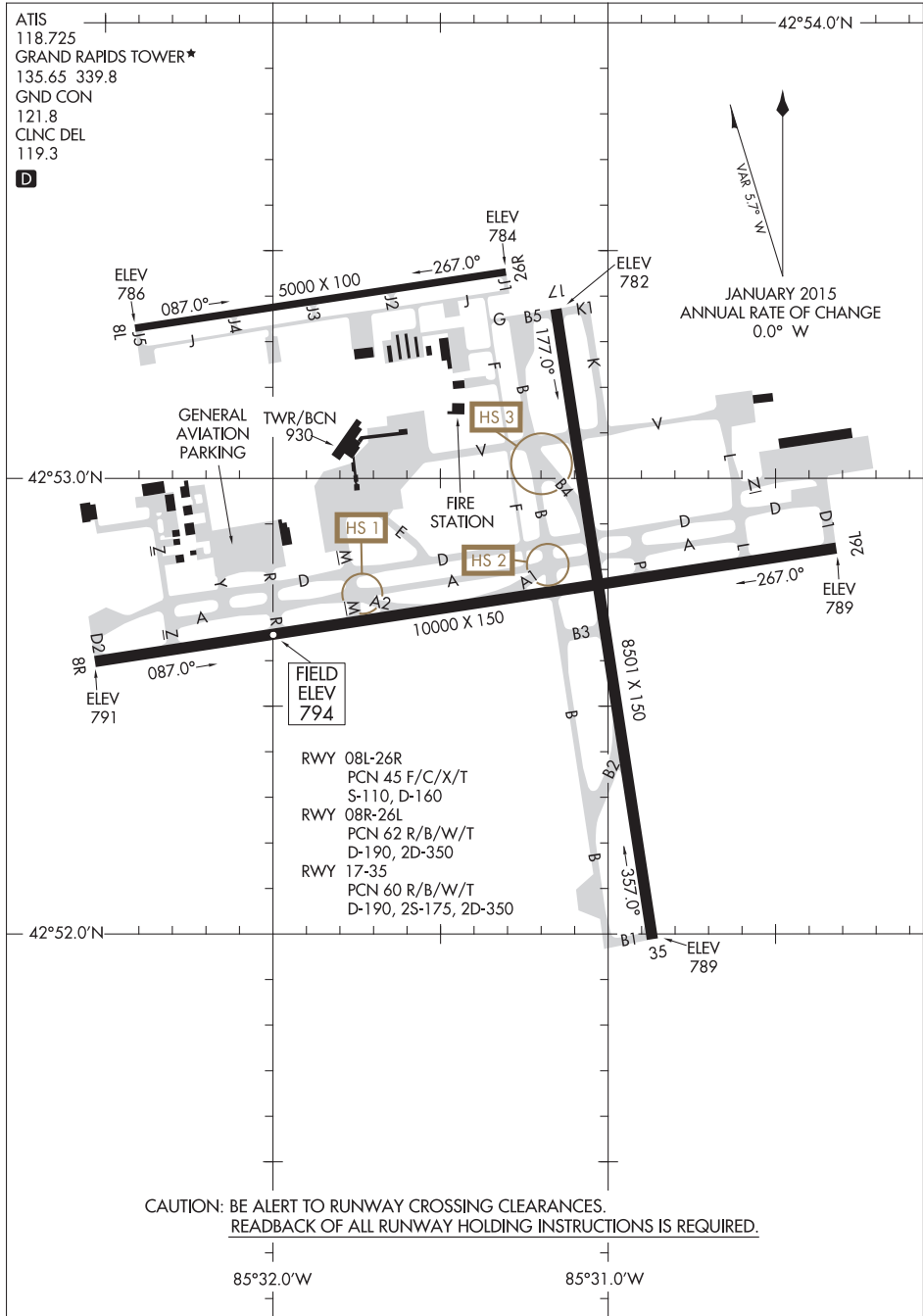


| | | | | |
|----------|--------|-------------|---------|--------------|
| CATEGORY | A | B | C | D |
| S-17 | 1200-1 | 411 (500-1) | 1200-1½ | 411 (500-1½) |
| CIRCLING | 1280-1 | 486 (500-1) | 1280-1½ | 566 (600-2) |

AIRPORT DIAGRAM

AL-5184 (FAA)

GERALD R FORD INTL (G.R.R.)
GRAND RAPIDS, MICHIGAN



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

GRAND RAPIDS, MICHIGAN
GERALD R FORD INTL (G.R.R.)

RNAV (GPS) RWY 14

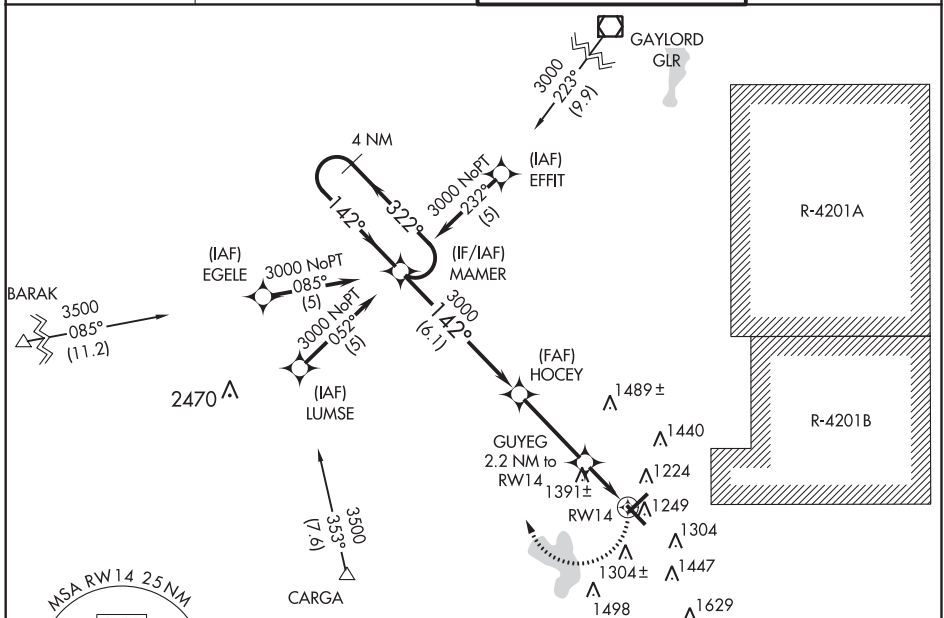
GRAYLING AAF (GOV)

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5005 |
| 142° | TDZE | 1151 |
| | Apt Elev | 1156 |

▼ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 3/4 SM NA.
▲ When local altimeter setting not received, use Houghton Lake altimeter setting and increase all MDA 60 feet, increase LNAV Cat C and D and Circling Cat C visibility 1/4 mile.
 Procedure NA at night for Cat C/D aircraft.

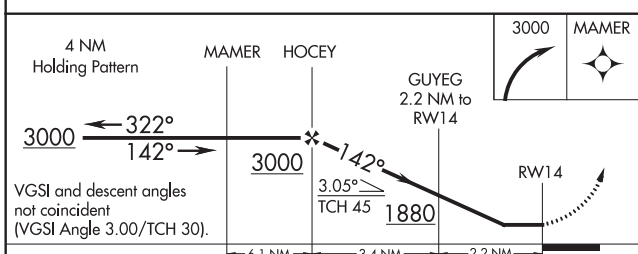
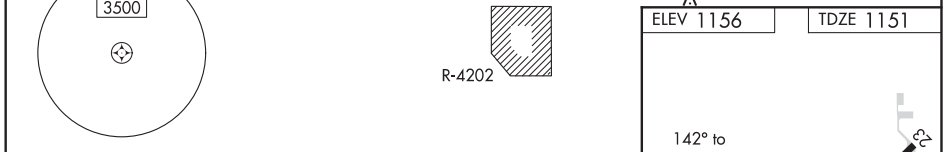
MISSED APPROACH:
 Climbing right turn to 3000 direct MAMER and hold.

| | | | |
|--------------------------|---|---|-------------------------|
| AWOS-3 119.075 | MINNEAPOLIS CENTER 125.475 269.45 | GRAYLING TOWER ★ 126.2 (CTAF) 0 | GND CON 121.9 |
|--------------------------|---|---|-------------------------|

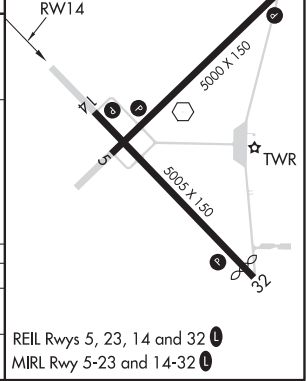


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| LNAV MDA | 1700-1 | 549 (600-1) | 1700-1½ 549 (600-1½) | 1700-1¾ 549 (600-1¾) |
| CIRCLING | 1720-1 | 564 (600-1) | 1720-1½ 564 (600-1½) | 1760-2 604 (700-2) |



REIL Rws 5, 23, 14 and 32
 MRL Rwy 5-23 and 14-32

GRAYLING, MICHIGAN

AL-5957 (FAA)

16315

| | | |
|-------------------------|------------------------|-------------------------|
| VOR CGG 109.8 | APP CRS 127° | Rwy Idg 5005 |
| | | TDZE 1151 |
| | | Apt Elev 1156 |

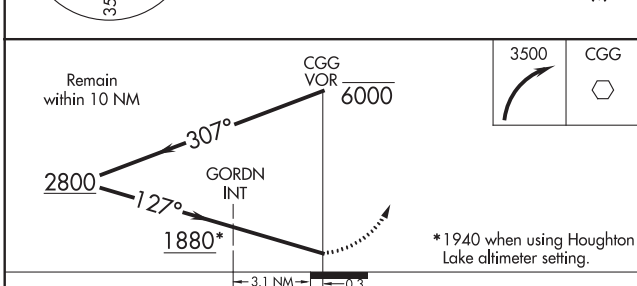
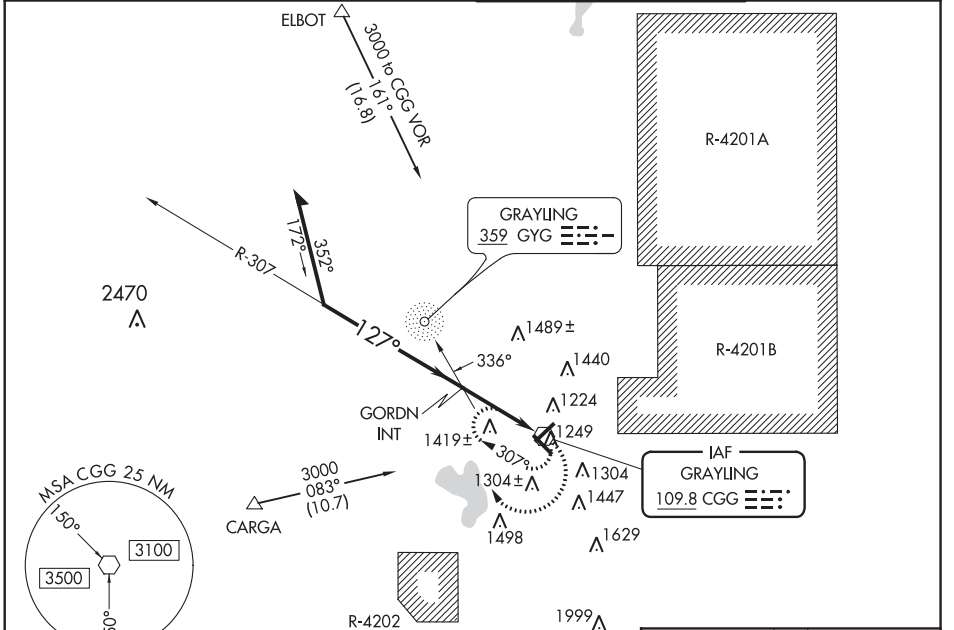
VOR RWY 14

GRAYLING AAF (GOV)

▼ Helicopter visibility reduction below 3/4 SM NA. Procedure NA at night for Cat C/D aircraft. When local altimeter setting not received, use Houghton Lake altimeter setting and increase all MDA 60 feet, increase S-14 and Circling Cat B, C, and D and GORDN Fix minimums S-14 Cat C and D and Circling Cat C visibility 1/4 mile.

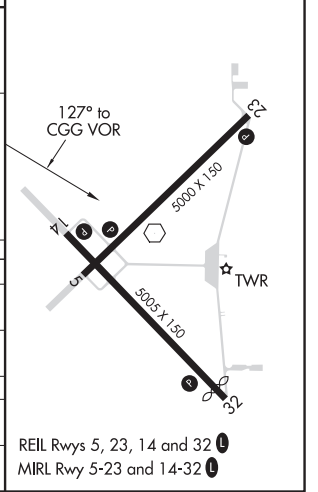
▲ NA MISSED APPROACH: Climbing right turn to 3500 in CGG VOR holding pattern.

| | | | |
|--------------------------|---|---|-------------------------|
| AWOS-3 119.075 | MINNEAPOLIS CENTER 125.475 269.45 | GRAYLING TOWER ★ 126.2 (CTAF) 0 | GND CON 121.9 |
|--------------------------|---|---|-------------------------|



| | |
|-----------|-----------|
| ELEV 1156 | TDZE 1151 |
|-----------|-----------|

| CATEGORY | A | B | C | D |
|--------------------|--------------------|---|----------------------------|----------------------------|
| S-14 | 1880-1 729 (800-1) | | 1880-2 729 (800-2) | 1880-2 1/4 729 (800-2 1/4) |
| CIRCLING | 1880-1 724 (800-1) | | 1880-2 724 (800-2) | 1880-2 1/4 724 (800-2 1/4) |
| GORDN FIX MINIMUMS | | | | |
| S-14 | 1720-1 569 (600-1) | | 1720-1 1/2 569 (600-1 1/2) | 1720-1 3/4 569 (600-1 3/4) |
| CIRCLING | 1720-1 564 (600-1) | | 1720-1 1/2 564 (600-1 1/2) | 1760-2 604 (700-2) |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

GRAYLING, MICHIGAN
Amdt 2B 11DEC14

44°41'N - 84°44'W

GRAYLING AAF (GOV)

VOR RWY 14

| | | | |
|-----------------------|------------------------|-----------------------------|---|
| NDB GYG 359 | APP CRS 142° | Rwy Idg TDZE Apt Elev | 5005 1151 1156 |
|-----------------------|------------------------|-----------------------------|---|

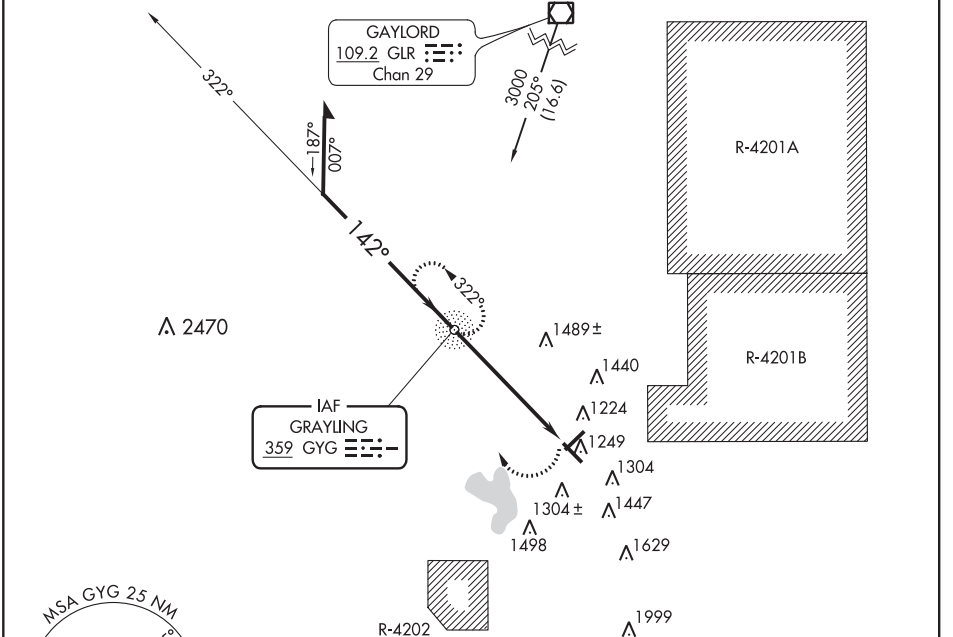
NDB RWY 14

GRAYLING AAF (GOV)

⚠ Helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Houghton Lake altimeter setting and increase all MDA 60 feet and S-14 and Circling Cat B, C, and D visibility 1/4 mile. Procedure NA at night for Cat C/D aircraft.

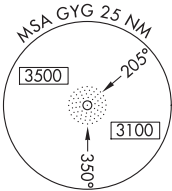
⚠ MISSED APPROACH: Climbing right turn to 3000 direct GYG NDB and hold.

| | | | |
|--------------------------|---|---|-------------------------|
| AWOS-3 119.075 | MINNEAPOLIS CENTER 125.475 269.45 | GRAYLING TOWER ★ 126.2 (CTAF) 0 | GND CON 121.9 |
|--------------------------|---|---|-------------------------|

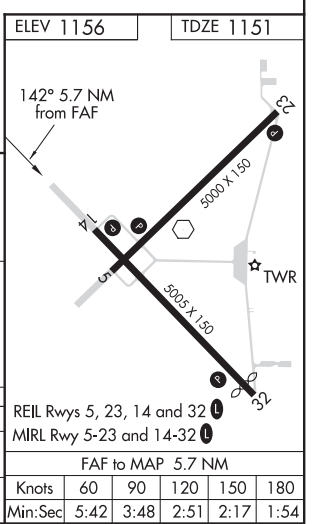
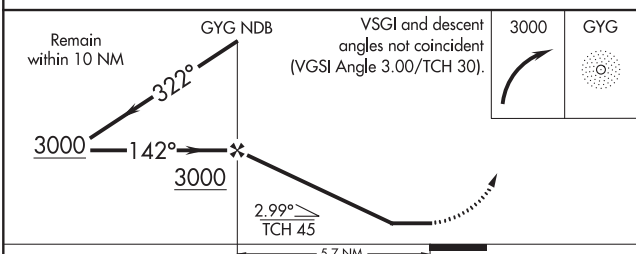


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|-----------|-----------|
| ELEV 1156 | TDZE 1151 |
|-----------|-----------|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|--------------------|----------------------------|
| S-14 | 1880-1 729 (800-1) | | 1880-2 729 (800-2) | 1880-2 1/4 729 (800-2 1/4) |
| CIRCLING | 1880-1 724 (800-1) | | 1880-2 724 (800-2) | 1880-2 1/4 724 (800-2 1/4) |

REIL Rwy 5, 23, 14 and 32
MIRL Rwy 5-23 and 14-32

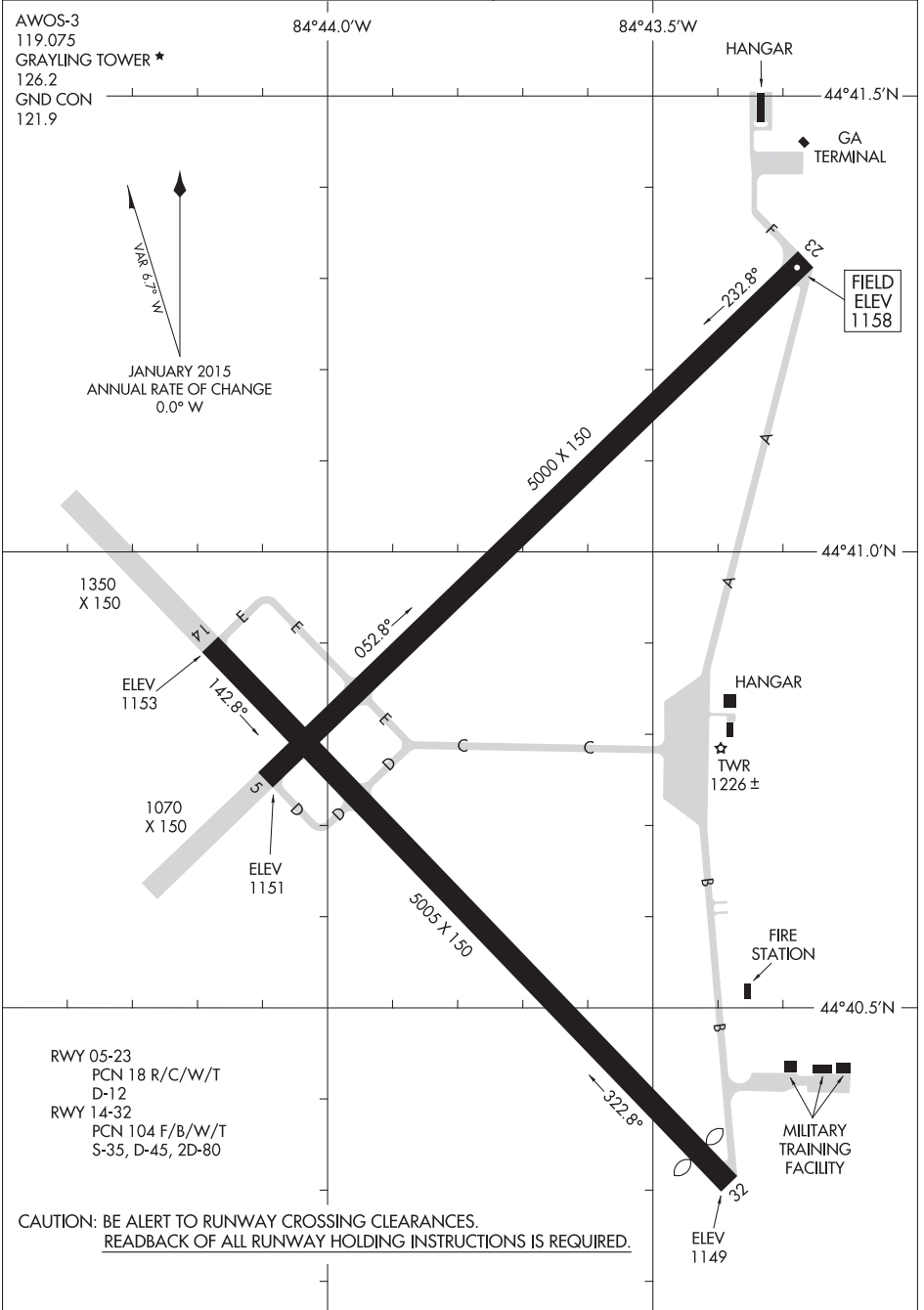
FAF to MAP 5.7 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:42 | 3:48 | 2:51 | 2:17 | 1:54 |

AIRPORT DIAGRAM

AL-5957 (FAA)

GRAYLING AAF (GOV)
GRAYLING, MICHIGAN



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

15176

GRAYLING, MICHIGAN
GRAYLING AAF (GOV)

| | |
|------------------------|------------------------|
| APP CRS 099° | Rwy Idg 4199 |
| | TDZE 855 |
| | Apt Elev 855 |

RNAV (GPS) RWY 10

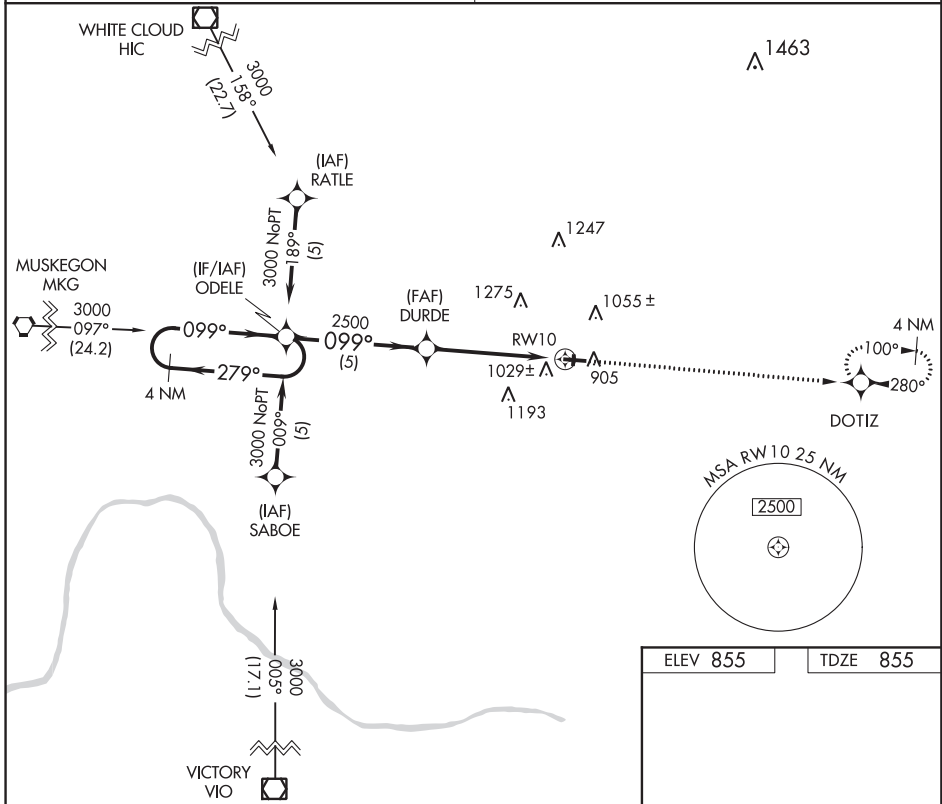
GREENVILLE MUNI (6D6)

▼ Use Grand Rapids/Gerald R. Ford Intl altimeter setting.
▲ NA DME/DME RNP-0.3 NA. Night landing: Rwy 10 NA.
 Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 3000 direct DOTIZ and hold.

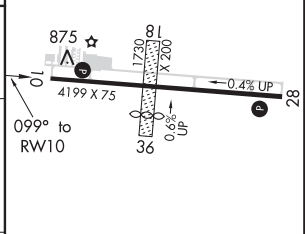
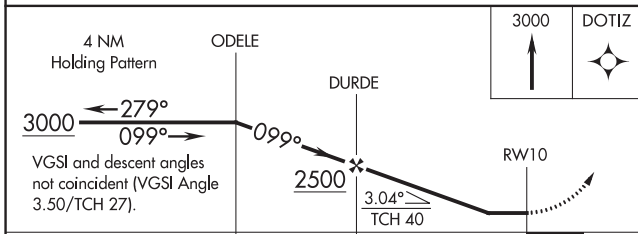
GRAND RAPIDS APP CON *
124.6 257.6

UNICOM
122.8 (CTAF)



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| CATEGORY | A | B | C | D |
|----------|--------|-------------|--|----|
| RNAV MDA | 1340-1 | 485 (500-1) | 1340-1 $\frac{3}{8}$ 485 (500-1 $\frac{3}{8}$) | NA |
| CIRCLING | 1400-1 | 545 (600-1) | 1420-1 $\frac{1}{2}$ 565 (600-1 $\frac{1}{2}$) | NA |

REIL Rwy 28 **①**
 MIRL Rwy 10-28 **①**

GREENVILLE, MICHIGAN

AL-6875 (FAA)

14317

RNAV (GPS) RWY 28

GREENVILLE MUNI (6D6)

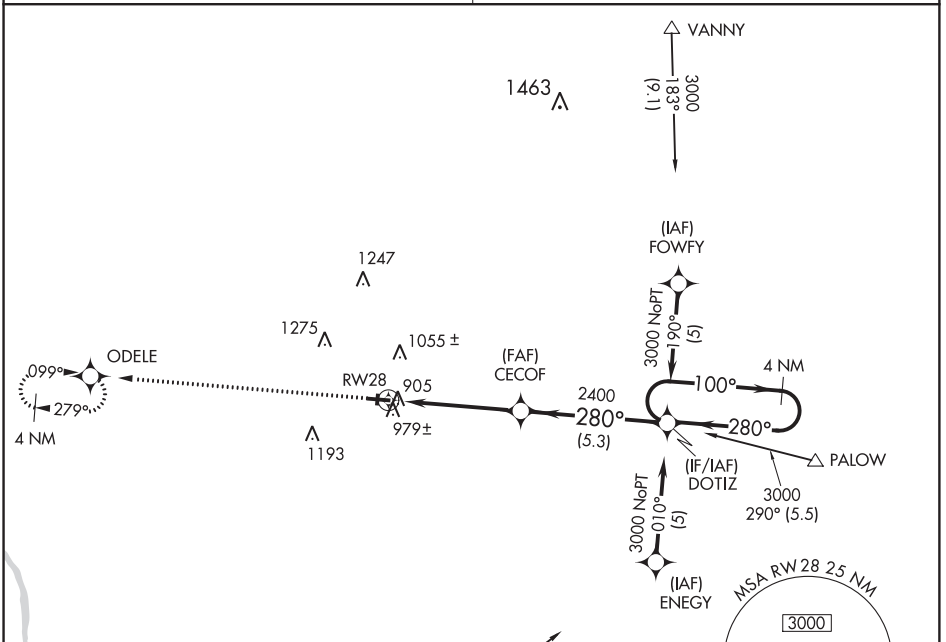
| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4199 |
| 280° | TDZE | 847 |
| | Apt Elev | 855 |

▼ Use Grand Rapids/Gerald R. Ford Intl altimeter setting.
▲ NA DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Night landing: Rwy 28, 10 NA.

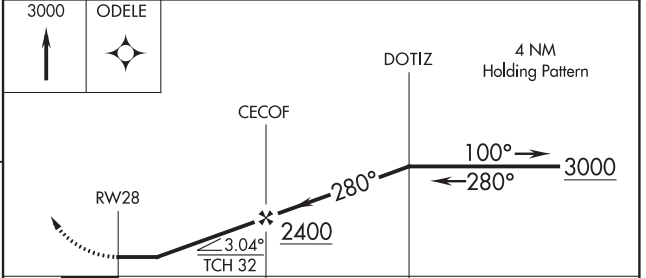
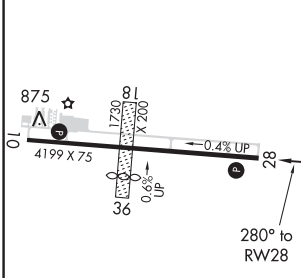
MISSED APPROACH: Climb to 3000 direct ODELE and hold.

GRAND RAPIDS APP CON *
124.6 257.6

UNICOM
122.8 (CTAF) 0



| | |
|----------|----------|
| ELEV 855 | TDZE 847 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|--|----|
| LNAV MDA | 1300-1 | 453 (500-1) | 1300-1 $\frac{3}{8}$ 453 (500-1 $\frac{3}{8}$) | NA |
| CIRCLING | 1400-1 | 545 (600-1) | 1420-1 $\frac{1}{2}$ 565 (600-1 $\frac{1}{2}$) | NA |

GREENVILLE, MICHIGAN
 Orig-A 13NOV14

43°09'N-85°15'W

GREENVILLE MUNI (6D6) RNAV (GPS) RWY 28

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|---|
| VOR/DME VIO 115.95 Chan 106 (Y) | APP CRS 031° | Rwy Idg TDZE Apt Elev N/A N/A 855 |
|---|------------------------|---|

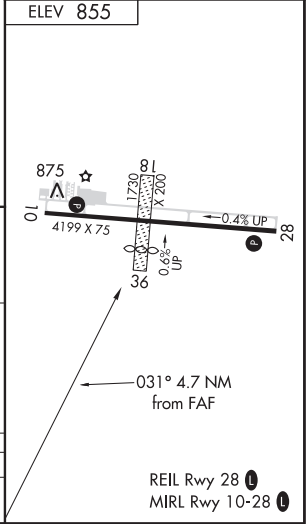
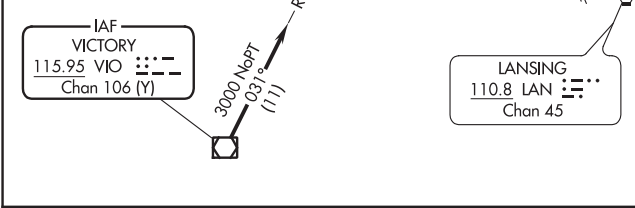
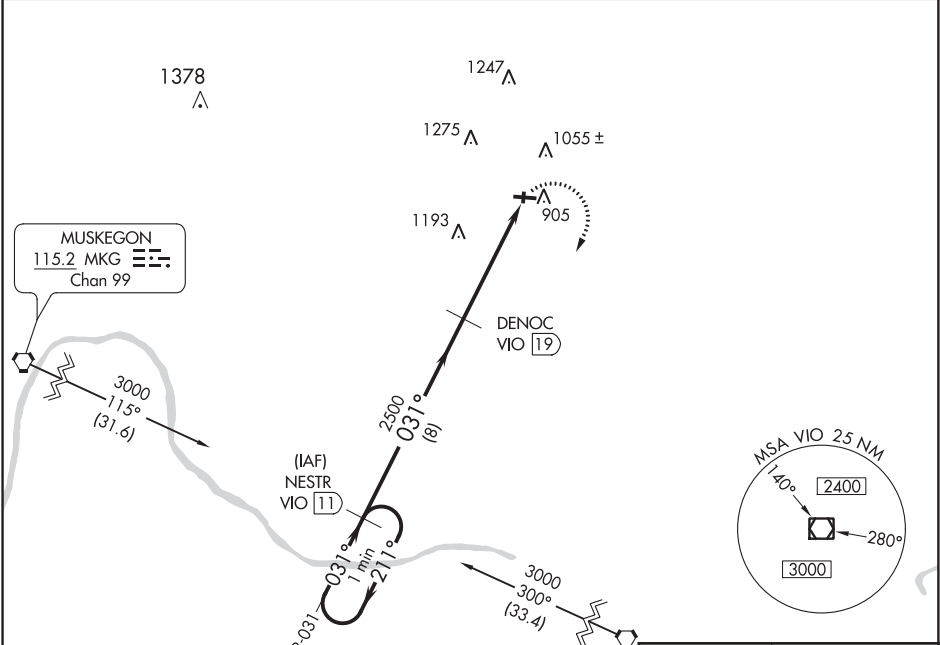
VOR/DME-A
GREENVILLE MUNI (6D6)

NA Use Grand Rapids/Gerald R. Ford Intl altimeter setting. Night landing: Rwy 10 NA. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing right turn to 3000 on VIO R-031 to NESTR/VIO 11 DME and hold.

GRAND RAPIDS APP CON ★
124.6 257.6

UNICOM
122.8 (CTAF)



| | | | | |
|--|--------------|--|-----------|--------------|
| | NESTR VIO 11 | | 3000 | NESTR VIO 11 |
| | ← 211° | | ↻ | |
| | 031° | | VIO R-031 | |
| | 031° | | | |
| | 2500 | | | |
| | 8 NM | | 4.7 NM | |

| | | | | |
|----------|-----------------------|-------------------------|-------------------------|----|
| CATEGORY | A | B | C | D |
| CIRCLING | 1500-1 645 (700-1) | 1500-1¼ 645 (700-1¼) | 1500-1¾ 645 (700-1¾) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|-------------------------|---------------------|
| LOC/DME I-CMX 110.3 Chan 40 | APP CRS 313° | Rwy Idg 6500 | TDZE 1070 |
| | | Apt Elev 1095 | |

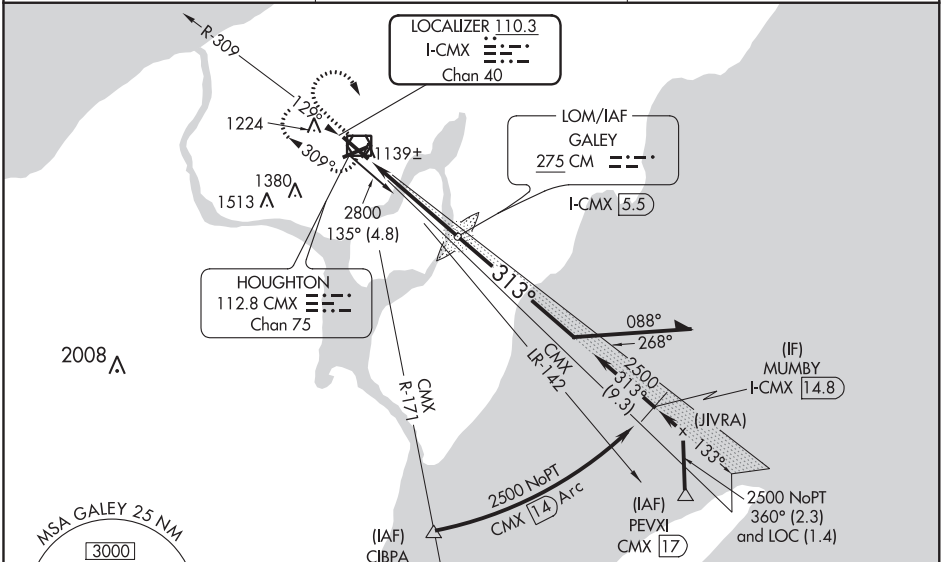
ILS or LOC RWY 31
HOUGHTON COUNTY MEMORIAL (CMX)

▼ For inoperative MALSRL, increase S-LOC 31 Cat D visibility to 1 mile.
▲ When local altimeter setting not received use Marquette altimeter setting and increase DA to 1441 and S-ILS 31 visibility to ¾, increase all MDA 180' and S-LOC 31 visibility Cat C to ¾ mile, Cat D to 1 mile. Increase Circling Cat C visibility to 1½ mile, Cat D visibility to 2½ mile. For inoperative MALSRL when using Marquette altimeter setting increase S-ILS 31 visibility all Cats to 1¼ mile.
 VDP NA when using Marquette altimeter setting. Request MIRL Rwy 7-25 CTAF.



MALSRL
MISSED APPROACH:
 Climb to 3100 then right turn direct CMX VOR/DME and hold.

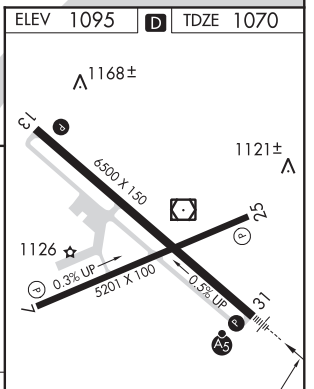
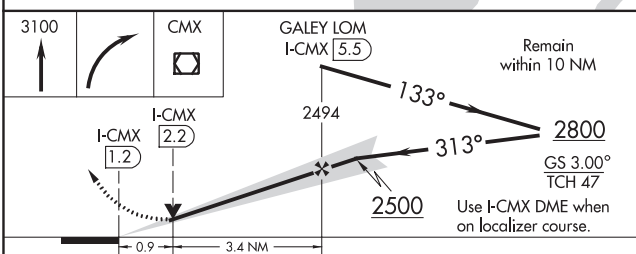
| | | |
|------------------------|---|---------------------------------|
| ASOS 125.675 | MINNEAPOLIS CENTER 133.55 379.1 | UNICOM 122.7 (CTAF) 0 |
|------------------------|---|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|-----------|-----------|
| ELEV 1095 | TDZE 1070 |
|-----------|-----------|



| | | | | |
|----------|-----------------------|-----------------------|-------------------------|-------------------------|
| CATEGORY | A | B | C | D |
| S-ILS 31 | 1270-½ | 200 (200-½) | | |
| S-LOC 31 | 1400-½ | 330 (400-½) | | 1400-¾ 330 (400-¾) |
| CIRCLING | 1620-1 525 (600-1) | 1640-1 545 (600-1) | 1640-1½ 545 (600-1½) | 1780-2¼ 685 (700-2¼) |

| | |
|------------------------|--------------------------|
| MIRL Rwy 7-25 | 0 |
| REIL Rwys 7, 13 and 25 | 313° 4.3 NM from FAF |
| HIRL Rwy 13-31 | 0 |
| FAF to MAP 4.3 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 4:18 2:52 2:09 1:43 1:26 |

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 58233 W07A | APP CRS 069° | Rwy Idg TDZE Apt Elev | 5201 1067 1095 |
|--|------------------------|-----------------------------|---|

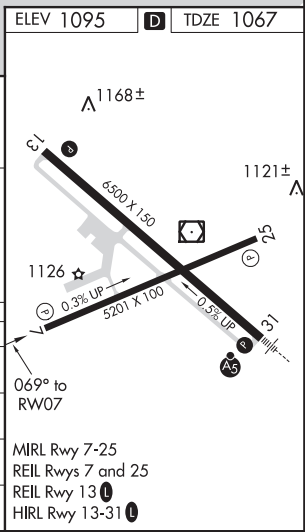
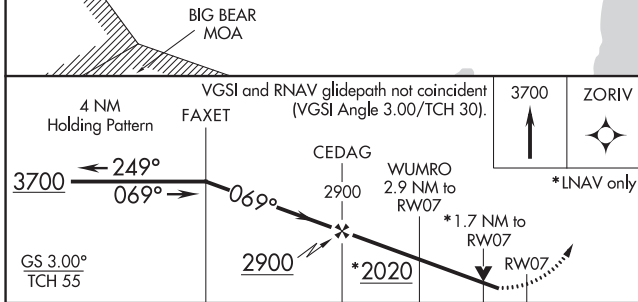
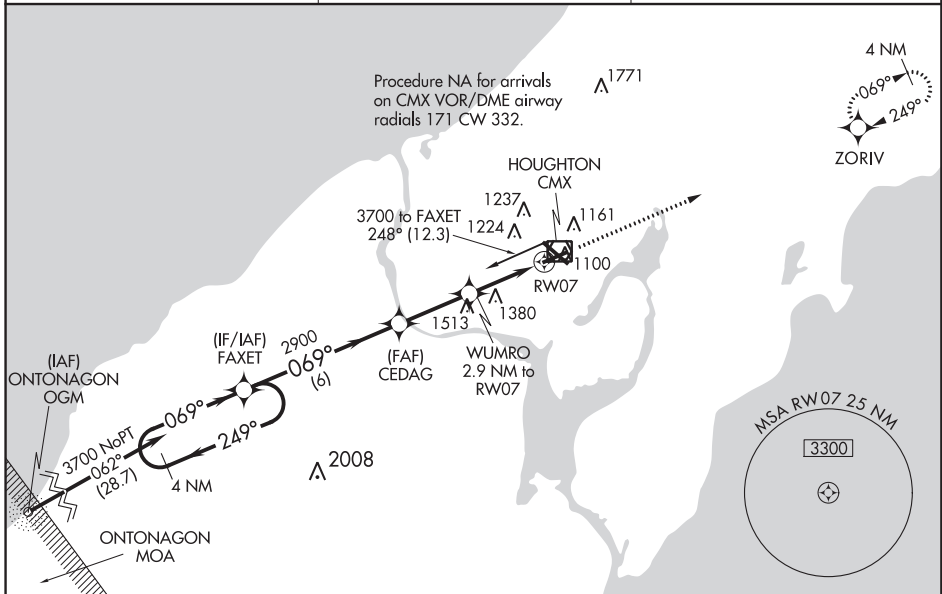
RNAV (GPS) RWY 7

HOUGHTON COUNTY MEMORIAL (CMX)

⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C (-4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Baro-VNAV and VDP NA when using Marquette altimeter setting. When local altimeter setting not received, use Marquette altimeter setting and increase all DA 171 feet and all MDA 180 feet. Increase LPV all Cats visibility 3/8 mile, LNAV/VNAV all Cats visibility 3/4 mile, LNAV and Circling Cat B visibility 1/4 mile, LNAV Cats C/D and Circling Cat C visibility 3/4 mile and Circling Cat D visibility 1/2 mile. Helicopter visibility reduction below 3/4 SM NA.

MISSED APPROACH:
Climb to 3700 direct ZORIV and hold.

| | | |
|------------------------|---|---------------------------------|
| ASOS 125.675 | MINNEAPOLIS CENTER 133.55 379.1 | UNICOM 122.7 (CTAF) 0 |
|------------------------|---|---------------------------------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------------|-------------------------------|
| LPV DA | 1431-1 1/8 | | 364 (400-1 1/8) | |
| LNAV/VNAV DA | 1598-1 3/4 | | 531 (500-1 3/4) | |
| LNAV MDA | 1640-1 573 (600-1) | | 1640-1 3/4 573 (600-1 3/4) | |
| C CIRCLING | 1640-1 545 (600-1) | 1660-1 565 (600-1) | 1700-1 3/4 605 (700-1 3/4) | 1900-2 1/2 805 (900-2 1/2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HANCOCK, MICHIGAN

AL-896 (FAA)

15092

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 93533 W13A | APP CRS 133° | Rwy Idg TDZE Apt Elev | 6500 1095 1095 |
|--|------------------------|-----------------------------|---|

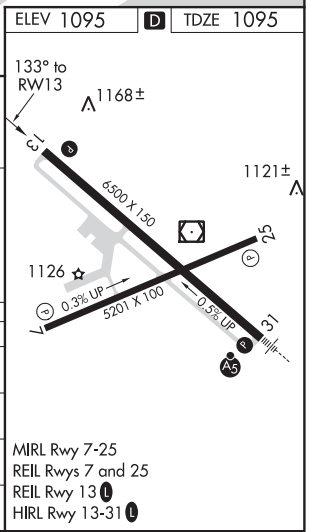
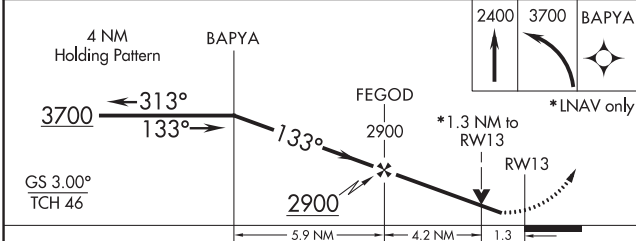
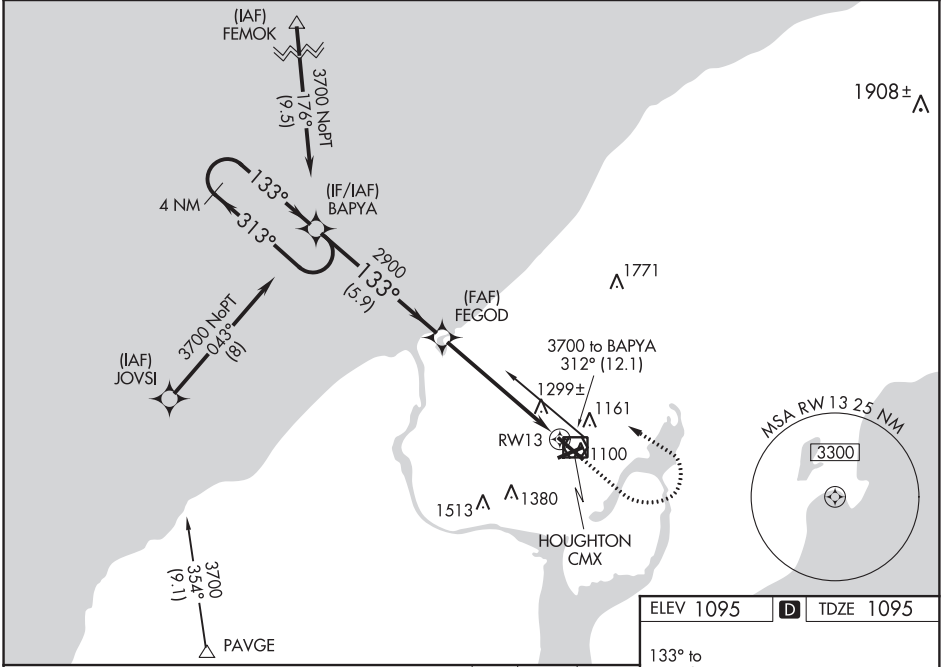
RNAV (GPS) RWY 13

HOUGHTON COUNTY MEMORIAL (CMX)

⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -21°C (-5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Baro-VNAV and VDP NA when using Marquette altimeter setting. When local altimeter setting not received, use Marquette altimeter setting and increase all DA 171 feet and all visibilities ¼ mile. Increase all MDA 180 feet and all Cat C/D visibilities ½ mile. Helicopter visibility reduction below ¼ SM NA.

⚠ MISSED APPROACH: Climb to 2400 then climbing left turn to 3700 direct BAPYA and hold.

| | | |
|------------------------|---|-------------------------------|
| ASOS 125.675 | MINNEAPOLIS CENTER 133.55 379.1 | UNICOM 122.7 (CTAF) |
|------------------------|---|-------------------------------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|------------------------------------|--|--|
| LPV DA | | 1404-1 | 309 (400-1) | |
| LNAV/VNAV DA | | 1626-1 ⁷ / ₈ | 531 (600-1 ⁷ / ₈) | |
| LNAV MDA | 1560-1 | 465 (500-1) | 1560-1 ³ / ₈ | 465 (500-1 ³ / ₈) |
| C CIRCLING | 1620-1 525 (600-1) | 1660-1 565 (600-1) | 1700-1 ³ / ₄ 605 (700-1 ³ / ₄) | 1900-2 ¹ / ₂ 805 (900-2 ¹ / ₂) |

HANCOCK, MICHIGAN
Amdt 1A 02APR15

47°10'N-88°29'W

HOUGHTON COUNTY MEMORIAL (CMX)

RNAV (GPS) RWY 13

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 86634 W25A | APP CRS 249° | Rwy Idg TDZE Apt Elev | 5201 1074 1095 |
|--|------------------------|-----------------------------|---|

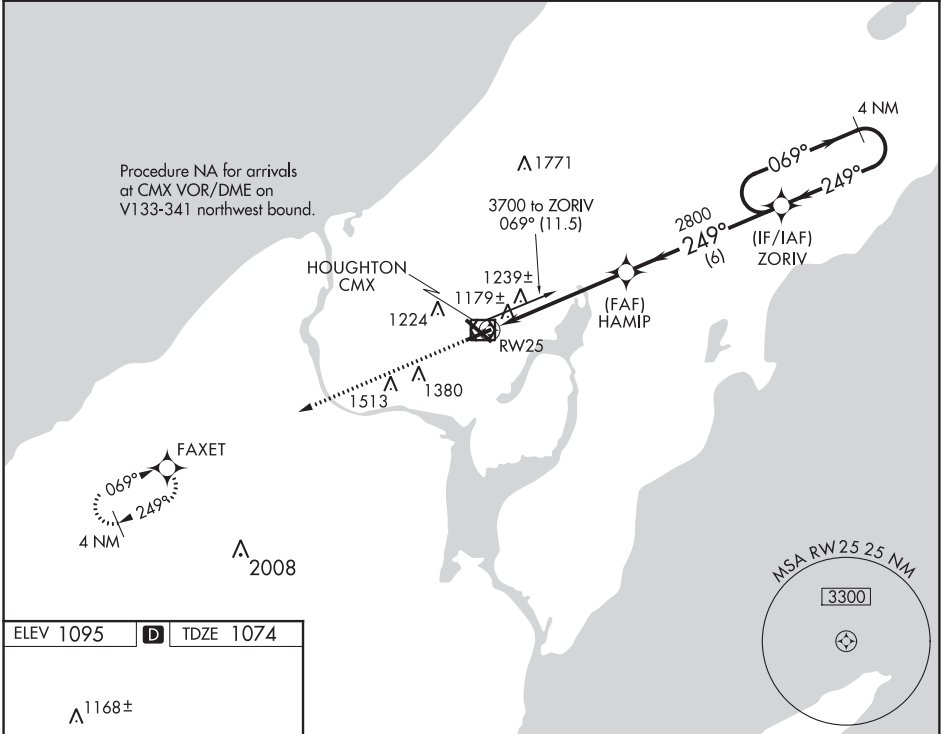
RNAV (GPS) RWY 25

HOUGHTON COUNTY MEMORIAL (CMX)

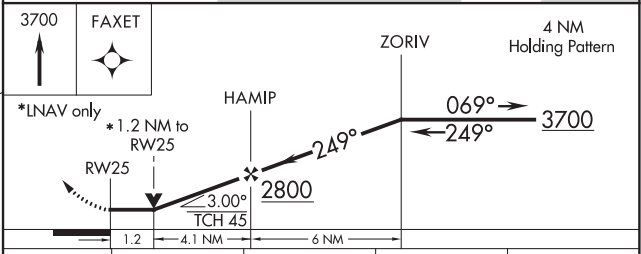
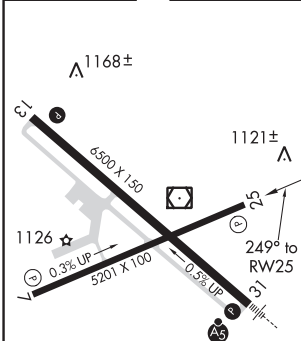
⚠ DME/DME RNP-0.3 NA. VDP NA with Marquette altimeter setting. When local altimeter setting not received, use Marquette altimeter setting and increase all MDA 180 feet and increase all Cat C/D visibilities ½ mile. Helicopter visibility reduction below ¼ SM not authorized.

MISSED APPROACH: Climb to 3700 direct FAXET and hold.

| | | |
|------------------------|---|---------------------------------|
| ASOS 125.675 | MINNEAPOLIS CENTER 133.55 379.1 | UNICOM 122.7 (CTAF) 0 |
|------------------------|---|---------------------------------|



| | | |
|-----------|----------|-----------|
| ELEV 1095 | D | TDZE 1074 |
|-----------|----------|-----------|



| | | | | |
|-------------------|-----------------------|-----------------------|-------------------------|-------------------------|
| CATEGORY | A | B | C | D |
| LP MDA | 1440-1 | | 366 (400-1) | |
| LNAV MDA | 1500-1 | 426 (500-1) | 1500-1¼ | 426 (500-1¼) |
| C CIRCLING | 1620-1 525 (600-1) | 1660-1 565 (600-1) | 1700-1¾ 605 (700-1¾) | 1900-2½ 805 (900-2½) |

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 45809 W31A | APP CRS 313° | Rwy Idg 6500 TDZE 1070 Apt Elev 1095 |
|--|------------------------|---|

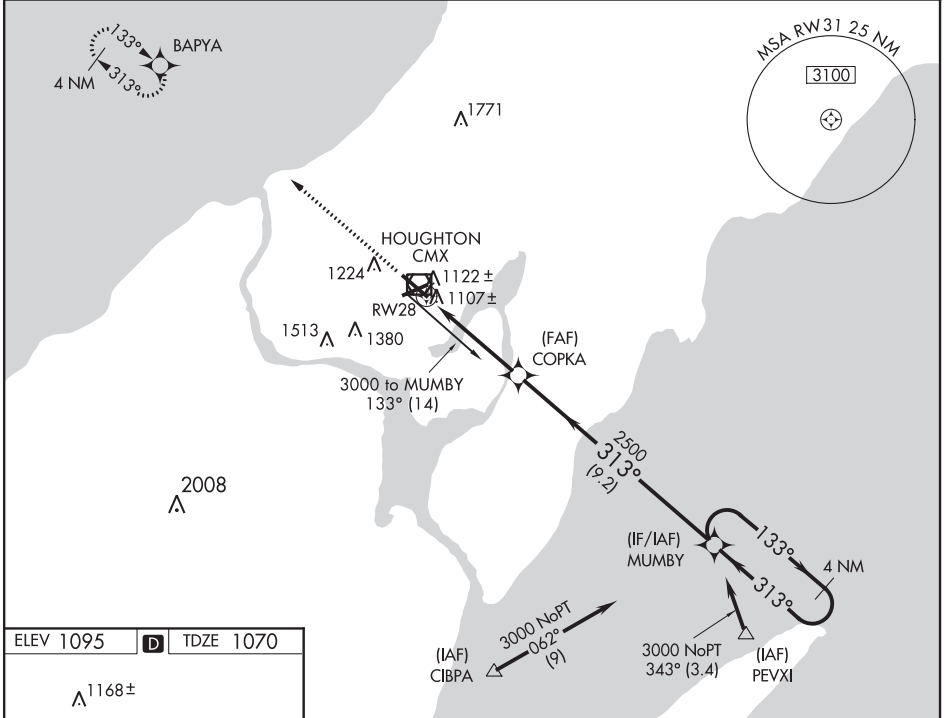
RNAV (GPS) RWY 31

HOUGHTON COUNTY MEMORIAL (CMX)

⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. For inoperative MALSR, increase LPV visibility all Cats to 1 mile, increase LNAV/VNAV Cat D visibility to 1 mile. Inoperative table does not apply to LNAV Cat D.

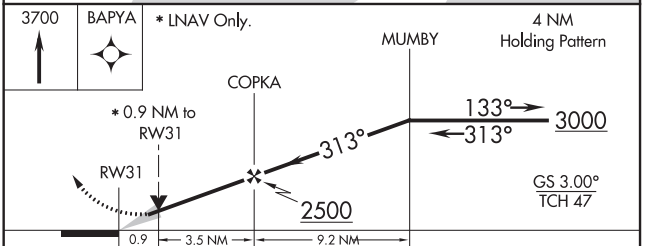
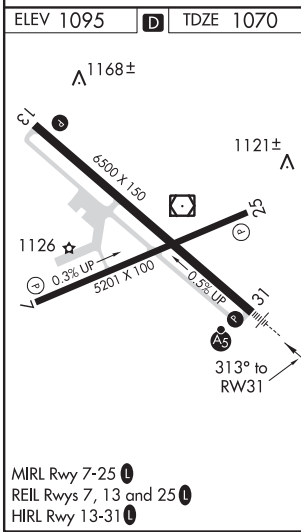
MALSR  MISSED APPROACH: Climb to 3700 direct BAPYA and hold.

| | | |
|------------------------|---|---|
| ASOS 125.675 | MINNEAPOLIS CENTER 133.55 379.1 | UNICOM 122.7 (CTAF)  |
|------------------------|---|---|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| CATEGORY | A | B | C | D |
|--------------|------------------------|--------------------|----------------------------|----------------------------|
| LPV DA | 1320-1/2 250 (300-1/2) | | | |
| LNAV/VNAV DA | 1367-1/2 | 297 (300-1/2) | 1367-3/4 297 (300-3/4) | |
| LNAV MDA | 1380-1/2 | 310 (300-1/2) | 1380-1 310 (300-1) | |
| CIRCLING | 1620-1 525 (600-1) | 1640-1 545 (600-1) | 1640-1 1/2 545 (600-1 1/2) | 1780-2 1/4 685 (700-2 1/4) |

| | | |
|--|------------------------|---|
| LOC/DME I-CMX 110.3 Chan 40 | APP CRS 133° | Rwy Idg 6500 TDZE 1095 Apt Elev 1095 |
|--|------------------------|---|

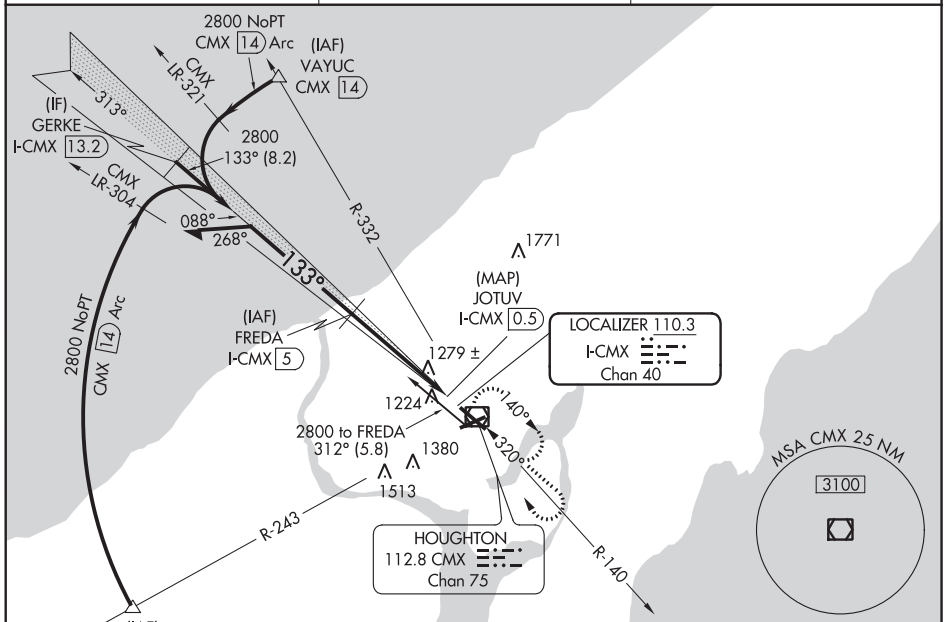
LOC/DME BC RWY 13

HOUGHTON COUNTY MEMORIAL (CMX)

Request MIRL Rwy 7-25 CTAF.
 When local altimeter setting not received use Marquette altimeter setting and increase all MDA 180 feet and S-13 Cat C and D visibility ½ mile, increase Circling visibility Cat C and D ½ mile.
 VDP NA when using Marquette altimeter setting.

MISSED APPROACH: Climb to 3100 then right turn direct CMX VOR/DME and hold.

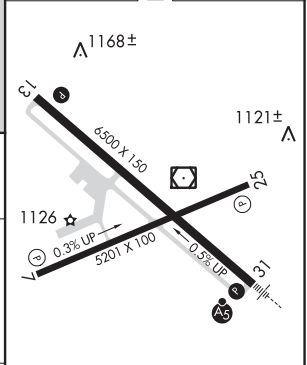
| | | |
|------------------------|---|---------------------------------|
| ASOS 125.675 | MINNEAPOLIS CENTER 133.55 379.1 | UNICOM 122.7 (CTAF) 0 |
|------------------------|---|---------------------------------|



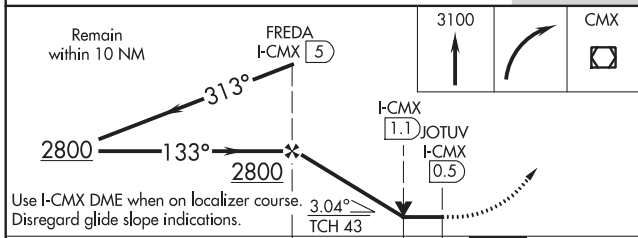
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-----------|---|-----------|
| ELEV 1095 | D | TDZE 1095 |
|-----------|---|-----------|



BACK COURSE



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-------------------------|
| S-13 | 1540-1 | 445 (500-1) | 1540-1½ 445 (500-1½) | 1540-1½ 445 (500-1½) |
| CIRCLING | 1620-1 525 (600-1) | 1640-1 545 (600-1) | 1640-1½ 545 (600-1½) | 1780-2¼ 685 (700-2¼) |

MIRL Rwy 7-25 0
 REIL Rwys 7, 13 and 25 0
 HIRL Rwy 13-31 0

HANCOCK, MICHIGAN

AL-896 (FAA)

15092

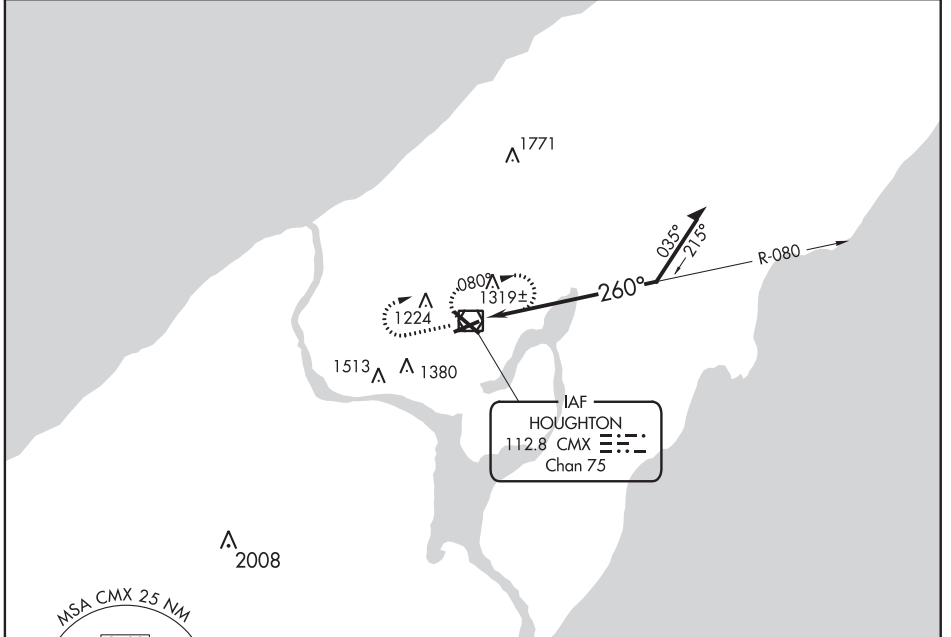
| | | | |
|-------------|---------|----------|------|
| VOR/DME CMX | APP CRS | Rwy Idg | 5201 |
| 112.8 | 260° | TDZE | 1074 |
| Chan 75 | | Apt Elev | 1095 |

VOR RWY 25

HOUGHTON COUNTY MEMORIAL (CMX)

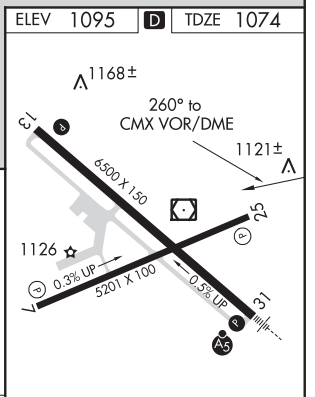
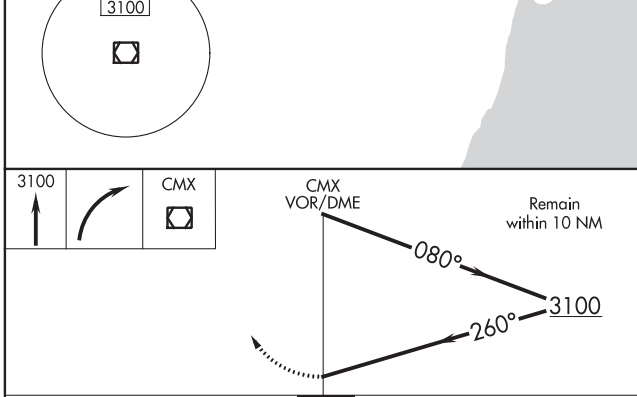
MISSSED APPROACH: Climb to 3100, then right turn direct CMX VOR/DME and hold.

| | | |
|------------------------|---|-------------------------------|
| ASOS 125.675 | MINNEAPOLIS CENTER 133.55 379.1 | UNICOM 122.7 (CTAF) |
|------------------------|---|-------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------------|-------------------------------|-------------------------------|
| S-25 | 1620-1 546 (600-1) | 1620-1 1/2 546 (600-1 1/2) | 1620 1 3/4 546 (600-1 3/4) | 1620 1 3/4 546 (600-1 3/4) |
| CIRCLING | 1620-1 525 (600-1) | 1640-1 545 (600-1) | 1640-1 1/2 545 (600-1 1/2) | 1780-2 1/4 685 (700-2 1/4) |

MIRL Rwy 7-25
REIL Rws 7, 13 and 25
HIRL Rwy 13-31

HANCOCK, MICHIGAN
Amdt 17B 08MAY08

47°10'N-88°29'W

VOR RWY 25

AIRPORT DIAGRAM

AL-896 (FAA)

HOUGHTON COUNTY MEMORIAL (CMX)
HANCOCK, MICHIGAN

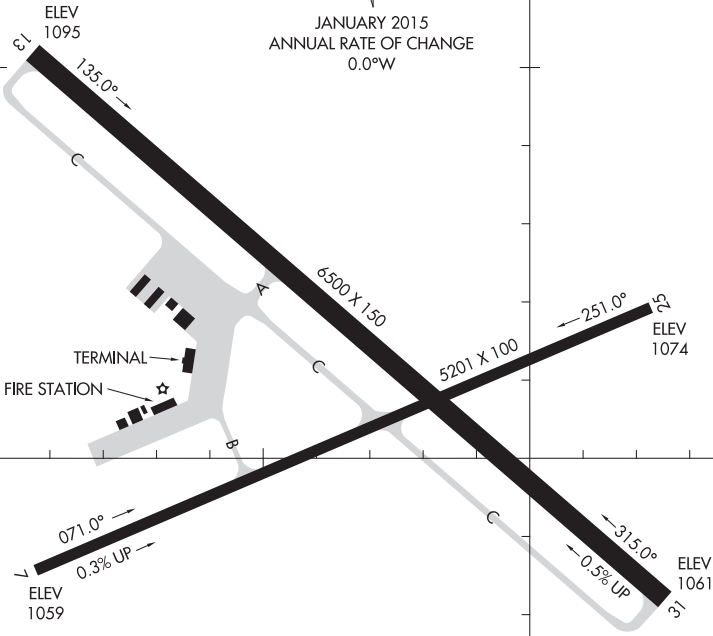
ASOS
125.675
CTAF/UNICOM
122.7

D

FIELD
ELEV
1095

47°11'N
A 1165

N
M
1.1°
W
JANUARY 2015
ANNUAL RATE OF CHANGE
0.0°W



RWY 07-25
PCN 18 F/C/X/U
S-70, D-100, 2D-185
RWY 13-31
PCN 21 F/C/X/U
S-70, D-100, 2S-127, 2D-185

47°10'N

88°30'W

88°29'W

AIRPORT DIAGRAM

HANCOCK, MICHIGAN
HOUGHTON COUNTY MEMORIAL (CMX)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HARBOR SPRINGS, MICHIGAN

AL-6985 (FAA)

16119

| | |
|------------------------|------------------------|
| APP CRS 101° | Rwy Idg 3712 |
| | TDZE 679 |
| | Apt Elev 686 |

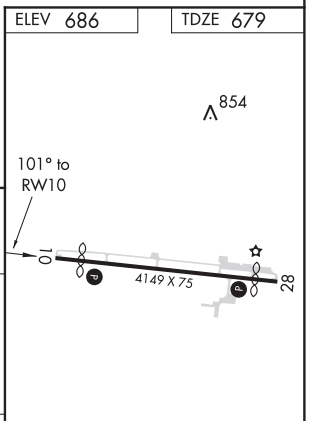
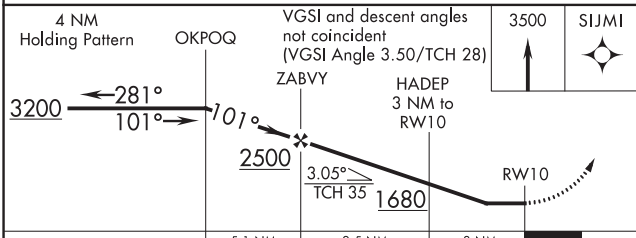
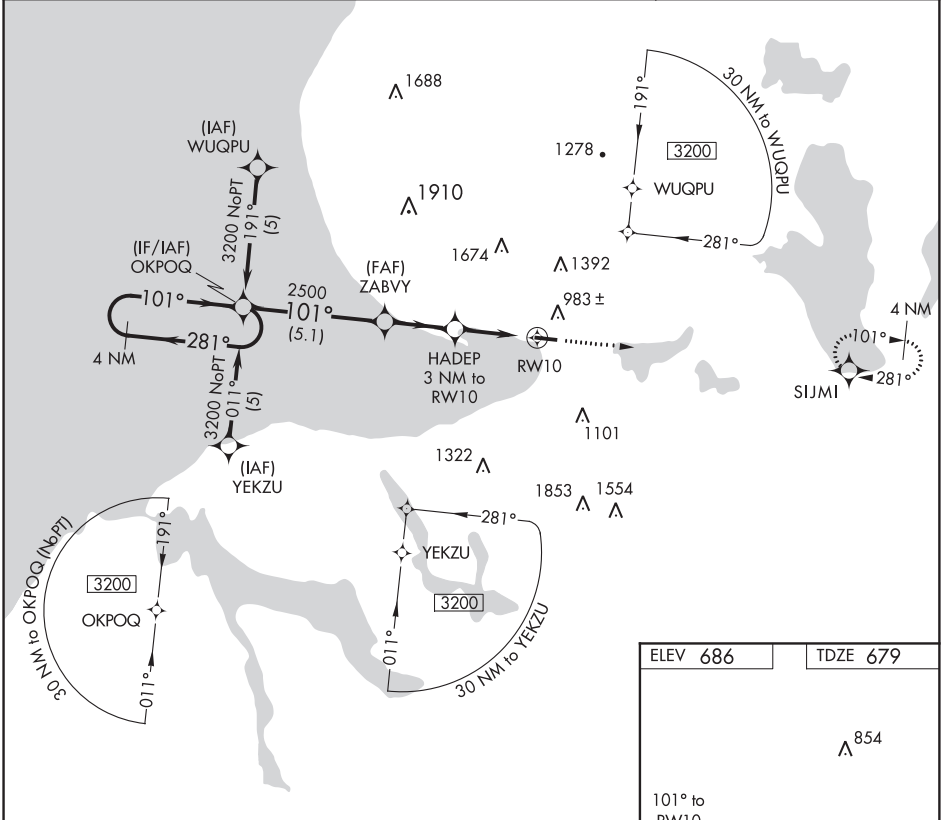
RNAV (GPS) RWY 10

HARBOR SPRINGS (MGN)

⚠ DME/DME RNP-0.3 NA. When local altimeter setting not received, use
⚠ Pellston altimeter setting and increase all MDAs 40 feet. Procedure NA
 at night. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 3500 direct SIJMI and hold.

| | | |
|--------------------------|---|--|
| AWOS-3 119.925 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.8 (CTAF) 📶 |
|--------------------------|---|--|



| CATEGORY | A | B | C | D |
|----------|-----------------------|---------------------------|---|----|
| LNAV MDA | 1240-1 | 561 (600-1) | | NA |
| CIRCLING | 1380-1 694 (700-1) | 1500-1 ¼ 814 (900-1 ¼) | | NA |

MIRL Rwy 10-28 **📶**

HARBOR SPRINGS, MICHIGAN
 Amdt 1A 28APR16

45°26'N - 84°55'W

RNAV (GPS) RWY 10

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3500 |
| 088° | TDZE | 916 |
| | Apt Elev | 916 |

RNAV (GPS) RWY 9

OCEANA COUNTY (C04)

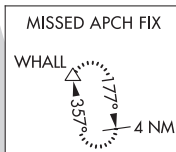
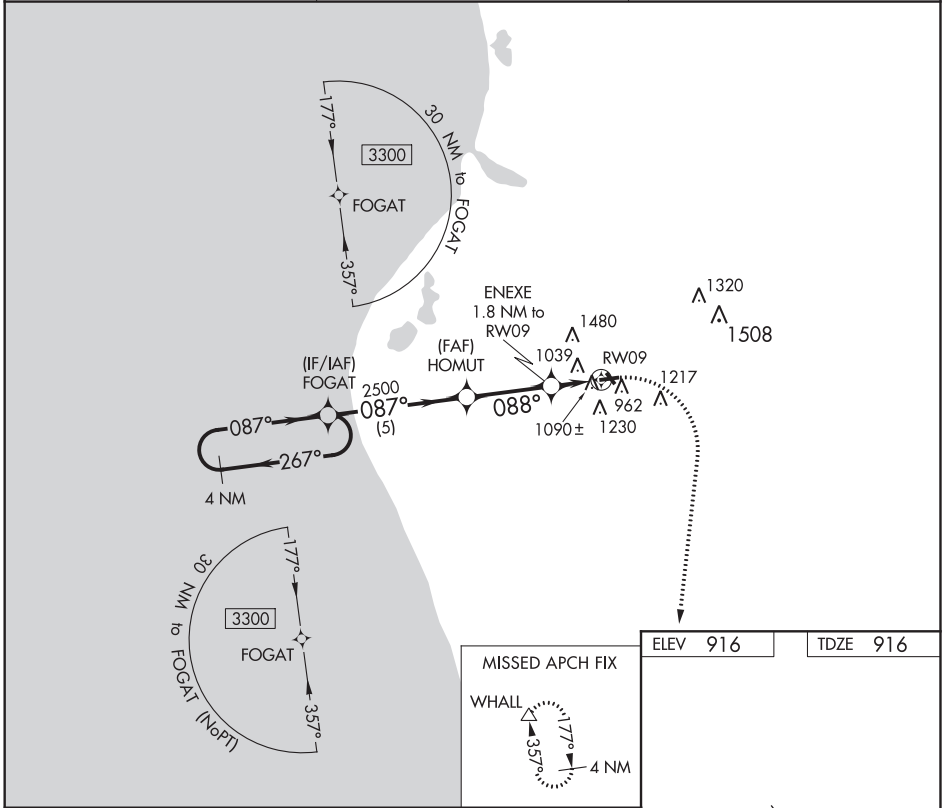
NA When local altimeter setting not received, use Fremont altimeter setting and increase all MDAs 80 feet. DME/DME RNP-0.3 NA. Procedure NA at night. Helicopter visibility reduction below 1 SM NA. Circling NA to Rwy 15 and 33.

MISSED APPROACH:
Climbing right turn to 3300 direct WHALL and hold.

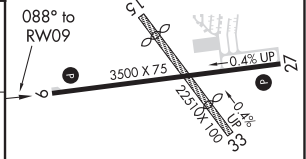
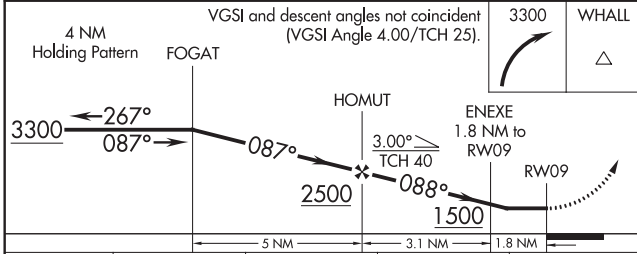
AWOS-A
122.7

MUSKOGON APP CON *
119.8 290.35

UNICOM
122.7 (CTAF)



| | | | |
|------|-----|------|-----|
| ELEV | 916 | TDZE | 916 |
|------|-----|------|-----|



| | | | | |
|----------|-----------------------|-------------------------|---|----|
| CATEGORY | A | B | C | D |
| LNAV MDA | 1340-1 | 424 (500-1) | | NA |
| CIRCLING | 1540-1 624 (700-1) | 1780-1¼ 864 (900-1¼) | | NA |

MIRL Rwy 9-27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 97637 W27A | APP CRS 268° | Rwy Idg 3500 TDZE 912 Apt Elev 916 |
|--|------------------------|---|

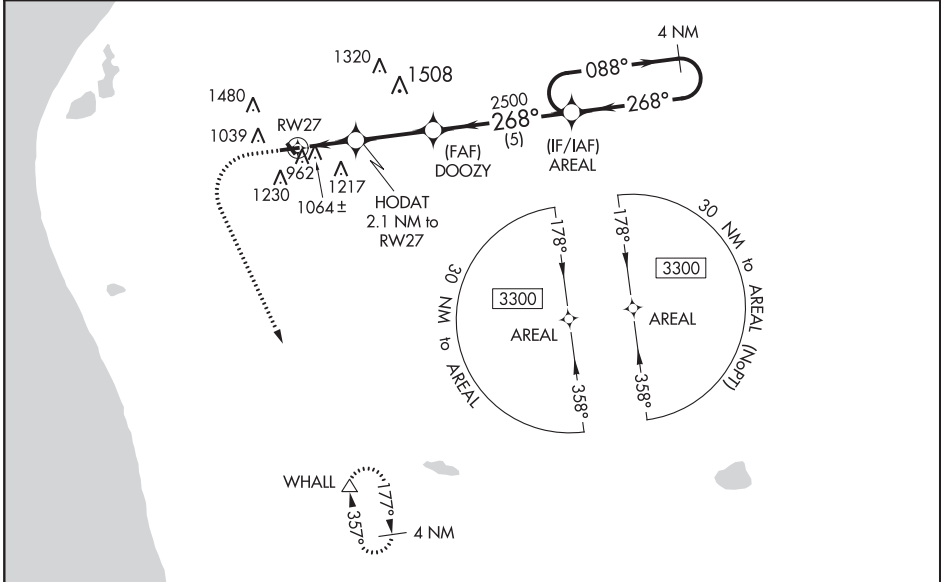
RNAV (GPS) RWY 27

OCEANA COUNTY (C04)

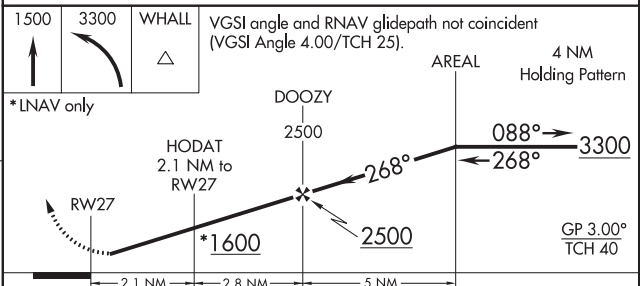
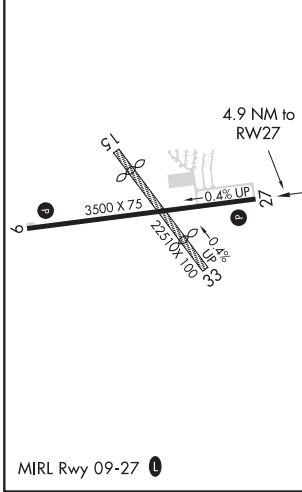
⚠ Baro-VNAV NA when using Fremont altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F).
⚠ NA When local altimeter setting not received, use Fremont altimeter setting and increase all DA 64 feet, all MDA 80 feet, and LPV and LNAV/VNAV visibility all Cats ¼ mile.
 DME/DME RNP-0.3 NA. Procedure NA at night.
 Helicopter visibility reduction below 1 SM NA. Circling NA to Rwy 15 and 33.

MISSED APPROACH:
 Climb to 1500 then
 climbing left turn to
 3300 direct WHALL
 and hold.

| | | |
|------------------------|---|---------------------------------|
| AWOS-A 122.7 | MUSKEGON APP CON * 119.8 290.35 | UNICOM 122.7 (CTAF) 0 |
|------------------------|---|---------------------------------|



| | |
|----------|----------|
| ELEV 916 | TDZE 912 |
|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-------------------------------|---|----|
| LPV DA | 1254-1 1/8 | 342 (400-1 1/8) | | NA |
| LNAV/VNAV DA | 1236-1 1/8 | 324 (400-1 1/8) | | NA |
| LNAV MDA | 1340-1 | 428 (500-1) | | NA |
| C CIRCLING | 1540-1 624 (700-1) | 1780-1 1/4 864 (900-1 1/4) | | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HASTINGS, MICHIGAN

AL-5778 (FAA)

15036

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 86326 W30A | APP CRS 309° | Rwy Idg TDZE Apt Elev | 4151 800 801 |
|--|------------------------|-----------------------------|---|

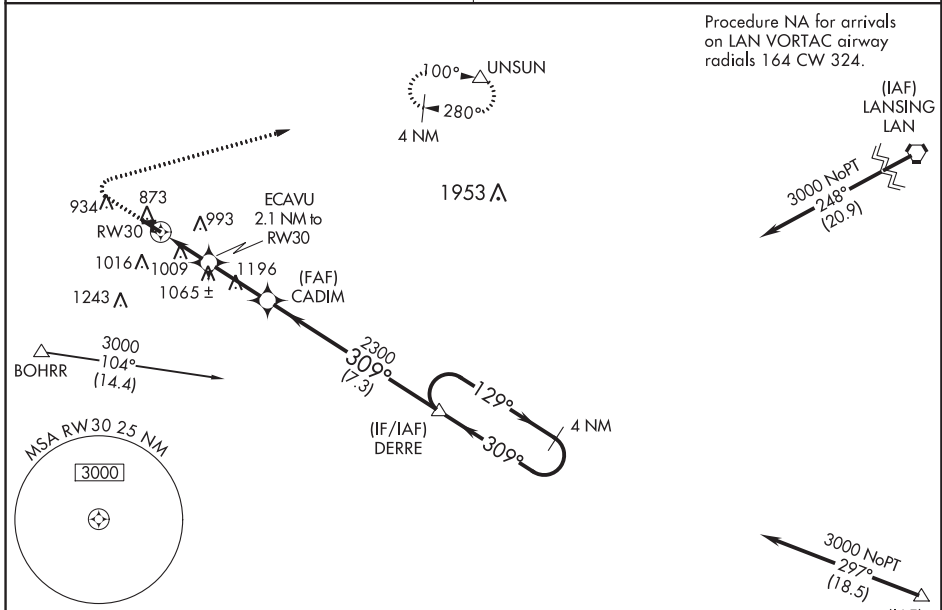
RNAV (GPS) RWY 30

HASTINGS (9D9)

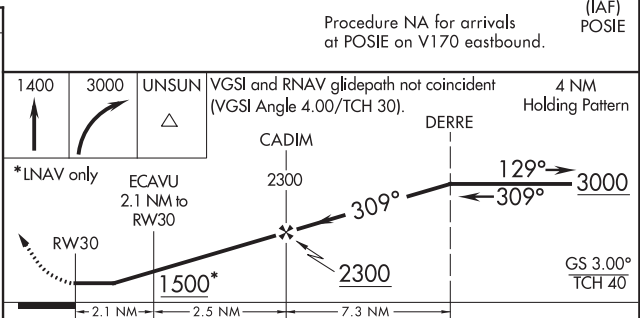
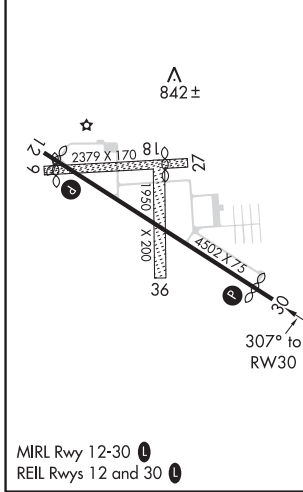
⚠ Baro-VNAV NA. DME/DME RNP-0.3 NA. Use Grand Rapids altimeter setting; when not received, use Ionia altimeter setting and increase all DA 15 feet, and all MDA 20 feet, increase LNAV Cat C visibility $\frac{1}{8}$ mile. Helicopter visibility reduction below $\frac{3}{4}$ SM NA. Circling NA to Rwy 9, 18, 27, 36.

MISSED APPROACH: Climb to 1400 then climbing right turn to 3000 direct UNSUN and hold.

| | |
|---|---------------------------------|
| GRAND RAPIDS APP CON* 128.4 257.6 | UNICOM 123.075 (CTAF) |
|---|---------------------------------|



| | |
|----------|----------|
| ELEV 801 | TDZE 800 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|--|----|
| LPV DA | 1086-1 286 (300-1) | | | NA |
| LNAV/VNAV DA | 1362-2 562 (600-2) | | | NA |
| LNAV MDA | 1300-1 | 500 (500-1) | 1300-1 $\frac{3}{8}$ 500 (500-1 $\frac{3}{8}$) | NA |
| CIRCLING | 1380-1 579 (600-1) | 1400-1 599 (600-1) | 1420-1 $\frac{3}{4}$ 619 (700-1 $\frac{3}{4}$) | NA |

HASTINGS, MICHIGAN
Amdt 1A 05FEB15

42°40'N-85°21'W

RNAV (GPS) RWY 30

HASTINGS (9D9)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|---|
| VOR/DME VIO 115.95 Chan 106 (Y) | APP CRS 142° | Rwy Idg 4251 TDZE 800 Apt Elev 801 |
|---|------------------------|---|

VOR RWY 12

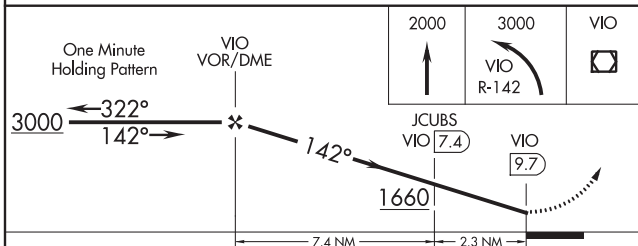
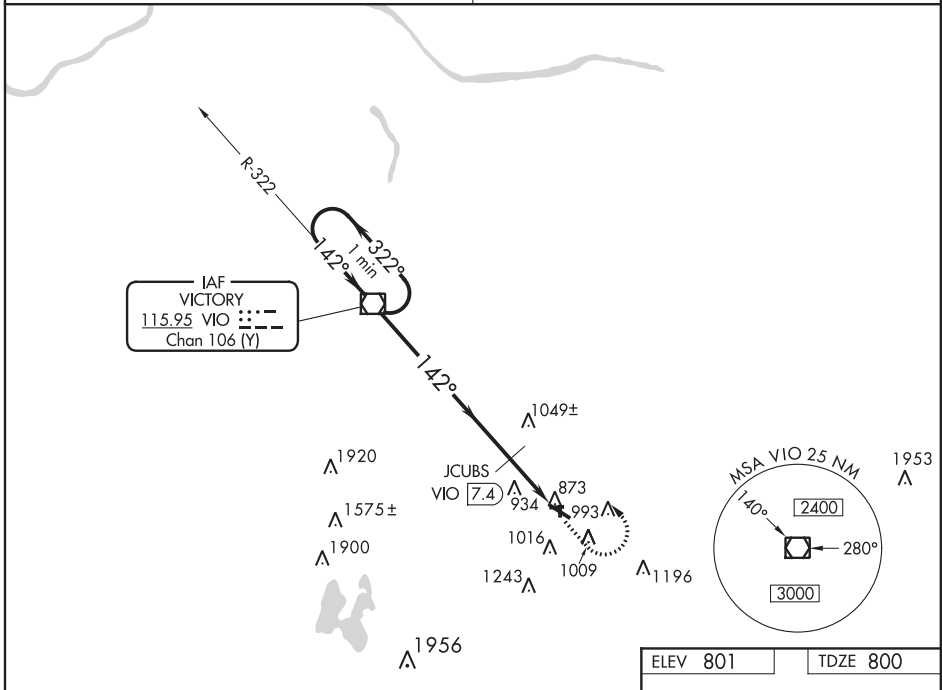
HASTINGS (9D9)

∇ Helicopter visibility reduction below 3/4 SM NA. Use Grand Rapids altimeter setting; when not received, use Ionia altimeter setting and increase all MDA 20 feet. Increase JCUBS DME minimums S-12 Cat C visibility 1/8 mile. Circling NA to Rwy 9, 18, 27, 36.

MISSED APPROACH: Climb to 2000, then climbing left turn to 3000 on VIO VOR/DME R-142 to VIO VOR/DME and hold.

GRAND RAPIDS APP CON ★
128.4 257.6

UNICOM
123.075 (CTAF) **📻**



| CATEGORY | A | B | C | D |
|--------------------|-----------------------|-------------------------|-------------------------|----|
| S-12 | 1660-1 860 (900-1) | 1660-1¼ 860 (900-1¼) | 1660-2½ 860 (900-2½) | NA |
| CIRCLING | 1660-1 859 (900-1) | 1660-1¼ 859 (900-1¼) | 1660-2½ 859 (900-2½) | NA |
| JCUBS DME MINIMUMS | | | | |
| S-12 | 1340-1 | 540 (600-1) | 1340-1½ 540 (600-1½) | NA |
| CIRCLING | 1380-1 579 (600-1) | 1400-1 599 (600-1) | 1420-1¾ 619 (700-1¾) | NA |

| | |
|----------|----------|
| ELEV 801 | TDZE 800 |
|----------|----------|

| | | | | | |
|-----------------------------|------|------|------|------|------|
| MRL Rwy 12-30 📻 | | | | | |
| REIL Rwy 12 and 30 📻 | | | | | |
| FAF to MAP 9.7 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 9:42 | 6:28 | 4:51 | 3:53 | 3:14 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HILLSDALE, MICHIGAN

15148

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 77534 W10A | APP CRS 100° | Rwy Idg TDZE 1172 Apt Elev 1184 | 5000 |
|--|------------------------|---|-------------|

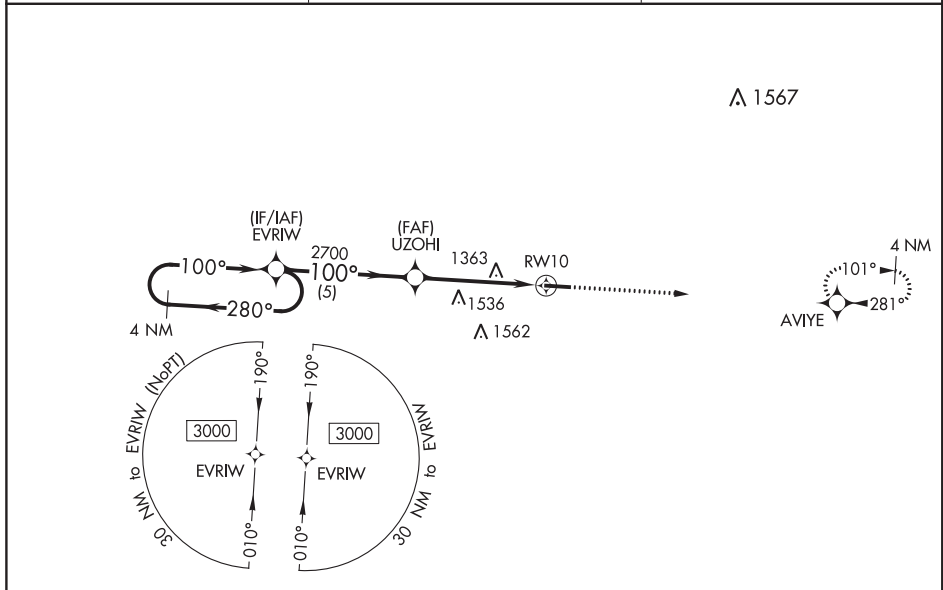
RNAV (GPS) RWY 10

HILLSDALE MUNI (JYM)

⚠ Circling to Rwy 28 NA at night. Baro-VNAV NA when using Jackson altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. VDP NA with Jackson altimeter setting. When local altimeter setting not received, use Jackson altimeter setting and increase all DA 75 feet and all Cats visibility ¼ mile, increase all MDA 80 feet and all Cat C visibility ¼ mile. Helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH:
Climb to 3100 direct AVIYE and hold.

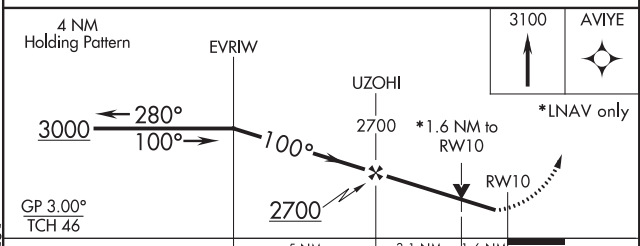
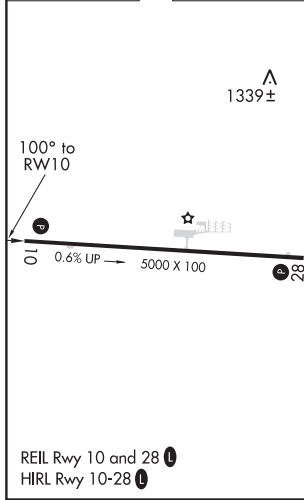
| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 121.025 | TOLEDO APP CON 134.35 317.55 | UNICOM 122.8 (CTAF) 0 |
|--------------------------|--|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|-----------|-----------|
| ELEV 1184 | TDZE 1172 |
|-----------|-----------|



| CATEGORY | A | B | C | D |
|-------------------|------------|-----------------|-------------------------------|----|
| LPV DA | 1441-7/8 | 269 (300-7/8) | | NA |
| LNAV/VNAV DA | 1601-1 1/2 | 429 (400-1 1/2) | | NA |
| LNAV MDA | 1720-1 | 548 (600-1) | 1720-1 5/8 548 (600-1 5/8) | NA |
| C CIRCLING | 1720-1 | 536 (600-1) | 1720-1 5/8 536 (600-1 5/8) | NA |

HILLSDALE, MICHIGAN
Orig-A 28MAY15

41°55'N-84°35'W

HILLSDALE MUNI (JYM)

RNAV (GPS) RWY 10

HILLSDALE, MICHIGAN

AL-5484 (FAA)

14093

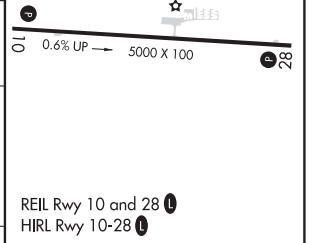
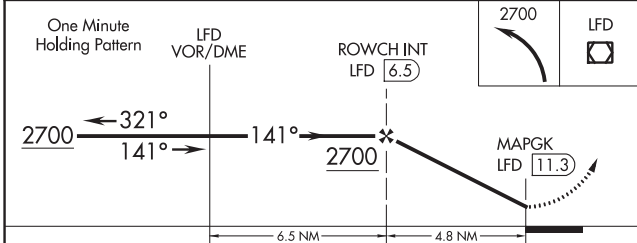
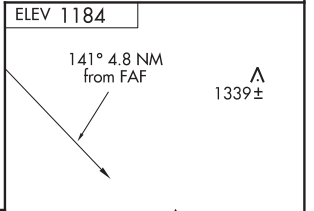
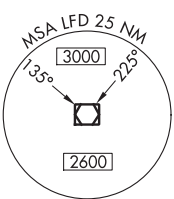
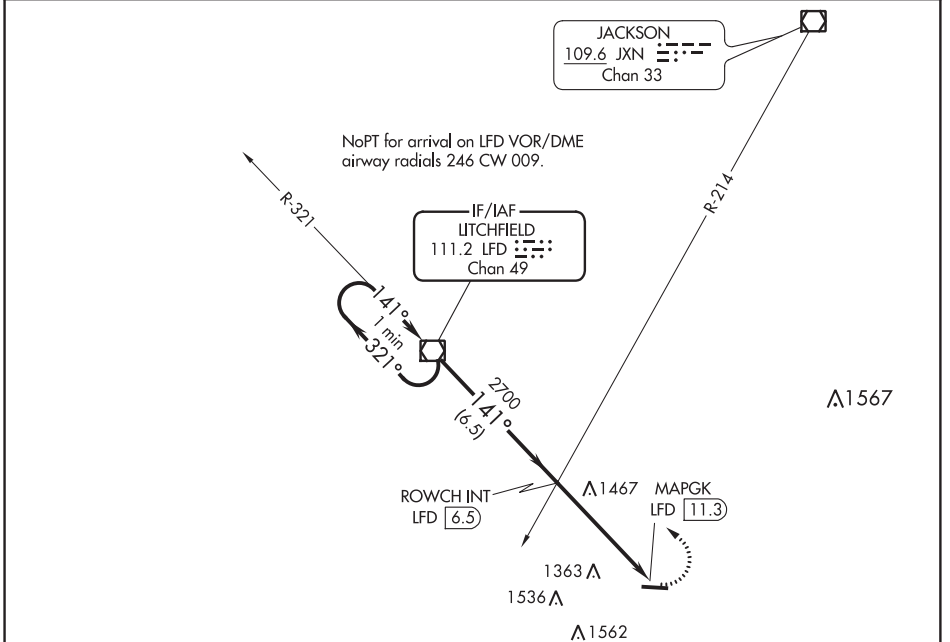
| | | | |
|---|------------------------|--|---|
| VOR/DME LFD 111.2 Chan 49 | APP CRS 141° | Rwy ldg TDZE Apt Elev 1184 | N/A N/A 1184 |
|---|------------------------|--|---|

VOR-A
HILLSDALE MUNI (JYM)

⚠ Circling to Rwy 28 NA at night. When local altimeter setting not received, use Jackson altimeter setting and increase all MDA 80 feet and Cat C visibility ¼ mile. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing left turn to 2700 direct LFD VOR/DME and hold.

| | | |
|--------------------------|--|--|
| AWOS-3 121.025 | TOLEDO APP CON 134.35 317.55 | UNICOM 122.8 (CTAF) 📻 |
|--------------------------|--|--|



| | | | | | | | | | | |
|-------------------|--------|-------------|--------------|----|-------------------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 4.8 NM | | | | | |
| 📻 CIRCLING | 1720-1 | 536 (600-1) | 1720-1½ | NA | Knots | 60 | 90 | 120 | 150 | 180 |
| | | | 536 (600-1½) | | Min:Sec | 4:48 | 3:12 | 2:24 | 1:55 | 1:36 |

HILLSDALE, MICHIGAN
Amdt 8 25JUL13

41°55'N-84°35'W

HILLSDALE MUNI (JYM)
VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|--|
| LOC/DME I-BIV 110.55 Chan 42 (Y) | APP CRS 264° | Rwy Idg 6002 TDZE 686 Apt Elev 698 |
|---|------------------------|--|

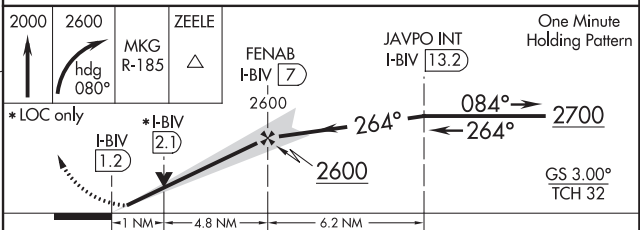
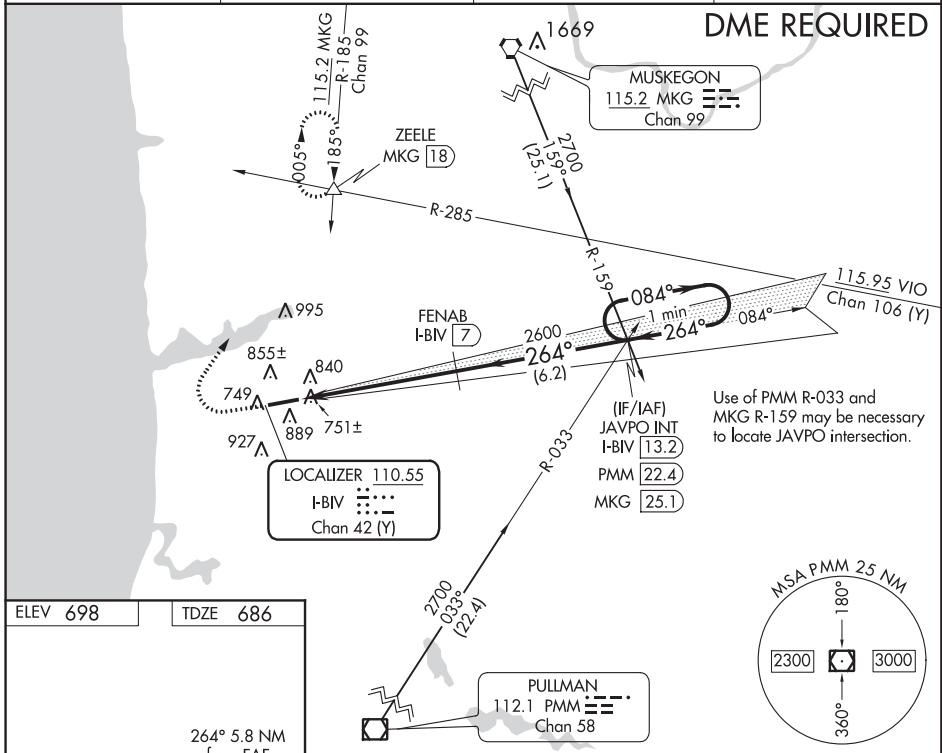
ILS or LOC/DME RWY 26

WEST MICHIGAN RGNL (BIV)

NA When local altimeter setting not received, use Muskegon altimeter setting and increase all DA 70 feet, all MDA 80 feet; S-LOC 26 Cat C visibility and Circling Cat C visibility ¼ mile. For inoperative MALS/R when using Muskegon altimeter setting, increase S-ILS 26 all Cats visibility to ⅓ mile; S-LOC 26 Cat C visibility to 1½ mile. VDP NA when using Muskegon altimeter setting.

MALS/R MISSED APPROACH: Climb to 2000 then climbing right turn to 2600 on heading 080° and MKG R-185 to ZEELE INT/ MKG 18 DME and hold.

| | | | |
|------------------------|--|------------------------------------|--------------------------------|
| ASOS 119.025 | MUSKEGON APP CON* 119.8 290.35 | MUSKEGON CLNC DEL 123.95 | UNICOM 123.05 (CTAF) |
|------------------------|--|------------------------------------|--------------------------------|



| CATEGORY | A | B | C | D |
|----------|--------|--------------------|----------------------|----|
| S-ILS 26 | | 886-½ 200 (200-½) | | NA |
| S-LOC 26 | | 1020-½ 334 (400-½) | | NA |
| CIRCLING | 1200-1 | 502 (600-1) | 1200-1½ 502 (600-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|------------------------|
| WAAS CH 49222 W08A | APP CRS 084° | Rwy Idg 6002 |
| | | TDZE 698 |
| | | Apt Elev 698 |

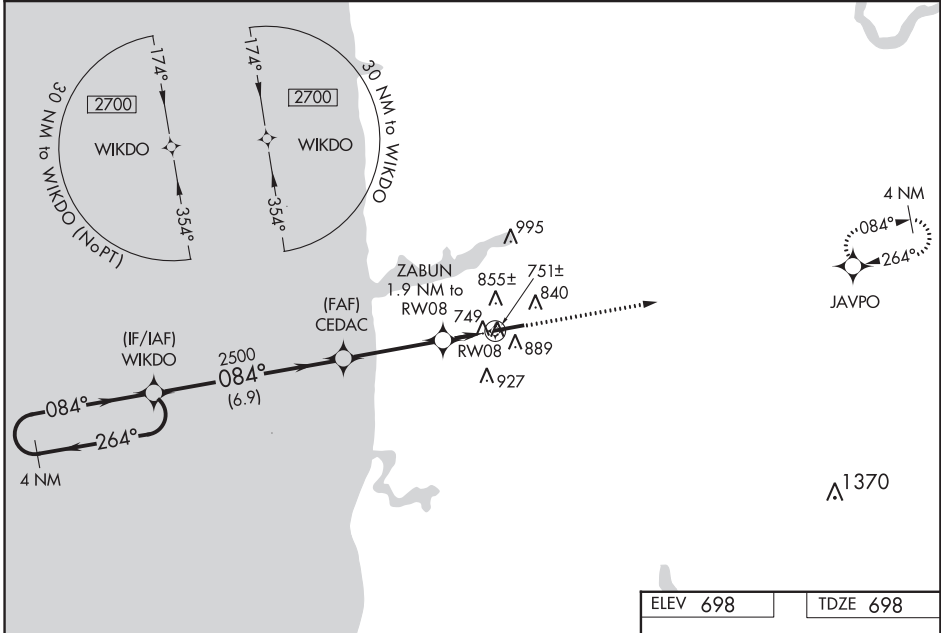
RNAV (GPS) RWY 8

WEST MICHIGAN RGNL (BIV)

⚠ Baro-VNAV NA when using Muskegon County altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). When local altimeter setting not received, use Muskegon County altimeter setting and increase LPV DA to 1018, increase LPV all Cats visibility ¼ mile; increase LNAV/VNAV DA to 1050, increase LNAV/VNAV all Cats visibility ⅓ mile; increase all MDA 80 feet, increase LNAV Cat C/D visibility ⅓ mile. DME/DME RNP-0.3 NA. VDP NA when using Muskegon County altimeter setting.

MISSED APPROACH:
Climb to 3000 direct JAVPO and hold.

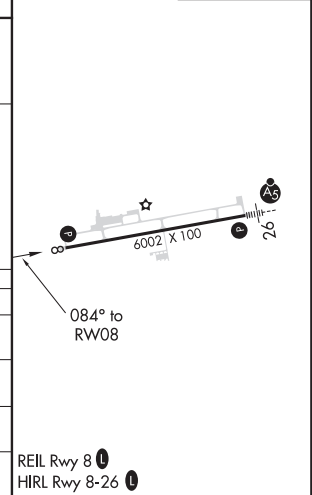
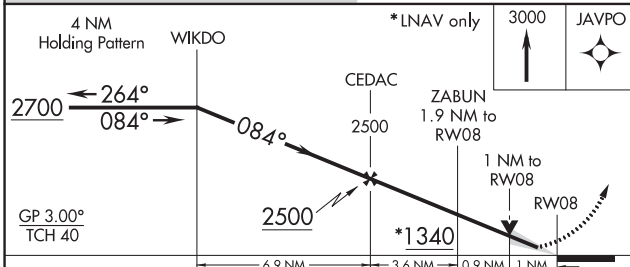
| | | | |
|------------------------|---|------------------------------------|----------------------------------|
| ASOS 119.025 | MUSKEGON APP CON * 119.8 290.35 | MUSKEGON CLNC DEL 123.95 | UNICOM 123.05 (CTAF) ① |
|------------------------|---|------------------------------------|----------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 698 | TDZE 698 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------|-----------------------|
| LPV DA | | 948- 7/8 | 250 (300-7/8) | |
| LNAV/VNAV DA | | 980- 7/8 | 282 (300-7/8) | |
| LNAV MDA | | 1060-1 | 362 (400-1) | |
| CIRCLING | 1200-1 | 502 (600-1) | 1200-1½ 502 (600-1½) | 1260-2 562 (600-2) |


REIL Rwy 8 ①
HIRL Rwy 8-26 ①


| | | | |
|--|------------------------|---|-------------|
| WAAS CH 53402 W26A | APP CRS 264° | Rwy Idg TDZE 686 Apt Elev 698 | 6002 |
|--|------------------------|---|-------------|

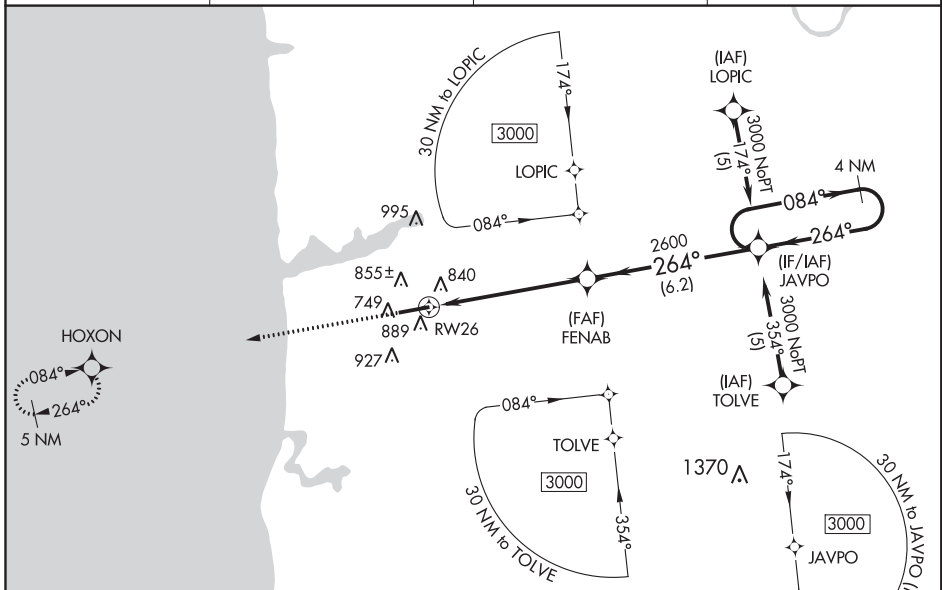
RNAV (GPS) RWY 26

WEST MICHIGAN RGNL (BIV)

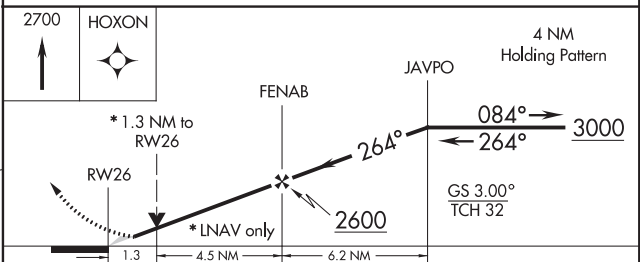
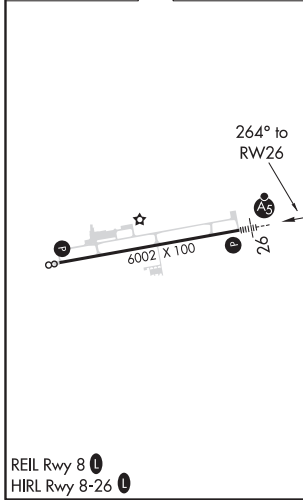
▼ For inoperative MALSR, increase LPV all Cats visibility to 1. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. VDP and Baro-VNAV NA when using Muskegon altimeter setting. When local altimeter setting not received, use Muskegon altimeter setting and increase all DA 71 feet and all MDA 80 feet; increase all LPV, LNAV-VNAV and LNAV Cat C visibility ¼ mile. For inoperative MALSR, when using Muskegon altimeter setting, increase LPV all Cats visibility to 1¼.

MALSR
 MISSED APPROACH:
 Climb to 2700 direct HOXON and hold.

| | | | |
|------------------------|---|------------------------------------|--|
| ASOS 119.025 | MUSKEGON APP CON * 119.8 290.35 | MUSKEGON CLNC DEL 123.95 | UNICOM 123.05 (CTAF)  |
|------------------------|---|------------------------------------|--|



| | |
|-----------------|-----------------|
| ELEV 698 | TDZE 686 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|----------------------|-------------|-------------------------|----|
| LPV DA | 951-½ | 265 (300-½) | | NA |
| LNAV/VNAV DA | 1175-1¼ 489 (500-1¼) | | | NA |
| LNAV MDA | 1140-½ | 454 (500-½) | 1140-¾ 454 (500-¾) | NA |
| CIRCLING | 1200-1 | 502 (600-1) | 1200-1½ 502 (600-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HOLLAND, MICHIGAN

AL-5652 (FAA)

14317

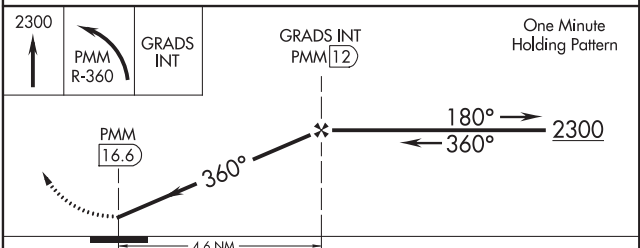
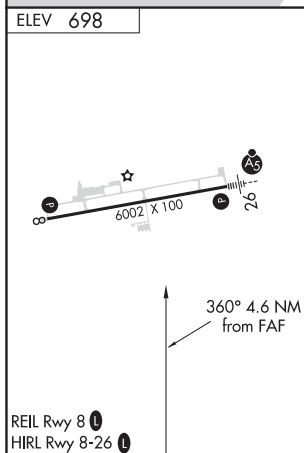
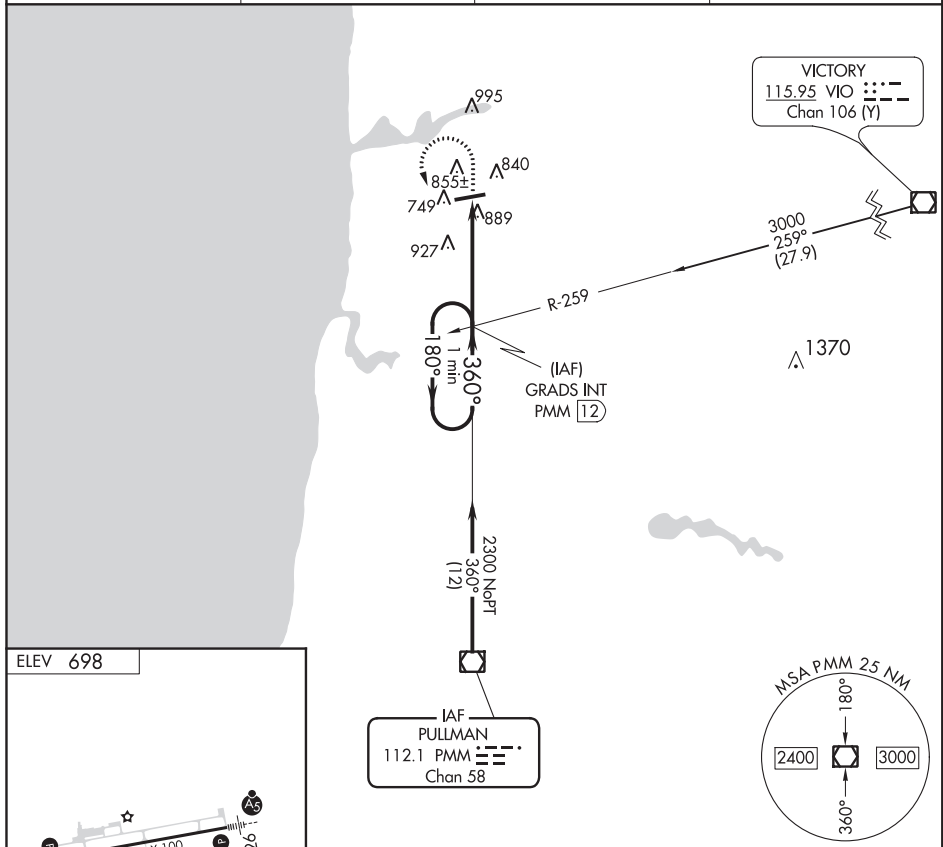
| | | | |
|---|------------------------|-----------------------------|--|
| VOR/DME PMM 112.1 Chan 58 | APP CRS 360° | Rwy Idg TDZE Apt Elev | N/A N/A 698 |
|---|------------------------|-----------------------------|--|

VOR-A
WEST MICHIGAN RGNL (BIV)

When local altimeter setting not received, use Muskegan altimeter setting and increase all MDA 70 feet.

MISSED APPROACH: Climb to 2300 then left turn via PMM R-360 to GRADS INT/PMM 12 DME and hold.

| | | | |
|------------------------|---|------------------------------------|--------------------------------|
| ASOS 119.025 | MUSKEGON APP CON * 119.8 290.35 | MUSKEGON CLNC DEL 123.95 | UNICOM 123.05 (CTAF) |
|------------------------|---|------------------------------------|--------------------------------|



| | | | | | | | | |
|-------------------|--------|------|-------------|------|--------------|--|-------------|--|
| FAF to MAP 4.6 NM | | | | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 | | | |
| Min:Sec | 4:36 | 3:04 | 2:18 | 1:50 | 1:32 | | | |
| CATEGORY | A | | B | | C | | D | |
| CIRCLING | 1200-1 | | 502 (600-1) | | 1200-1½ | | 1260-2 | |
| | | | | | 502 (600-1½) | | 562 (600-2) | |

HOLLAND, MICHIGAN
Amdt 10D 13NOV14

42°45'N-86°06'W

WEST MICHIGAN RGNL (BIV)
VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HOUGHTON LAKE, MICHIGAN

AL-5517 (FAA)

16315

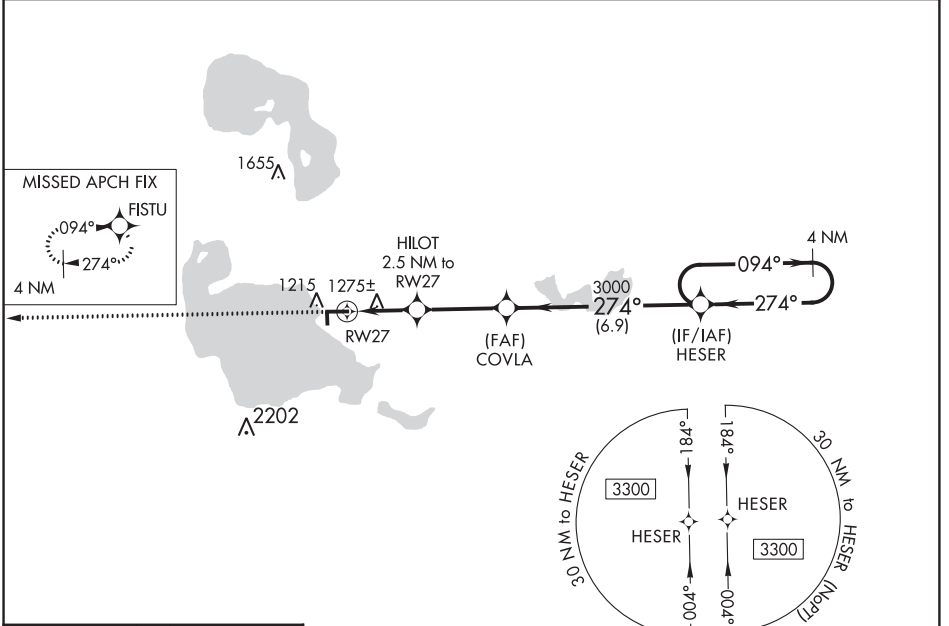
| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 70534 W27A | APP CRS 274° | Rwy Idg TDZE Apt Elev | 4000 1146 1150 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 27
ROSCOMMON COUNTY-BLODGETT MEMORIAL (HTL)

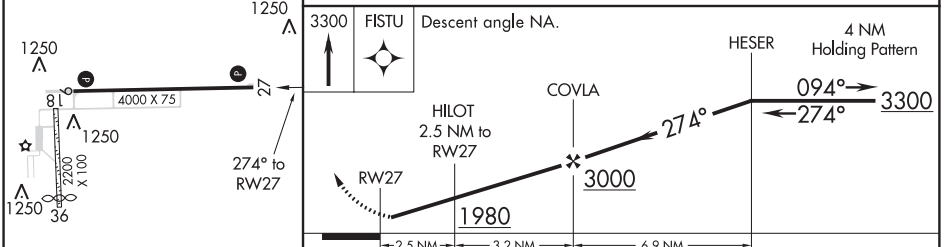
⚠ When local altimeter setting not received, use Gaylord altimeter setting and increase all MDA 120 feet, and increase LP and LNAV Cat C/D visibility 3/8 mile. DME/DME RNP-0.3 NA.
⚠ Procedure NA at night. Helicopter visibility reduction below 1 SM NA. Circling NA to Rwy's 18, 36.

MISSED APPROACH:
Climb to 3300 direct FISTU and hold.

| | | |
|-----------------------|---|--|
| ASOS 118.05 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 122.8 (CTAF) 📻 |
|-----------------------|---|--|



| | |
|-----------|-----------|
| ELEV 1150 | TDZE 1146 |
|-----------|-----------|



| CATEGORY | | A | B | C | D |
|----------|----------|--------|-------------|-------------------------|-----------------------|
| LP | MDA | 1540-1 | 394 (400-1) | 1540-1¼ | 394 (400-1¼) |
| | LNAV MDA | 1560-1 | 414 (500-1) | 1560-1¼ | 414 (500-1¼) |
| | CIRCLING | 1600-1 | 450 (500-1) | 1600-1½ 450 (500-1½) | 1700-2 550 (600-2) |

HOUGHTON LAKE, MICHIGAN
Amdt 1B 28MAY15

ROSCOMMON COUNTY-BLODGETT MEMORIAL (HTL)
44°22'N-84°40'W
RNAV (GPS) RWY 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|---|
| LOC/DME I-OGO 108.55 Chan 22(Y) | APP CRS 132° | Rwy Idg 5002 TDZE 962 Apt Elev 962 |
|---|------------------------|---|

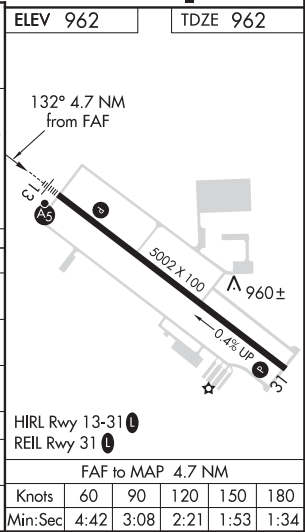
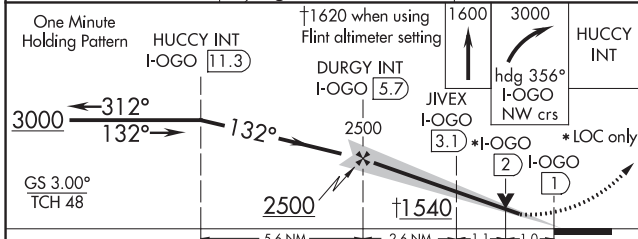
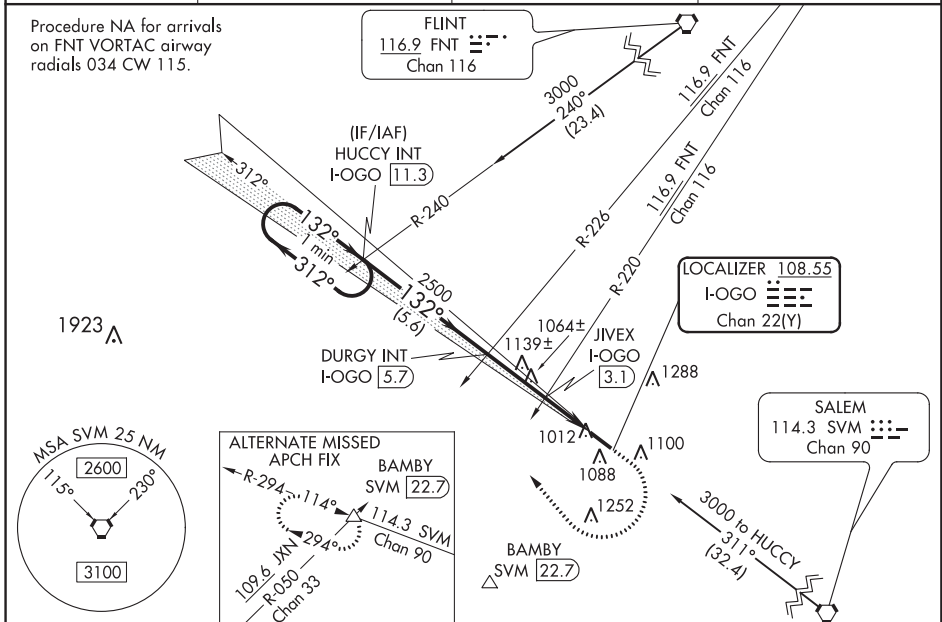
ILS or LOC RWY 13

LIVINGSTON COUNTY SPENCER J HARDY (OZW)

NA VDP NA with Flint altimeter setting. When local altimeter setting not received, use Flint altimeter setting and increase all DA/MDA 80 feet, S-LOC 13 Cats C and D visibility to 1 3/8 miles, Circling Cat C visibility to 1 7/8 miles and JIVEX FIX Minimums S-LOC 13 Cats C and D visibility to 3/4 mile.

MALS R MISSED APPROACH: Climb to 1600 then climbing right turn to 3000 heading 356° and I-OGO NW course to HUCCY Int/ I-OGO 11.3 DME and hold.

| | | | |
|--------------------------|---------------------------------------|----------------------------------|---------------------------------|
| AWOS-3 118.875 | DETROIT APP CON 127.5 363.2 | CLNC DEL 121.725 (GCO) | UNICOM 123.0 (CTAF) 0 |
|--------------------------|---------------------------------------|----------------------------------|---------------------------------|



| CATEGORY | A | B | C | D |
|---|------------------------|---|------------------------|---|
| S-ILS 13 | 1162-1/2 | | 200 (200-1/2) | |
| S-LOC 13 | 1540-1/2 578 (600-1/2) | | 1540-1/4 578 (600-1/4) | |
| CIRCLING | 1540-1 578 (600-1) | | 1540-2 578 (600-2) | |
| JIVEX FIX MINIMUMS (DUAL VOR RECEIVERS OR DME REQUIRED) | | | | |
| S-LOC 13 | 1320-1/2 358 (400-1/2) | | 1320-5/8 358 (400-5/8) | |
| CIRCLING | 1400-1 438 (500-1) | | 1420-1 458 (500-1) | |
| | 1420-1 458 (500-1) | | 1420-1/2 458 (500-1/2) | |
| | 1420-1 458 (500-1) | | 1520-2 558 (600-2) | |

| | |
|-------------------|--------------------------|
| HIRL Rwy 13-31 0 | REIL Rwy 31 0 |
| FAF to MAP 4.7 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 4:42 3:08 2:21 1:53 1:34 |

ILS or LOC RWY 13

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HOWELL, MICHIGAN

AL-5485 (FAA)

16259


| | | | |
|--|------------------------|---|-------------|
| WAAS CH 69601 W13A | APP CRS 132° | Rwy Idg TDZE 962 Apt Elev 962 | 5002 |
|--|------------------------|---|-------------|

RNAV (GPS) RWY 13

LIVINGSTON COUNTY SPENCER J HARDY (OZW)

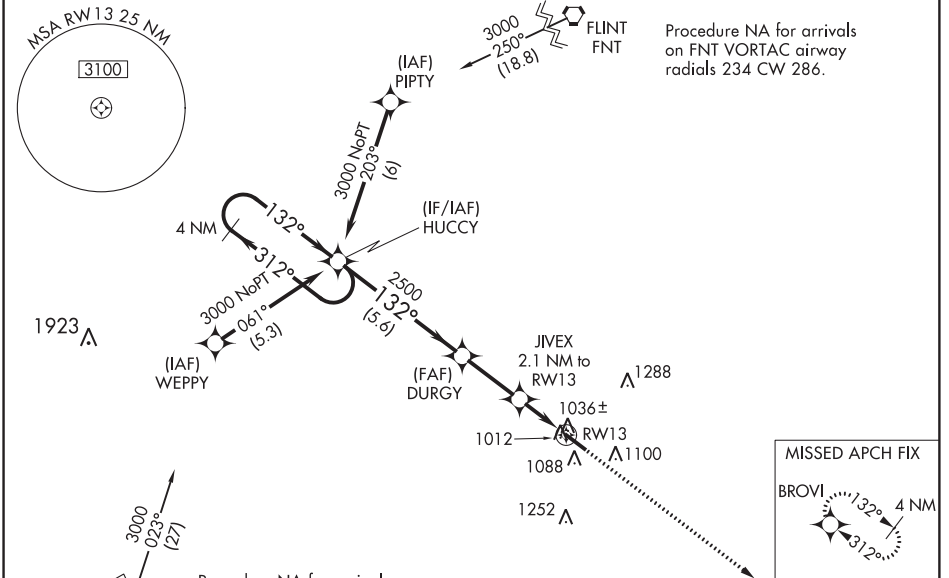
⚠ Baro-VNAV NA when using Flint altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 37°C (98°F). DME/DME RNP-0.3 NA. VDP NA with Flint altimeter setting. When local altimeter setting not received, use Flint altimeter setting and increase all DA/MDA 80 feet, LNAV/VNAV all Cats visibility to 3/8 mile and LNAV Cats C and D visibility to 3/4 mile. For inoperative MALS, increase LNAV/VNAV all Cats visibility to 3/4 mile.


MALS



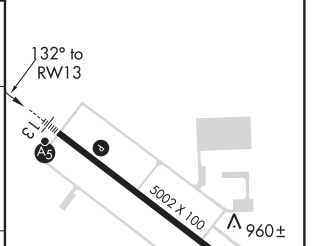
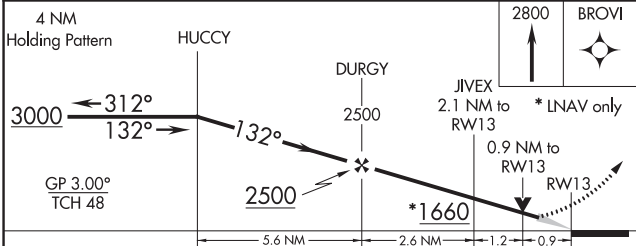
MISSED APPROACH:
Climb to 2800 direct BROVI and hold.

| | | | |
|--------------------------|---------------------------------------|----------------------------------|---------------------------------|
| AWOS-3 118.875 | DETROIT APP CON 127.5 363.2 | CLNC DEL 121.725 (GCO) | UNICOM 123.0 (CTAF) ① |
|--------------------------|---------------------------------------|----------------------------------|---------------------------------|



JACKSON JXN  Procedure NA for arrivals on JXN VOR/DME airway radials 344 CW 094.

| | |
|----------|----------|
| ELEV 962 | TDZE 962 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------------|-----------------------|
| LPV DA | | 1162-1/2 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 1212-1/2 | 250 (300-1/2) | |
| LNAV MDA | | 1300-1/2 | 338 (400-1/2) | |
| CIRCLING | 1400-1 438 (500-1) | 1420-1 458 (500-1) | 1420-1 1/2 458 (500-1 1/2) | 1520-2 558 (600-2) |

HIRL Rwy 13-31 ①
REIL Rwy 31 ①

HOWELL, MICHIGAN
Amdt 2A 02APR15

LIVINGSTON COUNTY SPENCER J HARDY (OZW)
42°38'N-83°59'W
RNAV (GPS) RWY 13

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 99722 W31A | APP CRS 312° | Rwy Idg TDZE 943 Apt Elev 962 | 5002 |
|--|------------------------|---|-------------|

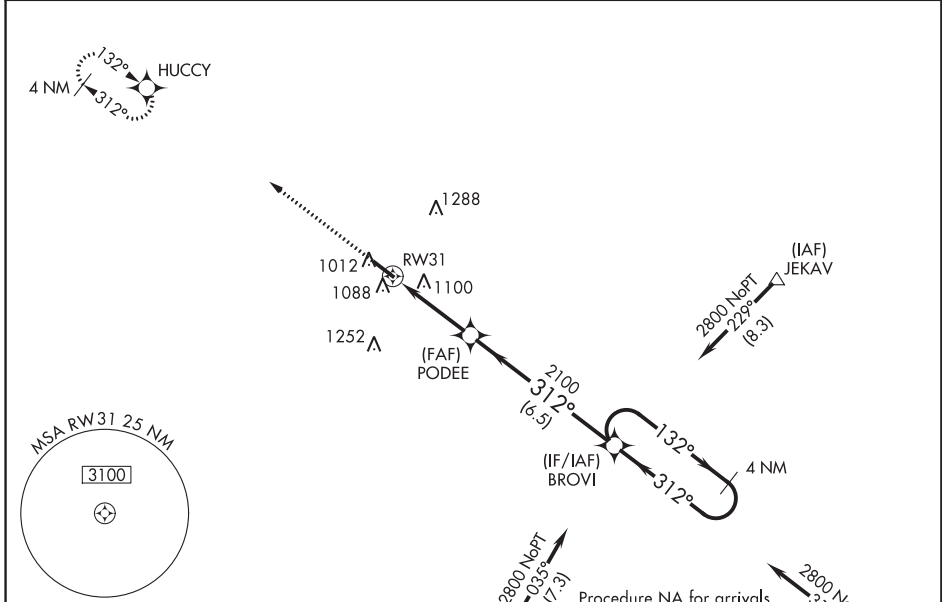
RNAV (GPS) RWY 31

LIVINGSTON COUNTY SPENCER J HARDY (OZW)

⚠ Baro-VNAV NA when using Flint altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 38°C (100°F). DME/DME RNP-0.3 NA. VDP NA with Flint altimeter setting. When local altimeter setting not received, use Flint altimeter setting and increase all DA/MDA 80 feet, LPV all Cats visibility to 7/8 mile, LNAV/VNAV all Cats visibility to 1 7/8 miles and LNAV Cats C and D visibility to 1 1/8 miles.

MISSED APPROACH:
Climb to 3000 direct HUCCY and hold.

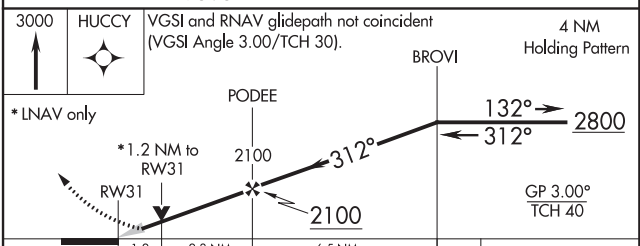
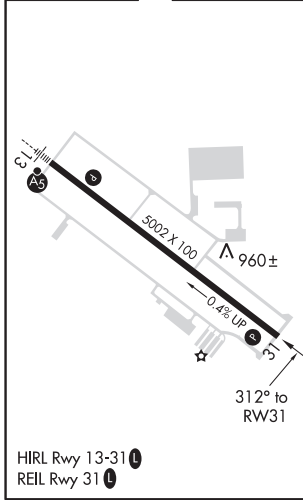
| | | | |
|--------------------------|---------------------------------------|----------------------------------|---------------------------------|
| AWOS-3 118.875 | DETROIT APP CON 127.5 363.2 | CLNC DEL 121.725 (GCO) | UNICOM 123.0 (CTAF) 0 |
|--------------------------|---------------------------------------|----------------------------------|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|-----------------|-----------------|
| ELEV 962 | TDZE 943 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------------|-----------------------|
| LPV DA | 1143-3/4 | | 200 (200-3/4) | |
| LNAV/VNAV DA | 1408-1 5/8 | | 465 (500-1 1/8) | |
| LNAV MDA | 1360-1 | 417 (400-1) | 1360-1 1/8 | 417 (400-1 1/8) |
| CIRCLING | 1400-1 438 (500-1) | 1420-1 458 (500-1) | 1420-1 1/2 458 (500-1 1/2) | 1520-2 558 (600-2) |

HOWELL, MICHIGAN

AL-5485 (FAA)

16259

| | | |
|--|------------------------|---|
| VORTAC SVM 114.3 Chan 90 | APP CRS 311° | Rwy Idg 5002 TDZE 943 Apt Elev 962 |
|--|------------------------|---|

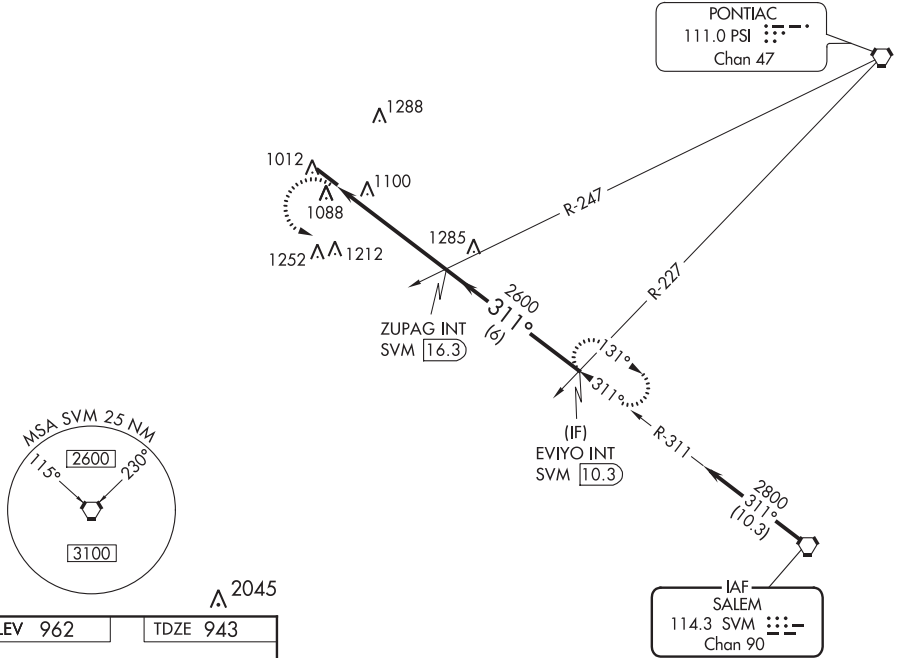
VOR RWY 31

LIVINGSTON COUNTY SPENCER J HARDY (OZW)

⚠ If local altimeter setting not received, use Bishop Intl altimeter setting and increase allMDAs 80 feet.
⚠ Visibility reduction by helicopters NA.

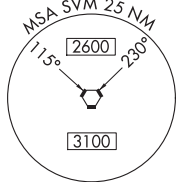
MISSED APPROACH: Climbing left turn to 2800 via heading 090° and SVM R-311 to EVIYO Int/10.30 DME and hold.

| | | | |
|--------------------------|---------------------------------------|----------------------------------|---------------------------------|
| AWOS-3 118.875 | DETROIT APP CON 127.5 363.2 | CLNC DEL 121.725 (GCO) | UNICOM 123.0 (CTAF) 0 |
|--------------------------|---------------------------------------|----------------------------------|---------------------------------|

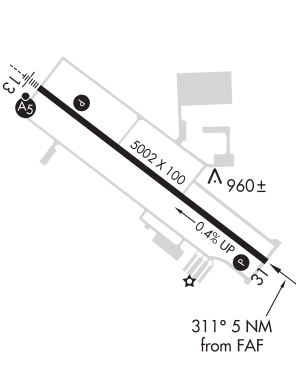


PONTIAC
111.0 PSI
Chan 47

IAF SALEM
114.3 SVM
Chan 90



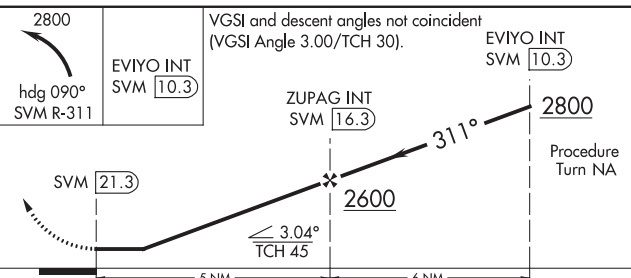
| | |
|----------|----------|
| ELEV 962 | TDZE 943 |
|----------|----------|



HIRL Rwy 13-31 0
REIL Rwy 31 0

FAF to MAP 5 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:00 | 3:20 | 2:30 | 2:00 | 1:40 |



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------|-------------------------|-------------------------|
| S-31 | 1540-1 597 (600-1) | 1540-1¼ 597 (600-1¼) | 1540-1½ 597 (600-1½) | 1540-1¾ 597 (600-1¾) |
| CIRCLING | 1540-1 578 (600-1) | 1540-1¼ 578 (600-1¼) | 1540-1½ 578 (600-1½) | 1540-2 578 (600-2) |

Procedure NA for arrivals on SVM VORTAC airway radials 255 CW 349.

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 30).

Procedure Turn NA

HOWELL, MICHIGAN
Amdt 11A 02APR15

LIVINGSTON COUNTY SPENCER J HARDY (OZW)
42°38'N-83°59'W

VOR RWY 31

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

RNAV (GPS) RWY 27

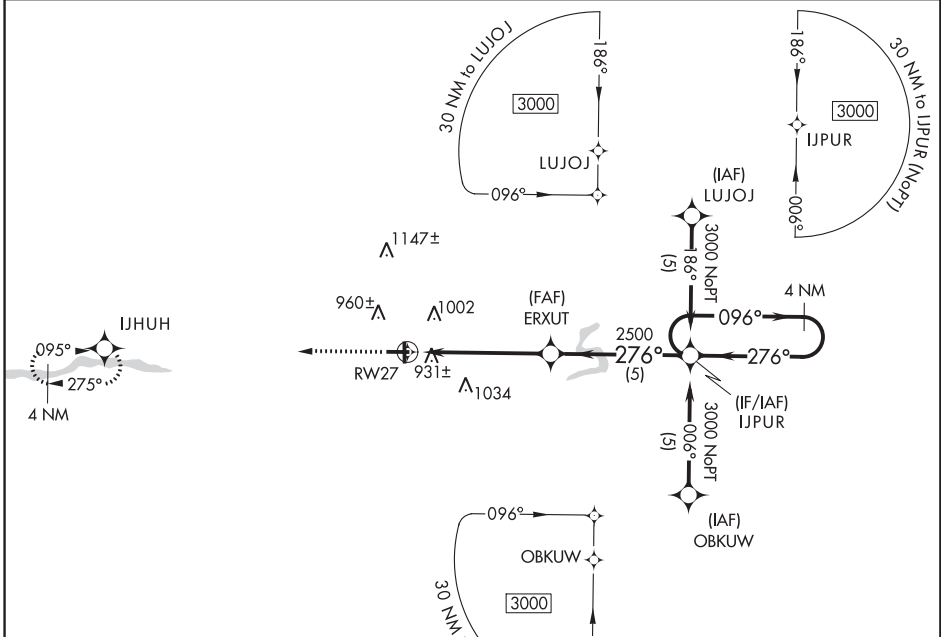
IONIA COUNTY (Y7 θ)

| | |
|------------------------|------------------------|
| APP CRS 276° | Rwy Idg 4298 |
| | TDZE 812 |
| | Apt Elev 818 |

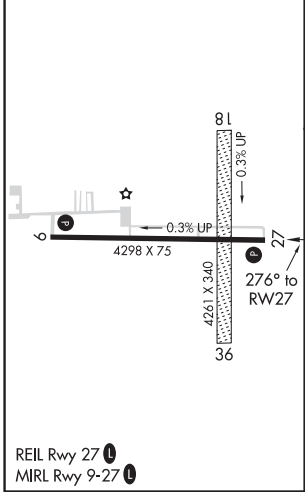
▽ Use Lansing altimeter setting.
△ NA DME/DME RNP-0.3 NA.
 GPs or RNP-0.3 required.

MISSED APPROACH: Climb to 3000 direct IJHUH WP and hold.

| | | |
|------------------------|--|-------------------------------|
| AWOS-3 118.9 | LANSING APP CON 118.65 226.4 | UNICOM 122.8 (CTAF) |
|------------------------|--|-------------------------------|



| | |
|----------|----------|
| ELEV 818 | TDZE 812 |
|----------|----------|



| | | | | |
|----------|------------|-------------|---------------------------|--------|
| | 3000 IJHUH | | 4 NM Holding Pattern | |
| | ERXUT | IJPUR | 3000 | |
| | RWY 27 | 2500 | 096° | ← 276° |
| | 5.1 NM | 5 NM | | |
| CATEGORY | A | B | C | D |
| LNAV MDA | 1260 - 1 | 448 (500-1) | 1260 - 1½ 448 (500-1½) | NA |
| CIRCLING | 1380 - 1 | 567 (600-1) | 1380 - 1½ 567 (600-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

IONIA, MICHIGAN

AL-5486 (FAA)

15232

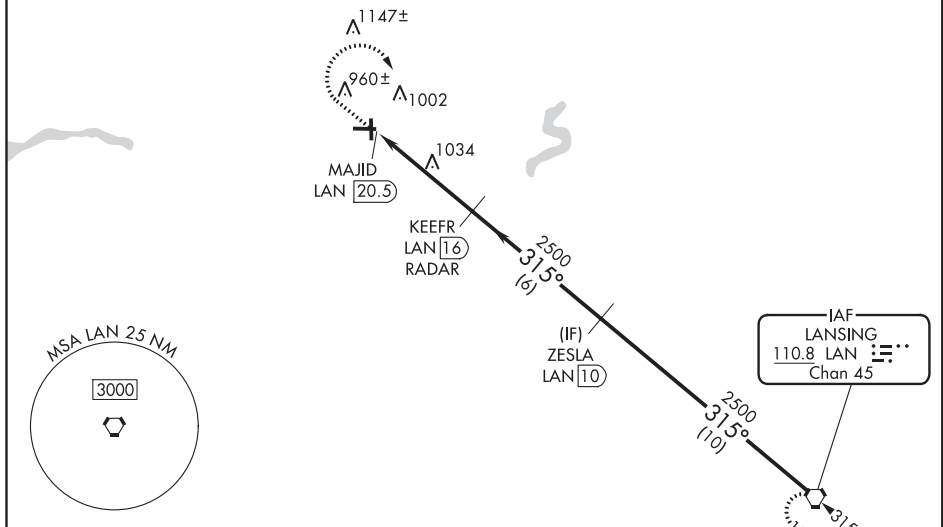
| | | | |
|--|------------------------|-----------------------------|--|
| VORTAC LAN 110.8 Chan 45 | APP CRS 315° | Rwy Idg TDZE Apt Elev | N/A N/A 818 |
|--|------------------------|-----------------------------|--|

VOR-A
IONIA COUNTY (Y7 ϕ)

▽ Use Lansing altimeter setting; when not received, use Charlotte altimeter setting and increase all MDAs 20 feet, and increase Cat C visibility 1/4 mile.
▲ NA MISSED APPROACH: Climb to 2500 then right turn direct LAN VORTAC and hold.

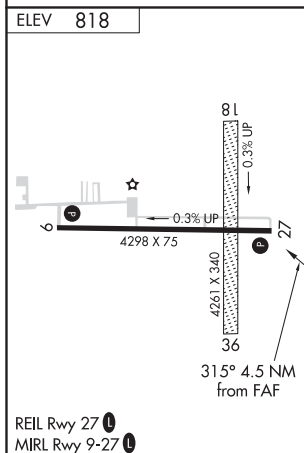
| | | |
|------------------------|--|--|
| AWOS-3 118.9 | LANSING APP CON 118.65 226.4 | UNICOM 122.8 (CTAF) ① |
|------------------------|--|--|

CAUTION: Brightly lighted shopping center 3000' north of airport.



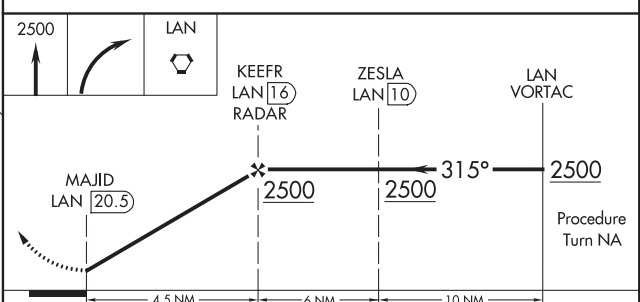
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



▲ 1953 Procedure NA for arrivals on LAN VORTAC airway radials 262 CW 003.

DME or RADAR REQUIRED



| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 4.5 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:30 | 3:00 | 2:15 | 1:48 | 1:30 |

| | | | | |
|----------|-----------------------|-------------------------------|-------------------------------|----|
| CATEGORY | A | B | C | D |
| CIRCLING | 1400-1 582 (600-1) | 1400-1 1/4 582 (600-1 1/4) | 1400-1 1/2 582 (600-1 1/2) | NA |

IONIA, MICHIGAN
Amdt 1 10APR08

42°56'N - 85°04'W

IONIA COUNTY (Y7 ϕ)
VOR-A

| | | |
|---------------------------|------------------------|-------------------------|
| LOC I-IMT 111.5 | APP CRS 010° | Rwy Idg 6501 |
| | | TDZE 1133 |
| | | Apt Elev 1182 |

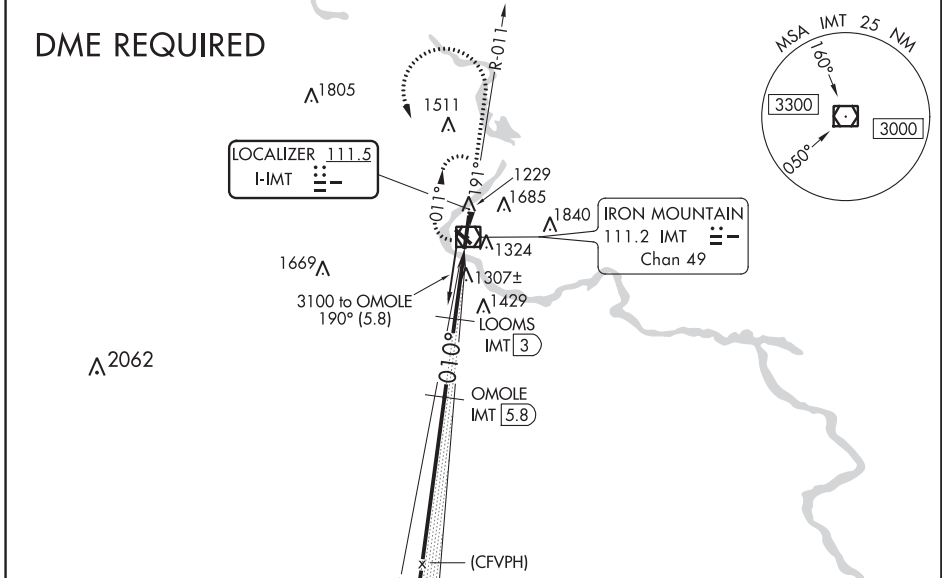
ILS or LOC RWY 1

FORD (IMT)

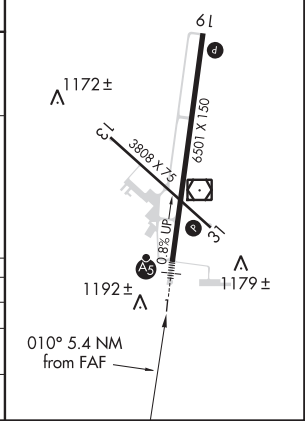
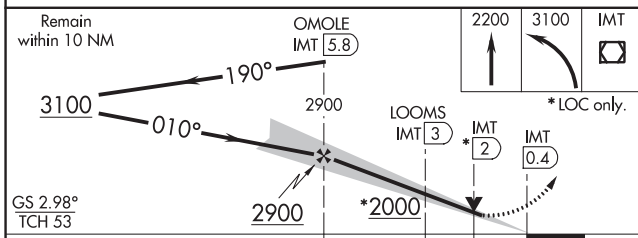
NA Circling NA NE of Rwys 19 and 31. DME required. VDP NA with Escanaba altimeter setting. Night Landing: Rwy 13, 31 NA. When local altimeter setting not received, use Escanaba altimeter setting and increase all DA/MDA 180 feet, increase S-ILS 1 visibility all Cats ¼ mile, increase S-LOC 1 Cat B visibility ¼ mile, Cat C and D visibility ½ mile, increase Circling Cat B visibility ¼ mile, Cat C visibility ¾ mile, Cat D visibility ½ mile. For inoperative MALS R when using Escanaba altimeter setting, increase S-LOC 1 visibility Cat C/D to 2½ mile. DME from IMT VOR/DME. Simultaneous reception of I-IMT and IMT DME required.

MALS MISSED APPROACH: Climb to 2200 then climbing left turn to 3100 direct IMT VOR/DME and hold.

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



| | |
|--------------------|-----------|
| ELEV 1182 | TDZE 1133 |
| MIRL Rwy 13-31 | Alt 1359± |
| HIRL Rwy 1-19 | |
| REL Rwys 19 and 31 | |



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------|-----------------------|
| S-ILS 1 | 1333-½ | | 200 (200-½) | |
| S-LOC 1 | 1720-½ | 587 (600-½) | 1720-1¼ | 587 (600-1¼) |
| C CIRCLING | 1720-1 538 (600-1) | 1780-1 598 (600-1) | 1780-1¾ 598 (600-1¾) | 1840-2 658 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|---|
| APP CRS 190° | Rwy Idg 6481 TDZE 1182 Apt Elev 1182 |
|------------------------|---|

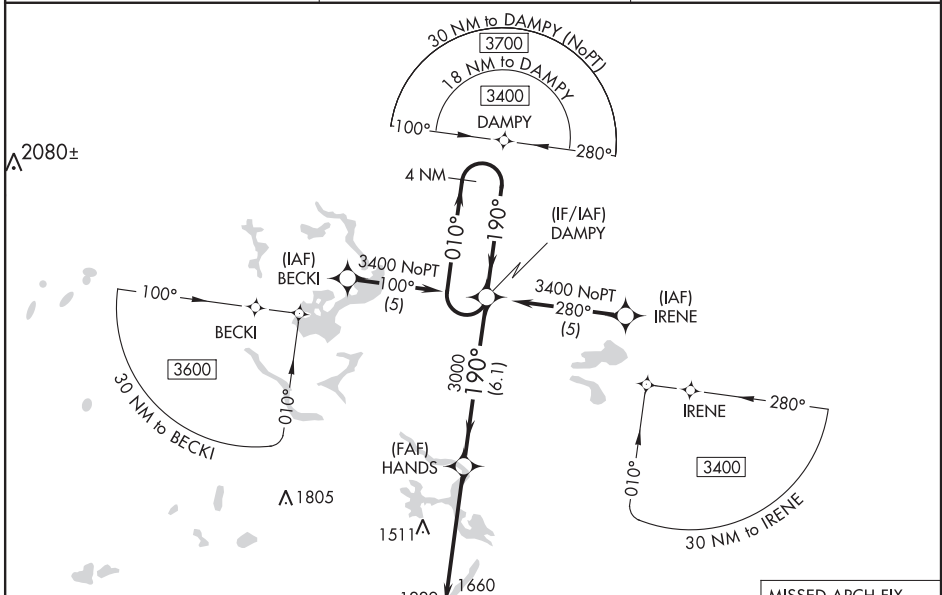
RNAV (GPS) RWY 19

FORD (IMT)

⚠ Circling NA northeast of Rwy 19 and 31. DME/DME RNP-0.3 NA.
⚠ Helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Escanaba altimeter setting and increase all MDA 180 feet, increase LNAV and Circling Cat B visibility ¼ mile, Cats C and D visibility ¾ mile.
 Rwy 19 Straight-in and Circling and Circling to Rwy 31 NA at night.

MISSED APPROACH:
 Climb to 3400 direct SEYOC and hold.

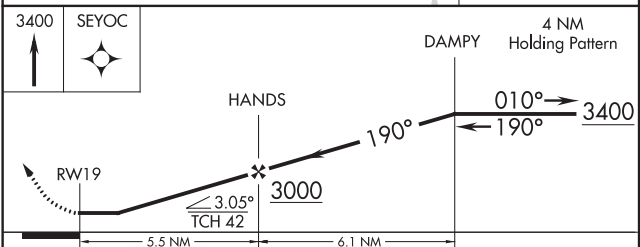
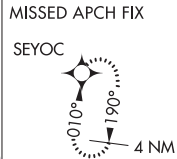
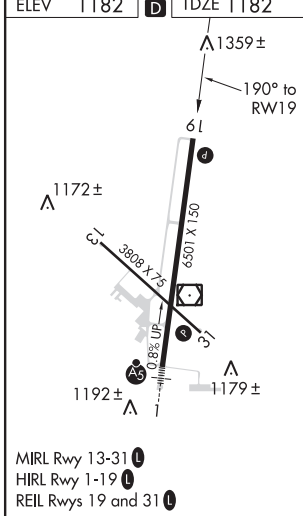
| | | |
|------------------------|---|---------------------------------|
| ASOS 119.025 | MINNEAPOLIS CENTER 121.25 322.5 | UNICOM 122.8 (CTAF) 0 |
|------------------------|---|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-----------|----------|-----------|
| ELEV 1182 | D | TDZE 1182 |
|-----------|----------|-----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| LNAV MDA | 1760-1 | 578 (600-1) | 1760-1½ 578 (600-1½) | 1760-1¾ 578 (600-1¾) |
| CIRCLING | 1760-1 | 578 (600-1) | 1780-1½ 598 (600-1½) | 1780-2 598 (600-2) |

| | | |
|---------------------------|------------------------|-------------------------|
| LOC I-IMT 111.5 | APP CRS 190° | Rwy Idg 6481 |
| | | TDZE 1182 |
| | | Apt Elev 1182 |

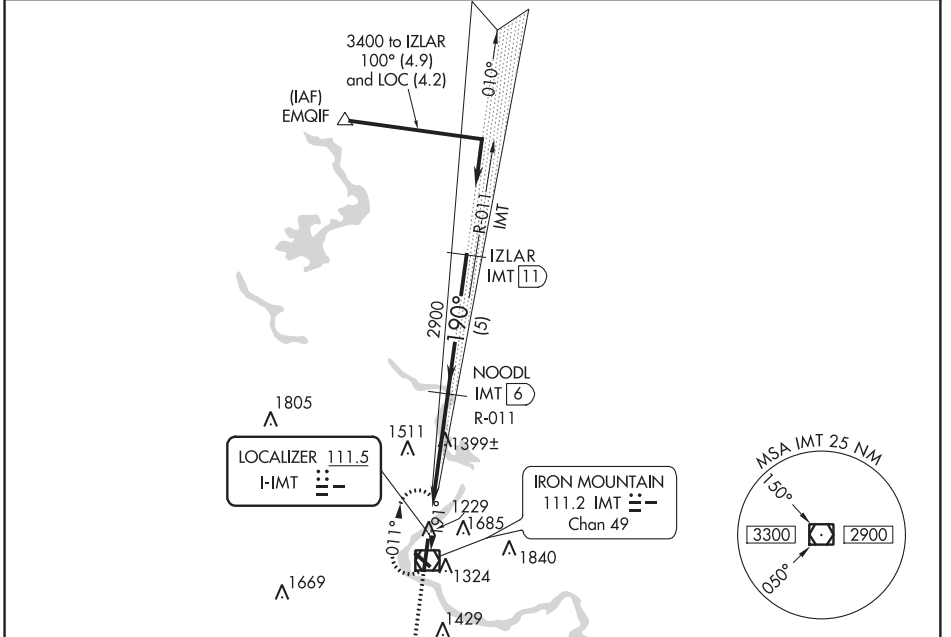
LOC/DME BC RWY 19

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.

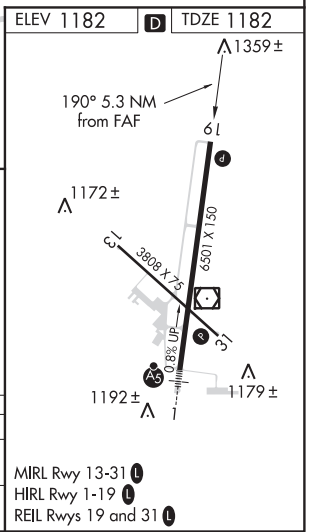
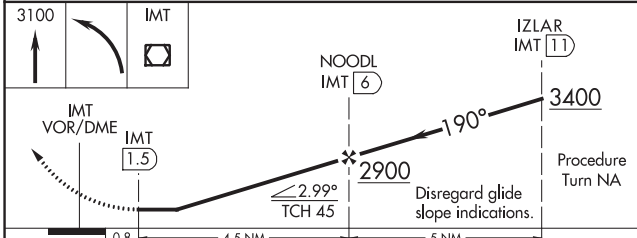
MISSED APPROACH: Climb to 3100 then left turn direct IMT VOR/DME and hold.

| | | |
|------------------------|---|---------------------------------|
| ASOS 119.025 | MINNEAPOLIS CENTER 121.25 322.5 | UNICOM 122.8 (CTAF) 1 |
|------------------------|---|---------------------------------|



| | | |
|-----------|----------|-----------|
| ELEV 1182 | D | TDZE 1182 |
|-----------|----------|-----------|

BACK COURSE



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-------------------------|
| S-19 | 1660-1 | 478 (500-1) | 1660-1¼ 478 (500-1¼) | 1660-1½ 478 (500-1½) |
| CIRCLING | 1660-1 478 (500-1) | 1720-1 538 (600-1) | 1780-1½ 598 (600-1½) | 1780-2 598 (600-2) |

MIRL Rwy 13-31 1
HIRL Rwy 1-19 1
REIL Rwy 19 and 31 1

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|---|
| VOR/DME IMT 111.2 Chan 49 | APP CRS 323° | Rwy Idg 3808 TDZE 1131 Apt Elev 1182 |
|---|------------------------|---|

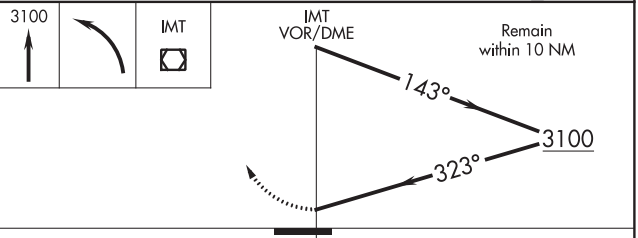
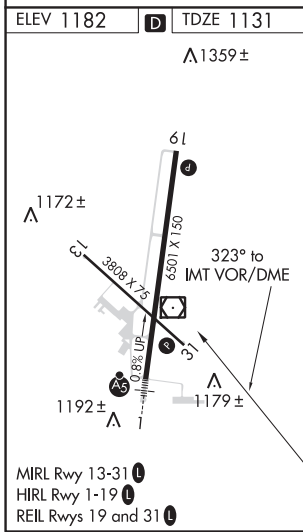
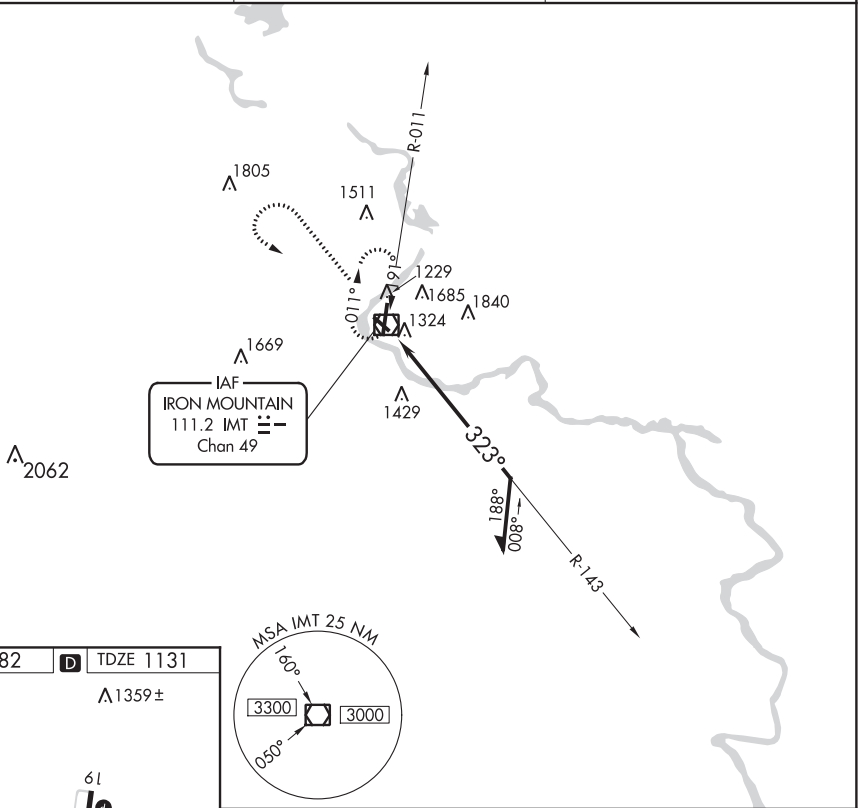
VOR RWY 31

FORD (IMT)

- ▼ Circling NA northeast of Rwy 19 and 31. Helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Escanaba altimeter setting and increase all MDA 180 feet, and increase S-31 and Circling Cat B visibility ¼ mile and Cats C and D visibility ½ mile.
- ▲ Rwy 31 Straight-in and Circling minimums 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 |
|------------------------|---|---------------------------------|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------|--------------------|
| S-31 | 1760-1 629 (600-1) | | 1760-1¾ 629 (600-1¾) | 1760-2 629 (600-2) |
| CIRCLING | 1760-1 578 (600-1) | | 1780-1¾ 598 (600-1¾) | 1780-2 598 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

15232

AIRPORT DIAGRAM

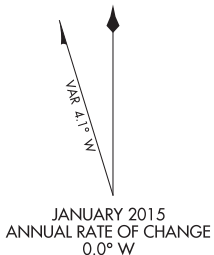
AL-5347 (FAA)

FORD (IMT)
IRON MOUNTAIN KINGSFORD, MICHIGAN

ASOS
119.025
CTAF/UNICOM
122.8

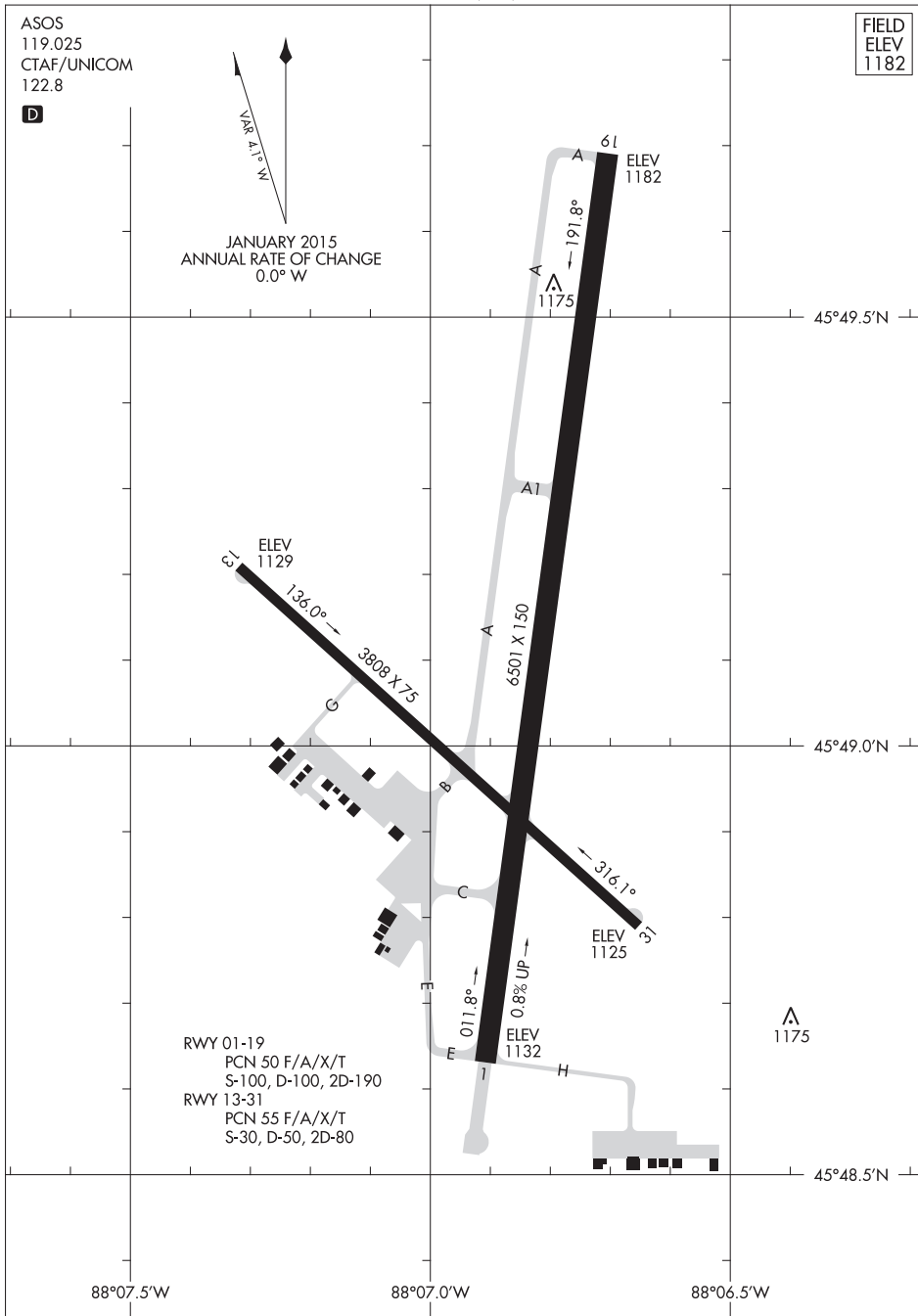


FIELD
ELEV
1182



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



AIRPORT DIAGRAM

15232

IRON MOUNTAIN KINGSFORD, MICHIGAN
FORD (IMT)

| | | |
|---------------------------|------------------------|-------------------------|
| LOC I-IWD 111.5 | APP CRS 270° | Rwy ldg 6501 |
| | | TDZE 1230 |
| | | Apt Elev 1230 |

ILS or LOC RWY 27

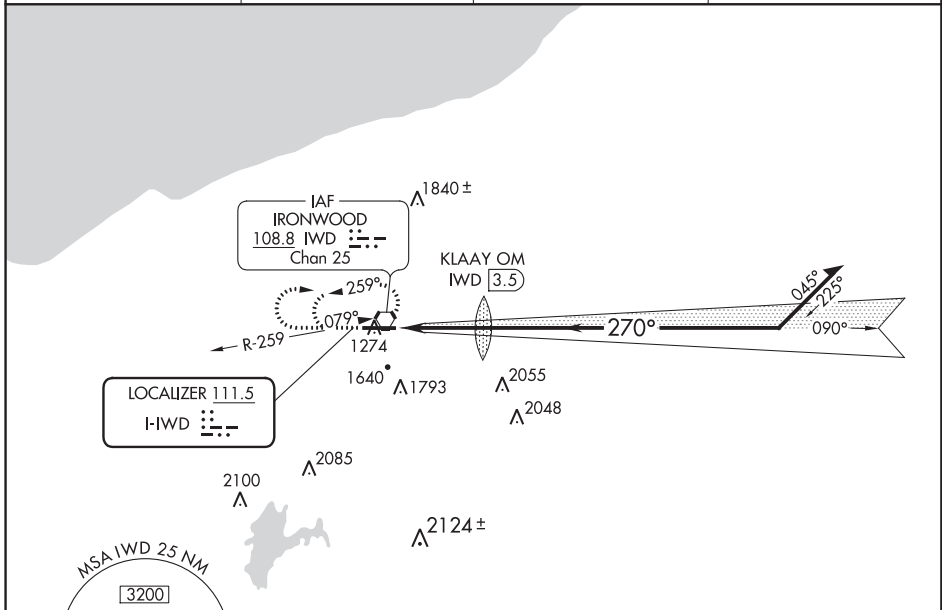
GOGEBIC-IRON COUNTY (IWD)

When local altimeter setting not received, use Ashland altimeter setting and increase all DA 132 feet and all MDA 140 feet, increase S-LOC 27 Cat C/D visibility 1/2 mile, Circling Cat A/B visibility 1/4 mile and Circling Cat C 1/2 mile. For inoperative MALS, when using Ashland altimeter setting, increase S-ILS 27 all Cats visibility to 1.

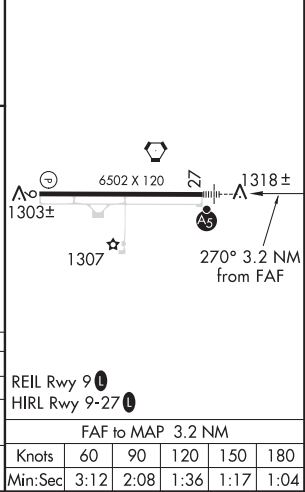
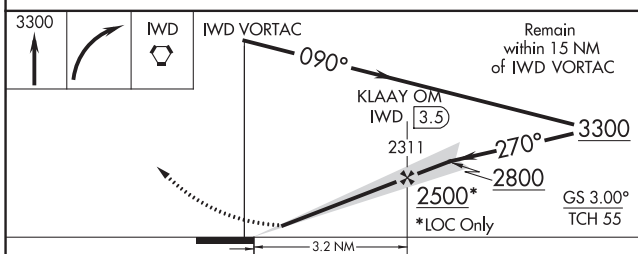
MALS
AS

MISSED APPROACH: Climb to 3300, then right turn direct IWD VORTAC and hold.

| | | | |
|----------------------------|-------------------------------------|---------------------------------|-------------------------------|
| AWOS-3PT 125.175 | MINNEAPOLIS CENTER 133.55 | GREEN BAY RADIO 122.3 | UNICOM 122.8 (CTAF) |
|----------------------------|-------------------------------------|---------------------------------|-------------------------------|



| | | |
|-----------|---|-----------|
| ELEV 1230 | D | TDZE 1230 |
|-----------|---|-----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------------|-------------------------------|------------------------|
| S-ILS 27 | | 1430-1/2 | 200 (200-1/2) | |
| S-LOC-27 | 1720-1/2 | 490 (500-1/2) | 1720-3/4 490 (500-3/4) | 1720-1 490 (500-1) |
| CIRCLING | 2100-1 870 (900-1) | 2100-1 1/4 870 (900-1 1/4) | 2100-2 1/2 870 (900-2 1/2) | 2220-3 990 (1000-3) |

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:12 | 2:08 | 1:36 | 1:17 | 1:04 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

IRONWOOD, MICHIGAN

AL-5213 (FAA)

16315

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 6501 |
| 090° | TDZE | 1230 |
| | Apt Elev | 1230 |

RNAV (GPS) RWY 9

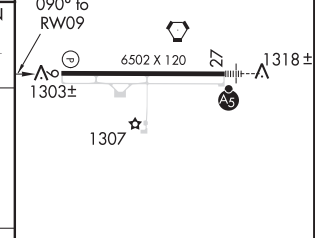
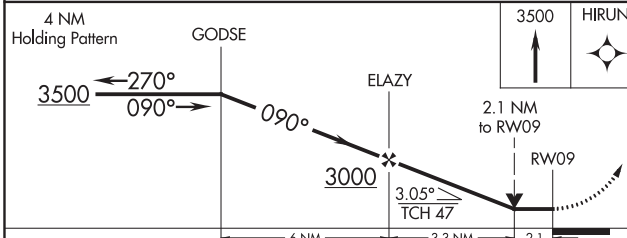
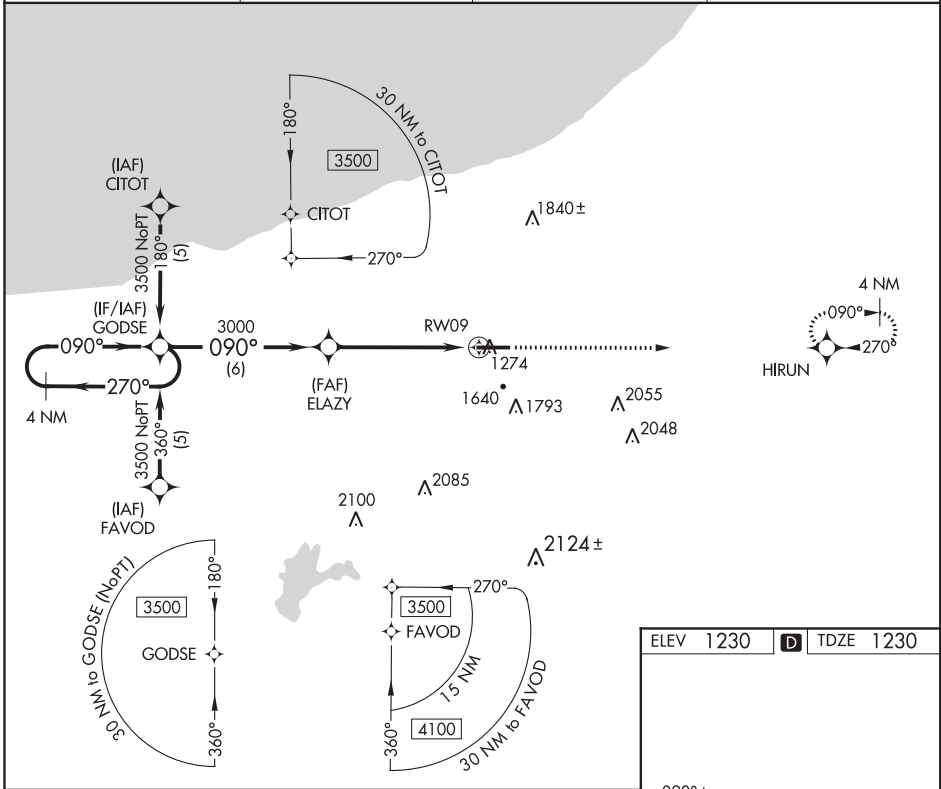
GOGEBIC-IRON COUNTY (IWD)

⚠ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Ashland altimeter setting and increase all MDA 140 feet, increase LNAV Cat B visibility ¼ mile, Cat C/D ½ mile and increase Circling Cat A/B visibility ¼ mile, Cat C ½ mile.

⚠ -27°C/-17°F

MISSED APPROACH: Climb to 3500 direct HIRUN and hold.

| | | | |
|----------------------------|-------------------------------------|---------------------------------|---------------------------------|
| AWOS-3PT 125.175 | MINNEAPOLIS CENTER 133.55 | GREEN BAY RADIO 122.3 | UNICOM 122.8 (CTAF) 0 |
|----------------------------|-------------------------------------|---------------------------------|---------------------------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|---------------------------|---------------------------|---------------------------|
| LNAV MDA | 1940-1 710 (800-1) | | 1940-2 710 (800-2) | 1940-2 ¼ 710 (800-2 ¼) |
| CIRCLING | 2100-1 870 (900-1) | 2100-1 ¼ 870 (900-1 ¼) | 2100-2 ½ 870 (900-2 ½) | 2220-3 990 (1000-3) |

REIL Rwy 9 **0**
HIRL Rwy 9-27 **0**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

IRONWOOD, MICHIGAN
Orig 07MAY09

46°32'N-90°08'W

GOGEBIC-IRON COUNTY (IWD)
RNAV (GPS) RWY 9

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 50212 W27A | APP CRS 270° | Rwy Idg TDZE 1230 Apt Elev 1230 | 6501 |
|--|------------------------|---|-------------|

RNAV (GPS) RWY 27

GOGEBIC-IRON COUNTY (IWD)

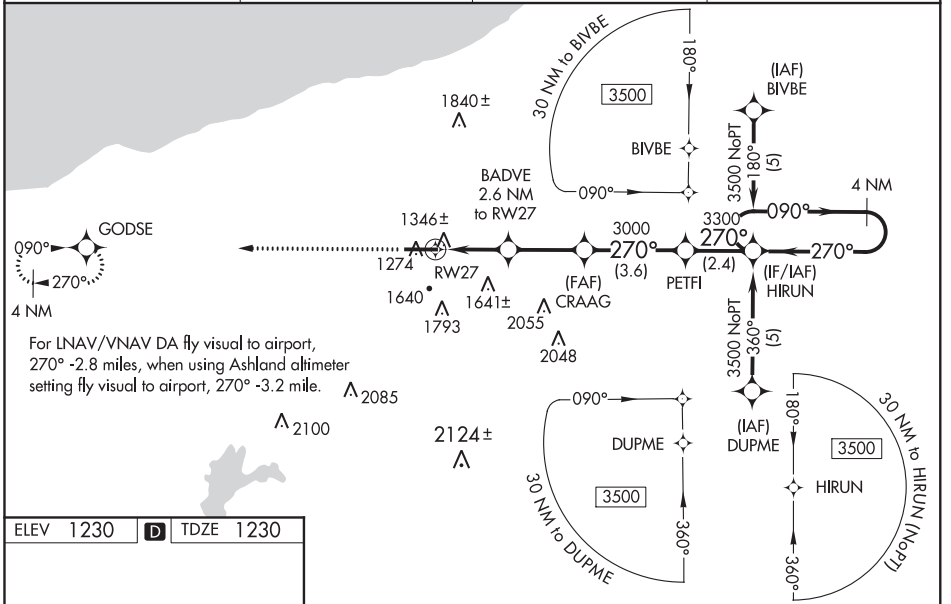
⚠ Inoperative table does not apply to LPV and LNAV/VNAV all Cats and LNAV Cats A and B. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. When using Ashland altimeter setting: inop table does not apply to LNAV/VNAV all Cats and LNAV Cat A. When using Ashland altimeter setting: for inoperative MALSR, increase LNAV Cat B visibility to 1 1/4 mile. Baro-VNAV and VDP NA when using Ashland altimeter setting. When local altimeter setting not received, use Ashland altimeter setting and increase all DA 132 feet and all MDA 140 feet, increase LNAV/VNAV Cat C visibility 1/4 mile, LNAV Cat C/D visibility 1/2 mile, and Circling Cat A/B visibility 1/4 mile, Cat C 1/2 mile.

⚠ -27°C/-17°F

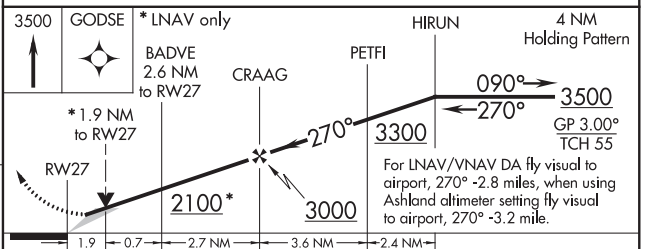
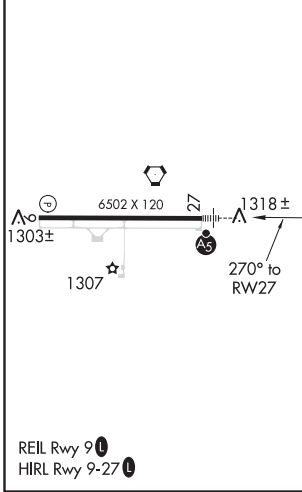


MISSED APPROACH:
Climb to 3500 direct
GODSE and hold.

| | | | |
|----------------------------|-------------------------------------|---------------------------------|-------------------------------|
| AWOS-3PT 125.175 | MINNEAPOLIS CENTER 133.55 | GREEN BAY RADIO 122.3 | UNICOM 122.8 (CTAF) |
|----------------------------|-------------------------------------|---------------------------------|-------------------------------|



| | | |
|-----------|----------|-----------|
| ELEV 1230 | D | TDZE 1230 |
|-----------|----------|-----------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-------------------------------|--------------------------------|-------------------------------|
| LPV DA | 1430-1 | | 200 (200-1) | |
| LNAV/VNAV DA | 2166-2 | 936 (1000-2) | 2166-2 3/4 936 (1000-2 3/4) | 2166-3 936 (1000-3) |
| LNAV MDA | 1900-1 | 670 (700-1) | 1900-1 1/4 670 (700-1 1/4) | 1900-1 1/2 670 (700-1 1/2) |
| CIRCLING | 2100-1 870 (900-1) | 2100-1 1/4 870 (900-1 1/4) | 2100-2 1/2 870 (900-2 1/2) | 2220-3 990 (1000-3) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

IRONWOOD, MICHIGAN

AL-5213 (FAA)

16315

| | | |
|---------------------------------------|------------------------|---|
| VORTAC IWD 108.8 Chan 25 | APP CRS 079° | Rwy Idg 6501 TDZE 1230 Apt Elev 1230 |
|---------------------------------------|------------------------|---|

VOR/DME RWY 9

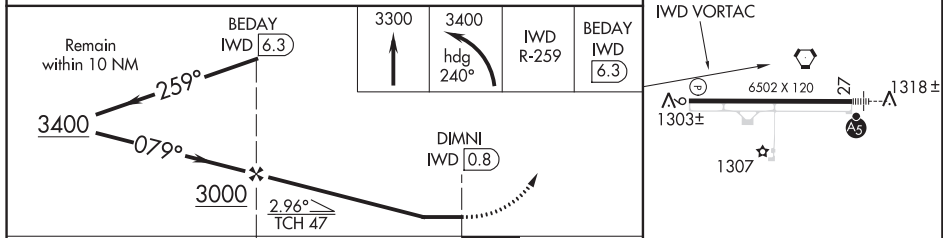
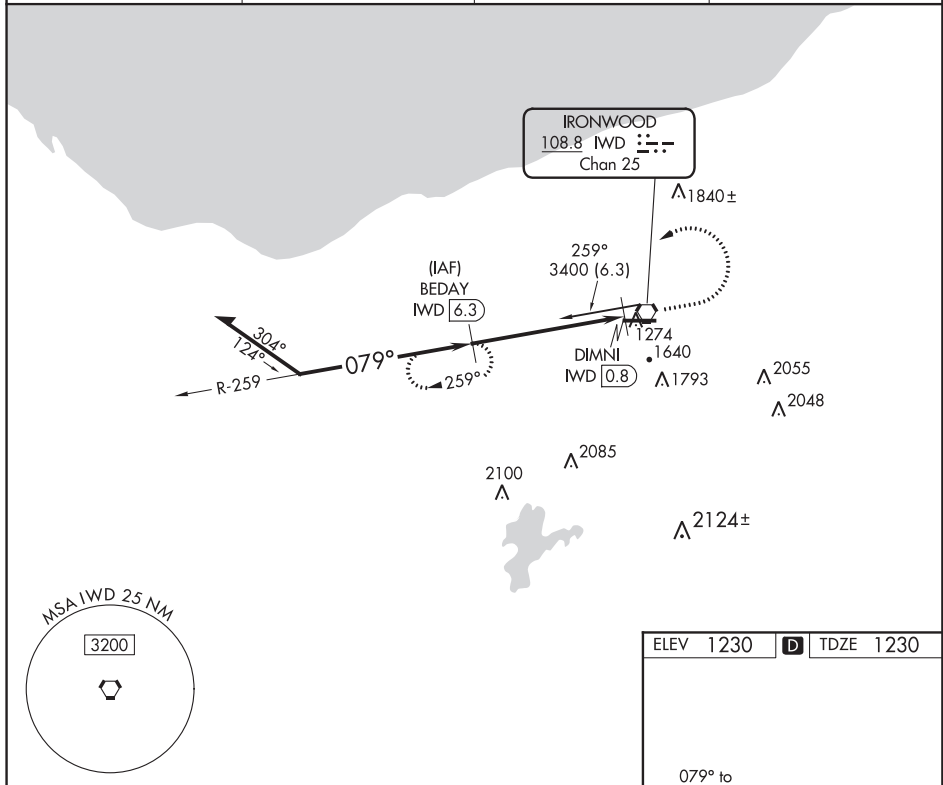
GOGEBIC-IRON COUNTY (IWD)

⚠ Visibility reduction by helicopters NA. When local altimeter setting not received, use Ashland altimeter setting and increase all MDA 140 feet, increase S-9 visibility Cat C ¼ mile, and Cat D ½ mile. Increase Circling visibility Cat A/B ¼ mile and Cat C ½ mile.

⚠ MISSED APPROACH: Climb to 3300 then climbing left turn to 3400 via heading 240° and IWD R-259 to BEDAY/6.3 DME and hold.

⚠ -27°C/-17°F

| | | | |
|----------------------------|-------------------------------------|---------------------------------|--|
| AWOS-3PT 125.175 | MINNEAPOLIS CENTER 133.55 | GREEN BAY RADIO 122.3 | UNICOM 122.8 (CTAF) 0 |
|----------------------------|-------------------------------------|---------------------------------|--|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------|-------------------------|------------------------|
| S-9 | 1740-1 | 510 (600-1) | 1740-1½ | 510 (600-1½) |
| CIRCLING | 2100-1 870 (900-1) | 2100-1¼ 870 (900-1¼) | 2100-2½ 870 (900-2½) | 2220-3 990 (1000-3) |

IRONWOOD, MICHIGAN
Amdt 13 07MAY09

46°32'N-90°08'W

VOR/DME RWY 9

GOGEBIC-IRON COUNTY (IWD)


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

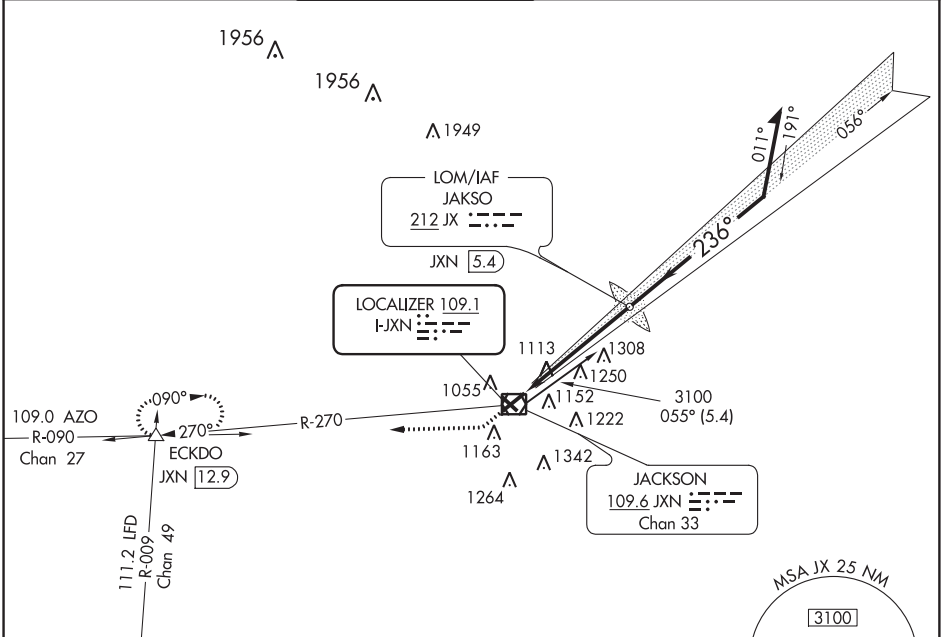
| | | | |
|---------------------------|------------------------|-----------------------------|--|
| LOC I-JXN 109.1 | APP CRS 236° | Rwy ldg TDZE Apt Elev | 5349 999 1001 |
|---------------------------|------------------------|-----------------------------|--|

ILS or LOC RWY 24
JACKSON COUNTY-REYNOLDS FIELD (JXN)

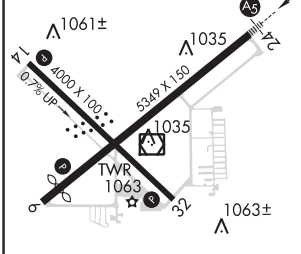
When local altimeter setting not received, use Mason altimeter setting and increase all DA 54 feet and all MDA 60 feet, increase S-LOC 24 Cat C and Circling Cat D visibility ¼ mile.




MALSR  MISSED APPROACH: Climb to 1400, then climbing right turn to 3000 via JXN R-270 to ECKDO Int/JXN 12.9 DME and hold.

| | | | | | |
|------------------------|---------------------------------------|---|-------------------------|--------------------------|-------------------------|
| ATIS 125.725 | LANSING APP CON 127.3 357.6 | JACKSON TOWER* 128.475 (CTAF) 257.8 | GND CON 121.9 | CLNC DEL 121.9 | UNICOM 122.95 |
|------------------------|---------------------------------------|---|-------------------------|--------------------------|-------------------------|



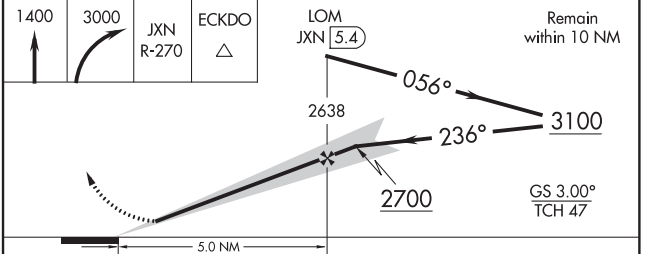
| | |
|-----------|----------|
| ELEV 1001 | TDZE 999 |
|-----------|----------|



HIRL Rwy 6-24 
MIRL Rwy 14-32 
REIL Rwy 32 

FAF to MAP 5 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:00 | 3:20 | 2:30 | 2:00 | 1:40 |



| CATEGORY | A | B | C | D |
|----------|--------------------|-------------|-------------------------|-----------------------|
| S-ILS 24 | 1199-½ 200 (200-½) | | | |
| S-LOC 24 | 1440-½ | 441 (500-½) | 1440-¾ 441 (500-¾) | 1440-1 441 (500-1) |
| CIRCLING | 1520-1 | 519 (600-1) | 1520-1½ 519 (600-1½) | 1640-2 639 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

JACKSON, MICHIGAN

AL-861 (FAA)

16035

| | |
|------------------------|-------------------------|
| APP CRS 056° | Rwy Idg 4909 |
| | TDZE 999 |
| | Apt Elev 1001 |

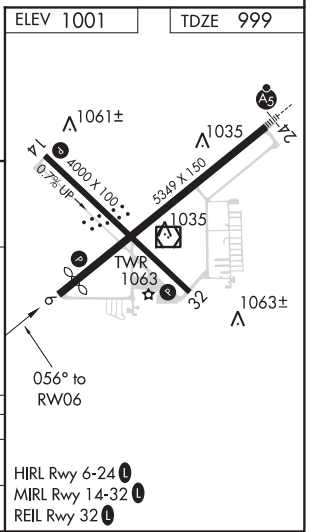
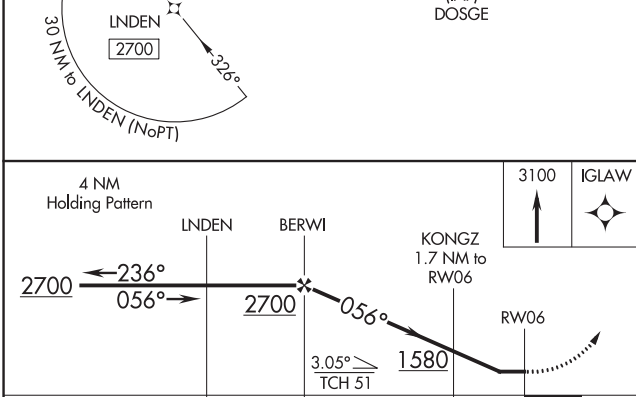
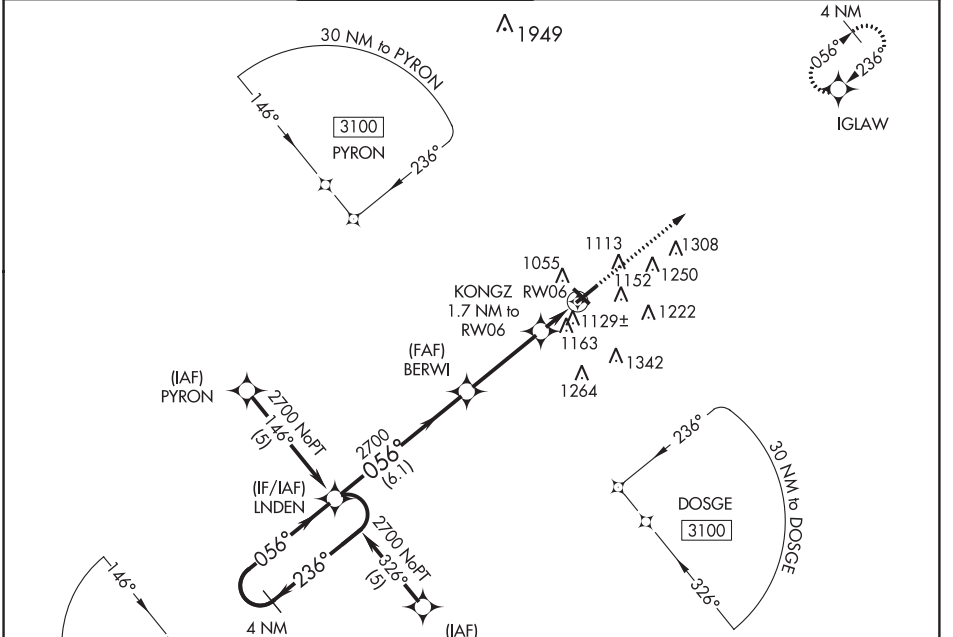
RNAV (GPS) RWY 6

JACKSON COUNTY-REYNOLDS FIELD (JXN)

⚠ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Mason altimeter setting and increase all MDA 60 feet, increase all Cat C/D visibilities 1/4 mile.

⚠ MISSED APPROACH: Climb to 3100 direct IGLAW and hold.

| | | | | | |
|------------------------|---------------------------------------|---|-------------------------|--------------------------|-------------------------|
| ATIS 125.725 | LANSING APP CON 127.3 357.6 | JACKSON TOWER* 128.475 (CTAF) 0 257.8 | GND CON 121.9 | CLNC DEL 121.9 | UNICOM 122.95 |
|------------------------|---------------------------------------|---|-------------------------|--------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------------|---|
| LNVA MDA | 1380-1 381 (400-1) | | 1380-1 1/4 381 (400-1 1/4) | |
| CIRCLING | 1520-1 519 (600-1) | | 1520-1 1/2 639 (700-2) | |

JACKSON, MICHIGAN
Orig 22OCT09

42°16'N - 84°28'W

RNAV (GPS) RWY 6

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-------------------------|--|
| WAAS CH 86527 W14A | APP CRS 138° | Rwy TDZE Apt Elev | 4000 996 1001 |
|--|------------------------|-------------------------|--|

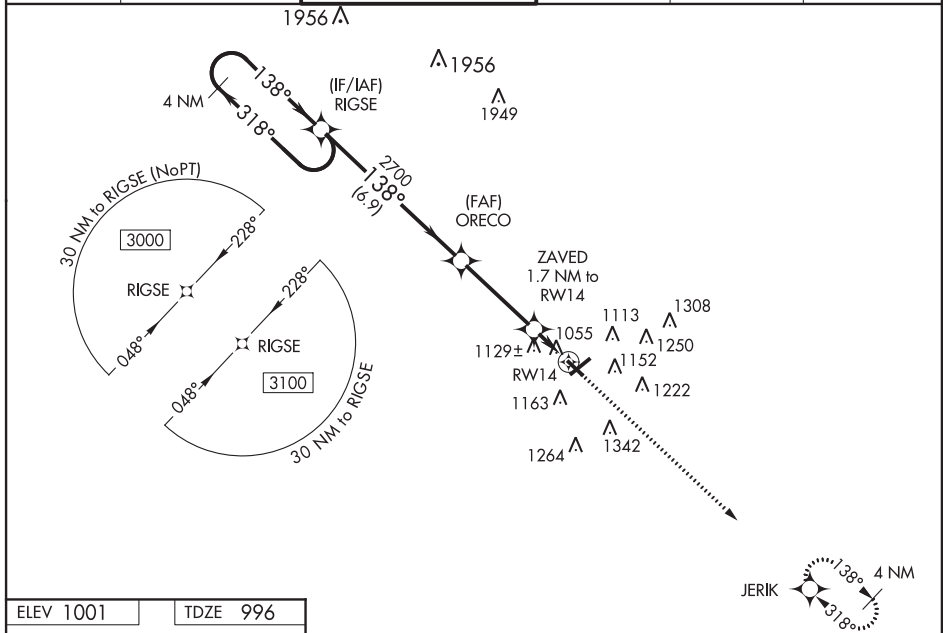
RNAV (GPS) RWY 14

JACKSON COUNTY-REYNOLDS FIELD (JXN)

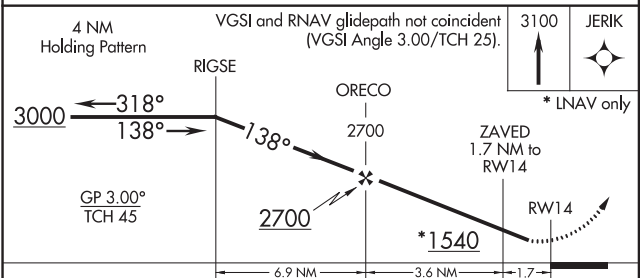
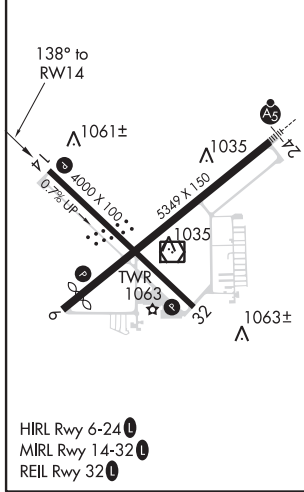
⚠ Baro-VNAV NA when using Mason altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 37°C (98°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Mason altimeter setting and increase all DA 54 feet and all MDA 60 feet, increase LPV all Cats visibility, LNAV Cat C and D visibility, and Circling Cat D visibility ¼ mile and LNAV/VNAV all Cats visibility ½ mile.

MISSED APPROACH:
Climb to 3100 direct JERIK and hold.

| | | | | | |
|------------------------|---------------------------------------|---|-------------------------|--------------------------|-------------------------|
| ATIS 125.725 | LANSING APP CON 127.3 357.6 | JACKSON TOWER* 128.475 (CTAF) 0 257.8 | GND CON 121.9 | CLNC DEL 121.9 | UNICOM 122.95 |
|------------------------|---------------------------------------|---|-------------------------|--------------------------|-------------------------|



| | |
|-----------|----------|
| ELEV 1001 | TDZE 996 |
|-----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------|-----------------------|
| LPV DA | | 1344-1½ | 348 (400-1½) | |
| LNAV/VNAV DA | | 1463-1½ | 467 (500-1½) | |
| LNAV MDA | 1380-1 | 384 (400-1) | 1380-1½ | 384 (400-1½) |
| CIRCLING | 1520-1 | 519 (600-1) | 1520-1½ 519 (600-1½) | 1640-2 639 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

JACKSON, MICHIGAN

AL-861 (FAA)

16035

| | | | |
|--|------------------------|-----------------------------|--|
| WAAS CH 82212 W24A | APP CRS 236° | Rwy Idg TDZE Apt Elev | 5349 999 1001 |
|--|------------------------|-----------------------------|--|

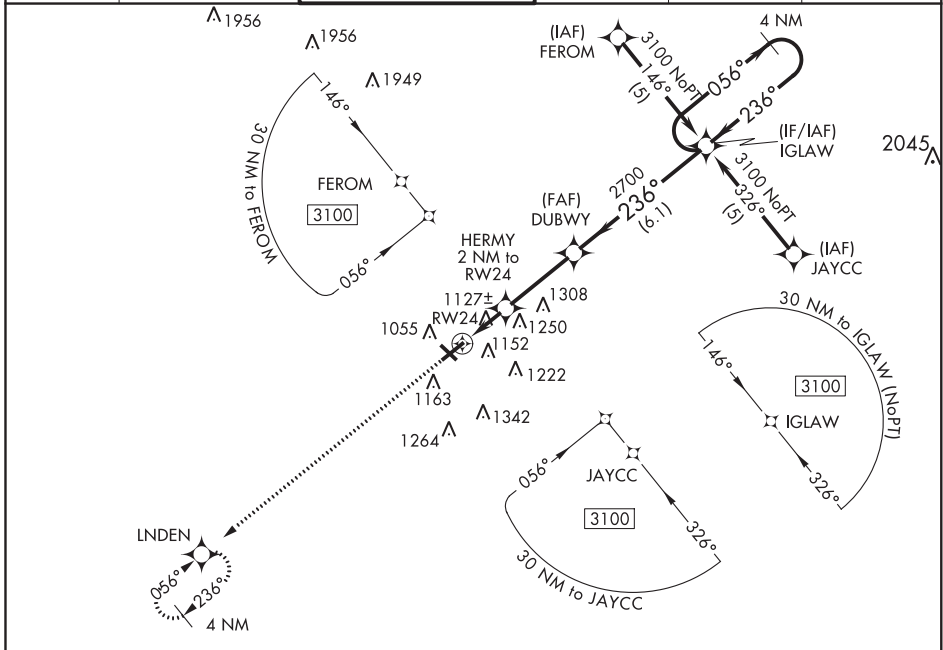
RNAV (GPS) RWY 24

JACKSON COUNTY-REYNOLDS FIELD (JXN)

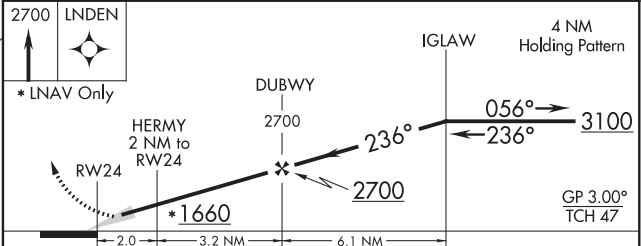
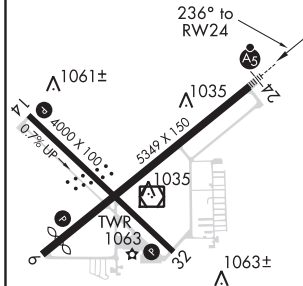
⚠ Baro-VNAV NA when using Mason altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 47°C (116°F) DME/DME RNP-0.3 NA. When local altimeter setting not received, use Mason altimeter setting and increase all DA 54 feet, all MDA 60 feet. Increase LNAV/VNAV all Cats, LNAV and circling Cat C/D visibility ¼ mile.

MALSR
 MISSED APPROACH:
Climb to 2700 direct LNDEN and hold.

| | | | | | |
|------------------------|---------------------------------------|--|-------------------------|--------------------------|-------------------------|
| ATIS 125.725 | LANSING APP CON 127.3 357.6 | JACKSON TOWER* 128.475 (CTAF) 0 257.8 | GND CON 121.9 | CLNC DEL 121.9 | UNICOM 122.95 |
|------------------------|---------------------------------------|--|-------------------------|--------------------------|-------------------------|



| | |
|-----------|----------|
| ELEV 1001 | TDZE 999 |
|-----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------------------|----------------------|----------------------|----------------------|
| LPV DA | 1199-½ 200 (200-½) | | | |
| LNAV/VNAV DA | 1409-1 410 (500-1) | | | |
| LNAV MDA | 1560-½ 561 (600-½) | 1560-1 561 (600-1) | 1560-1½ 561 (600-1½) | 1560-1¼ 561 (600-1¼) |
| CIRCLING | 1560-1 559 (600-1) | 1560-1½ 559 (600-1½) | 1640-2 639 (700-2) | |

HIRL Rwy 6-24
 MIRL Rwy 14-32
 REIL Rwy 32

JACKSON, MICHIGAN
 Orig 22OCT09

42°16'N - 84°28'W

RNAV (GPS) RWY 24

EC-1, 10 NOV 2016 to 05 JAN 2017

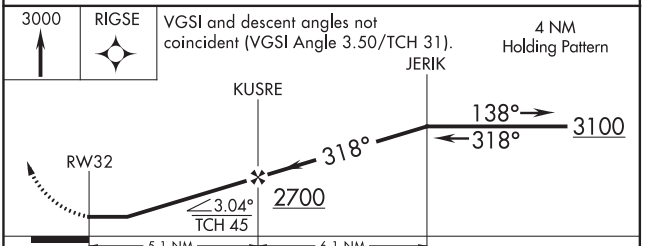
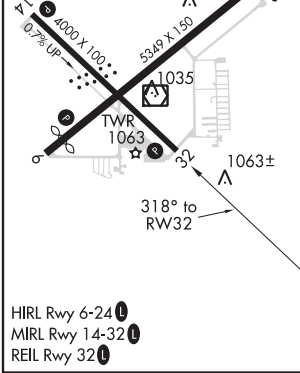
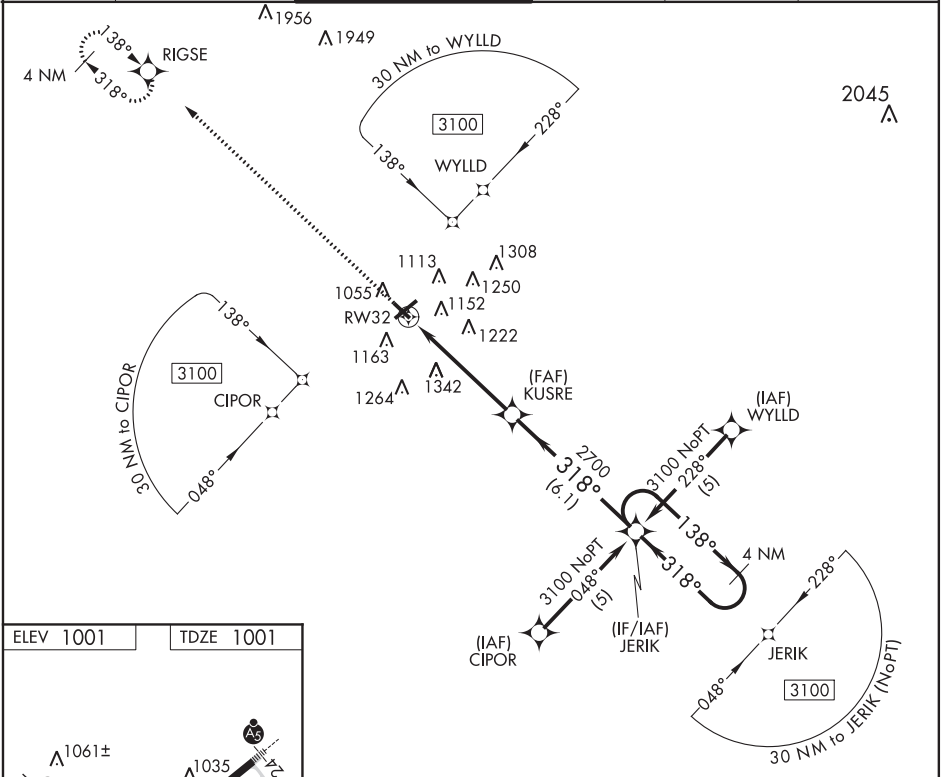
EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|-------------------------|
| APP CRS 318° | Rwy Idg 4000 |
| | TDZE 1001 |
| | Apt Elev 1001 |

RNAV (GPS) RWY 32

JACKSON COUNTY-REYNOLDS FIELD (JXN)

| | | | | | |
|------------------------|--|---|-------------------------|--------------------------|-------------------------|
| ▽ | DME/DME RNP-0.3 NA. Helicopter visibility reduction below ¾ SM NA. | MISSED APPROACH: Climb to 3000 direct RIGSE and hold. | | | |
| ▲ | When local altimeter setting not received, use Mason altimeter setting and increase all MDA 60 feet, increase all Cat C/D visibilities ¼ mile. | | | | |
| ATIS 125.725 | LANSING APP CON 127.3 357.6 | JACKSON TOWER* 128.475 (CTAF) 0 257.8 | GND CON 121.9 | CLNC DEL 121.9 | UNICOM 122.95 |



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| LNAV MDA | 1560-1 | 559 (600-1) | 1560-1½ 559 (600-1½) | 1560-1¾ 559 (600-1¾) |
| CIRCLING | 1560-1 | 559 (600-1) | 1560-1½ 559 (600-1½) | 1640-2 639 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

JACKSON, MICHIGAN

AL-861 (FAA)

16315

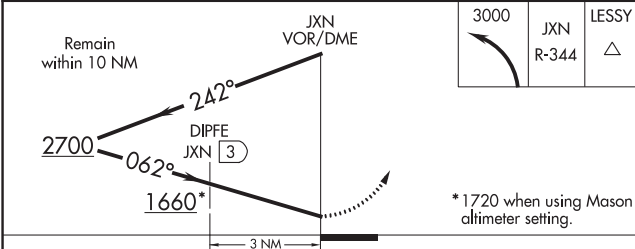
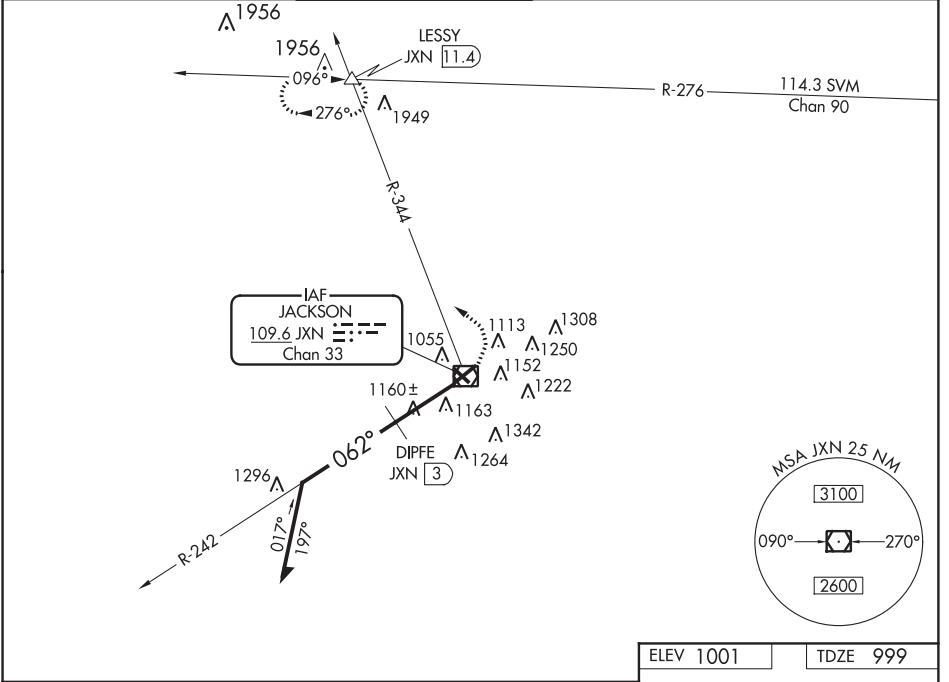
| | | | |
|---|------------------------|-----------------------------|--|
| VOR/DME JXN 109.6 Chan 33 | APP CRS 062° | Rwy Idg TDZE Apt Elev | 4909 999 1001 |
|---|------------------------|-----------------------------|--|

VOR RWY 6

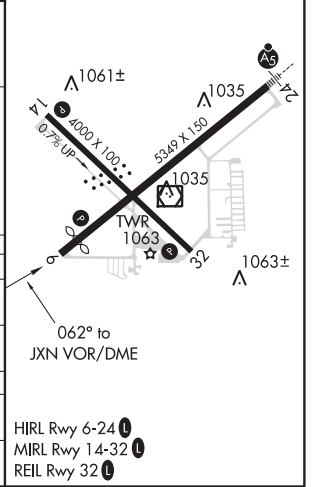
JACKSON COUNTY-REYNOLDS FIELD (JXN)

▼ Visibility reduction by helicopters NA. When local altimeter setting not received, use Mason altimeter setting and increase all MDA 60 feet. Increase all Cat C/D visibilities ¼ mile.
▲ MISSED APPROACH: Climbing left turn to 3000 via JXN R-344 to LESSY Int/JXN 11.4 DME and hold.

| | | | | | |
|------------------------|---------------------------------------|---|-------------------------|--------------------------|-------------------------|
| ATIS 125.725 | LANSING APP CON 127.3 357.6 | JACKSON TOWER* 128.475 (CTAF) 0 257.8 | GND CON 121.9 | CLNC DEL 121.9 | UNICOM 122.95 |
|------------------------|---------------------------------------|---|-------------------------|--------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|----------------|--------------------|---|----------------------|----------------------|
| S-6 | 1660-1 661 (700-1) | | 1660-1¼ 661 (700-1¼) | 1660-2 661 (700-2) |
| CIRCLING | 1660-1 659 (700-1) | | 1660-1¼ 659 (700-1¼) | 1660-2 659 (700-2) |
| DIPFE MINIMUMS | | | | |
| S-6 | 1460-1 461 (500-1) | | 1460-1¼ 461 (500-1¼) | 1460-1½ 461 (500-1½) |
| CIRCLING | 1520-1 519 (600-1) | | 1520-1½ 519 (600-1½) | 1640-2 639 (700-2) |



JACKSON, MICHIGAN
Amdt 20 22OCT09

JACKSON COUNTY-REYNOLDS FIELD (JXN)
42°16'N - 84°28'W
VOR RWY 6

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

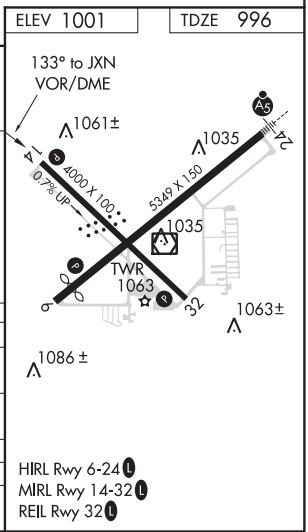
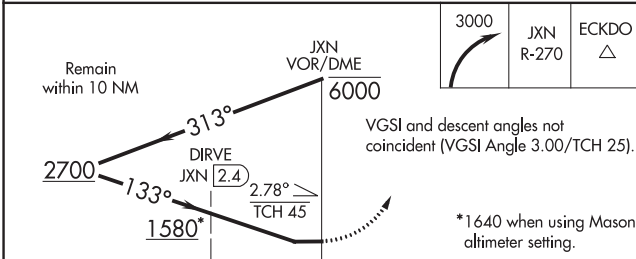
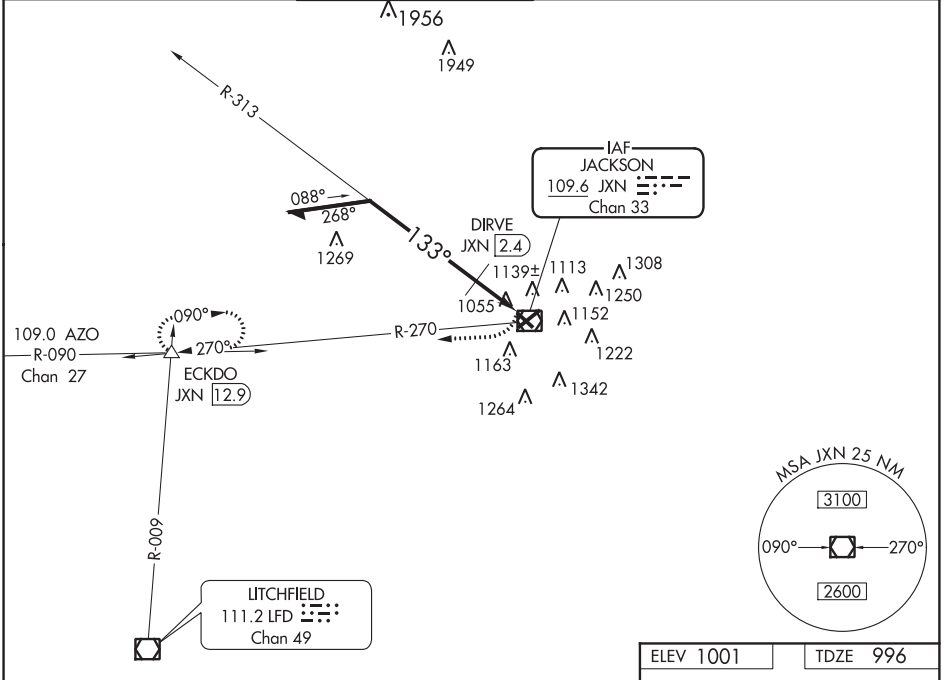
| | | |
|---|------------------------|--|
| VOR/DME JXN 109.6 Chan 33 | APP CRS 133° | Rwy Idg TDZE 4000 996 Apt Elev 1001 |
|---|------------------------|--|

VOR RWY 14

JACKSON COUNTY-REYNOLDS FIELD (JXN)

▼ Visibility reduction by helicopters NA. When local altimeter setting not received, use Mason altimeter setting and increase all MDA 60 feet, increase all Cat C/D visibilities ¼ mile.
▲ MISSED APPROACH: Climbing right turn to 3000 via JXN R-270 to ECKDO Int/JXN 12.9 DME and hold.

| | | | | | |
|------------------------|---------------------------------------|--|-------------------------|--------------------------|-------------------------|
| ATIS 125.725 | LANSING APP CON 127.3 357.6 | JACKSON TOWER* 128.475 (CTAF) 257.8 | GND CON 121.9 | CLNC DEL 121.9 | UNICOM 122.95 |
|------------------------|---------------------------------------|--|-------------------------|--------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|----------------|--------|-------------|-------------------------|-------------------------|
| S-14 | 1580-1 | 584 (600-1) | 1580-1½ 584 (600-1½) | 1580-1¾ 584 (600-1¾) |
| CIRCLING | 1580-1 | 579 (600-1) | 1580-1½ 579 (600-1½) | 1640-2 639 (700-2) |
| DIRVE MINIMUMS | | | | |
| S-14 | 1400-1 | 404 (400-1) | 1400-1¼ | 404 (400-1¼) |
| CIRCLING | 1520-1 | 519 (600-1) | 1520-1½ 519 (600-1½) | 1640-2 639 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HIRL Rwy 6-24
MIRL Rwy 14-32
REIL Rwy 32

JACKSON, MICHIGAN

AL-861 (FAA)

16035

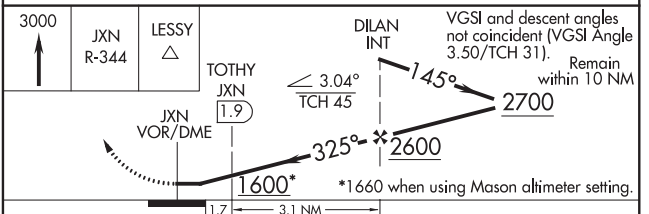
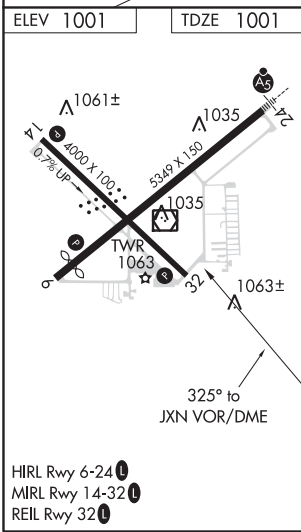
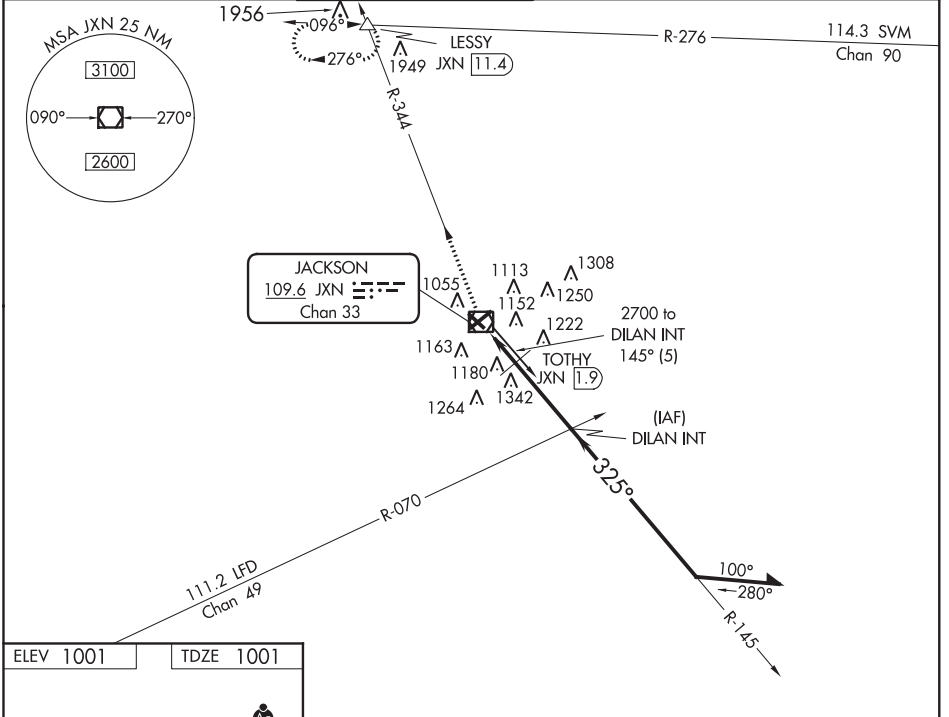
| | | | |
|---|------------------------|-----------------------------|---|
| VOR/DME JXN 109.6 Chan 33 | APP CRS 325° | Rwy Idg TDZE Apt Elev | 4000 1001 1001 |
|---|------------------------|-----------------------------|---|

VOR RWY 32

JACKSON COUNTY-REYNOLDS FIELD (JXN)

| | |
|--|--|
| Visibility reduction by helicopters NA. When local altimeter setting not received, use Mason altimeter setting and increase all MDA 60 feet, increase all Cat C/D visibilities 1/4 mile. | MISSED APPROACH: Climb to 3000 via JXN R-344 to LESSY Int/JXN 11.4 DME and hold. |
|--|--|

| | | | | | |
|------------------------|---------------------------------------|--|-------------------------|--------------------------|-------------------------|
| ATIS 125.725 | LANSING APP CON 127.3 357.6 | JACKSON TOWER* 128.475(CTAF) 257.8 | GND CON 121.9 | CLNC DEL 121.9 | UNICOM 122.95 |
|------------------------|---------------------------------------|--|-------------------------|--------------------------|-------------------------|



| CATEGORY | A | | B | | C | | D | |
|----------------|--------|-------------|---------|--------------|---------|--------------|---------|--------------|
| | 1600-1 | 599 (600-1) | 1600-1 | 599 (600-1) | 1600-1½ | 599 (600-1½) | 1600-1¾ | 599 (600-1¾) |
| S-32 | 1600-1 | 599 (600-1) | 1600-1 | 599 (600-1) | 1600-1½ | 599 (600-1½) | 1600-1¾ | 599 (600-1¾) |
| CIRCLING | 1600-1 | 599 (600-1) | 1600-1 | 599 (600-1) | 1600-1½ | 599 (600-1½) | 1640-2 | 639 (700-2) |
| TOTHY MINIMUMS | | | | | | | | |
| S-32 | 1460-1 | 459 (500-1) | 1460-1¼ | 459 (500-1¼) | 1460-1½ | 459 (500-1½) | 1460-1½ | 459 (500-1½) |
| CIRCLING | 1520-1 | 519 (600-1) | 1520-1½ | 519 (600-1½) | 1520-1½ | 519 (600-1½) | 1640-2 | 639 (700-2) |

JACKSON, MICHIGAN
Amdt 18 22OCT09

JACKSON COUNTY-REYNOLDS FIELD (JXN)
42°16'N - 84°28'W

VOR RWY 32

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

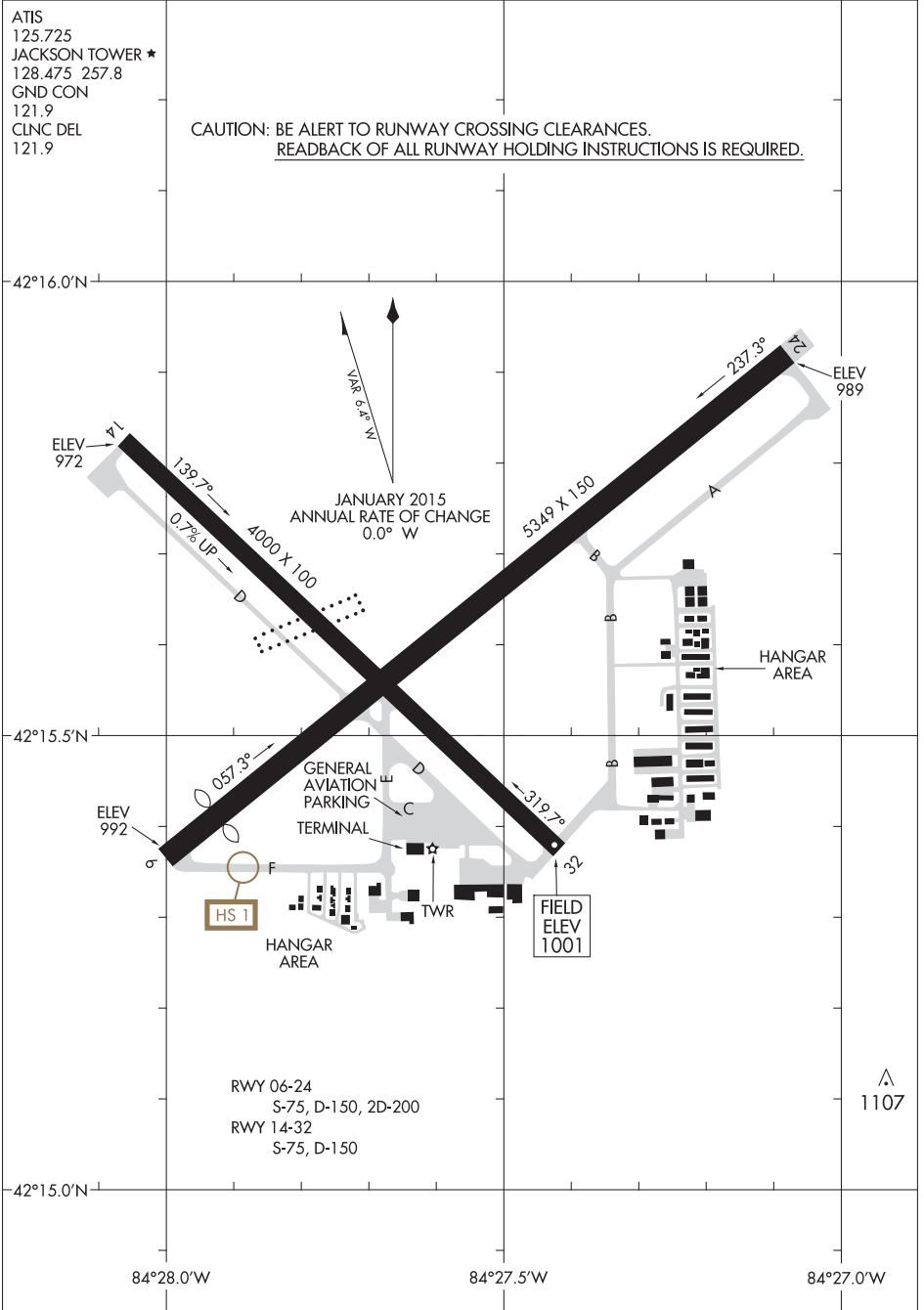
JACKSON COUNTY-REYNOLDS FIELD (JXN)
AL-861 (FAA)
JACKSON, MICHIGAN

ATIS
125.725
JACKSON TOWER ★
128.475 257.8
GND CON
121.9
CLNC DEL
121.9

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



AIRPORT DIAGRAM

JACKSON, MICHIGAN
JACKSON COUNTY-REYNOLDS FIELD (JXN)

KALAMAZOO, MICHIGAN

AL-717 (FAA)

16203

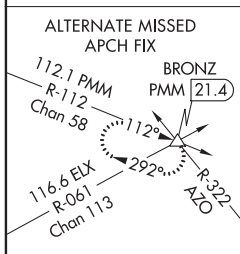
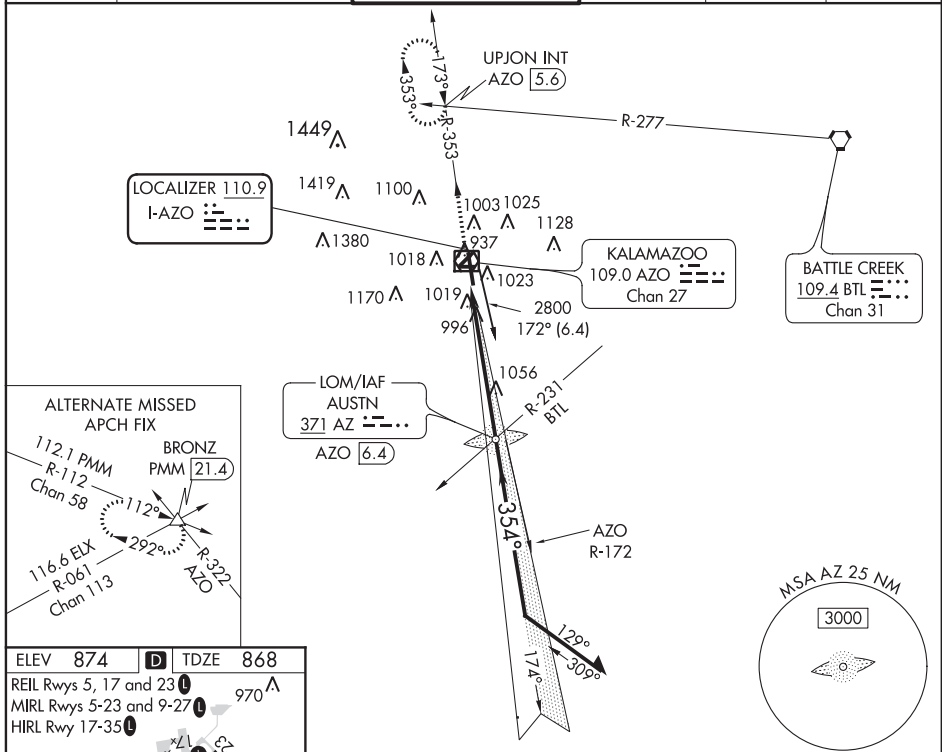
| | | | |
|---------------------------|------------------------|-----------------------------|---|
| LOC I-AZO 110.9 | APP CRS 354° | Rwy Idg TDZE Apt Elev | 6502 868 874 |
|---------------------------|------------------------|-----------------------------|---|

ILS or LOC RWY 35

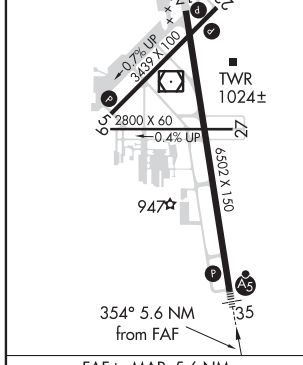
KALAMAZOO/BATTLE CREEK INTL (AZO)

| | | | |
|-----------------------------|--|-----------|---|
| N A ASR | Night landing: Rwy 5, 9, 23, 27 NA. *RVR 1800 authorized with the use of FD or AP or HUD to DA. | MALSR | MISSED APPROACH: Climb to 2600 via AZO VOR/DME R-353 to UPJON INT/AZO 5.6 DME and hold. |
|-----------------------------|--|-----------|---|

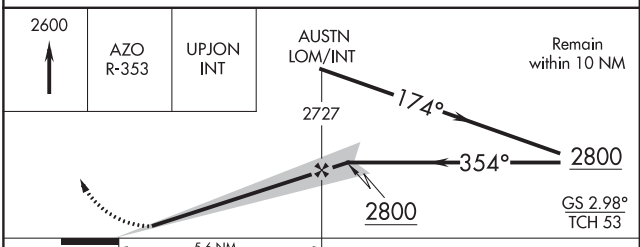
| | | | | | |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|
| ATIS 127.25 | KALAMAZOO APP CON * 121.2 239.25 | KALAMAZOO TOWER * 118.3 (CTAF) 0 257.875 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|



| | | |
|-------------------------|----------|----------|
| ELEV 874 | D | TDZE 868 |
| REIL Rwys 5, 17 and 23 | | 970 A |
| MIRL Rwys 5-23 and 9-27 | | |
| HIRL Rwy 17-35 | | |



| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 5.6 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:36 | 3:44 | 2:48 | 2:14 | 1:52 |



| | | | | |
|----------|----------------------|-------------|-------------------------|------------------------|
| CATEGORY | A | B | C | D |
| S-ILS 35 | *1068/24 200 (200-½) | | | |
| S-LOC 35 | 1320/24 | 452 (500-½) | 1320/40 452 (500-¾) | 1320/50 452 (500-1) |
| CIRCLING | 1380-1 | 506 (600-1) | 1380-1½ 506 (600-1½) | 1440-2 566 (600-2) |

KALAMAZOO, MICHIGAN
Amdt 22C 03APR14

42°14'N-85°33'W

KALAMAZOO/BATTLE CREEK INTL (AZO)

ILS or LOC RWY 35

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 56321 W05A | APP CRS 048° | Rwy Idg TDZE Apf Elev | 3439 874 874 |
|--|------------------------|-----------------------------|---|

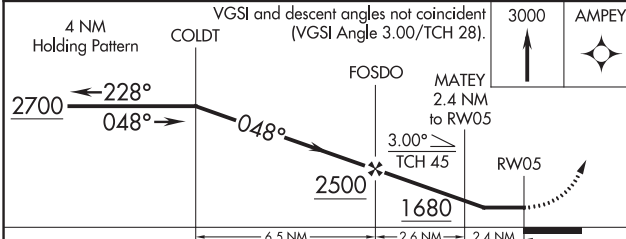
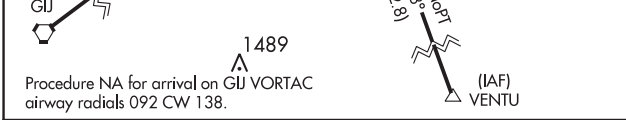
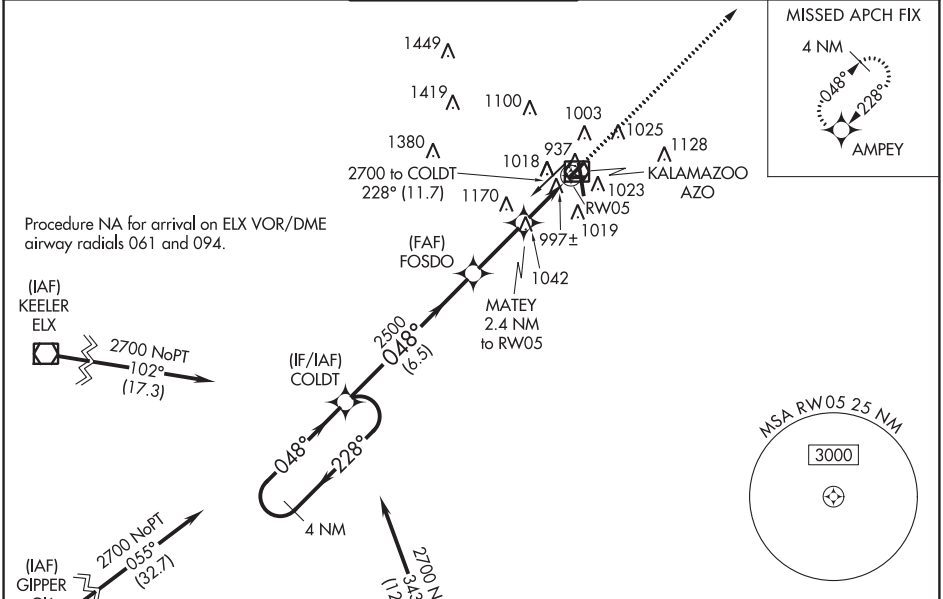
RNAV (GPS) RWY 5
KALAMAZOO/BATTLE CREEK INTL (AZO)

⚠️
ASR

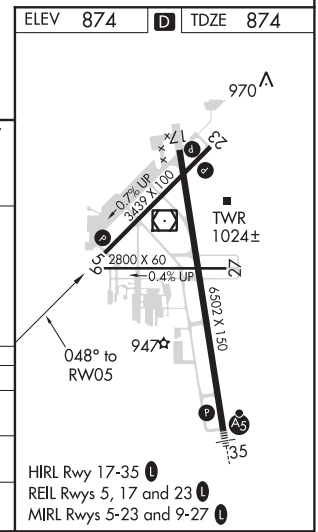
Night landing: Rwy 5, 9, 23, 27 NA.
When local altimeter setting not received, use Battle Creek altimeter setting and increase all MDA 60 feet, LP Cat C visibility to 1 3/8 and LNAV/Circling Cat C visibility to 1 3/8.
DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3000 direct AMPEY and hold.

| | | | | | |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|
| ATIS 127.25 | KALAMAZOO APP CON * 121.2 239.25 | KALAMAZOO TOWER * 118.3 (CTAF) 0 257.875 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------------|----|
| LP MDA | 1260-1 | 386 (400-1) | 1260-1 1/8 386 (400-1 1/8) | NA |
| LNAV MDA | 1360-1 | 486 (500-1) | 1360-1 3/8 486 (500-1 3/8) | NA |
| CIRCLING | 1380-1 | 506 (600-1) | 1380-1 1/2 506 (600-1 1/2) | NA |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 57933 W17A | APP CRS 174° | Rwy Idg TDZE Apt Elev | 6502 867 874 |
|--|------------------------|-----------------------------|---|

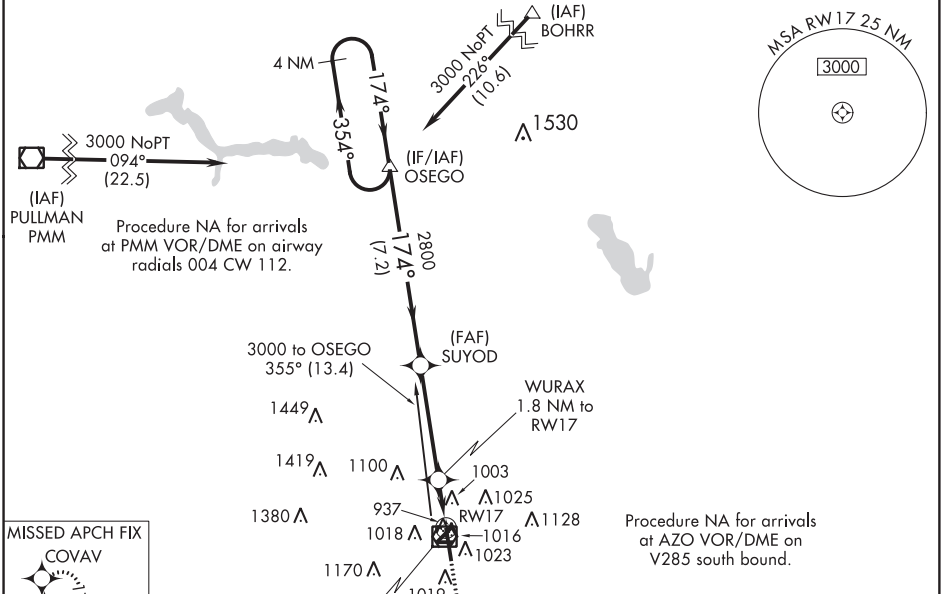
RNAV (GPS) RWY 17

KALAMAZOO/BATTLE CREEK INTL (AZO)

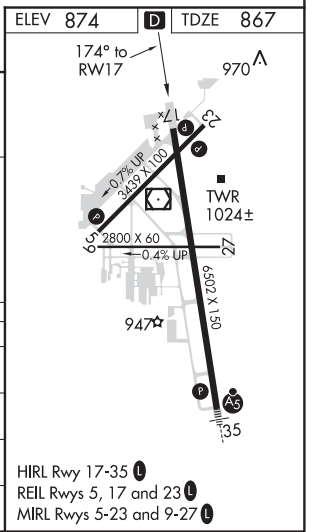
ASR Baro-VNAV NA when using Battle Creek altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -21°C (-5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below 3/4 SM not authorized. When local altimeter setting not received, use Battle Creek altimeter setting and increase all DA 44 feet and all MDA 60 feet. Increase LPV all Cats and LNAV Cat C/D visibility 1/8 mile. Increase LNAV/VNAV visibility all Cats 1/4 mile. Circling to Rwy 9/27 and 5/23 NA at night.

MISSED APPROACH: Climb to 2800 direct COVAV and hold.

| | | | | | |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|
| ATIS 127.25 | KALAMAZOO APP CON ★ 121.2 239.25 | KALAMAZOO TOWER ★ 118.3 (CTAF) 0 257.875 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|



| 4 NM Holding Pattern | | OSEGO | | SUYOD | | WURAX 1.8 NM to RW17 | | 2800 COVAV | |
|----------------------|--------|-------------|-------------|-----------------|--------|----------------------|--|------------|--|
| ← 354° | | → 174° | | → 174° | | → 1460 | | *NAV only. | |
| GP 3.00° TCH 45 | | 7.2 NM | | 4.2 NM | | 1.8 | | | |
| CATEGORY | A | B | C | D | | | | | |
| LPV DA | | 1156-1 | 289 (300-1) | | | | | | |
| LNAV/VNAV DA | | 1185-1 | 318 (400-1) | | | | | | |
| LNAV MDA | 1320-1 | 453 (500-1) | 1320-1 3/8 | 453 (500-1 3/8) | | | | | |
| CIRCLING | 1380-1 | 506 (600-1) | 1480-1 3/4 | 606 (700-1 3/4) | 1480-2 | 606 (700-2) | | | |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

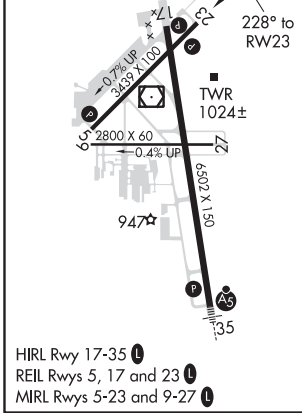
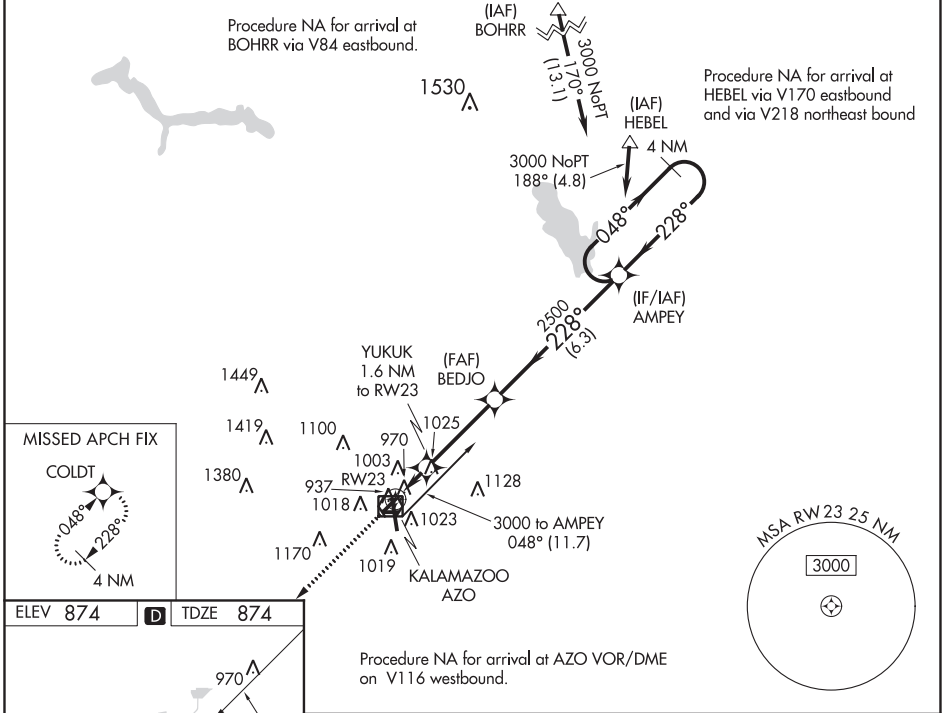
| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 61021 W23A | APP CRS 228° | Rwy Idg TDZE Apt Elev | 3439 874 874 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 23

KALAMAZOO/BATTLE CREEK INTL (AZO)

| | | |
|-------------------|--|--|
| <p>ASR</p> | <p>DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Battle Creek altimeter setting and increase all MDA 60 feet, LP Cat C visibility to 1¼ and LNAV Cat C visibility to 1¾. Night landing: Rwy's 5, 9, 23, 27 NA.</p> | <p>MISSED APPROACH: Climb to 2700 direct COLDT and hold.</p> |
|-------------------|--|--|

| | | | | | |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|
| ATIS 127.25 | KALAMAZOO APP CON * 121.2 239.25 | KALAMAZOO TOWER * 118.3 (CTAF) 0 257.875 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|



| | | | | |
|----------|--------------------|-------------|-------------------------|----|
| CATEGORY | A | B | C | D |
| LP MDA | 1220-1 346 (400-1) | | | NA |
| LNAV MDA | 1280-1 | 406 (500-1) | 1280-1¼ 406 (500-1¼) | NA |
| CIRCLING | 1380-1 | 506 (600-1) | 1380-1½ 506 (600-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 61102 W35A | APP CRS 354° | Rwy Idg 6502 TDZE 868 Apt Elev 874 |
|--|------------------------|---|

RNAV (GPS) RWY 35

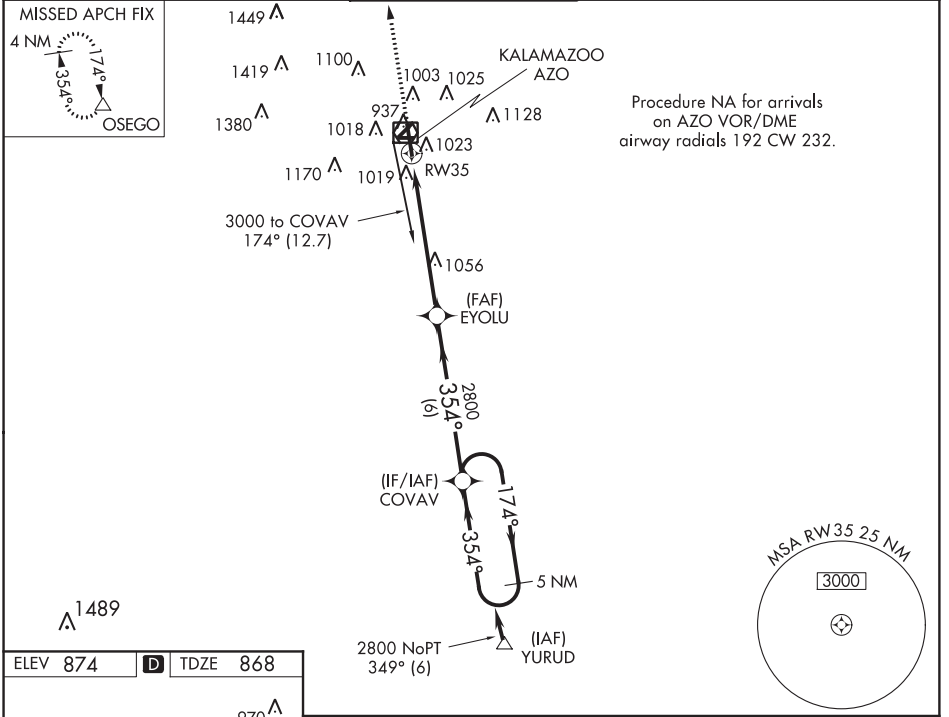
KALAMAZOO/BATTLE CREEK INTL (AZO)

▼ For inoperative MALSR, increase LPV all Cats visibility to RVR 5000. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 49°C (121°F).
 ASR DME/DME RNP-0.3 NA. Night landing: Rwy 5, 9, 23, 27 NA.

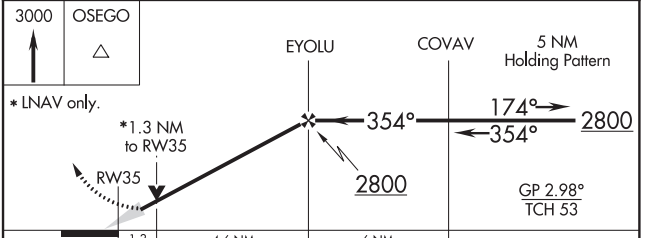
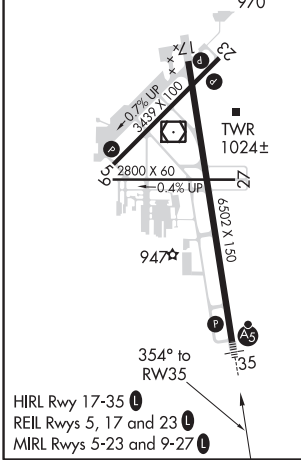
MALSR

MISSED APPROACH:
 Climb to 3000 direct OSEGO and hold.

| | | | | | |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|
| ATIS 127.25 | KALAMAZOO APP CON * 121.2 239.25 | KALAMAZOO TOWER * 118.3 (CTAF) 0 257.875 | GND CON 121.9 | CLNC DEL 121.75 | UNICOM 122.95 |
|-----------------------|--|--|-------------------------|---------------------------|-------------------------|



| | | |
|-----------------|----------|-----------------|
| ELEV 874 | D | TDZE 868 |
|-----------------|----------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|---------|-------------|-------------------------|------------------------|
| LPV DA | | 1134/24 | 266 (300-½) | |
| LNAV/VNAV DA | | 1283/50 | 415 (500-1) | |
| LNAV MDA | 1320-24 | 452 (500-½) | 1320/40 452 (500-¾) | 1320/50 452 (500-1) |
| CIRCLING | 1380-1 | 506 (600-1) | 1380-1½ 506 (600-1½) | 1440-2 566 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

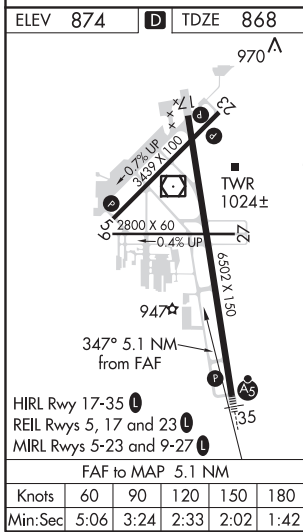
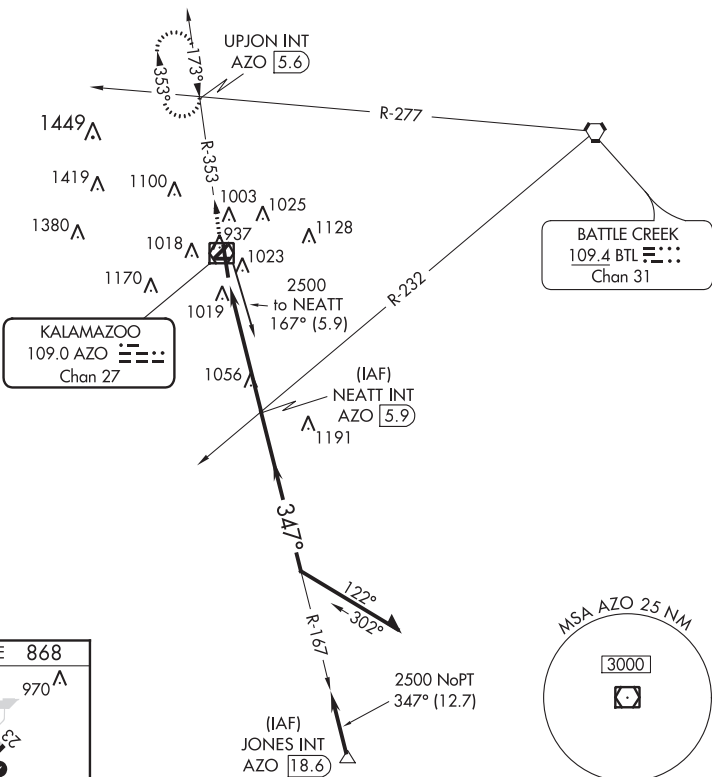
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|-------------|---------|----------|------|
| VOR/DME AZO | APP CRS | Rwy Idg | 6502 |
| 109.0 | 347° | TDZE | 868 |
| Chan 27 | | Apt Elev | 874 |

VOR RWY 35

KALAMAZOO/BATTLE CREEK INTL (AZO)

| | | | | | |
|---|--|---|--|--|-------------------------|
| <p>For inoperative MALSR, increase S-35 Cat A and B visibility to RVR 5000. Night landing: Rwys 5, 9, 23, 27, NA.</p> | | MISSED APPROACH: Climb to 2600 via AZO R-353 to UPJON INT/AZO 5.6 DME and hold. | | | |
| | | ATIS 127.25 | KALAMAZOO APP CON * 121.2 239.25 | KALAMAZOO TOWER * 118.3 (CTAF) 257.875 | GND CON 121.9 |



| | | | | | |
|-----------|------------------------|----------------------|---------------------|--------------|-------------|
| 2600 ↑ | AZO R-353 UPJON INT | NEATT INT AZO 5.9 | Remain within 10 NM | | |
| | AZO 0.8 AZO 2.1 | 2500 347° 2500 | 167° 2500 | 2500 | |
| CATEGORY | | A | B | C | D |
| S-35 | | 1320/40 | 452 (500-¾) | 1320/50 | 452 (500-1) |
| CIRCLING | | 1380-1 | 506 (600-1) | 1380-1½ | 1440-2 |
| | | | | 506 (600-1½) | 566 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

16315

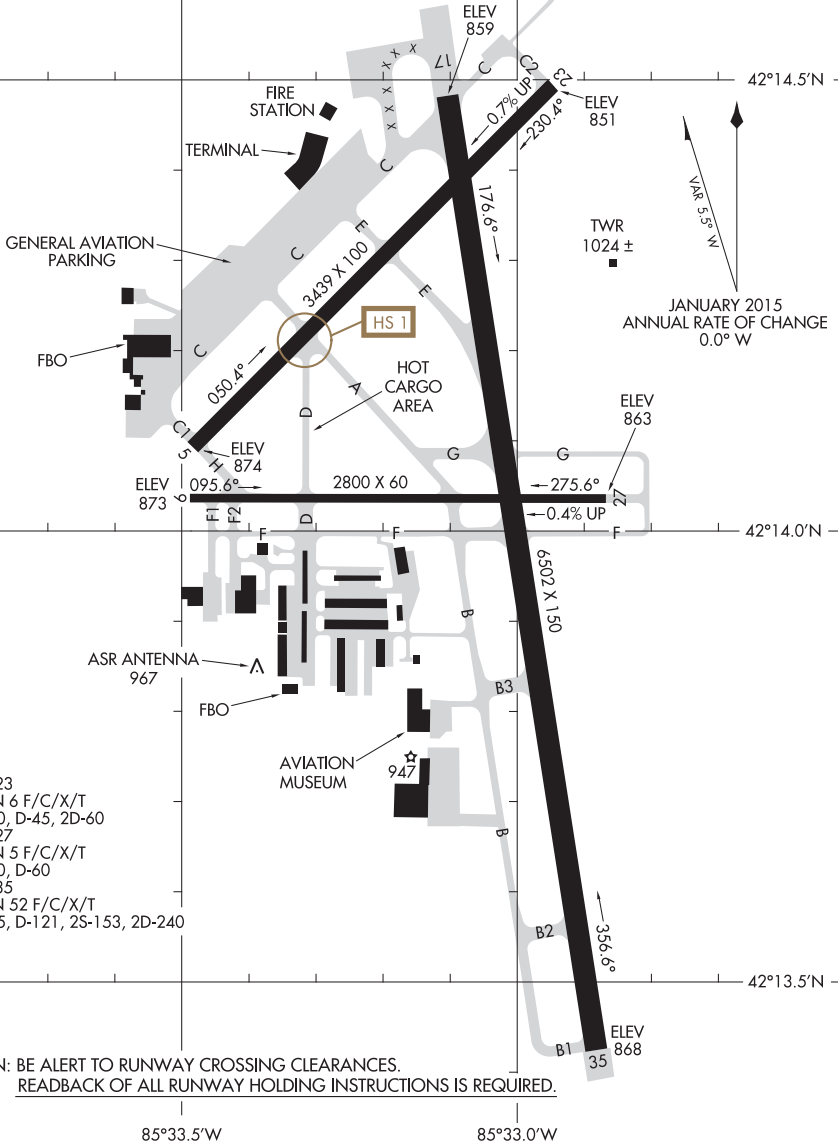
KALAMAZOO/BATTLE CREEK INTL (AZO)
KALAMAZOO, MICHIGAN

AL-717 (FAA)

FIELD
ELEV
874

ATIS
127.25
KALAMAZOO TOWER *
118.3 257.875
GND CON
121.9
CLNC DEL
121.75

D



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

LAKEVIEW, MICHIGAN

AL-9344 (FAA)

15232

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3499 |
| 274° | TDZE | 969 |
| | Apt Elev | 969 |

RNAV (GPS) RWY 28

LAKEVIEW-GRIFFITH FIELD (13C)

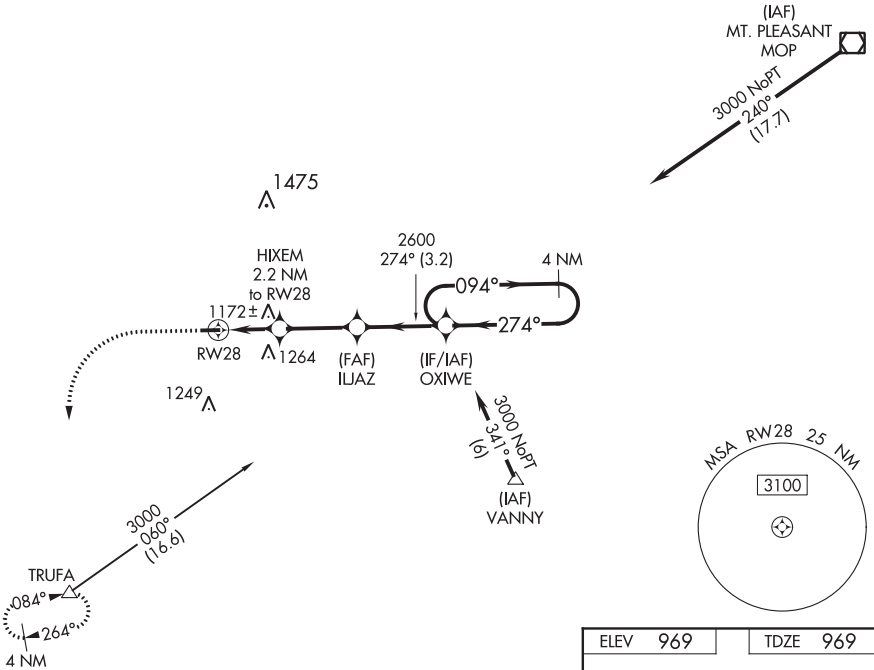
⚠ NA Use Big Rapids altimeter setting; when not received, use Mount Pleasant altimeter setting and increase all MDA 40 ft. DME/DME RNP-0.3 NA. Procedure NA at night. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 1800 then climbing left turn to 3000 direct TRUFA and hold.

BIG RAPIDS AWOS-3
125.875

GRAND RAPIDS APP CON*
124.6 257.6

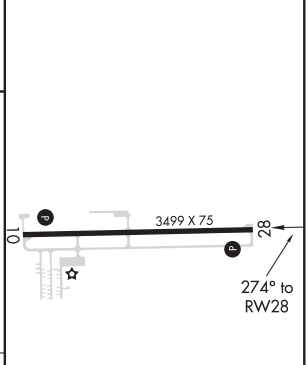
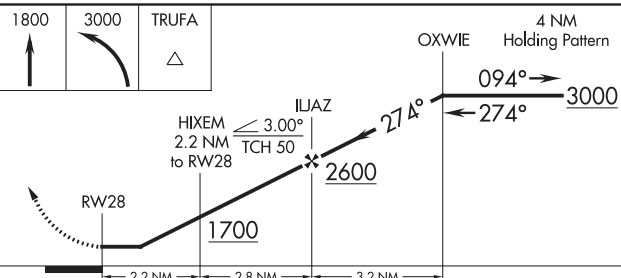
UNICOM
122.8 (CTAF) 0



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|------|-----|------|-----|
| ELEV | 969 | TDZE | 969 |
|------|-----|------|-----|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|----|---|
| LNVA MDA | 1480-1 | 511 (600-1) | NA | |
| C CIRCLING | 1480-1 511 (600-1) | 1580-1 611 (700-1) | NA | |

MIRL Rwy 10-28 **0**
REIL Rwy 10 and 28 **0**

LAKEVIEW, MICHIGAN
Orig 20AUG15

43°27'N-85°16'W

LAKEVIEW-GRIFFITH FIELD (13C) RNAV (GPS) RWY 28

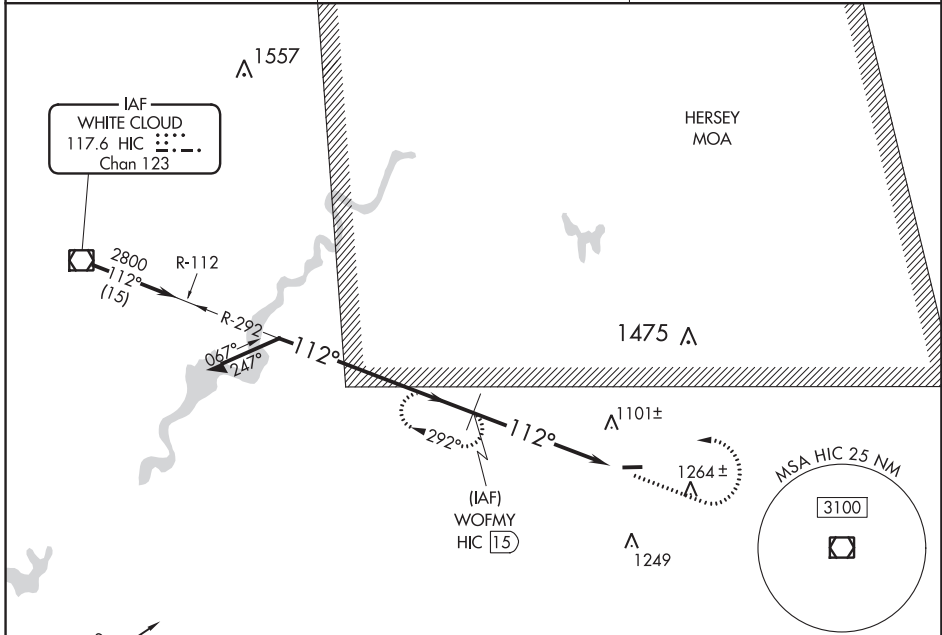
| | | | |
|--|------------------------|-----------------------------|---|
| VOR/DME HIC 117.6 Chan 123 | APP CRS 112° | Rwy Idg TDZE Apt Elev | 3499 969 969 |
|--|------------------------|-----------------------------|---|

VOR/DME RWY 10

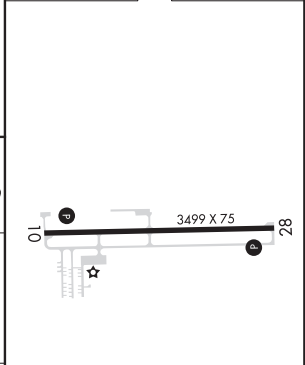
LAKEVIEW-GRIFFITH FIELD (13C)

NA Use Roben-Hood altimeter setting. MISSED APPROACH: Climb to 1800, then climbing left turn to 2800 via heading 260° and HIC VOR/DME R-112 to WOFMY and hold.

| | | |
|-------------------------------------|--|-------------------------------|
| ROBEN-HOOD AWOS-3 125.875 | GRAND RAPIDS APP CON * 124.6 257.6 | UNICOM 122.8 (CTAF) |
|-------------------------------------|--|-------------------------------|



| | |
|----------|----------|
| ELEV 969 | TDZE 969 |
|----------|----------|



| | | | | | |
|---------------------|----------------|--------|------|-----------|----------------|
| Remain within 10 NM | WOFMY HIC (15) | 1800 | 2800 | HIC R-112 | WOFMY HIC (15) |
| 2800 | 292° | 1800 | 2800 | hdg 260° | WOFMY HIC (15) |
| 2800 | 112° | 2800 | 112° | HIC 20.3 | |
| | | 5.3 NM | | 0.5 | |

| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------|---|----|
| S-10 | 1600-1 631 (700-1) | 1600-1¼ 631 (700-1¼) | | NA |
| CIRCLING | 1600-1 631 (700-1) | 1600-1¼ 631 (700-1¼) | | NA |

MIRL Rwy 10-28
REIL Rwy 10 and 28

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

LAMBERTVILLE, MICHIGAN

AL-5811 (FAA)

16203

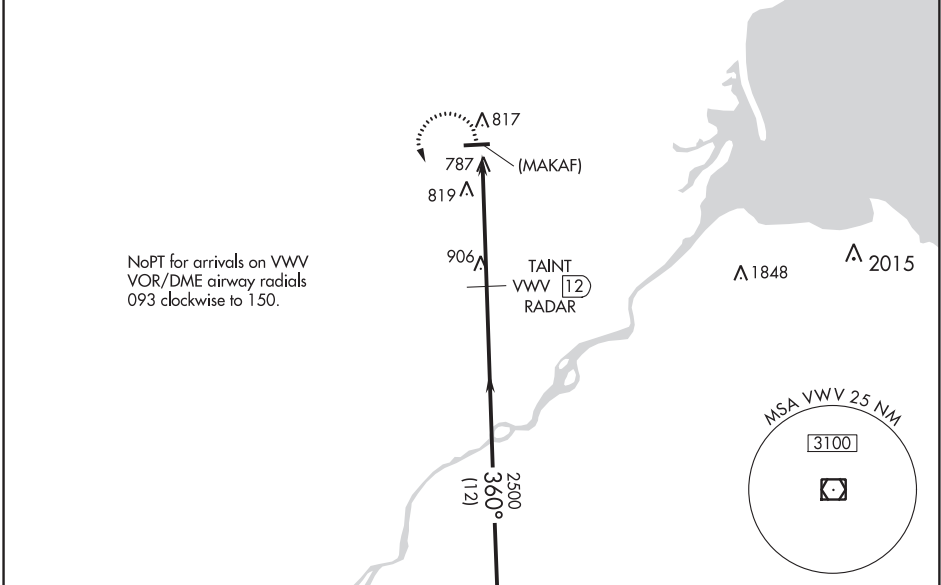
| | | | |
|--|------------------------|---------------------|------------|
| VOR/DME VVWV 113.1 Chan 78 | APP CRS 360° | Rwy Idg TDZE N/A | N/A |
| | | Apt Elev | 669 |

VOR or GPS-A
TOLEDO SUBURBAN (DUH)

| | |
|---|---|
| <p>▼ When local altimeter setting not received, use Toledo Express altimeter setting. Procedure NA at night. Helicopter visibility reduction below 1 SM NA.</p> <p>▲ NA</p> | <p>MISSED APPROACH: Climbing left turn to 2500 via VVW R-360 to VVW VOR/DME and hold.</p> |
|---|---|

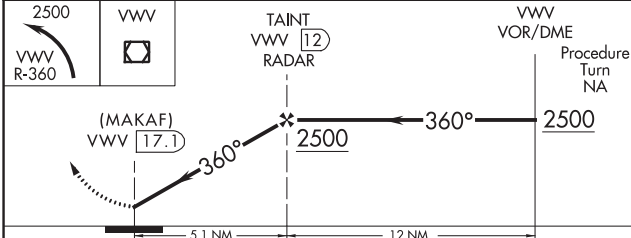
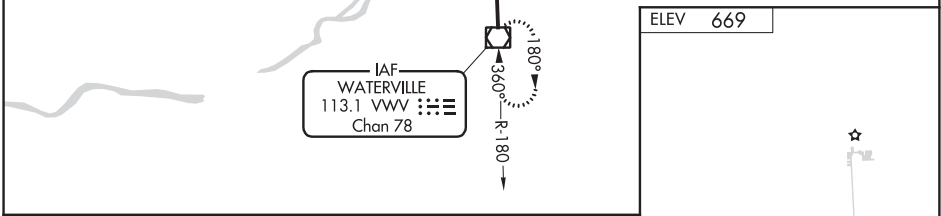
| | | | |
|--------------------------|---------------------------------------|-----------------------|-------------------------------|
| AWOS-3 119.175 | TOLEDO APP CON 126.1 317.55 | GCO 121.725 | UNICOM 122.7 (CTAF) |
|--------------------------|---------------------------------------|-----------------------|-------------------------------|

DME or RADAR REQUIRED



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | | | | | | | | | |
|----------|--------------------|---|----------------------|----|-------------------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 5.1 NM | | | | | |
| CIRCLING | 1320-1 651 (700-1) | | 1320-1¼ 651 (700-1¼) | NA | Knots | 60 | 90 | 120 | 150 | 180 |
| | | | | | Min:Sec | 5:06 | 3:24 | 2:33 | 2:02 | 1:42 |

LAMBERTVILLE, MICHIGAN
Amdt 7A 21JUL16

41°44'N-83°39'W

TOLEDO SUBURBAN (DUH)
VOR or GPS-A

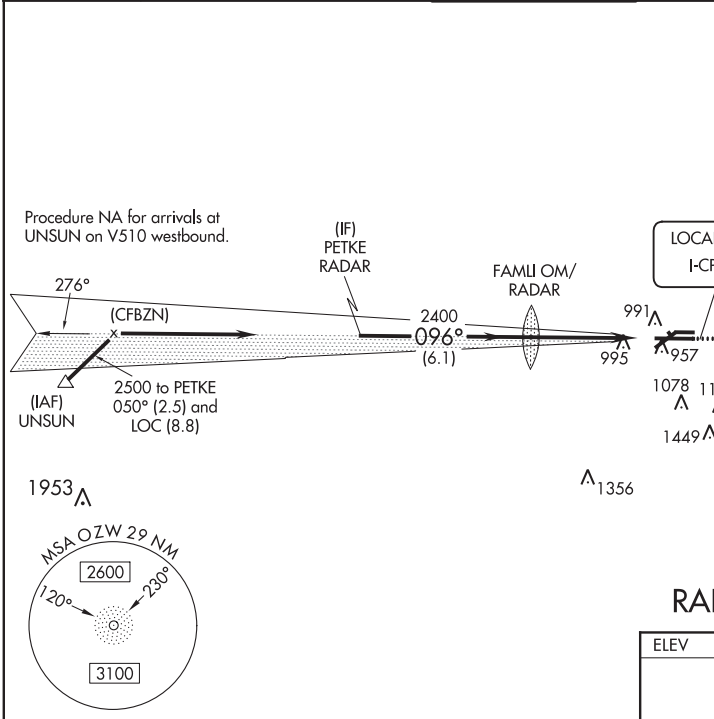
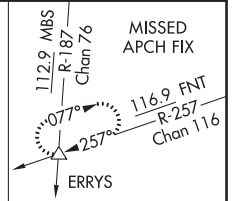
| | | |
|---------------------------|------------------------|---|
| LOC I-CPQ 111.7 | APP CRS 096° | Rwy Idg 8506 TDZE 861 Apt Elev 861 |
|---------------------------|------------------------|---|

ILS or LOC RWY 10R

CAPITAL REGION INTL (LAN)

| | | |
|--|--------------------|--|
| <p>▽ Night Landing: Rwy 10L, 28R NA. ▲ **RVR 1800 authorized with the use of FD or AP or HUD to DA.</p> | <p>MALSR </p> | <p>MISSED APPROACH: Climb to 2000 on heading 096° then climb to 2700 on heading 070° and FNT VORTAC R-257 to ERRYS INT and hold.</p> |
|--|--------------------|--|

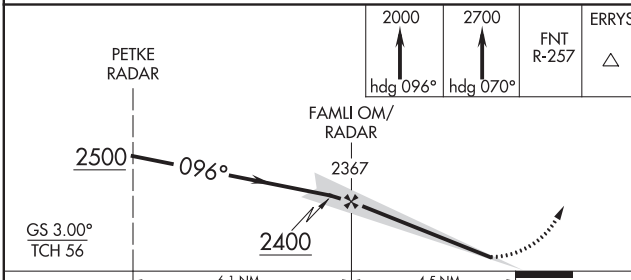
| | | | | |
|-------------------------------|---|--|----------------------------------|-------------------------------------|
| <p>ATIS 119.75</p> | <p>LANSING APP CON 133.475 226.4 (NORTH) 118.65 226.4 (SOUTH)</p> | <p>LANSING TOWER 119.9 240.9</p> | <p>GND CON 121.9</p> | <p>CLNC DEL 123.675</p> |
|-------------------------------|---|--|----------------------------------|-------------------------------------|



RADAR REQUIRED

| | | |
|----------|----------|----------|
| ELEV 861 | D | TDZE 861 |
|----------|----------|----------|

| | |
|---------------------------|--------------------------|
| REIL Rws 6 and 24 | 924± |
| HIRL Rwy 10R-28L | 101 |
| MIRL Rws 6-24 and 10L-28R | 3601 X 75 |
| FAF to MAP 4.5 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 4:30 3:00 2:15 1:48 1:30 |



| | | | | |
|-------------------|-----------------------|---------------------|--------------------|---|
| CATEGORY | A | B | C | D |
| S-ILS 10R | **1061/24 200 (200-½) | | | |
| S-LOC 10R | 1340/24 479 (500-½) | 1340/50 479 (500-1) | | |
| C CIRCLING | 1380-1 519 (600-1) | 1600-2 739 (800-2) | 1760-3 899 (900-3) | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

LANSING, MICHIGAN

AL-224 (FAA)

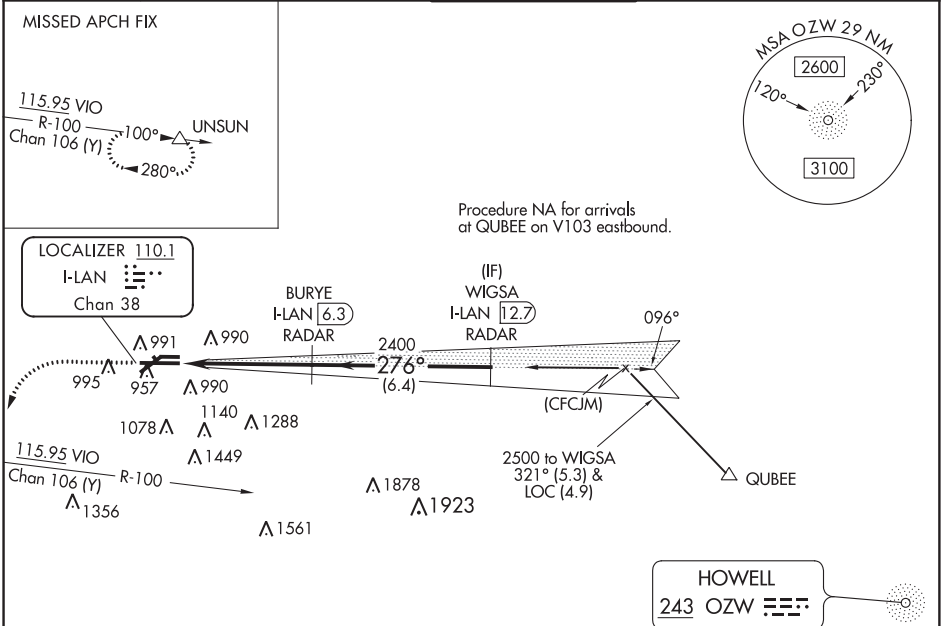
16203

| | | | |
|---|------------------------|-----------------------------|---|
| LOC/DME I-LAN 110.1 Chan 38 | APP CRS 276° | Rwy ldg TDZE Apt Elev | 8506 852 861 |
|---|------------------------|-----------------------------|---|

ILS or LOC RWY 28L

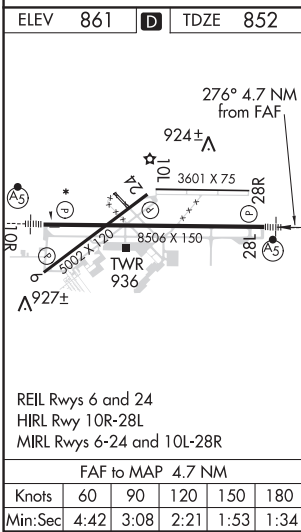
CAPITAL REGION INTL (LAN)

| | | | | |
|---|---------------|--|---|---|
| <p>DME required. Night landing: Rwy 10L, 28R NA. **RVR 1800 authorized with the use of FD or AP or HUD to DA.</p> | <p>MALS R</p> | <p>MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 on VIO VOR/DME R-100 to UNSUN/VIO 18.5 DME and hold.</p> | | |
| | | <p>ATIS 119.75</p> | <p>LANSING APP CON 133.475 226.4 (NORTH) 118.65 226.4 (SOUTH)</p> | <p>LANSING TOWER 119.9 240.9</p> |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DME OR RADAR REQUIRED

| | | | | |
|-----------|-----------------------|------------|---------------------|------------------------|
| 2500 | 3000 | VIO R-100 | UNSUB | WIGSA I-LAN 12.7 RADAR |
| LOC only | | | | BURYE I-LAN 6.3 RADAR |
| | | *I-LAN 2.8 | | 2400 |
| | | I-LAN 1.6 | | 276° 2500 |
| | | | | 2400 |
| | | | | GS 3.00° TCH 53 |
| CATEGORY | A | B | C | D |
| S-ILS 28L | **1052/24 200 (200-½) | | | |
| S-LOC 28L | 1300/24 448 (500-½) | | 1300/45 448 (500-¾) | |
| CIRCLING | 1380-1 519 (600-1) | | 1600-2 739 (800-2) | 1760-3 899 (900-3) |

LANSING, MICHIGAN
Amdt 27A 21JUL16

42°47'N-84°35'W

ILS or LOC RWY 28L

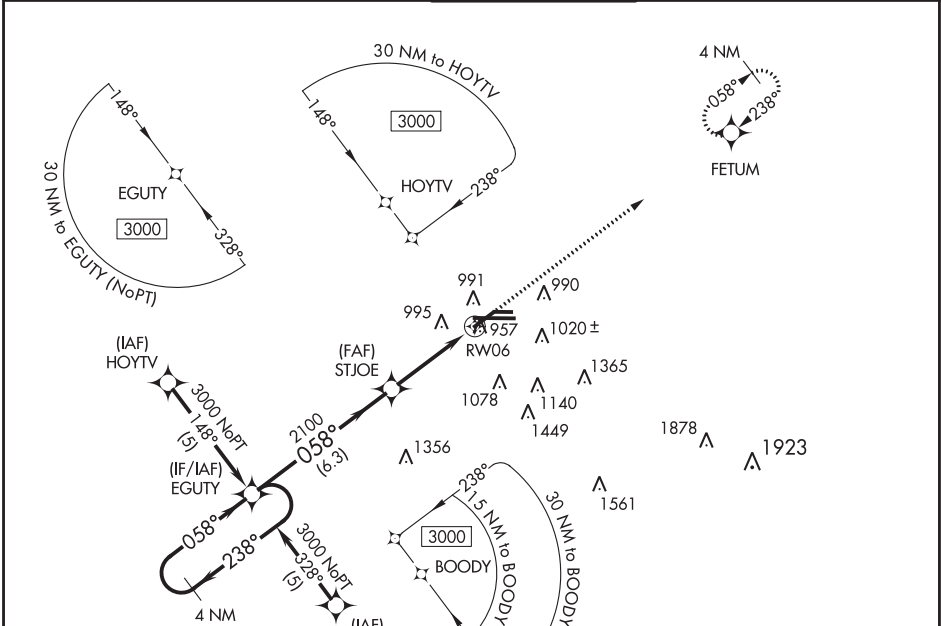
CAPITAL REGION INTL (LAN)

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 82118 W06A | APP CRS 058° | Rwy Idg TDZE Apt Elev | 5002 858 861 |
|--|------------------------|-----------------------------|---|

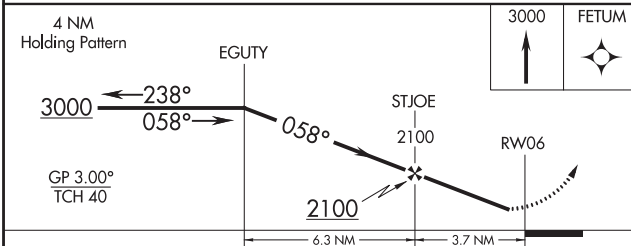
RNAV (GPS) RWY 6

CAPITAL REGION INTL (LAN)

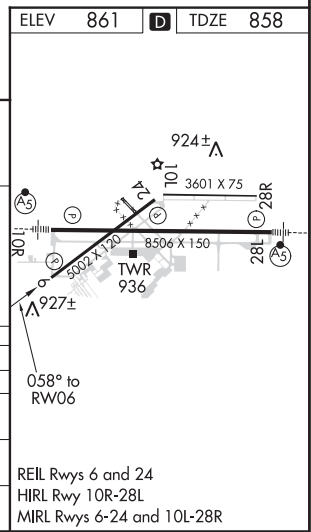
| | | | | |
|--|--|--|-------------------------|----------------------------|
| <p>ASR For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.</p> | | <p>MISSED APPROACH: Climb to 3000 direct FETUM and hold.</p> | | |
| ATIS 119.75 | LANSING APP CON 133.475 226.4 (NORTH) 118.65 226.4 (SOUTH) | LANSING TOWER 119.9 240.9 | GND CON 121.9 | CLNC DEL 123.675 |



| | | | | |
|------|-----|----------|------|-----|
| ELEV | 861 | D | TDZE | 858 |
|------|-----|----------|------|-----|



| CATEGORY | A | B | C | D |
|--------------|----------------------------|----------------------------|----------------------------|---|
| LPV DA | 1140-1 282 (300-1) | | | |
| LNAV/VNAV DA | 1338-1 3/4 480 (500-1 3/4) | | | |
| LNAV MDA | 1340-1 482 (500-1) | 1340-1 1/4 482 (500-1 1/4) | 1340-1 1/2 482 (500-1 1/2) | |
| CIRCLING | 1380-1 519 (600-1) | 1380-1 1/2 519 (600-1 1/2) | 1440-2 579 (600-2) | |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

LANSING, MICHIGAN

AL-224 (FAA)

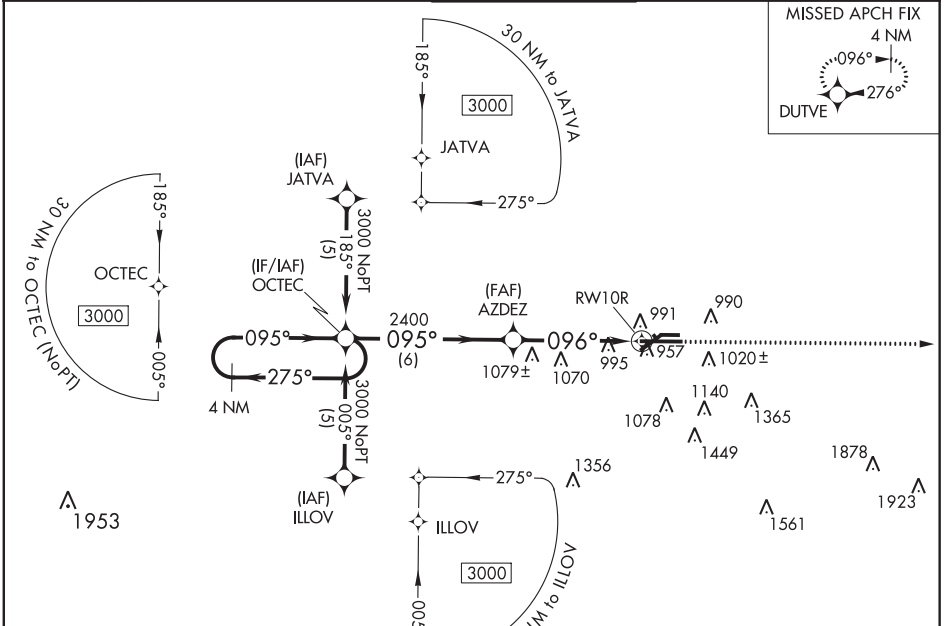
16091

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 61314 W10A | APP CRS 096° | Rwy Idg TDZE Apt Elev | 8506 861 861 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 10R

CAPITAL REGION INTL (L.AN)

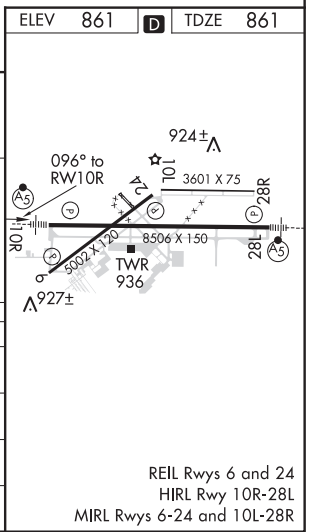
| | | | | |
|-----------------------|---|-------------------------------------|---|----------------------------|
| ASR | For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. | MALS R | MISSED APPROACH: Climb to 3000 direct DUTVE and hold. | |
| ATIS 119.75 | LANSING APP CON 133.475 226.4 (NORTH) 118.65 226.4 (SOUTH) | LANSING TOWER 119.9 240.9 | GND CON 121.9 | CLNC DEL 123.675 |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | | | |
|----------------------|---------|-------------|-------------------------|------------------------|---------|
| 4 NM Holding Pattern | | OCTEC | | 3000 | DUTVE |
| GP 3.00° TCH 56 | | AZDEZ | | 2400 | RWY 10R |
| 6 NM | | 3.3 NM | | 1.3 NM | |
| CATEGORY | A | B | C | D | |
| LPV DA | 1061/24 | | 200 (200-½) | | |
| LNAV/VNAV DA | 1290/50 | | 429 (500-1) | | |
| LNAV MDA | 1320/24 | 459 (500-½) | 1320/40 459 (500-¾) | 1320/50 459 (500-1) | |
| CIRCLING | 1380-1 | 519 (600-1) | 1380-1½ 519 (600-1½) | 1440-2 579 (600-2) | |



LANSING, MICHIGAN
Orig 27AUG09

42°47'N - 84°35'W

CAPITAL REGION INTL (L.AN)

RNAV (GPS) RWY 10R

REIL Rwy 6 and 24
HIRL Rwy 10R-28L
MIRL Rwy 6-24 and 10L-28R

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 50413 W24A | APP CRS 238° | Rwy Idg TDZE Apt Elev | 5002 857 861 |
|--|------------------------|-----------------------------|---|

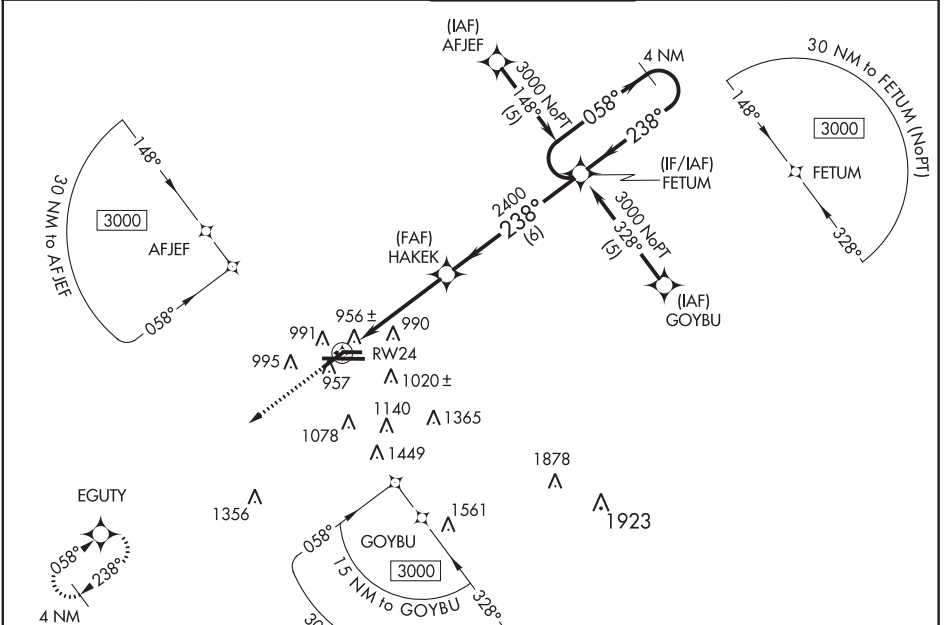
RNAV (GPS) RWY 24

CAPITAL REGION INTL (L.A.N)

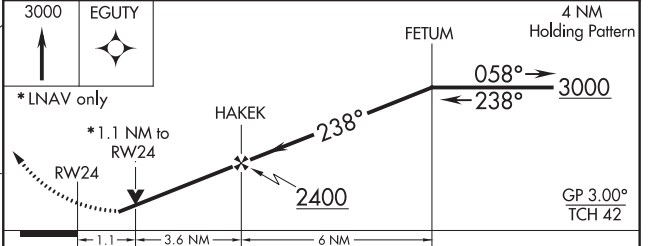
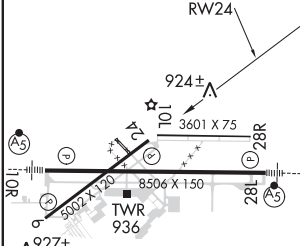
ASR For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 3000 direct EGUTY and hold.

| | | | | |
|-----------------------|--|-------------------------------------|-------------------------|----------------------------|
| ATIS 119.75 | LANSING APP CON 133.475 226.4 (NORTH) 118.65 226.4 (SOUTH) | LANSING TOWER 119.9 240.9 | GND CON 121.9 | CLNC DEL 123.675 |
|-----------------------|--|-------------------------------------|-------------------------|----------------------------|



| | | |
|----------|----------|----------|
| ELEV 861 | D | TDZE 857 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------|-------------------------|
| LPV DA | | 1215-1¼ | 358 (400-1¼) | |
| LNAV/VNAV DA | | 1254-1½ | 397 (400-1½) | |
| LNAV MDA | 1240-1 | 383 (400-1) | | 1240-1¼ 383 (400-1¼) |
| CIRCLING | 1380-1 | 519 (600-1) | 1380-1½ 519 (600-1½) | 1440-2 579 (600-2) |

REIL Rwy 6 and 24
HIRL Rwy 10R-28L
MIRL Rwy 6-24 and 10L-28R

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

LANSING, MICHIGAN

AL-224 (FAA)

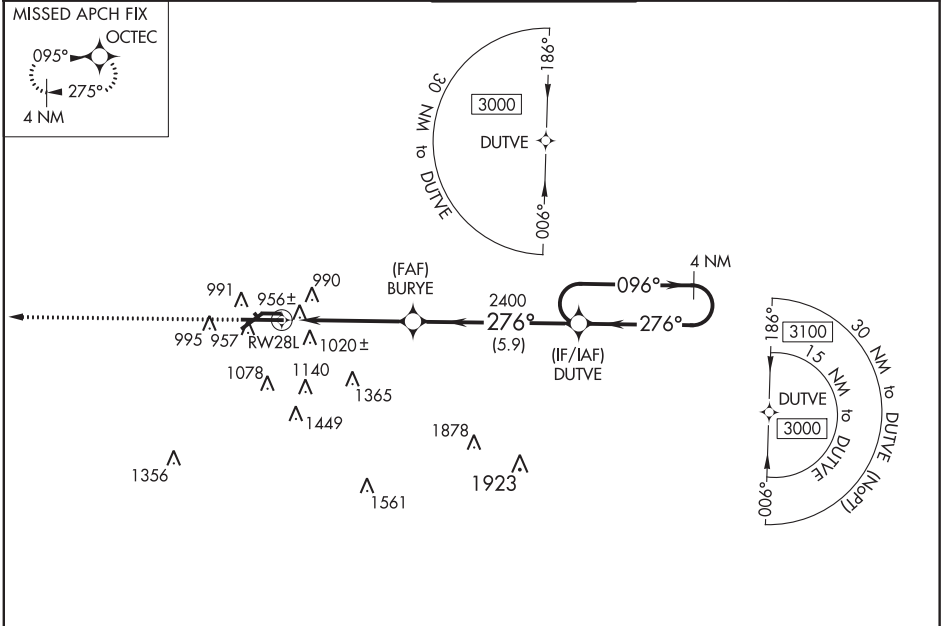
16091

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 40414 W28A | APP CRS 276° | Rwy Idg TDZE 852 Apt Elev 861 | 8506 |
|--|------------------------|---|-------------|

RNAV (GPS) RWY 28L

CAPITAL REGION INTL (LAN)

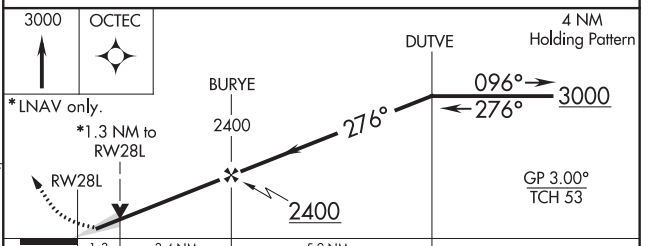
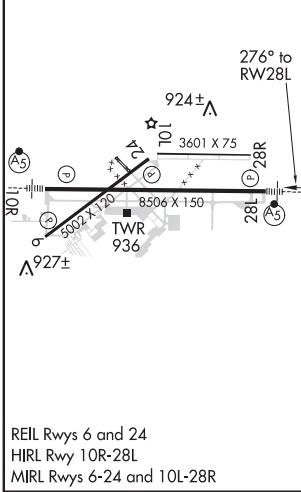
| | | | | |
|--|---------------|--|---|---|
| <p>For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Night Landing: Rwy 10L, 28R NA.</p> | <p>MALS R</p> | <p>MISSED APPROACH: Climb to 3000 direct OCTEC and hold.</p> | | |
| | | <p>ATIS 119.75</p> | <p>LANSING APP CON 133.475 226.4 (NORTH) 118.65 226.4 (SOUTH)</p> | <p>LANSING TOWER 119.9 240.9</p> |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|----------|----------|----------|
| ELEV 861 | D | TDZE 852 |
|----------|----------|----------|



| | | | | |
|-------------------|---------|-------------|-----------------------|-----------------------|
| | 1.3 | 3.4 NM | 5.9 NM | |
| CATEGORY | A | B | C | D |
| LPV DA | | 1052/24 | 200 (200-½) | |
| LNAV/VNAV DA | | 1174/28 | 322 (400-⅝) | |
| LNAV MDA | 1300/24 | 448 (500-½) | 1300/45 | 448 (500-⅞) |
| C CIRCLING | 1380-1 | 519 (600-1) | 1600-2 739 (800-2) | 1760-3 899 (900-3) |

LANSING, MICHIGAN
Amdt 1 13NOV14

42°47'N - 84°35'W

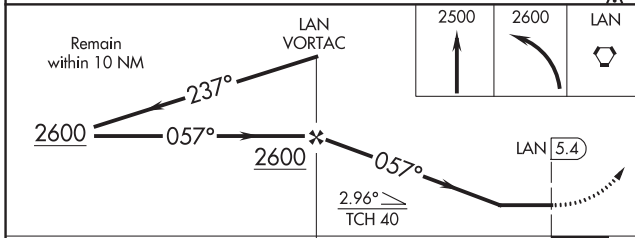
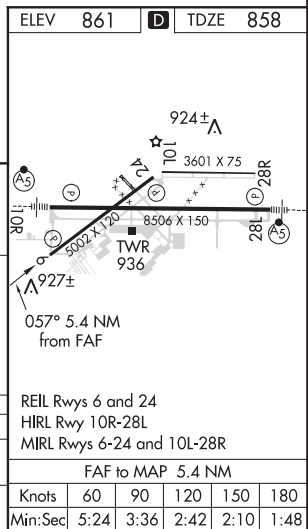
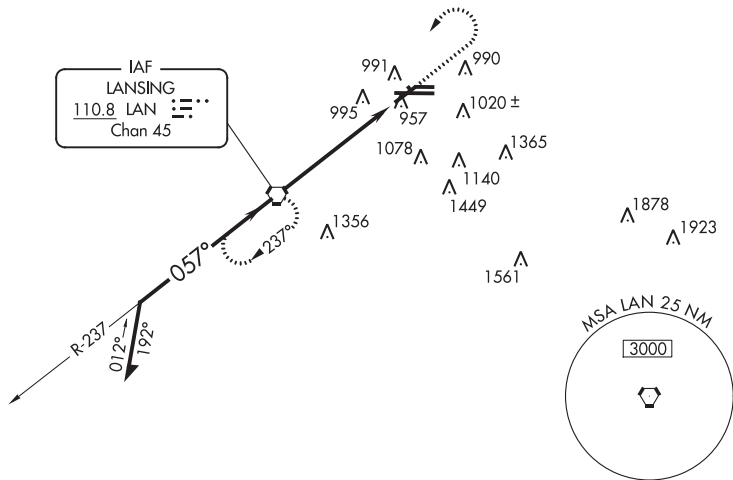
RNAV (GPS) RWY 28L

| | | |
|--|------------------------|---|
| VORTAC LAN 110.8 Chan 45 | APP CRS 057° | Rwy Idg 5002 TDZE 858 Apt Elev 861 |
|--|------------------------|---|

VOR RWY 6

CAPITAL REGION INTL (LAN)

| | | | | |
|---|---|---|---------------------------------|------------------------------------|
| <p>ASR Visibility reduction by helicopters NA.</p> | | <p>MISSED APPROACH: Climb to 2500 then climbing left turn to 2600 direct LAN VORTAC and hold.</p> | | |
| <p>ATIS 119.75</p> | <p>LANSING APP CON 133.475 226.4 (NORTH) 118.65 226.4 (SOUTH)</p> | <p>LANSING TOWER 119.9 240.9</p> | <p>GND CON 121.9</p> | <p>CLNC DEL 123.675</p> |



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------|----------------------|
| S-6 | 1340-1 482 (500-1) | | 1340-1½ 482 (500-1½) | 1340-1½ 482 (500-1½) |
| CIRCLING | 1380-1 519 (600-1) | | 1380-1½ 519 (600-1½) | 1440-2 579 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

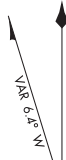
AL-224 (FAA)

CAPITAL REGION INTL (L.AN)
LANSING, MICHIGAN

FIELD
ELEV
861

ATIS
119.75
LANSING TOWER
119.9 240.9
GND CON
121.9
CLNC DEL
123.675

D



JANUARY 2015
ANNUAL RATE OF CHANGE
0.0° W

42°47'N

EC-1, 10 NOV 2016 to 05 JAN 2017

42°46'N

ELEV
860

10R

HANGARS

ELEV
858

HANGARS

097.0°

5002 X 120

059.4°

8506 X 150

239.4°

TERMINAL RAMP

TWR
936

TERMINAL

SE RAMP

TRANSIENT RAMP

MICHIGAN AERONAUTICS COMMISSION

CARGO RAMP

FIRE STATION

ELEV
848

E101

097.0°

3601 X 75

277.0°

E28R

ELEV
850

E1

E2

E3

E4

E5

E6

E7

E8

E9

E10

E11

E12

E13

E14

E15

E16

E17

E18

E19

E20

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E23

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E26

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E28

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E31

E32

E33

E34

E35

E36

E37

E38

E39

E40

E41

E42

EC-1, 10 NOV 2016 to 05 JAN 2017

- RWY 06-24
PCN 47 R/C/X/T
S-45, D-65, 2S-82, 2D-100
- RWY 10L-28R
PCN 3 F/B/Y/U
S-12
- RWY 10R-28L
PCN 65 R/B/W/T
S-100, D-175, 2S-175, 2D-300

CAUTION: BE ALERT TO RUNWAY
CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING
INSTRUCTIONS IS REQUIRED

84°36'W

84°35'W

AIRPORT DIAGRAM

| | | |
|--|------------------------|---|
| WAAS CH 56234 W18A | APP CRS 184° | Rwy Idg 3800 TDZE 835 Apt Elev 835 |
|--|------------------------|---|

RNAV (GPS) RWY 18

DUPONT-LAPEER (D95)

⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Flint altimeter setting and increase all MDAs 60 feet and increase LP Cat C visibility 1/8 mile, LNAV Cat C and Circling Cat C visibility 1/4 mile. Circling NA to Rwy 9 and 27.

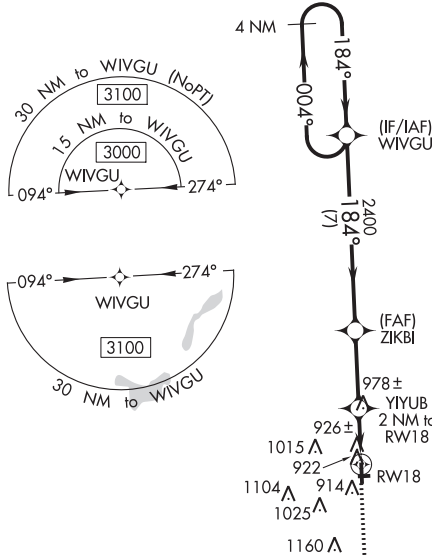
MISSED APPROACH:
Climb to 3000 direct ZUSDI and hold.

AWOS-3P
134.050

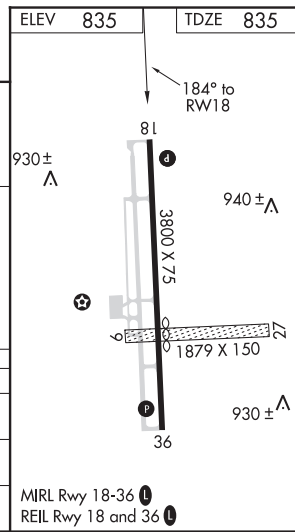
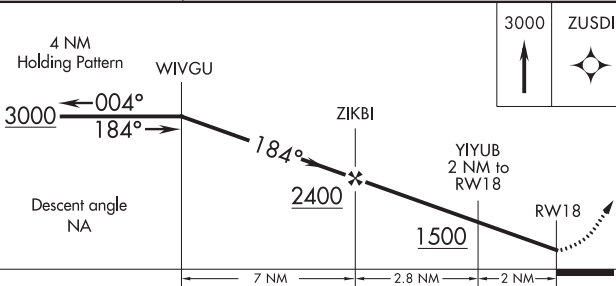
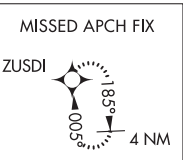
FLINT APP CON ★
118.8 257.9

UNICOM
123.0 (CTAF) **①**

⚠ 2013



⚠ 1300
⚠ 1207



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------------|----|
| LP MDA | 1180-1 345 (400-1) | | | NA |
| LNAV MDA | 1240-1 | 405 (500-1) | 1240-1 1/8 405 (500-1 1/8) | NA |
| C CIRCLING | 1300-1 465 (500-1) | 1380-1 545 (600-1) | 1460-1 3/4 625 (700-1 3/4) | NA |

MIRL Rwy 18-36 **①**
REIL Rwy 18 and 36 **①**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 60934 W36A | APP CRS 004° | Rwy Idg TDZE Apt Elev | 3800 832 835 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 36

DUPONT-LAPEER (D95)

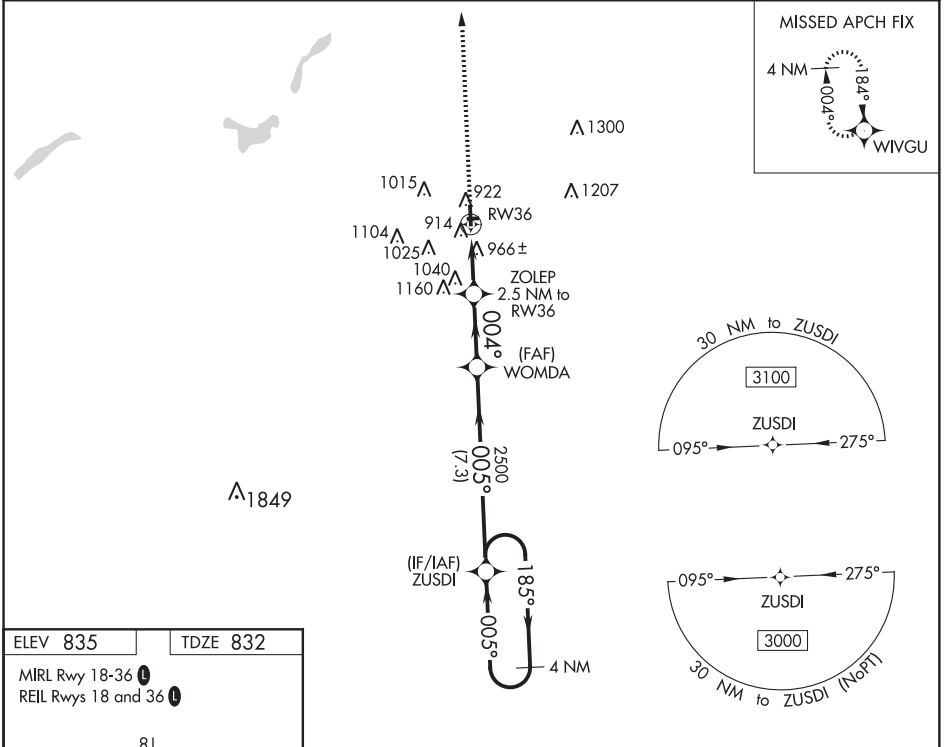
▽ DME/DME RNP-0.3 NA. Helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Flint altimeter setting and increase all MDA 60 feet and increase LNAV Cat C visibility ½ mile and LP Cat C and Circling Cat C visibility ¼ mile. Circling NA to Rwy 9 and 27.

MISSED APPROACH:
Climb to 3000 direct WIVGU and hold.

AWOS-3P
134.050

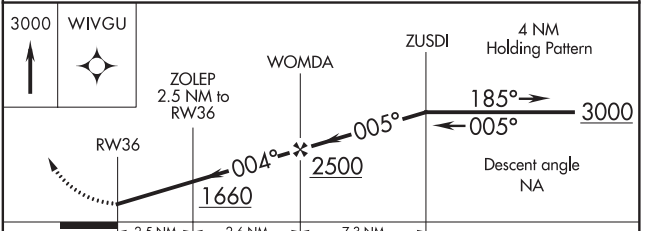
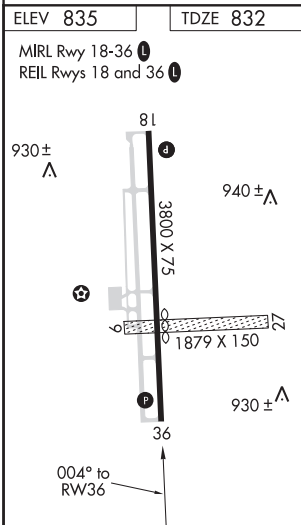
FLINT APP CON ★
118.8 257.9

UNICOM
123.0 (CTAF) **①**



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



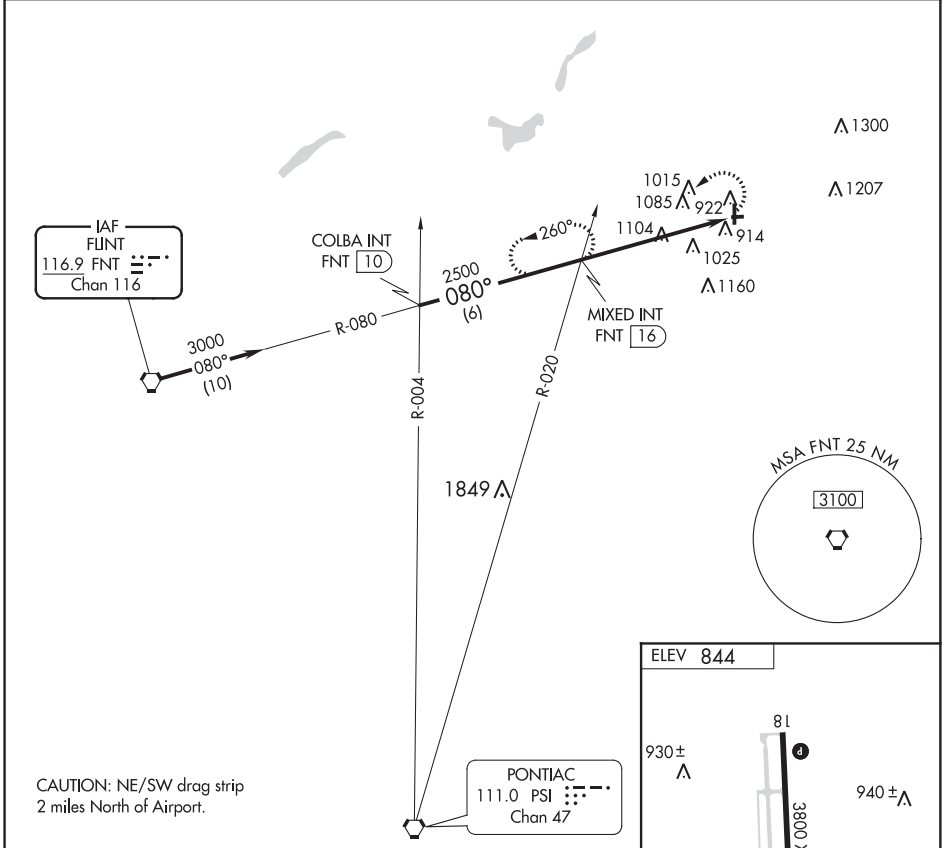
| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------|----|
| LP MDA | 1220-1 | 388 (400-1) | 1220-1½ 388 (400-1½) | NA |
| LNAV MDA | 1260-1 | 428 (500-1) | 1260-1¼ 428 (500-1¼) | NA |
| C CIRCLING | 1300-1 465 (500-1) | 1380-1 545 (600-1) | 1460-1¾ 625 (700-1¾) | NA |

| | | |
|---|------------------------|---|
| VORTAC FNT 116.9 Chan 116 | APP CRS 080° | Rwy Idg TDZE Apt Elev N/A N/A 844 |
|---|------------------------|---|

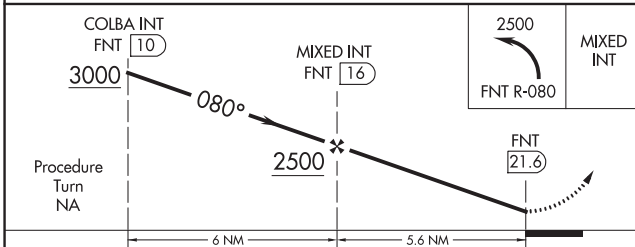
VOR-A
DUPONT-LAPEER (D95)

| | |
|---|--|
| <p>▼ Use Flint altimeter setting. Circling NA to Rwys 9 and 27. ▲ NA Helicopter visibility reduction below ¾ SM NA.</p> | <p>MISSED APPROACH: Climbing left turn to 2500 via FNT R-080 to MIXED INT/FNT 16 DME and hold.</p> |
|---|--|

| | | |
|---------------------------|---------------------------------------|--|
| AWOS-3P 134.050 | FLINT APP CON ★ 118.8 257.9 | UNICOM 123.0 (CTAF) ① |
|---------------------------|---------------------------------------|--|



CAUTION: NE/SW drag strip 2 miles North of Airport.



| | | | | | | | | | | |
|----------|-----------------------|-------------------------|-------------------------|----|-------------------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 5.6 NM | | | | | |
| CIRCLING | 1460-1 616 (700-1) | 1460-1¼ 616 (700-1¼) | 1460-1¾ 616 (700-1¾) | NA | Knots | 60 | 90 | 120 | 150 | 180 |
| | | | | | Min:Sec | 5:36 | 3:44 | 2:48 | 2:14 | 1:52 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3732 |
| 095° | TDZE | 919 |
| | Apt Elev | 920 |

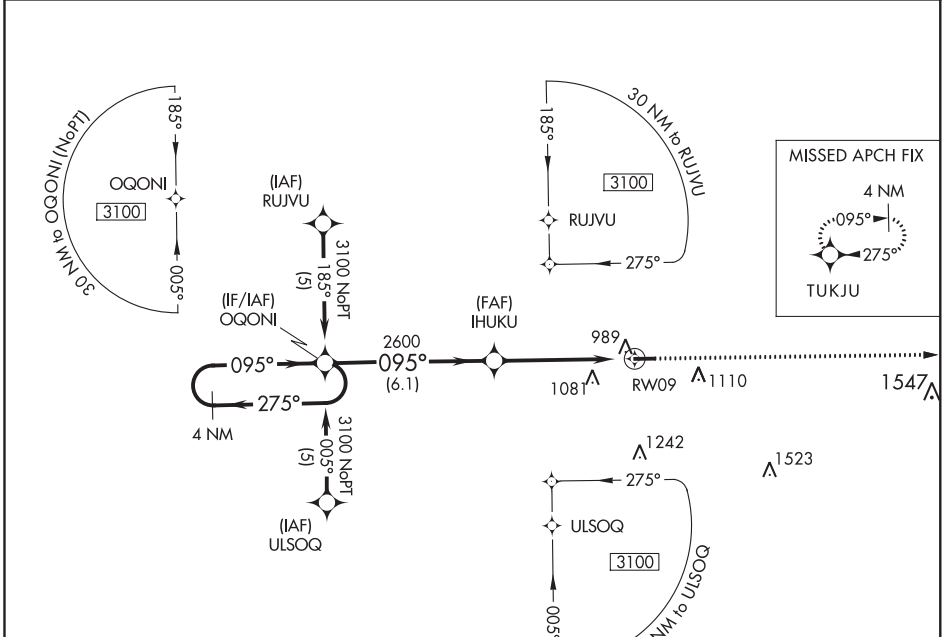
RNAV (GPS) RWY 9

PRICES (9G2)

V Use Flint altimeter setting; when not received, use Howell altimeter setting. DME/DME RNP-0.3 NA.

▲ NA MISSED APPROACH: Climb to 2900 direct TUKJU and hold.

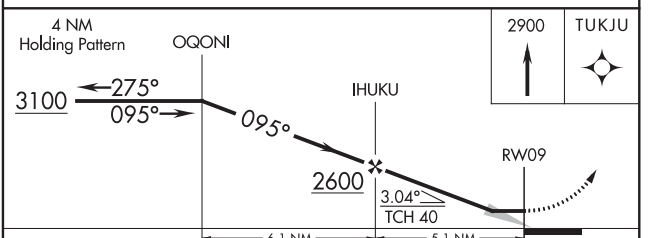
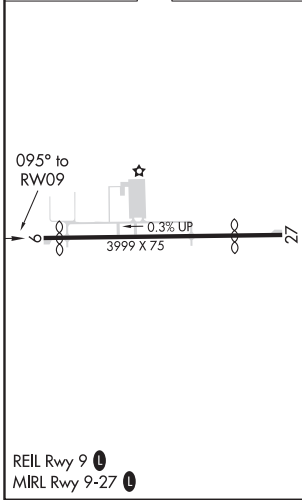
| | | |
|-----------------------------|---------------------------------------|--|
| FLINT ASOS 133.15 | FLINT APP CON * 118.8 257.9 | UNICOM 123.0 (CTAF) U |
|-----------------------------|---------------------------------------|--|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 920 | TDZE 919 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|---|----|
| LNAV MDA | 1400-1 | 481 (500-1) | | NA |
| CIRCLING | 1460-1 | 540 (600-1) | | NA |

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3199 |
| 275° | TDZE | 915 |
| | Apt Elev | 920 |

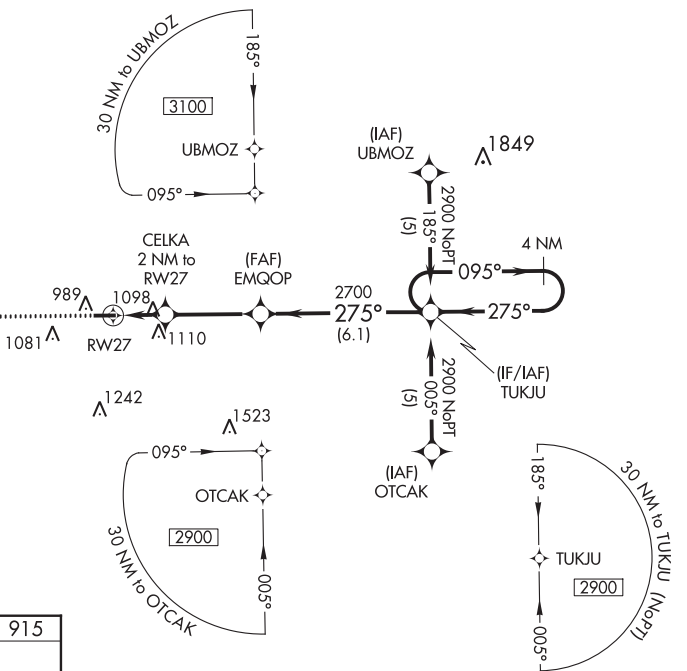
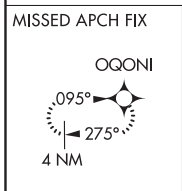
RNAV (GPS) RWY 27

PRICES (9G2)

▽ Use Flint altimeter setting; when not received, use Howell altimeter setting. DME/DME RNP-0.3 NA.

▲ NA MISSED APPROACH: Climb to 3100 direct OQONI and hold.

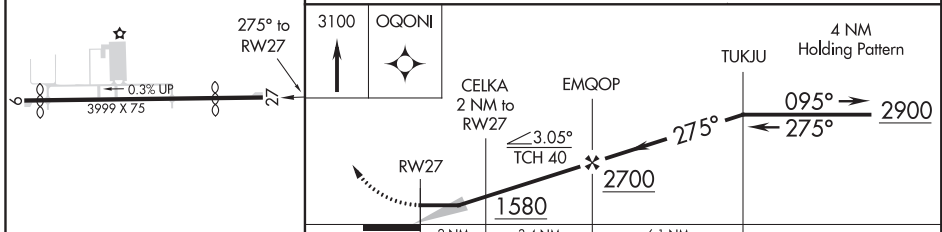
| | | |
|-----------------------------|---------------------------------------|---------------------------------|
| FLINT ASOS 133.15 | FLINT APP CON ★ 118.8 257.9 | UNICOM 123.0 (CTAF) 0 |
|-----------------------------|---------------------------------------|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 920 | TDZE 915 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|---|----|
| LNAV MDA | 1400-1 | 485 (500-1) | | NA |
| CIRCLING | 1460-1 | 540 (600-1) | | NA |

LINDEN, MICHIGAN

AL-6232 (FAA)

16147

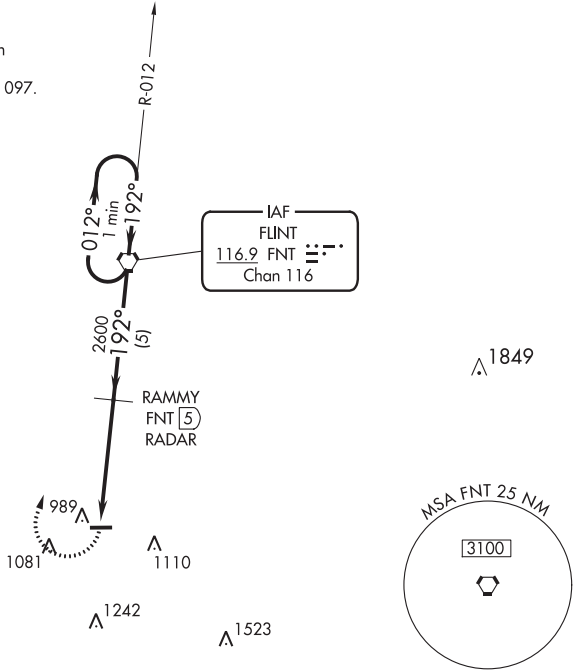
| | | |
|---|------------------------|---|
| VORTAC FNT 116.9 Chan 116 | APP CRS 192° | Rwy Idg TDZE Apt Elev N/A N/A 920 |
|---|------------------------|---|

VOR-A
PRICES (9G2)

| | |
|-------------------------------------|---|
| <p>Use Flint altimeter setting.</p> | <p>MISSED APPROACH: Climbing right turn to 2600 direct FNT VORTAC and hold.</p> |
|-------------------------------------|---|

| | |
|---|---------------------------------------|
| <p>FLINT APP CON * 118.8 257.9</p> | <p>UNICOM 123.0 (CTAF)</p> |
|---|---------------------------------------|

NoPT for arrivals on FNT VORTAC
airway radials 286 CW 097.



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

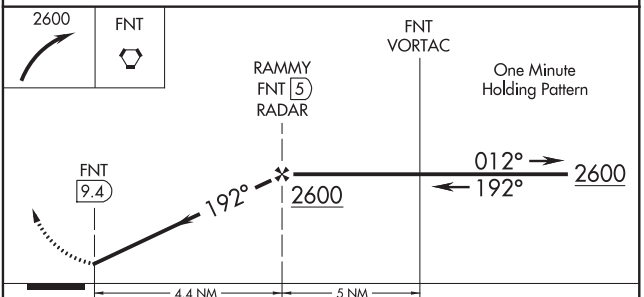
ELEV 920

192° 4.4 NM from FAF

REIL Rwy 9

MIRL Rwy 9-27

DME or RADAR REQUIRED



| | | | | |
|-------------------|--------------------|------|------|------|
| FAF to MAP 4.4 NM | | | | |
| CATEGORY | A | B | C | D |
| CIRCLING | 1460-1 540 (600-1) | | NA | |
| Knots | 60 | 90 | 120 | 150 |
| Min:Sec | 4:24 | 2:56 | 2:12 | 1:46 |
| | | | 1:28 | |

LINDEN, MICHIGAN

Orig-A 03JUL08

42°48'N-83°46'W

PRICES (9G2)
VOR-A

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5003 |
| 074° | TDZE | 643 |
| | Apt Elev | 646 |

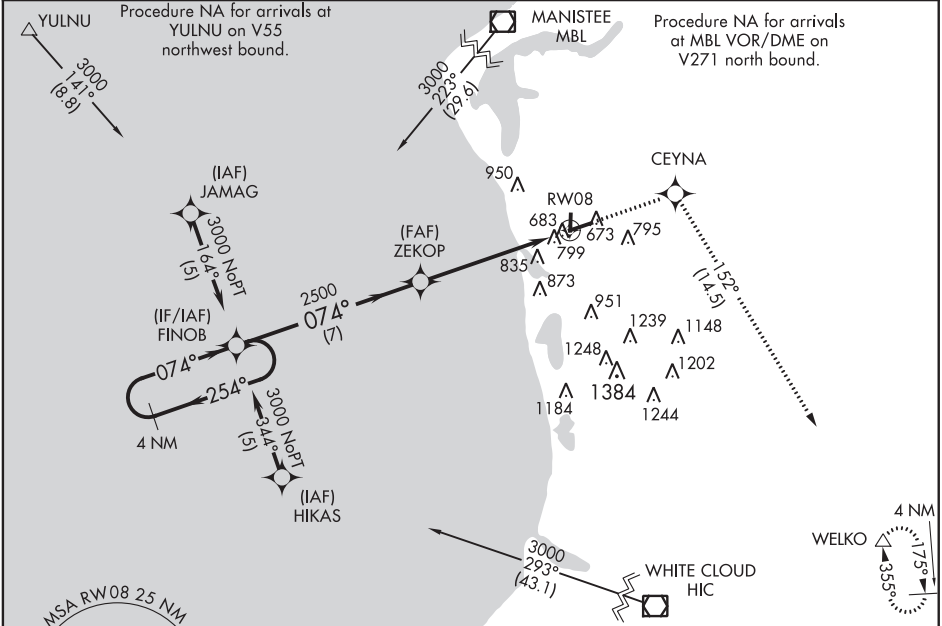
RNAV (GPS) RWY 8

MASON COUNTY (LDM)

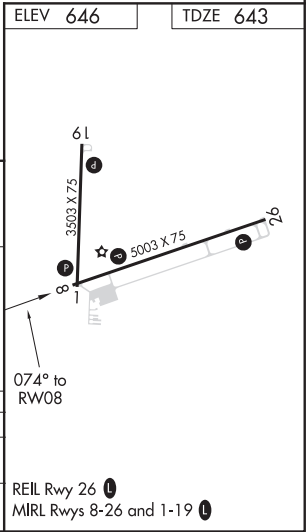
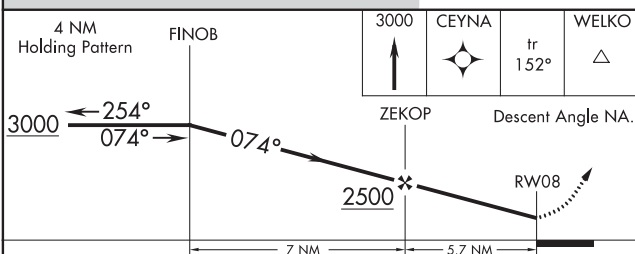
⚠ DME/DME RNP -0.3 NA. When local altimeter setting not received, use Muskegon County altimeter setting and increase all MDA 120 feet, increase LNAV Cat C/D visibility 3/8 mile and Circling Cat C/D visibility 1/2 mile. Night Landing: Rwy 8 Cat C/D and Rwy 26 NA. Helicopter visibility reduction below 3/4 SM NA.

MISSED APPROACH:
Climb to 3000 direct CEYNA and on track 152° to WELKO and hold.

| | | |
|--------------------------|--|-------------------------------|
| AWOS-3 119.925 | MINNEAPOLIS CENTER 120.85 322.35 | UNICOM 123.0 (CTAF) |
|--------------------------|--|-------------------------------|



| | | | |
|------|------------|------|------------|
| ELEV | 646 | TDZE | 643 |
|------|------------|------|------------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-----------------|-----------------|
| LNAV MDA | 1140-1 | 497 (500-1) | 1140-1 3/8 | 497 (500-1 3/8) |
| CIRCLING | 1160-1 | 514 (600-1) | 1200-1 1/2 | 1300-2 |
| | | | 554 (600-1 1/2) | 654 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

LUDINGTON, MICHIGAN

AL-5618 (FAA)

15344

| | | |
|-------------------------|------------------------|------------------------|
| WAAS CH 49206 | APP CRS 254° | Rwy Idg 5003 |
| W26A | | TDZE 646 |
| | | Apt Elev 646 |

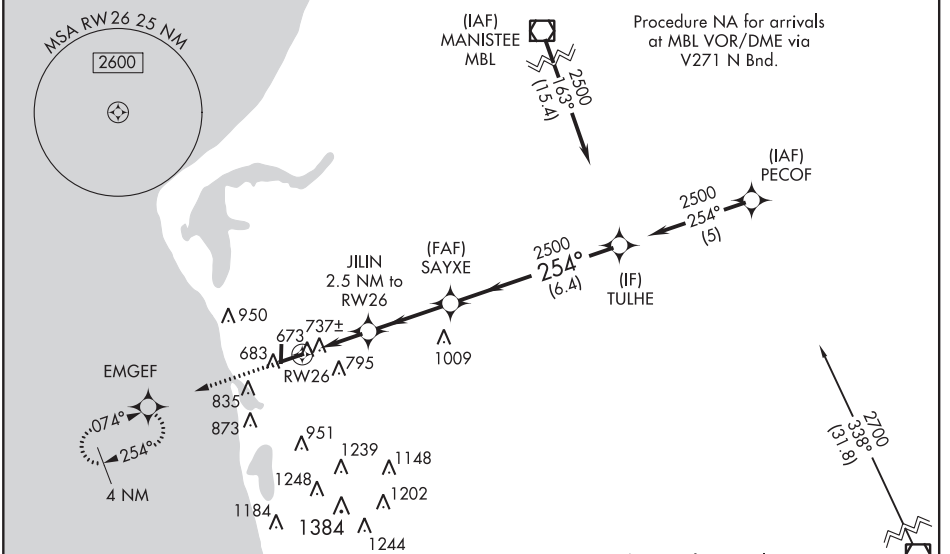
RNAV (GPS) RWY 26

MASON COUNTY (LDM)

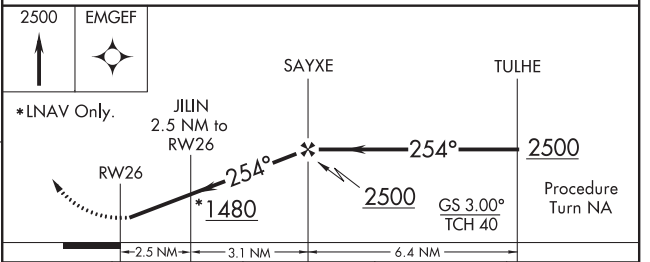
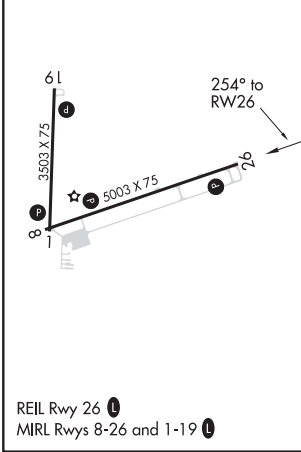
Baro-VNAV NA when using Muskegon altimeter setting. For uncompensated Baro-VNAV systems, procedure NA below -16°C (4°F) or above 47°C (116°F).
 DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Muskegon County altimeter setting and increase DAs and MDAs 120 feet and increase LPV visibility ¼ mile all Cats, increase LNAV/VNAV visibility ½ mile all Cats, increase LNAV Cat C/D visibility ¼ mile, increase Circling Cat C/D visibility ½ mile.

MISSED APPROACH: Climb to 2500 direct EMGEF and hold.

| | | |
|--------------------------|--|-------------------------------|
| AWOS-3 119.925 | MINNEAPOLIS CENTER 120.85 322.35 | UNICOM 123.0 (CTAF) |
|--------------------------|--|-------------------------------|



| | |
|-----------------|-----------------|
| ELEV 646 | TDZE 646 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------|-------------------------|
| LPV DA | | 975-1¼ | 329 (400-1¼) | |
| LNAV/VNAV DA | | 1020-1¼ | 374 (400-1¼) | |
| LNAV MDA | 1000-1 | 354 (400-1) | | 1000-1¼ 354 (400-1¼) |
| CIRCLING | 1160-1 | 514 (600-1) | 1200-1½ 554 (600-1½) | 1300-2 654 (700-2) |

LUDINGTON, MICHIGAN
 Orig 10APR08

43°58'N-86°24'W

RNAV (GPS) RWY 26

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 63129 W08A | APP CRS 082° | Rwy Idg 3501 TDZE 739 Apt Elev 741 |
|--|------------------------|---|

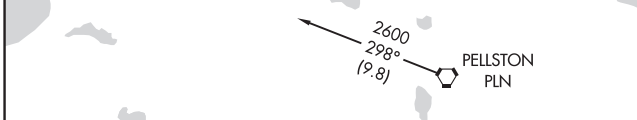
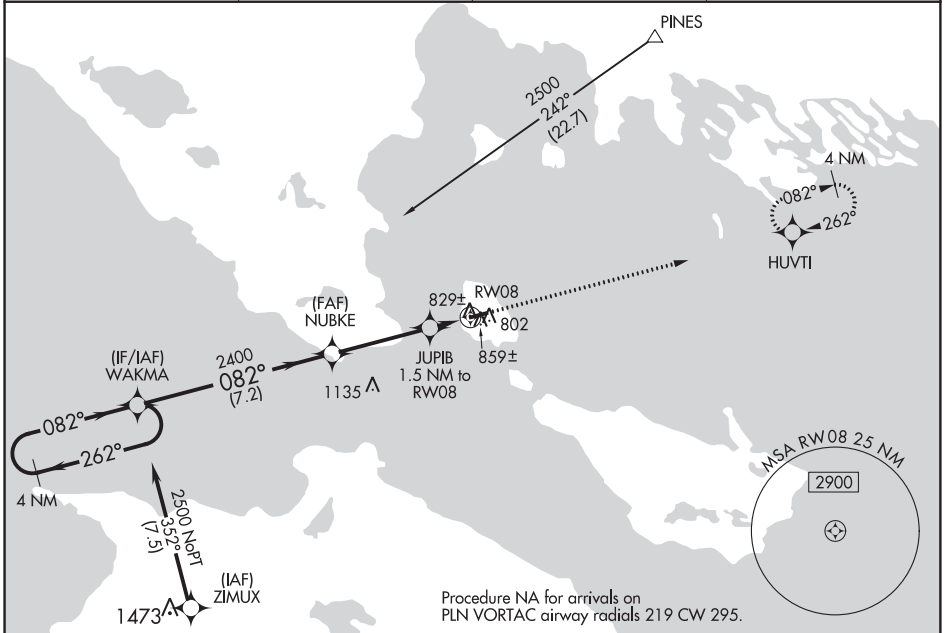
RNAV (GPS) RWY 8

MACKINAC ISLAND (MCD)

⚠ When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 60 feet, increase LP and LNAV Cat C visibility $\frac{1}{8}$ mile and Circling Cat C visibility $\frac{1}{4}$ mile. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Night landing: Rwy 8 NA.

⚠ MISSED APPROACH: Climb to 2500 direct HUVTI and hold.

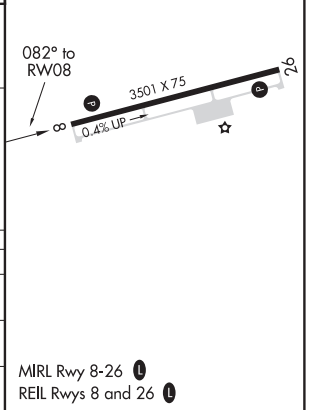
| | | | |
|--------------------------|---|-------------------------------|--------------|
| AWOS-3 118.275 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.7 (CTAF) | 122.8 |
|--------------------------|---|-------------------------------|--------------|



| | |
|----------|----------|
| ELEV 741 | TDZE 739 |
|----------|----------|

| | | | | |
|----------------------|--------|-------|----------------------|------|
| 4 NM Holding Pattern | WAKMA | NUBKE | JUPIB 1.5 NM to RW08 | RW08 |
| 2500 | 2400 | 1240 | | |
| 7.2 NM | 3.6 NM | 1.5 | | |

| CATEGORY | A | B | C | D |
|-------------------|--------------------|---|---|----|
| LP MDA | 1080-1 341 (400-1) | | | NA |
| LNAV MDA | 1120-1 381 (400-1) | 1120-1 $\frac{1}{8}$ 381 (400-1 $\frac{1}{8}$) | | NA |
| C CIRCLING | 1320-1 579 (600-1) | 1320-1 $\frac{1}{2}$ 579 (600-1 $\frac{1}{2}$) | | NA |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 99529 W26A | APP CRS 262° | Rwy Idg TDZE Apt Elev | 3501 741 741 |
|--|------------------------|-----------------------------|---|

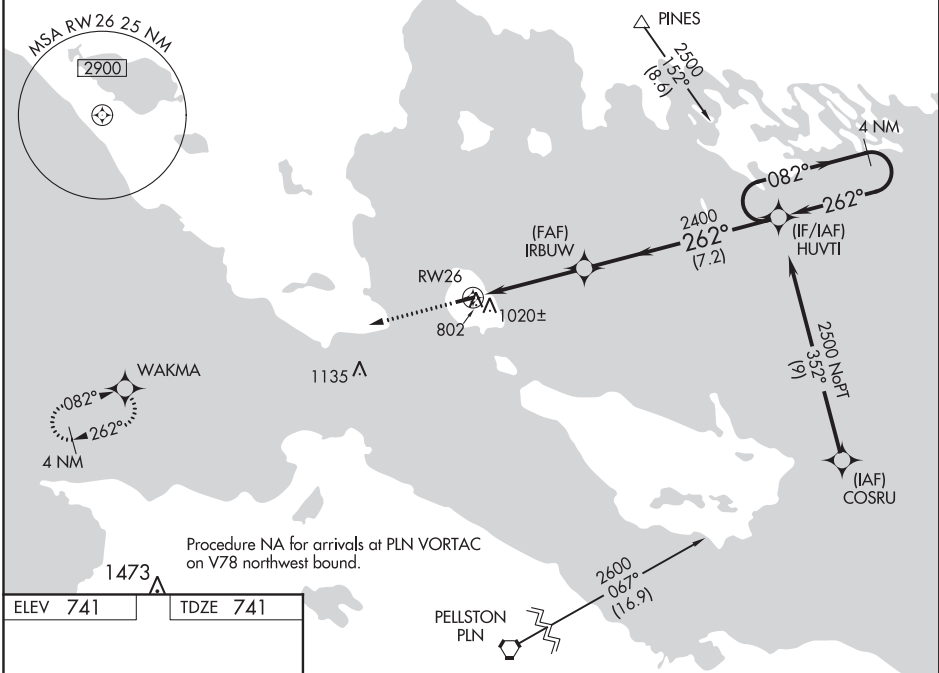
RNAV (GPS) RWY 26

MACKINAC ISLAND (MCD)

⚠ Baro-VNAV NA when using Pellston altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). When local altimeter setting not received, use Pellston altimeter setting and increase all DA 47 feet and all MDA 60 feet, increase LNAV Cat C visibility 1/8 mile and Circling Cat C visibility 1/4 mile. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Night landing: Rwy 8 NA.

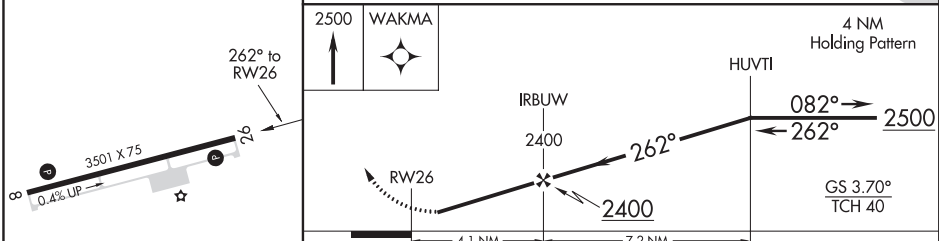
MISSED APPROACH:
Climb to 2500 direct WAKMA and hold.

| | | | |
|--------------------------|---|-------------------------------|---------------|
| AWOS-3 118.275 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.7 (CTAF) | 122.80 |
|--------------------------|---|-------------------------------|---------------|



Procedure NA for arrivals at PLN VORTAC on V78 northwest bound.

| | |
|----------|----------|
| ELEV 741 | TDZE 741 |
|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|------------------------------------|--|--|----|
| LPV DA | 1058-1 | 317 (400-1) | | NA |
| LNAV/VNAV DA | 1182-1 ³ / ₈ | 441 (500-1 ³ / ₈) | | NA |
| LNAV MDA | 1280-1 | 539 (600-1) | 1280-1 ¹ / ₂ 539 (600-1 ¹ / ₂) | NA |
| C CIRCLING | 1320-1 | 579 (600-1) | 1320-1 ¹ / ₂ 579 (600-1 ¹ / ₂) | NA |

MIRL Rwy 8-26 **1**
REIL Rwy 8 and 26 **1**

EC-1, 10 NOV 2016 to 05 JAN 2017

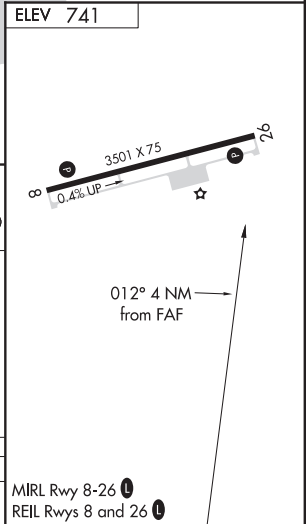
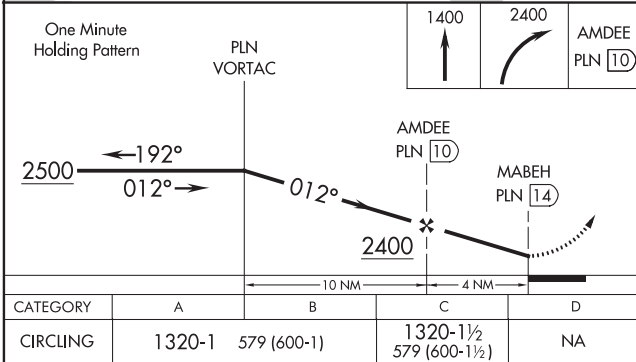
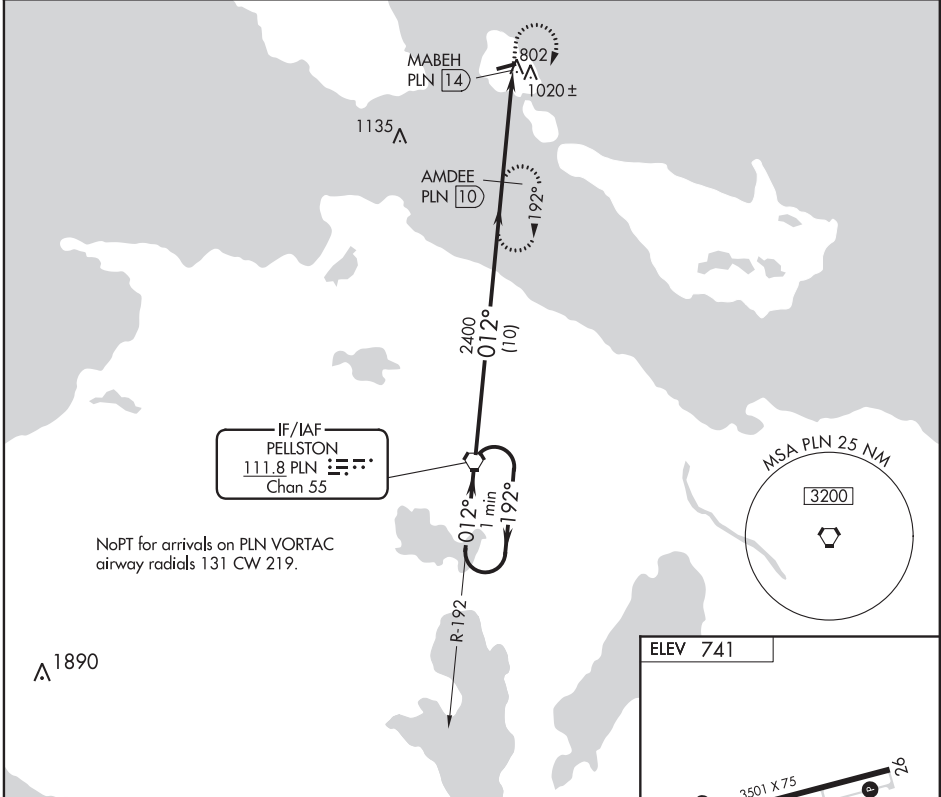
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---------------------------------------|------------------------|---|
| VORTAC PLN 111.8 Chan 55 | APP CRS 012° | Rwy Idg TDZE Apt Elev N/A N/A 741 |
|---------------------------------------|------------------------|---|

VOR/DME-A
MACKINAC ISLAND (MCD)

| | |
|--|--|
| <p>▼ When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 60 feet, increase Cat C visibility ¼ mile.</p> <p>▲ Visibility reduction by helicopters NA. Night landing: Rwy 8 NA.</p> | <p>MISSED APPROACH: Climb to 1400 then climbing right turn to 2400 direct AMDEE 10 DME and hold.</p> |
|--|--|

| | | | |
|--------------------------|---|-------------------------------|-----------------------|
| AWOS-3 118.275 | MINNEAPOLIS CENTER 134.6 354.05 | UNICOM 122.7 (CTAF) | 122.8 ① |
|--------------------------|---|-------------------------------|-----------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

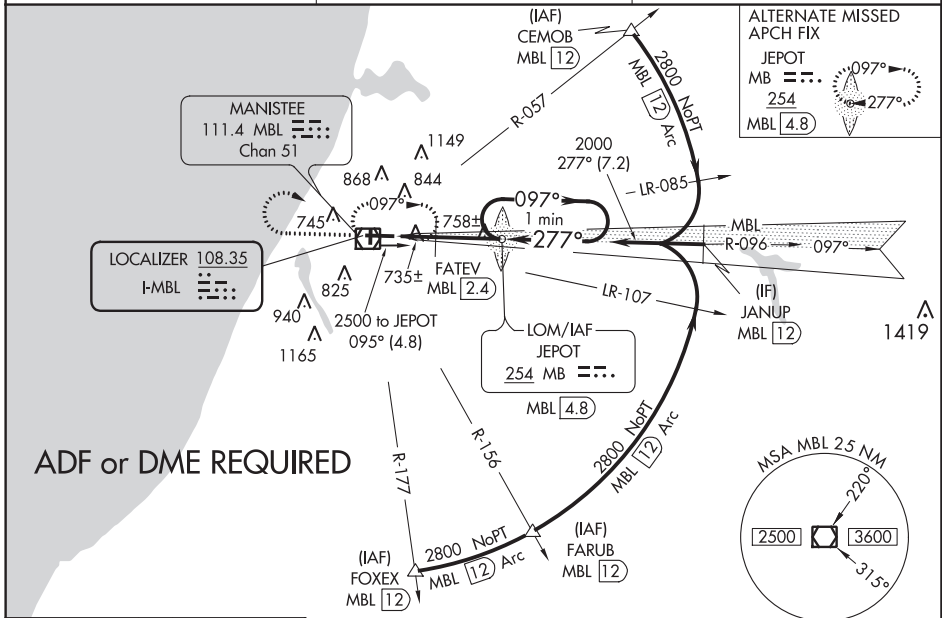
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|----------------------------|------------------------|------------------------|
| LOC I-MBL 108.35 | APP CRS 277° | Rwy Idg 5501 |
| | | TDZE 621 |
| | | Apt Elev 621 |

ILS or LOC RWY 28
MANISTEE COUNTY-BLACKER (MBL)

| | | |
|--|---------------------|--|
| <p>NA Night landing: Rwy 1/19 NA. When local altimeter not received, use Ludington altimeter setting and increase all DA 50 feet and all MDA 60 feet; increase S-LOC 28 Cat C/D visibility 1/2 mile, and Circling Cat C visibility 1/4 mile. FATEV FIX minimums: increase S-LOC 28 Cat C/D visibility 1/2 mile and Circling Cat C 1/4 mile.</p> | <p>MALSR</p> | <p>MISSED APPROACH: Climb to 1600 then climbing right turn to 2500 direct MBL VOR/DME and hold, continue climb-in-hold to 2500.</p> |
|--|---------------------|--|

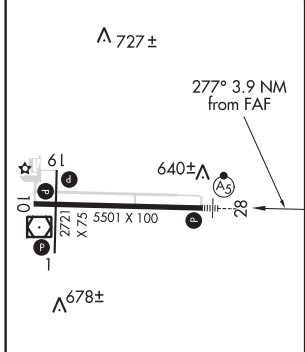
| | | |
|--------------------------|--------------------------------------|-------------------------------|
| AWOS-3PT 111.4 | LANSING RADIO (RCO) 122.1R | UNICOM 122.8 (CTAF) |
|--------------------------|--------------------------------------|-------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 621 | TDZE 621 |
|----------|----------|



VGSi and ILS glidepath not coincident (VGSi Angle 3.00/TCH 45).

JEPOT LOM MBL 4.8

One Minute Holding Pattern

GS 3.00° TCH 50

*LOC only.

*1160 *1220 when using Ludington altimeter setting.

| | | | | | |
|-------------------|---------------|-------------|------|------|------|
| HIRL Rwy 10-28 | MIRL Rwy 1-19 | REIL Rwy 10 | | | |
| FAF to MAP 3.9 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:54 | 2:36 | 1:57 | 1:34 | 1:18 |

| CATEGORY | A | B | C | D |
|--------------------|-----------------------|---------------|-------------------------------|-------------------------------|
| S-ILS 28 | 821-1/2 200 (200-1/2) | | | |
| S-LOC 28 | 1160-1/2 | 539 (600-1/2) | 1160-1 | 539 (600-1) |
| CIRCLING | 1160-1 | 539 (600-1) | 1200-1 1/2 579 (600-1 1/2) | 1300-2 1/4 679 (700-2 1/4) |
| FATEV FIX MINIMUMS | | | | |
| S-LOC 28 | 1000-1/2 | 379 (400-1/2) | 1000-3/8 | 379 (400-3/8) |
| CIRCLING | 1120-1 | 539 (600-1) | 1200-1 1/2 579 (600-1 1/2) | 1300-2 1/4 679 (700-2 1/4) |

| | | |
|--|------------------------|---|
| WAAS CH 60933 W10A | APP CRS 097° | Rwy Idg 5501 TDZE 621 Apt Elev 621 |
|--|------------------------|---|

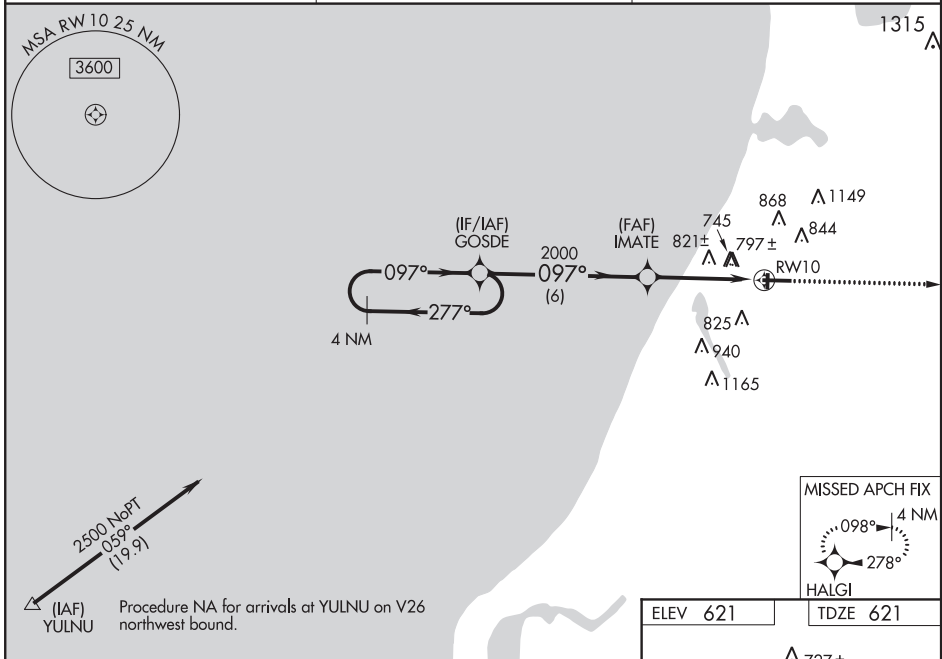
RNAV (GPS) RWY 10

MANISTEE COUNTY-BLACKER (MBL)

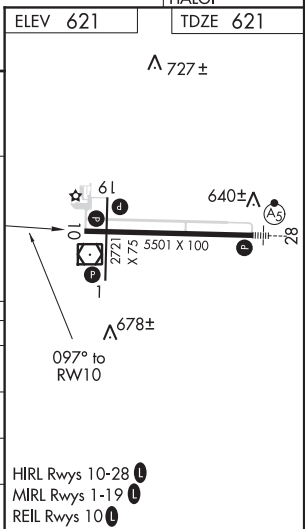
⚠ Night landing Rwy 1/19 NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP -0.3 NA. Baro-VNAV and VDP NA with Ludington altimeter setting. Helicopter visibility reduction below 3/4 SM not authorized. **⚠** When local altimeter setting not received, use Ludington altimeter setting and increase all DA 50 feet and all MDA 60 feet. Increase LPV visibility all Cats 1/4 mile, LNAV/VNAV visibility all Cats 1/2 mile. Increase LNAV Cats C/D visibility 1/2 mile, and Circling Cat C visibility 1/4 mile.

MISSED APPROACH: Climb to 3000 direct HALGI and hold.

| | | |
|--------------------------|--------------------------------------|---------------------------------|
| AWOS-3PT 111.4 | LANSING RADIO (RCO) 122.1R | UNICOM 122.8 (CTAF) 0 |
|--------------------------|--------------------------------------|---------------------------------|



| | | | | | |
|----------------------|-----------------------|--|-------------------------------|-------------------------------|-------|
| 4 NM Holding Pattern | | VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 29). | | 3000 | HALGI |
| GP 3.00° TCH 53 | | *1.4 NM to RWY 10 | | *LNAV only | |
| CATEGORY | A | B | C | D | |
| LPV DA | 871-3/4 | | 250 (300-3/4) | | |
| LNAV/VNAV DA | 1091-15/8 | | 470 (500-1 5/8) | | |
| LNAV MDA | 1080-1 | 459 (500-1) | 1080-1 3/8 | 459 (500-1 3/8) | |
| CIRCLING | 1120-1 499 (500-1) | 1160-1 539 (600-1) | 1200-1 1/2 579 (600-1 1/2) | 1300-2 1/4 679 (700-2 1/4) | |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

- HIRL Rwy 10-28 0
- MIRL Rwy 1-19 0
- REIL Rwy 10 0

MANISTEE, MICHIGAN

AL-5257 (FAA)

16259

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 42532 W28A | APP CRS 278° | Rwy Idg TDZE Apt Elev | 5501 621 621 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 28

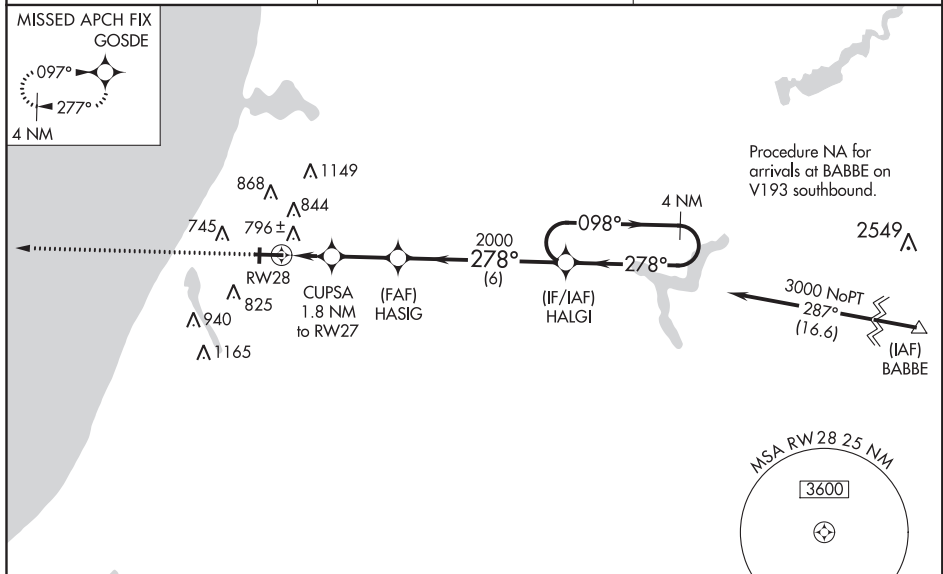
MANISTEE COUNTY-BLACKER (MBL)

⚠ Night landing: Rwy 1/19 NA. Baro-VNAV NA when using Ludington altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. VDP NA with Ludington altimeter setting. When local altimeter setting not received, use Ludington altimeter setting and increase all DA 50 feet and all MDA 60 feet. Increase LNAV/VNAV visibility all Cats 1/8 mile. Increase LNAV Cats C/D visibility 1/4 mile, and Circling Cat C visibility 1/4 mile.

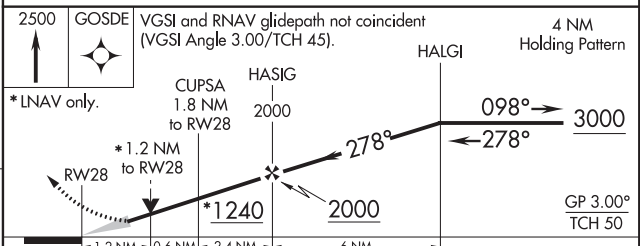
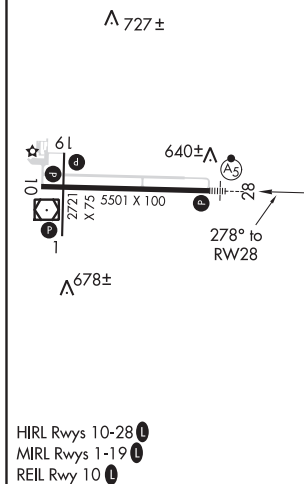
MALSRR

MISSED APPROACH:
Climb to 2500 direct GOSDE and hold.

| | | |
|--------------------------|--------------------------------------|---------------------------------|
| AWOS-3PT 111.4 | LANSING RADIO (RCO) 122.1R | UNICOM 122.8 (CTAF) 0 |
|--------------------------|--------------------------------------|---------------------------------|



| | |
|-----------------|-----------------|
| ELEV 621 | TDZE 621 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------------|-------------------------------|
| LPV DA | | 821-1/2 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 984-3/4 | 363 (400-3/4) | |
| LNAV MDA | 1060-1/2 | 439 (500-1/2) | 1060-3/4 | 439 (500-3/4) |
| CIRCLING | 1120-1 499 (500-1) | 1160-1 539 (600-1) | 1200-1 1/2 579 (600-1 1/2) | 1300-2 1/4 679 (700-2 1/4) |

MANISTEE, MICHIGAN
Orig-B 30APR15

44°16'N-86°15'W

MANISTEE COUNTY-BLACKER (MBL) RNAV (GPS) RWY 28

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

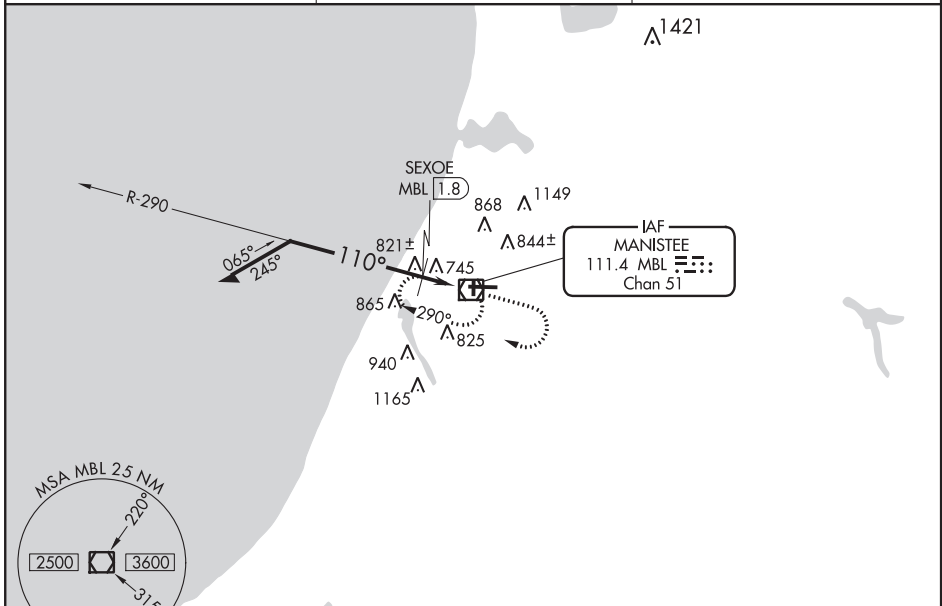
| | | |
|---|------------------------|---|
| VOR/DME MBL 111.4 Chan 51 | APP CRS 110° | Rwy Idg 5501 TDZE 621 Apt Elev 621 |
|---|------------------------|---|

VOR RWY 10
MANISTEE COUNTY-BLACKER (MBL)

⚠ When local altimeter setting not received, use Ludington altimeter setting and increase all MDA 60 feet. Increase S-10 Cat C and D and Circling Cat C visibility 1/8 mile, increase SEXOE FIX minimums S-10 Cat C and D visibility 1/8 mile, and Cat C Circling visibility 1/4 mile. Helicopter visibility reduction below 3/4 SM NA. Night landing Rwy 1/19 NA.

MISSED APPROACH: Climb to 2300 then right turn direct MBL VOR/DME and hold.

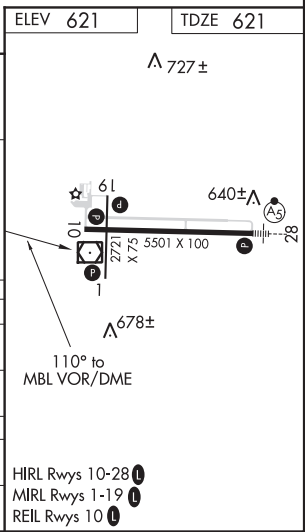
| | | |
|--------------------------|--------------------------------------|---------------------------------|
| AWOS-3PT 111.4 | LANSING RADIO (RDO) 122.1R | UNICOM 122.8 (CTAF) 0 |
|--------------------------|--------------------------------------|---------------------------------|



VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 29).
Remain within 10 NM

2300 → 290° → MBL VOR/DME
2300 → 110° → *1220 → 2.98° → TCH 55 → *1280 when using Ludington altimeter setting.

| CATEGORY | A | B | C | D |
|-----------------------------------|-----------------------|-----------------------|-------------------------------|-------------------------------|
| S-10 | 1220-1 | 599 (600-1) | 1220-1 3/4 | 599 (600-1 3/4) |
| CIRCLING | 1220-1 | 599 (600-1) | 1220-1 3/4 599 (600-1 3/4) | 1300-2 1/4 679 (700-2 1/4) |
| SEXOE FIX MINIMUMS (DME REQUIRED) | | | | |
| S-10 | 1080-1 | 459 (500-1) | 1080-1 3/8 | 459 (500-1 3/8) |
| CIRCLING | 1120-1 499 (500-1) | 1160-1 539 (600-1) | 1200-1 1/2 579 (600-1 1/2) | 1300-2 1/4 679 (700-2 1/4) |



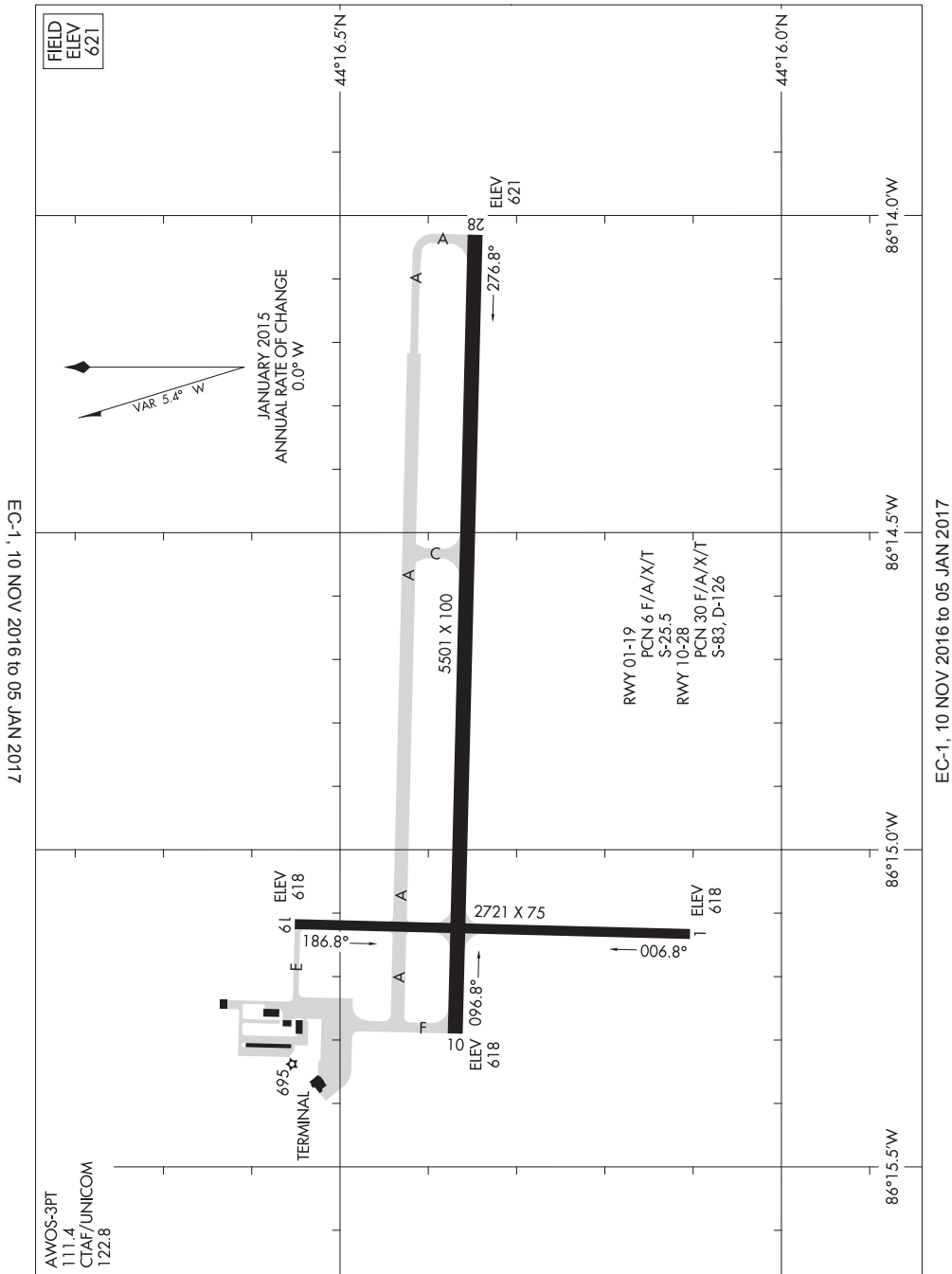
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

AL-5257 (FAA)

MANISTEE CO-BLACKER (MBL)
MANISTEE, MICHIGAN



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

MANISTEE, MICHIGAN
MANISTEE CO-BLACKER (MBL)

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5001 |
| 095° | TDZE | 684 |
| | Apt Elev | 684 |

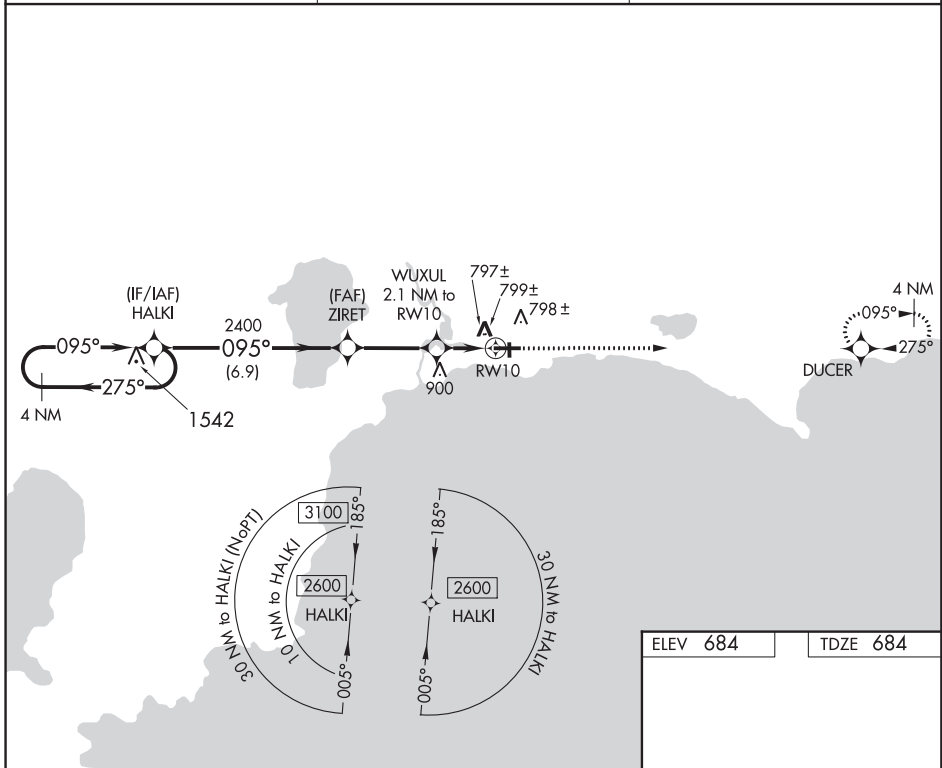
RNAV (GPS) RWY 10

SCHOOLCRAFT COUNTY (ISQ)

⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Beaver Island altimeter setting and increase all MDA 80 feet, increase LNAV Cat C and D visibility 3/8 mile. When VGSI inop, Straight-In/Circling Rwy 10 procedure NA at night. When VGSI inop, Circling Rwy 28 NA at night. Night landing: Rwy 1, 19 NA.

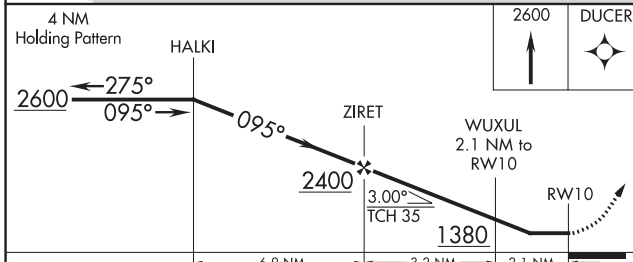
MISSED APPROACH:
Climb to 2600 direct DUCER and hold.

| | | |
|--------------------------|----------------------------------|--|
| AWOS-3 118.775 | GREEN BAY RADIO 122.25 | UNICOM 122.8 (CTAF) Ⓛ |
|--------------------------|----------------------------------|--|

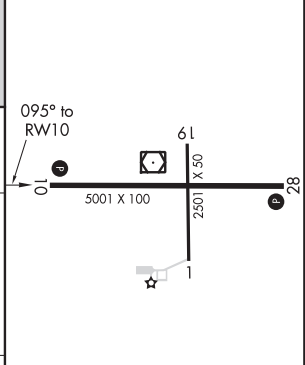


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|----------|----------|
| ELEV 684 | TDZE 684 |
|----------|----------|



| | | | | |
|----------|-----------------------|-----------------------|-------------------------|-----------------------|
| CATEGORY | A | B | C | D |
| LNAV MDA | 1060-1 376 (400-1) | | | |
| CIRCLING | 1120-1 436 (500-1) | 1140-1 456 (500-1) | 1140-1½ 456 (500-1½) | 1260-2 576 (600-2) |

REIL Rwy 28 **Ⓛ**
MIRL Rwy 10-28 **Ⓛ**

MANISTIQUE, MICHIGAN

AL-5616 (FAA)

15148

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 53527 W28A | APP CRS 275° | Rwy Idg TDZE 682 Apt Elev 684 | 5001 |
|--|------------------------|---|-------------|

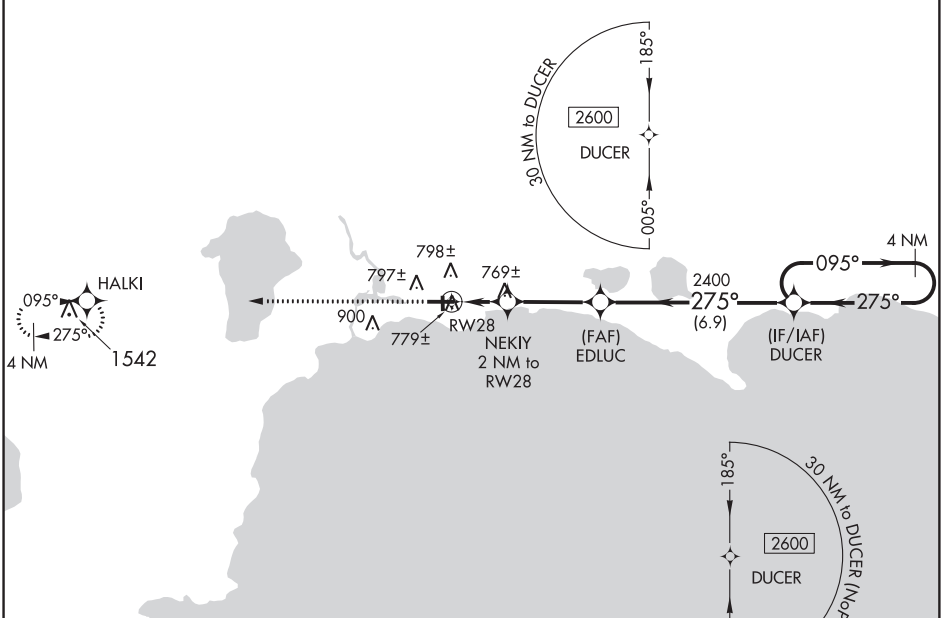
RNAV (GPS) RWY 28

SCHOOLCRAFT COUNTY (ISQ)

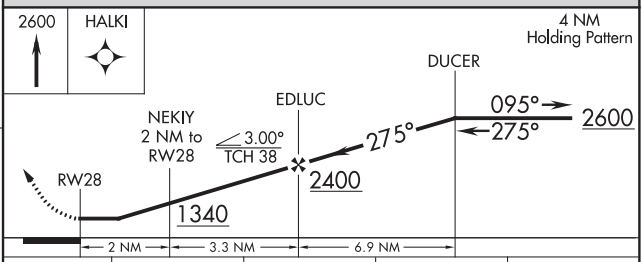
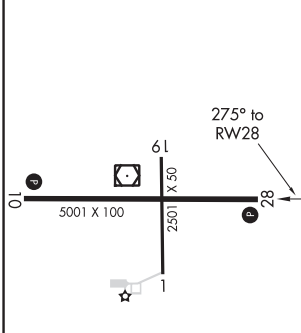
⚠ When local altimeter setting not received, use Beaver Island altimeter setting and increase all MDA 80 feet, increase LP Cat C and D visibility ¼ mile and LNAV Cat C and D visibility ⅜ mile. When VGS1 inop, Straight-In/Circling Rwy 28 procedure NA at night. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Circling to Rwy 1/19 NA at night.

MISSED APPROACH:
Climb to 2600 direct HALKI and hold.

| | | |
|--------------------------|----------------------------------|--|
| AWOS-3 118.775 | GREEN BAY RADIO 122.25 | UNICOM 122.8 (CTAF) Ⓛ |
|--------------------------|----------------------------------|--|



| | |
|-----------------|-----------------|
| ELEV 684 | TDZE 682 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-----------------------|
| LP MDA | | 1020-1 | 338 (400-1) | |
| LNAV MDA | | 1040-1 | 358 (400-1) | |
| CIRCLING | 1120-1 436 (500-1) | 1140-1 456 (500-1) | 1140-1½ 456 (500-1½) | 1260-2 576 (600-2) |

REIL Rwy 28 **Ⓛ**
MIRL Rwy 10-28 **Ⓛ**

MANISTIQUE, MICHIGAN
Orig-A 28MAY15

45°58'N-86°10'W

SCHOOLCRAFT COUNTY (ISQ)

RNAV (GPS) RWY 28

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

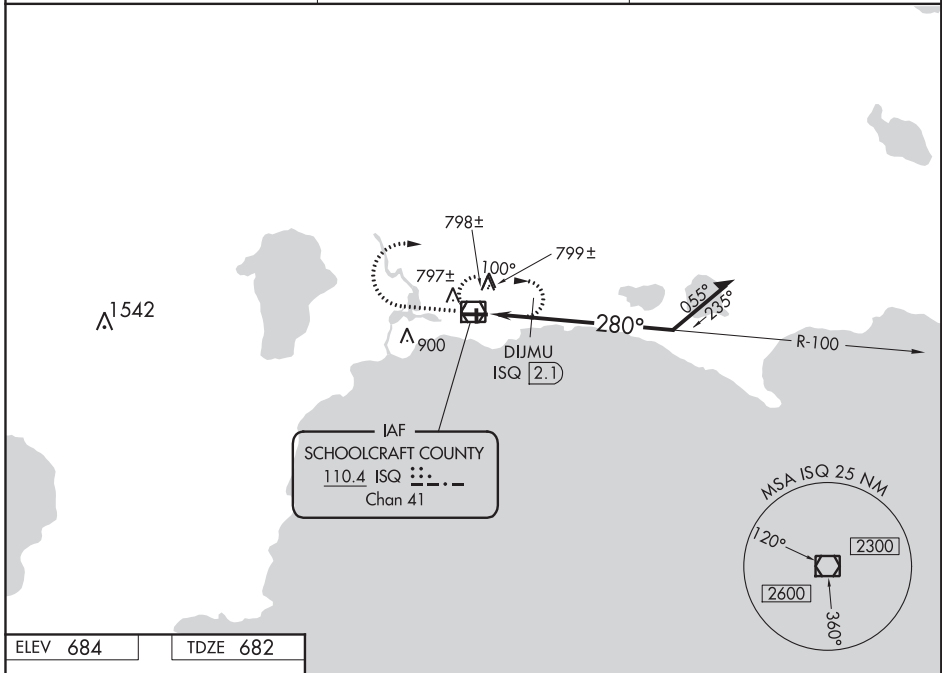
| | | |
|--|------------------------|---|
| VOR/DME ISQ 110.4 Chan 41 | APP CRS 280° | Rwy Idg 5001 TDZE 682 Apt Elev 684 |
|--|------------------------|---|

VOR RWY 28
SCHOOLCRAFT COUNTY (ISQ)

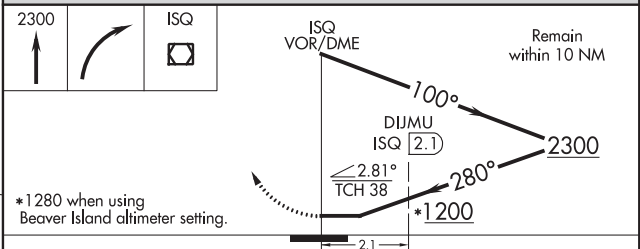
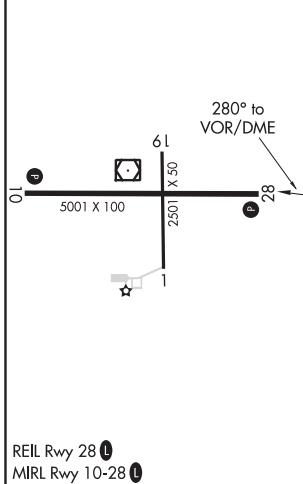
⚠ Visibility reduction by helicopters NA. When VGSI inop, Straight-In/Circling Rwy 28 procedure NA at night. Circling to Rwy 1/19 NA at night. When local altimeter setting not received, use Beaver Island altimeter setting and increase all MDA 80 feet, increase S-28 Cat C and D, Circling Cat C, and DIJMU FIX Minimums S-28 Cat C and D visibility ½ mile.

MISSED APPROACH: Climb to 2300 then right turn direct ISQ VOR/DME and hold.

| | | |
|--------------------------|----------------------------------|---------------------------------|
| AWOS-3 118.775 | GREEN BAY RADIO 122.25 | UNICOM 122.8 (CTAF) ① |
|--------------------------|----------------------------------|---------------------------------|



| | |
|-----------------|-----------------|
| ELEV 684 | TDZE 682 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|--------------------|-----------------------|-----------------------|-------------------------|-----------------------|
| S-28 | 1200-1 | 518 (600-1) | 1200-1½ | 518 (600-1½) |
| CIRCLING | 1200-1 | 516 (600-1) | 1200-1½ 516 (600-1½) | 1260-2 576 (600-2) |
| DIJMU FIX MINIMUMS | | | | |
| S-28 | 1060-1 | 378 (400-1) | 1060-1⅛ | 378 (400-1⅛) |
| CIRCLING | 1120-1 436 (500-1) | 1140-1 456 (500-1) | 1140-1½ 456 (500-1½) | 1260-2 576 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MARLETTE, MICHIGAN

AL-6266 (FAA)

15092

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3796 |
| 097° | TDZE | 880 |
| | Apt Elev | 895 |

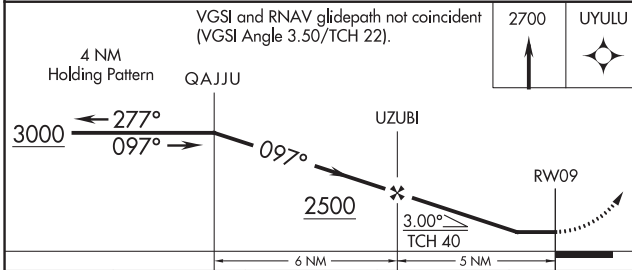
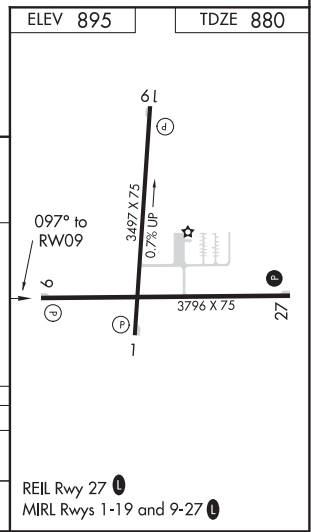
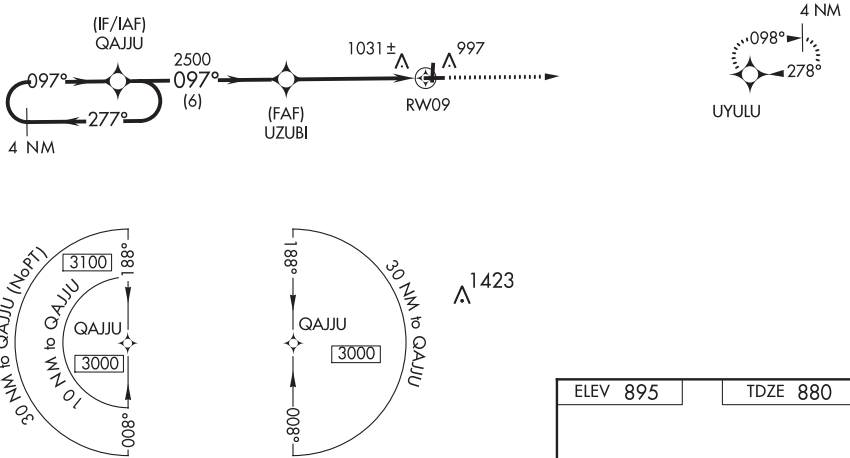
RNAV (GPS) RWY 9

MARLETTE (77G)

⚠ When VGSI inop, Straight-in and Circling Rwy 1, 19, 27 procedures NA at night.
⚠ NA DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
 Use Caro altimeter setting; when not received use Bad Axe altimeter setting and increase all MDA 20 feet.

MISSED APPROACH: Climb to 2700 direct UYULU and hold.

| | |
|--|---------------------------------|
| CLEVELAND CENTER 127.7 290.425 | UNICOM 122.8 (CTAF) 0 |
|--|---------------------------------|



| CATEGORY | A | B | C | D |
|-----------|--------|-------------|--------------|--------------|
| LNNAV MDA | 1420-1 | 540 (600-1) | 1420-1½ | 540 (600-1½) |
| CIRCLING | 1460-1 | 565 (600-1) | 1460-1½ | 1460-2 |
| | | | 565 (600-1½) | 565 (600-2) |

REIL Rwy 27 **0**
 MIRL Rws 1-19 and 9-27 **0**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MARLETTE, MICHIGAN
 Amdt 1A 02APR15

43°19'N-83°05'W

RNAV (GPS) RWY 9

MARLETTE (77G)

APP CRS
278°

Rwy Idg **3796**
TDZE **880**
Apt Elev **895**

RNAV (GPS) RWY 27

MARLETTE (77G)

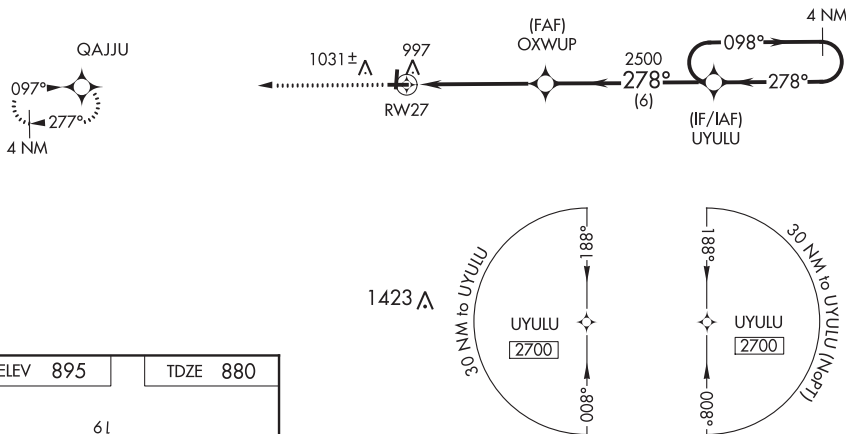
▽ When VGSI inop, Straight-in and Circling Rwy 1,9,19 procedures NA at night. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

△ NA Use Caro altimeter setting; when not received use Bad Axe altimeter setting and increase all MDA 20 feet.

MISSED APPROACH: Climb to 3000 direct QAJJU and hold.

CLEVELAND CENTER
127.7 290.425

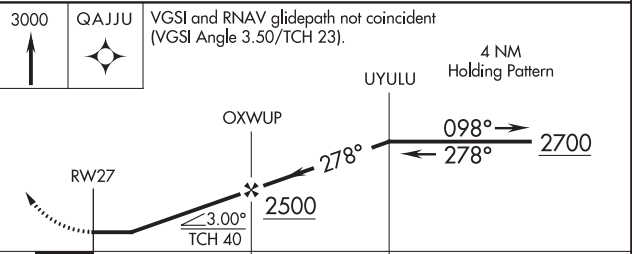
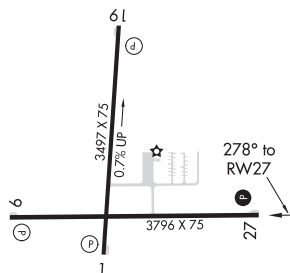
UNICOM
122.8 (CTAF) 0



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ELEV 895 TDZE 880



| CATEGORY | A | B | C | D |
|----------|--------|-------------|--|----------------------------|
| LNAV MDA | 1360-1 | 480 (500-1) | 1360-1 $\frac{3}{8}$ | 480 (500-1 $\frac{3}{8}$) |
| CIRCLING | 1460-1 | 565 (600-1) | 1460-1 $\frac{1}{2}$ 565 (600-1 $\frac{1}{2}$) | 1460-2 565 (600-2) |

REIL Rwy 27 **0**
MIRL Rwy 1-19 and 9-27 **0**

| | | |
|---------------------------|------------------------|--|
| LOC I-SOU 110.1 | APP CRS 013° | Rwy Idg 12366 TDZE 1180 Apt Elev 1221 |
|---------------------------|------------------------|--|

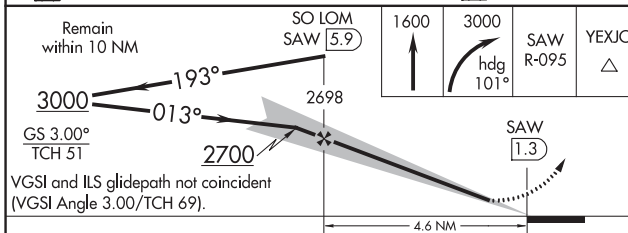
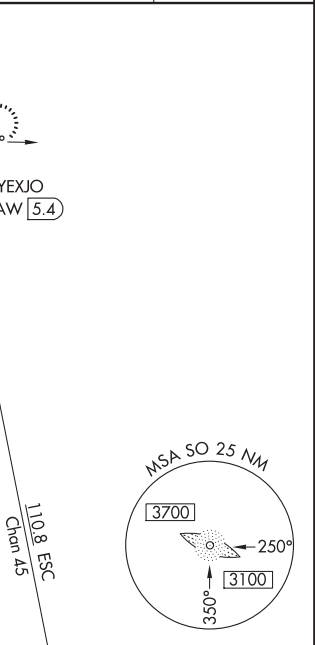
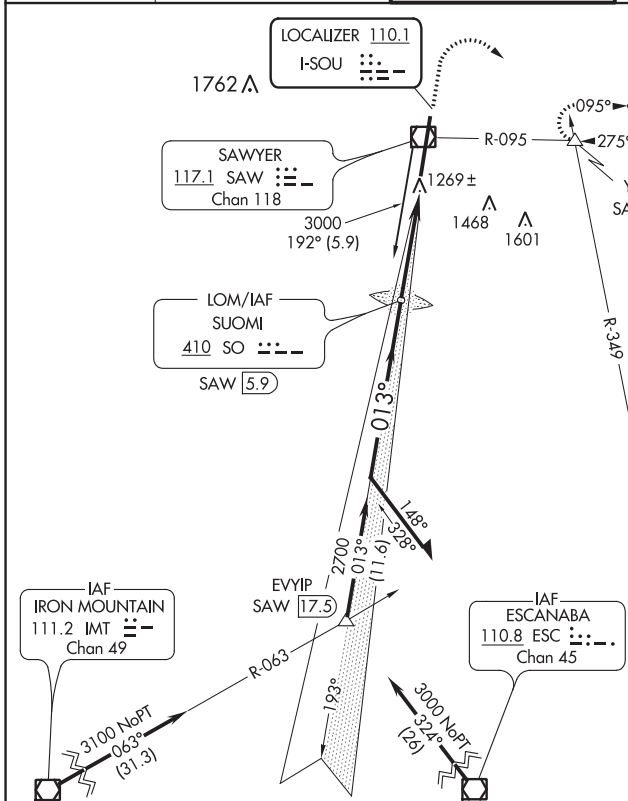
ILS or LOC RWY 1

SAWYER INTL (SAW)

⚠ Autopilot coupled approach NA below 1360 MSL. When local altimeter setting not received, use Ford altimeter setting and increase all DA 107 feet and all MDA 120 feet, increase S-LOC 1 Cat C/D visibility ¼ mile. For inoperative MASLR when using Ford altimeter setting, increase S-ILS 1 visibility all Cats to 1.

MALSRL MISSED APPROACH: Climb to 1600, then climbing right turn to 3000 via heading 101° and SAW R-095 to YEXJO INT and hold.

| | | | | |
|--------------------------|--|--|--------------------------|------------------------|
| AWOS-3 118.375 | MINNEAPOLIS CENTER 119.1 290.2 | SAWYER TOWER ★ 119.975 (CTAF) 1 | GND CON 121.65 | UNICOM 122.7 |
|--------------------------|--|--|--------------------------|------------------------|



| | | |
|-------------------|------|---------------------|
| ELEV 1221 | D | TDZE 1180 |
| HIRL Rwy 1-19 | 1 | |
| REIL Rwy 19 | 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 |

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|--|
| WAAS CH 97431 W01A | APP CRS 013° | Rwy Idg 12366 TDZE 1180 Apt Elev 1221 |
|--|------------------------|--|

RNAV (GPS) RWY 1

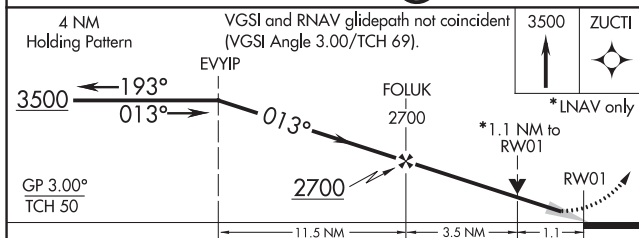
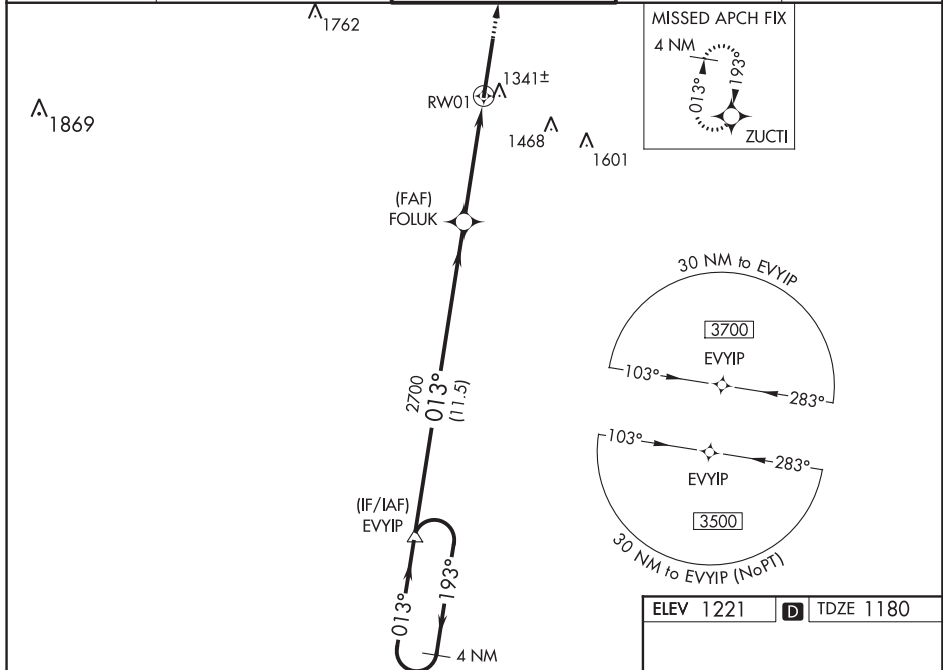
SAWYER INTL (SAW)

⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. VDP and Baro-VNAV NA with Ford altimeter setting. When local altimeter setting not received, use Ford altimeter setting; increase all DA 107 feet and LNAV/VNAV visibility all Cats 3/8 mile; increase all MDA 120 feet, LNAV visibility Cats C and D 3/8 mile and Circling visibility Cats C and D 1/4 mile. For inoperative MALSR; when using Ford altimeter setting, increase LPV all Cats visibility to 1 mile.

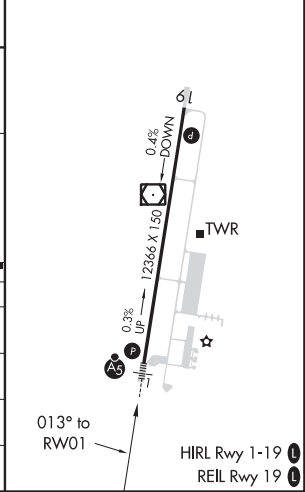
MALSR 

MISSED APPROACH:
Climb to 3500 direct ZUCTI and hold.

| | | | | |
|--------------------------|--|---|--------------------------|------------------------|
| AWOS-3 118.375 | MINNEAPOLIS CENTER 119.1 290.2 | SAWYER TOWER ★ 119.975 (CTAF)  | GND CON 121.65 | UNICOM 122.7 |
|--------------------------|--|---|--------------------------|------------------------|



| | |
|-----------|--------------------|
| ELEV 1221 | D TDZE 1180 |
|-----------|--------------------|



| CATEGORY | A | B | C | D |
|--------------|----------|---------------|-----------------|---------------|
| LPV DA | | 1380-1/2 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 1504-5/8 | 324 (300-3/8) | |
| LNAV MDA | 1600-1/2 | 420 (400-1/2) | 1600-3/4 | 420 (400-3/4) |
| CIRCLING | 1720-1 | 499 (500-1) | 1720-1 1/2 | 1780-2 |
| | | | 499 (500-1 1/2) | 559 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|--|
| WAAS CH 86616 W19A | APP CRS 193° | Rwy Idg 12366 TDZE 1221 Apt Elev 1221 |
|--|------------------------|--|

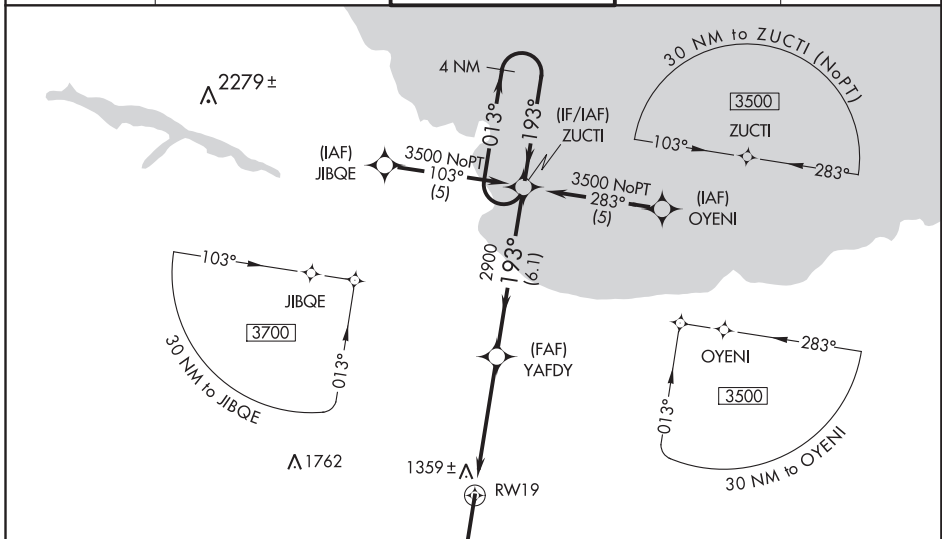
RNAV (GPS) RWY 19

SAWYER INTL (SAW)

DME/DME RNP-0.3 NA. Baro-VNAV NA when using Ford altimeter setting.
 For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). VDP NA when using Ford altimeter setting.
 When local altimeter setting not received, use Ford altimeter setting and increase all DA 107 feet and all MDA 120 feet, LPV all Cots visibility ¼ mile, LNAV/VNAV and LNAV Cat C and D visibility ½ mile, and Circling Cat C and D visibility ¼ mile.

MISSED APPROACH: Climb to 3500 direct EVYIP and hold.

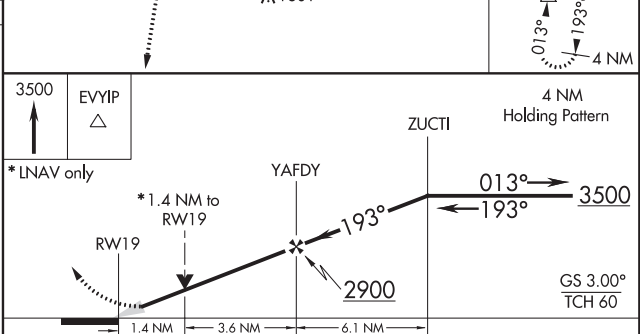
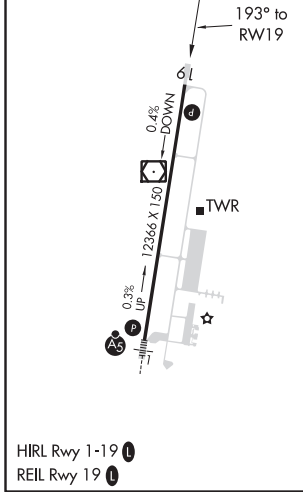
| | | | | |
|--------------------------|--|--|--------------------------|------------------------|
| AWOS-3 118.375 | MINNEAPOLIS CENTER 119.1 290.2 | SAWYER TOWER ★ 119.975 (CTAF) 1 | GND CON 121.65 | UNICOM 122.7 |
|--------------------------|--|--|--------------------------|------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-----------|----------|-----------|
| ELEV 1221 | D | TDZE 1221 |
|-----------|----------|-----------|



| CATEGORY | A | B | C | D |
|--------------|----------------------|-------------|-------------------------|-------------------------|
| LPV DA | 1421-¾ 200 (200-¾) | | | |
| LNAV/VNAV DA | 1665-1½ 444 (500-1½) | | | |
| LNAV MDA | 1720-1 | 499 (500-1) | 1720-1¼ 499 (500-1¼) | 1720-1½ 499 (500-1½) |
| CIRCLING | 1720-1 | 499 (500-1) | 1720-1½ 499 (500-1½) | 1780-2 559 (600-2) |

MARQUETTE, MICHIGAN

AL-773 (FAA)

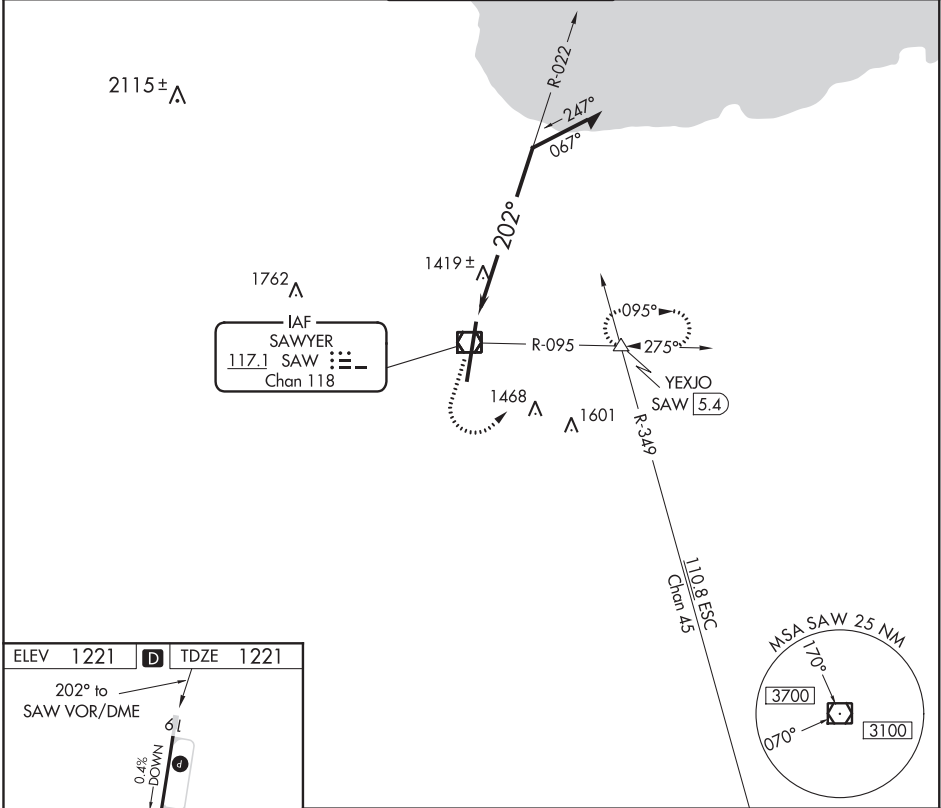
15064

| | | |
|--|------------------------|--|
| VOR/DME SAW 117.1 Chan 118 | APP CRS 202° | Rwy Idg 12366 TDZE 1221 Apt Elev 1221 |
|--|------------------------|--|

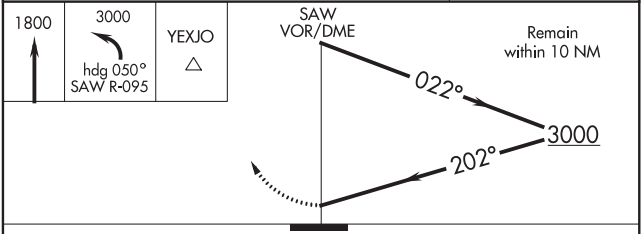
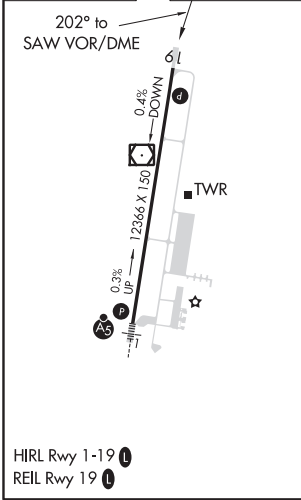
VOR RWY 19 SAWYER INTL (SAW)

▽ MISSED APPROACH: Climb to 1800, then climbing left turn to 3000 via heading 050° and SAW R-095 to YEXJO Int and hold.

| | | | | |
|--------------------------|--|---|--------------------------|------------------------|
| AWOS-3 118.375 | MINNEAPOLIS CENTER 119.1 290.2 | SAWYER TOWER ★ 119.975 (CTAF) 1 | GND CON 121.65 | UNICOM 122.7 |
|--------------------------|--|---|--------------------------|------------------------|



| | | |
|-----------|----------|-----------|
| ELEV 1221 | D | TDZE 1221 |
|-----------|----------|-----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| S-19 | 1720-1 | 499 (500-1) | 1720-1¼ 499 (500-1¼) | 1720-1½ 499 (500-1½) |
| CIRCLING | 1720-1 | 499 (500-1) | 1720-1½ 499 (500-1½) | 1780-2 559 (600-2) |

MARQUETTE, MICHIGAN
Orig 10AUG00

46°21'N - 87°24'W

SAWYER INTL (SAW) VOR RWY 19

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

SAWYER INTL (SAW)
MARQUETTE, MICHIGAN

AL-773 (FAA)

AWOS-3
118.375
SAWYER TOWER *
119.975
GND CON
121.65

D

87°24'W

87°23'W

FIELD
ELEV
1221

61

193.9°

0.4% DOWN

12366 X 150

TWR

FIRE STATION

PASSENGER
TERMINAL

GENERAL
AVIATION
TERMINAL

ELEV
1178

0.3% UP

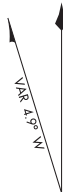
013.9°

RWY 01-19
PCN 43 F/B/X/U
S-75, D-175, 2S-175, 2D-490

46°22'N

46°21'N

46°20'N



JANUARY 2015
ANNUAL RATE OF CHANGE
0.0° W

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

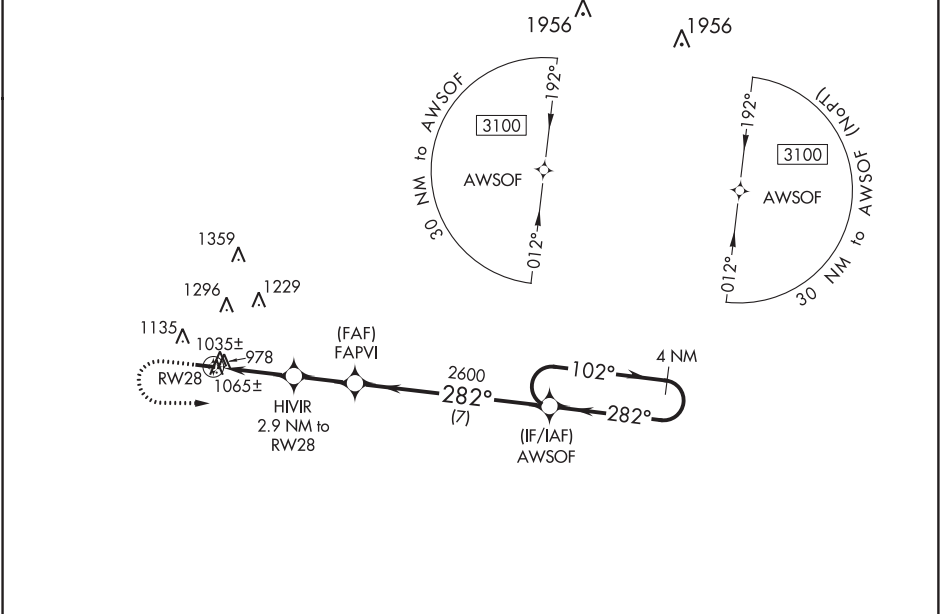
MARQUETTE, MICHIGAN
SAWYER INTL (SAW)

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 45533 W28A | APP CRS 282° | Rwy Idg TDZE Apt Elev | 3501 941 941 |
|--|------------------------|-----------------------------|---|

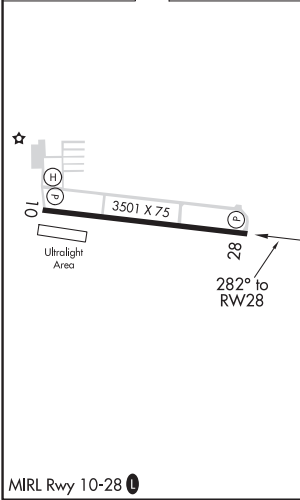
RNAV (GPS) RWY 28

BROOKS FIELD (RMY)

| | | |
|---|--|--|
| <p>▽ DME/DME RNP-0.3 NA. VDP NA with Battle Creek altimeter setting. △ When local altimeter setting not received, use Battle Creek altimeter setting and increase all MDA 40 feet; increase LP and LNAV Cat C visibility 1/8 mile. Helicopter visibility reduction below 3/4 SM NA. Night landing: Rwy 10 NA.</p> | <p>MISSED APPROACH: Climb to 1500 then climbing left turn to 3100 direct AWSOF and hold.</p> | |
| <p>AWOS-3 120.025</p> | <p>KALAMAZOO APP CON* 119.2 239.25</p> | <p>UNICOM 122.8 (CTAF) ①</p> |



| | |
|----------|----------|
| ELEV 941 | TDZE 941 |
|----------|----------|



| <p>1500 3100 AWSOF ↑ ↙ ✦ VGSI and descent angles not coincident (VGSI Angle 4.00/TCH 37). 4 NM Holding Pattern</p> | <p>HIVIR 2.9 NM to RW28 FAPVI ≤3.00° TCH 40 1900 2600 102° 282° 3100 282°</p> | | | | | | | | | | | | | | | | | | | | |
|---|--|-------------|----------------------------|----|---|--------|--------------------|--|--|----|----------|--------|-------------|----------------------------|----|----------|--------|-------------|----------------------------|----|--|
| <p>→ 2.9 NM → 2.2 NM → 7 NM →</p> | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>CATEGORY</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>LP MDA</td> <td colspan="3">1300-1 359 (400-1)</td> <td>NA</td> </tr> <tr> <td>LNAV MDA</td> <td>1320-1</td> <td>379 (400-1)</td> <td>1320-1 1/8 379 (400-1 1/8)</td> <td>NA</td> </tr> <tr> <td>CIRCLING</td> <td>1440-1</td> <td>499 (500-1)</td> <td>1440-1 1/2 499 (500-1 1/2)</td> <td>NA</td> </tr> </tbody> </table> | CATEGORY | A | B | C | D | LP MDA | 1300-1 359 (400-1) | | | NA | LNAV MDA | 1320-1 | 379 (400-1) | 1320-1 1/8 379 (400-1 1/8) | NA | CIRCLING | 1440-1 | 499 (500-1) | 1440-1 1/2 499 (500-1 1/2) | NA | |
| CATEGORY | A | B | C | D | | | | | | | | | | | | | | | | | |
| LP MDA | 1300-1 359 (400-1) | | | NA | | | | | | | | | | | | | | | | | |
| LNAV MDA | 1320-1 | 379 (400-1) | 1320-1 1/8 379 (400-1 1/8) | NA | | | | | | | | | | | | | | | | | |
| CIRCLING | 1440-1 | 499 (500-1) | 1440-1 1/2 499 (500-1 1/2) | NA | | | | | | | | | | | | | | | | | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|---|
| VOR/DME LDF 111.2 Chan 49 | APP CRS 328° | Rwy Idg TDZE Apt Elev NA NA 941 |
|---|------------------------|---|

VOR/DME-A
BROOKS FIELD (RMY)

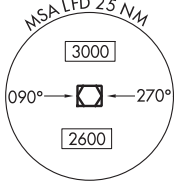
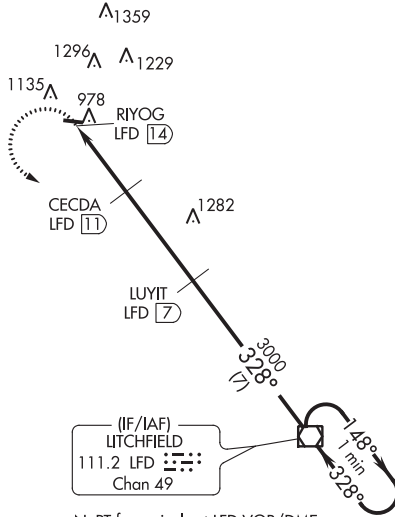
⚠ When local altimeter setting not received, use Battle Creek altimeter setting and increase all MDA 40 Ft. Helicopter visibility reduction below 3/4 SM NA. Night landing: Rwy 10 NA.

MISSED APPROACH: Climbing left turn to 3000 direct LFD VOR/DME and hold.

AWOS-3
120.025

KALAMAZOO APP CON*
119.2 239.25

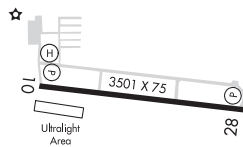
UNICOM
122.8 (CTAF) **Ⓛ**



(IF/IAF)
LITCHFIELD
111.2 LFD
Chan 49

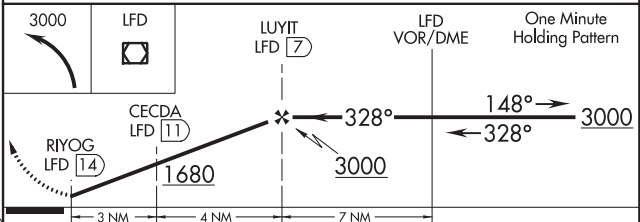
NoPT for arrivals at LFD VOR/DME on airway radials 054 CW 261.

ELEV **941**



328° 7 NM from FAF

1562 **Ⓛ**



| | | | | |
|----------|--------|-------------|-------------------------|----|
| CATEGORY | A | B | C | D |
| CIRCLING | 1500-1 | 559 (600-1) | 1500-1½ 559 (600-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MASON, MICHIGAN

AL-6487 (FAA)

14149

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 61134 W10A | APP CRS 095° | Rwy Idg TDZE Apt Elev | 4004 920 920 |
|--|------------------------|-----------------------------|---|

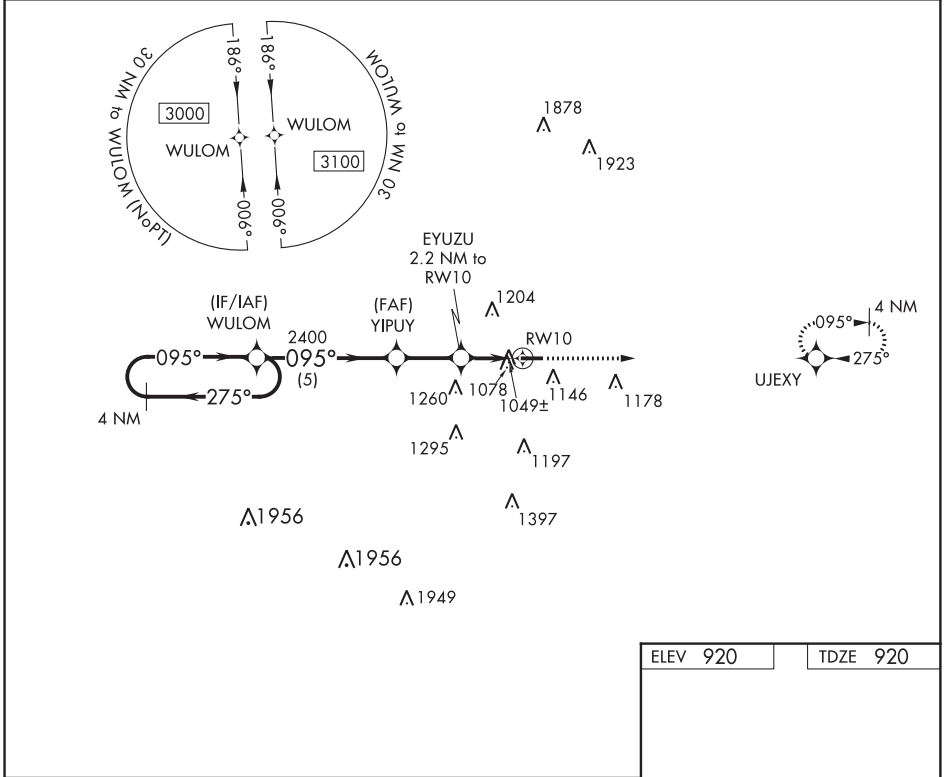
RNAV (GPS) RWY 10

MASON JEWETT FIELD (TEW)

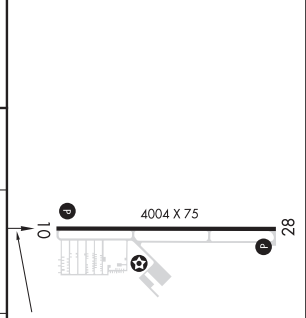
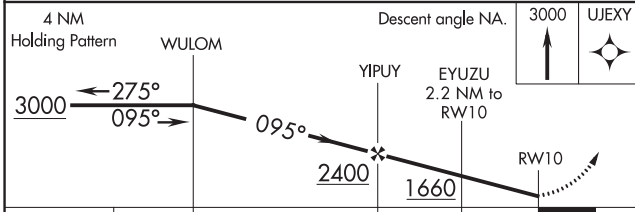
⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA.
⚠ When local altimeter setting not received, use Lansing altimeter setting and increase all MDA 60 feet. When VGSI inop, procedure NA at night.

MISSED APPROACH: Climb to 3000 direct UJEXY and hold.

| | | |
|--------------------------|---|---------------------------------|
| AWOS-3 119.425 | LANSING APP CON 118.65 226.40 | UNICOM 122.7 (CTAF) 0 |
|--------------------------|---|---------------------------------|



| | |
|----------|----------|
| ELEV 920 | TDZE 920 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|---|----|
| LP MDA | 1300-1 | 380 (400-1) | | NA |
| LNAV MDA | 1380-1 | 460 (500-1) | | NA |
| CIRCLING | 1500-1 | 580 (600-1) | | NA |

| |
|----------------------|
| MRL Rwy 10-28 0 |
| REIL Rwy 10 and 28 0 |

MASON, MICHIGAN
 Orig-B 29MAY14

42°34'N-84°25'W

MASON JEWETT FIELD (TEW)

RNAV (GPS) RWY 10

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 53534 W28A | APP CRS 275° | Rwy Idg TDZE Apt Elev | 4004 918 920 |
|--|------------------------|-----------------------------|---|

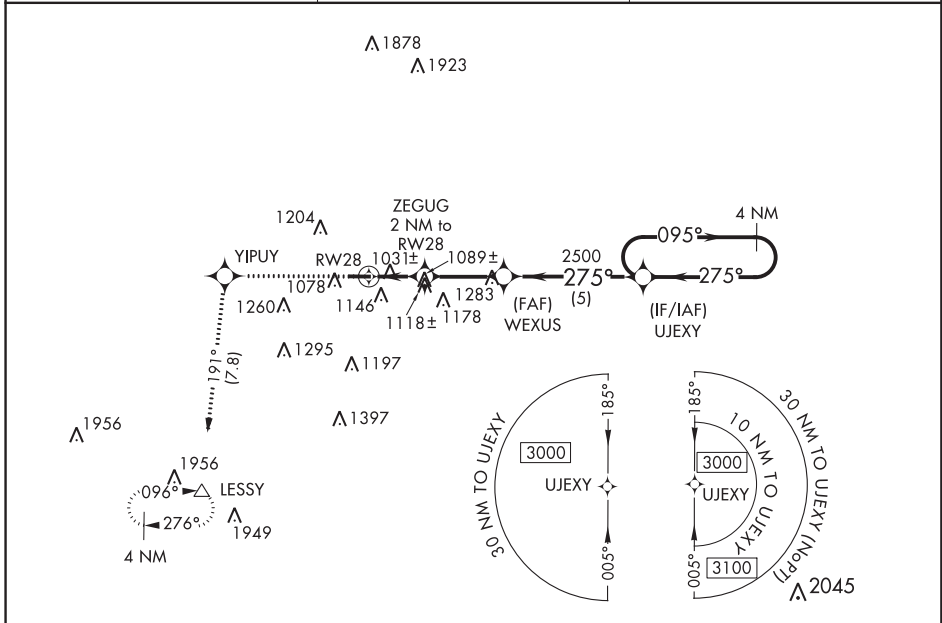
RNAV (GPS) RWY 28

MASON JEWETT FIELD (TEW)

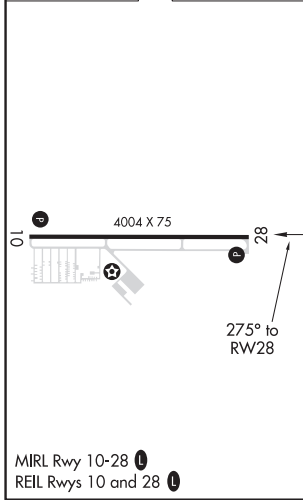
⚠ DME/DME RNP-0.3 NA. When local altimeter setting not received, use Lansing altimeter setting and increase all MDA 60 feet.
⚠ When VGSi inop, procedure NA at night. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 3000 direct YIPUY and on track 191° direct LESSY and hold.

| | | |
|--------------------------|---|-------------------------------|
| AWOS-3 119.425 | LANSING APP CON 118.65 226.40 | UNICOM 122.7 (CTAF) |
|--------------------------|---|-------------------------------|



| | |
|----------|----------|
| ELEV 920 | TDZE 918 |
|----------|----------|



| 3000 | YIPUY | tr 191° | LESSY | Descent angle NA. | 4 NM Holding Pattern | | | | | | | | | | | | | | | | | | | | |
|--|--------|-------------|-------|-------------------|----------------------|----------|---|---|---|---|--------|--------|-------------|--|----|----------|--------|-------------|--|----|----------|--------|-------------|--|----|
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <th>CATEGORY</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> <tr> <td>LP MDA</td> <td>1300-1</td> <td>382 (400-1)</td> <td></td> <td>NA</td> </tr> <tr> <td>LNAV MDA</td> <td>1380-1</td> <td>462 (500-1)</td> <td></td> <td>NA</td> </tr> <tr> <td>CIRCLING</td> <td>1500-1</td> <td>580 (600-1)</td> <td></td> <td>NA</td> </tr> </table> | | | | | | CATEGORY | A | B | C | D | LP MDA | 1300-1 | 382 (400-1) | | NA | LNAV MDA | 1380-1 | 462 (500-1) | | NA | CIRCLING | 1500-1 | 580 (600-1) | | NA |
| CATEGORY | A | B | C | D | | | | | | | | | | | | | | | | | | | | | |
| LP MDA | 1300-1 | 382 (400-1) | | NA | | | | | | | | | | | | | | | | | | | | | |
| LNAV MDA | 1380-1 | 462 (500-1) | | NA | | | | | | | | | | | | | | | | | | | | | |
| CIRCLING | 1500-1 | 580 (600-1) | | NA | | | | | | | | | | | | | | | | | | | | | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MASON, MICHIGAN

AL-6487 (FAA)

14037

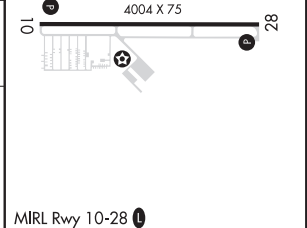
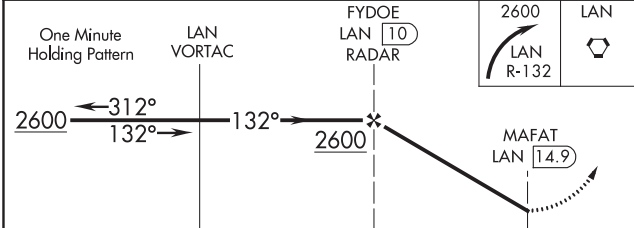
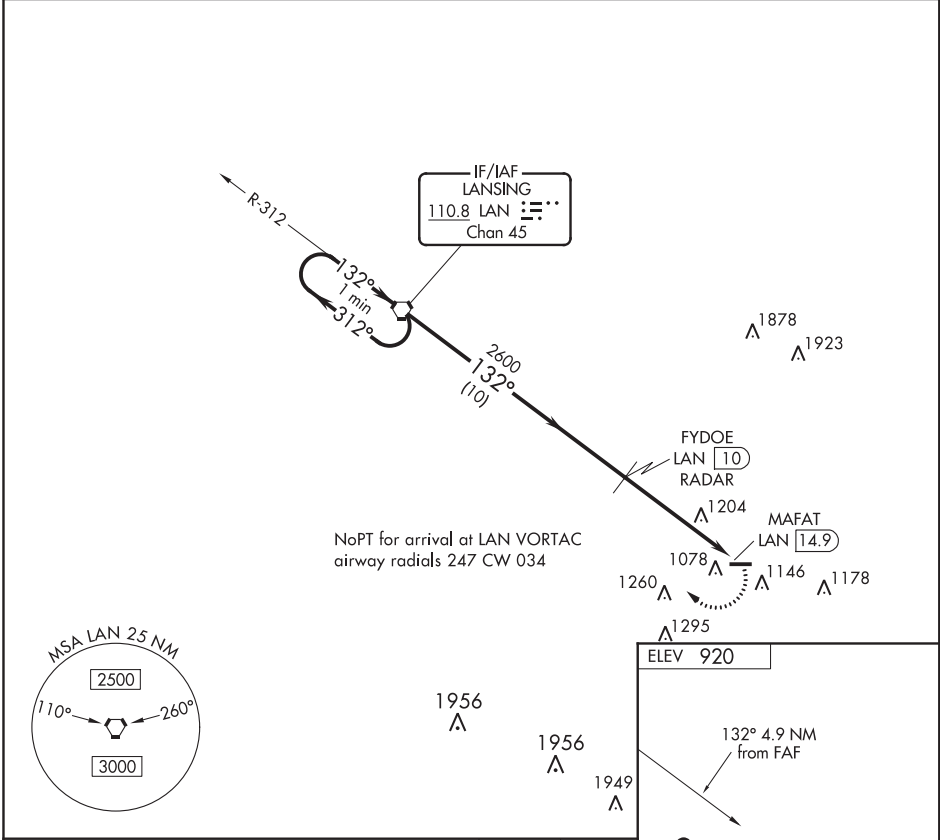
| | | | |
|--|------------------------|-----------------------------|--|
| VORTAC LAN 110.8 Chan 45 | APP CRS 132° | Rwy Idg TDZE Apt Elev | N/A N/A 920 |
|--|------------------------|-----------------------------|--|

VOR-A
MASON JEWETT FIELD (TEW)

▼ DME or radar required. Visibility reduction by helicopters NA.
▲ When local altimeter setting not received; use Lansing altimeter setting. When VGSI inop, Circling to Rwy 10 NA at night.

MISSED APPROACH: Climbing right turn to 2600 via LAN VORTAC R-132 to LAN VORTAC and hold.

| | | |
|--------------------------|---|---------------------------------|
| AWOS-3 119.425 | LANSING APP CON 118.65 226.40 | UNICOM 122.7 (CTAF) 0 |
|--------------------------|---|---------------------------------|



| | | | | |
|----------|--------|-------------|---|----|
| CATEGORY | A | B | C | D |
| CIRCLING | 1520-1 | 600 (600-1) | | NA |

| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 4.9 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:54 | 3:16 | 2:27 | 1:58 | 1:38 |

MASON, MICHIGAN
Amdt 5 07MAR13

42°34'N - 84°25'W

MASON JEWETT FIELD (TEW)
VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

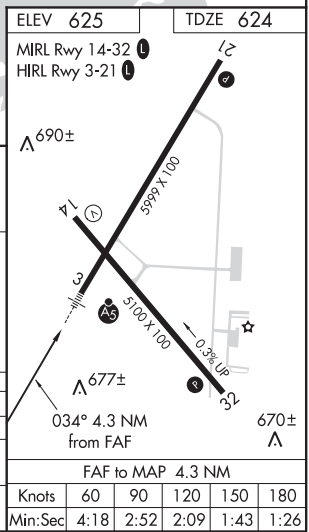
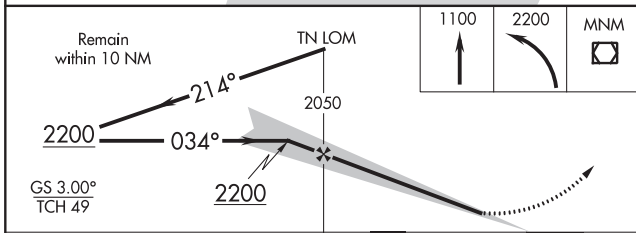
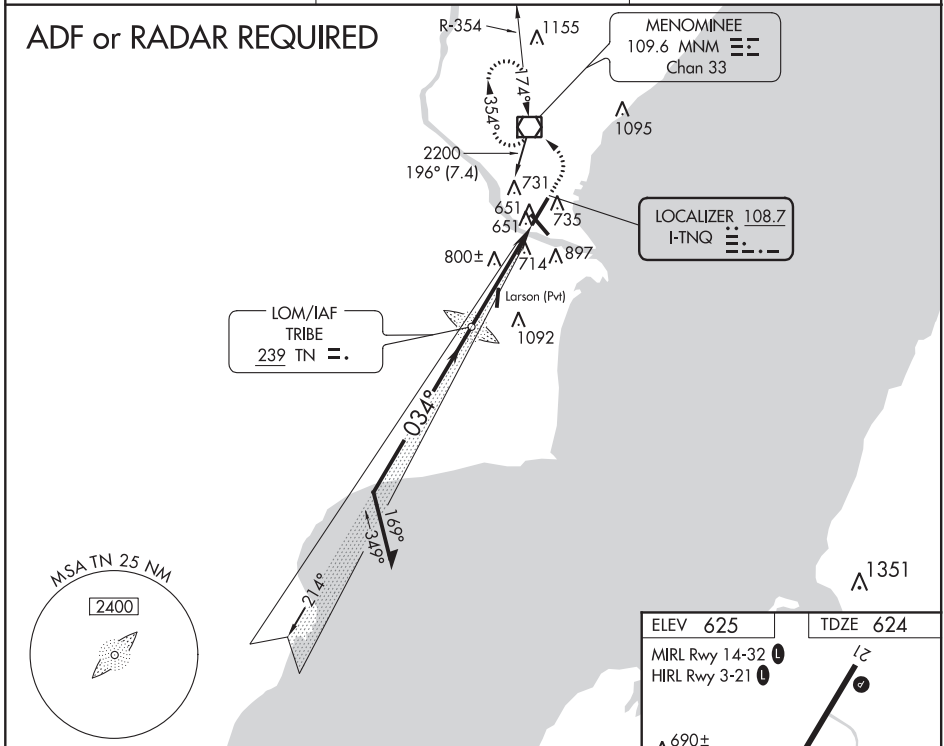
| | | |
|---------------------------|------------------------|------------------------|
| LOC I-TNQ 108.7 | APP CRS 034° | Rwy Idg 5999 |
| | | TDZE 624 |
| | | Apt Elev 625 |

ILS or LOC RWY 3

MENOMINEE-MARINETTE TWIN COUNTY (MNM)

| | | |
|--|--------------|---|
| <p>▼ NA</p> <p>When local altimeter setting not received, use Sturgeon Bay altimeter setting and increase all DA/MDA 60 feet, increase S-LOC 3 Cat C/D and Circling Cat C visibility ¼ mile. For inoperative MALSR when using Sturgeon Bay altimeter setting, increase S-ILS 3 all Cats visibility to 1 mile.</p> | <p>MALSR</p> | <p>MISSED APPROACH: Climb to 1100, then climbing left turn to 2200 direct MNM VOR/DME and hold.</p> |
| | | |

| | | |
|--------------------------|---|---------------------------------|
| AWOS-3PT 109.6 | GREEN BAY APP CON ★ 120.3 338.2 | UNICOM 122.8 (CTAF) ① |
|--------------------------|---|---------------------------------|



| CATEGORY | A | B | C | D |
|----------|--------------------|-------------------|----------------------|--------------------|
| S-ILS 3 | | 824-½ 200 (200-½) | | |
| S-LOC 3 | 1100-½ 476 (500-½) | | 1100-¾ 476 (500-¾) | 1100-1 476 (500-1) |
| CIRCLING | 1200-1 575 (600-1) | | 1200-1½ 575 (600-1½) | 1200-2 575 (600-2) |

ILS or LOC RWY 3

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5999 |
| 214° | TDZE | 625 |
| | Apt Elev | 625 |

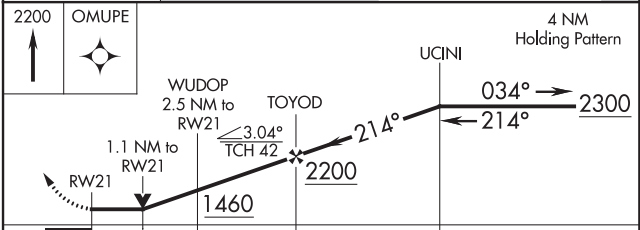
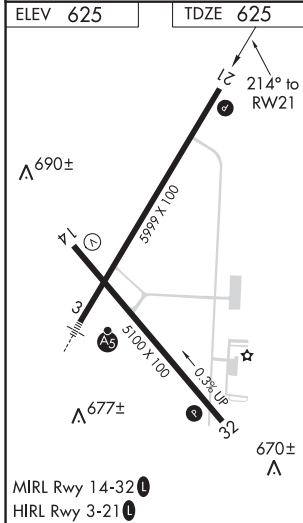
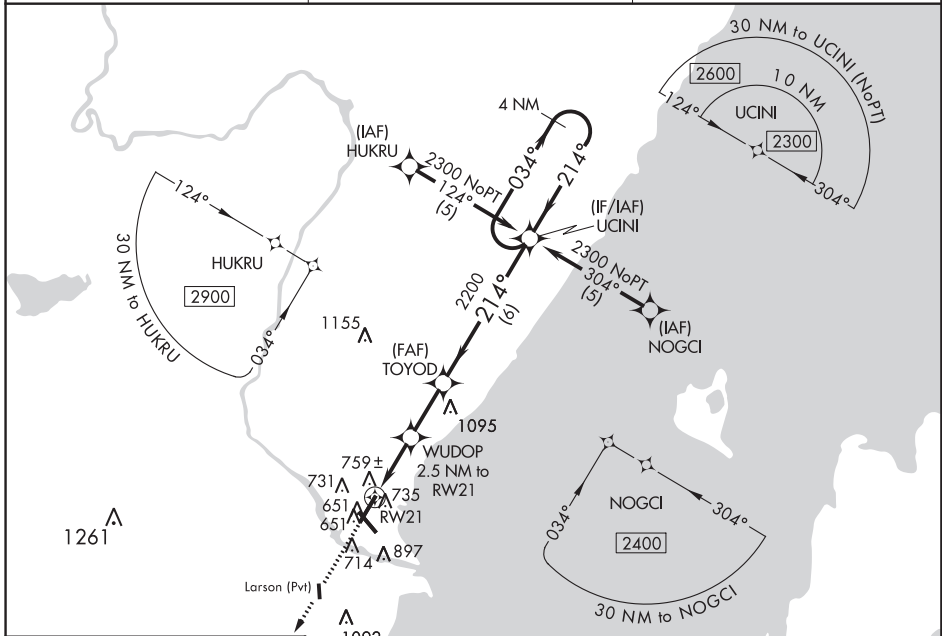
RNAV (GPS) RWY 21

MENOMINEE-MARINETTE TWIN COUNTY (MN/M)

⚠ DME/DME RNP-0.3 NA. When local altimeter setting not received, use Sturgeon Bay altimeter setting and increase all MDA 60 feet, increase LNAV Cat C/D and Circling Cat C/D visibility ¼ mile. VDP NA when using Sturgeon Bay altimeter setting. Helicopter visibility reduction below ¾ SM NA. Circling Rwy 14/32 NA at night.

⚠ MISSED APPROACH: Climb to 2200 direct OMUPE and hold.

| | | |
|--------------------------|---|---------------------------------|
| AWOS-3PT 109.6 | GREEN BAY APP CON * 120.3 338.2 | UNICOM 122.8 (CTAF) 0 |
|--------------------------|---|---------------------------------|



| CATEGORY | A | B | C | D |
|-------------------|--------|-------------|---------|-------------------------|
| LNAV MDA | 1020-1 | 395 (400-1) | 1020-1½ | 395 (400-1½) |
| C CIRCLING | 1200-1 | 575 (600-1) | 1200-1½ | 1460-2¾ 835 (900-2¾) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 56333 W32A | APP CRS 323° | Rwy ldg TDZE Apt Elev | 5100 608 625 |
|--|------------------------|-----------------------------|---|

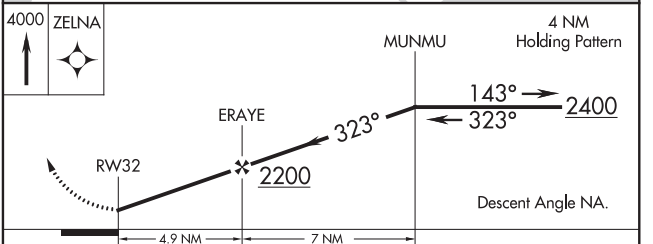
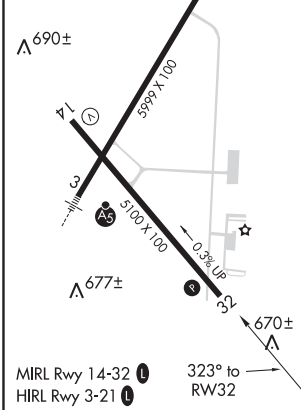
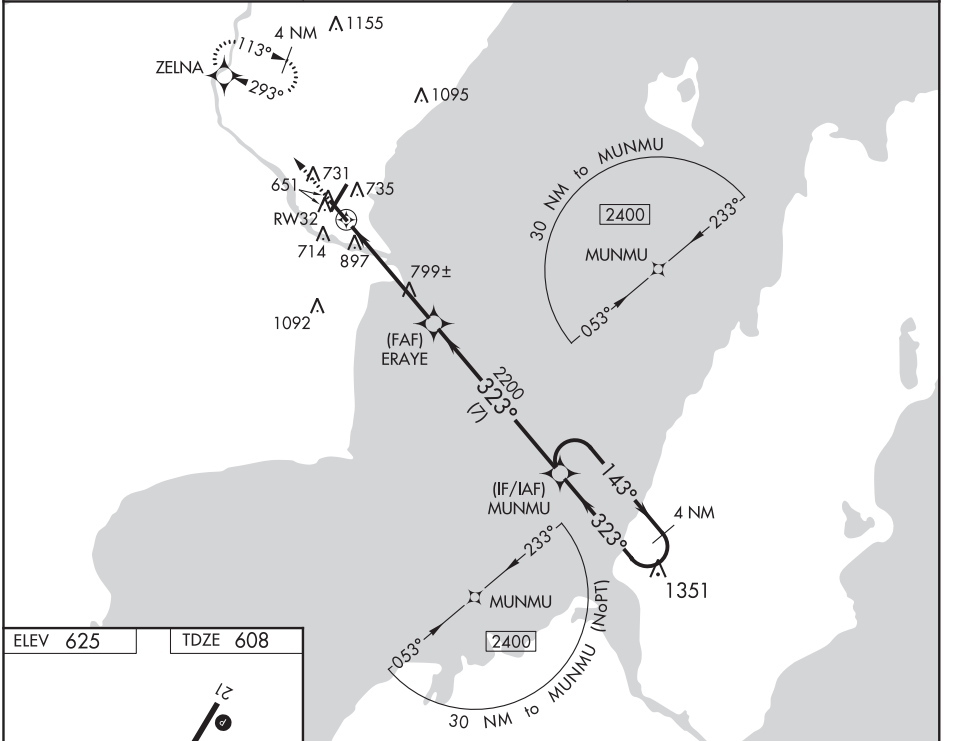
RNAV (GPS) RWY 32

MENOMINEE-MARINETTE TWIN COUNTY (MNM)

⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Rwy 32 Straight-in/Circling and Circling to Rwy 14 NA at night. When local altimeter setting not received, use Sturgeon Bay altimeter setting and increase all MDA 60 feet, increase LNAV Cat C/D and Circling Cat C visibility 1/8 mile, and Circling Cat D visibility 1/4 mile.

⚠ MISSED APPROACH: Climb to 4000 direct ZELNA and hold, continue to climb-in-hold to 4000.

| | | |
|--------------------------|---|---------------------------------|
| AWOS-3PT 109.6 | GREEN BAY APP CON ★ 120.3 338.2 | UNICOM 122.8 (CTAF) 0 |
|--------------------------|---|---------------------------------|



| CATEGORY | A | B | C | D |
|-------------------|--------|-------------|--|--|
| LP MDA | 1060-1 | 452 (500-1) | 1060-1 $\frac{3}{8}$ | 452 (500-1 $\frac{3}{8}$) |
| LNAV MDA | 1160-1 | 552 (600-1) | 1160-1 $\frac{5}{8}$ | 552 (600-1 $\frac{5}{8}$) |
| C CIRCLING | 1200-1 | 575 (600-1) | 1200-1 $\frac{5}{8}$ 575 (600-1 $\frac{5}{8}$) | 1460-2 $\frac{3}{4}$ 835 (900-2 $\frac{3}{4}$) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|---|--------------------------|
| VOR/DME MNM 109.6 Chan 33 | APP CRS 174° | Rwy Idg TDZE Apt Elev 625 | N/A N/A |
|---|------------------------|---|--------------------------|

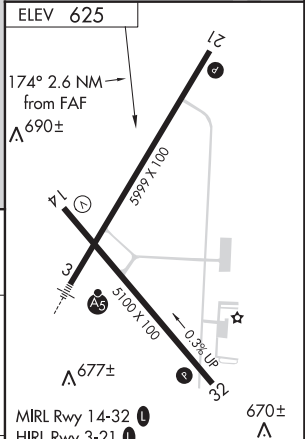
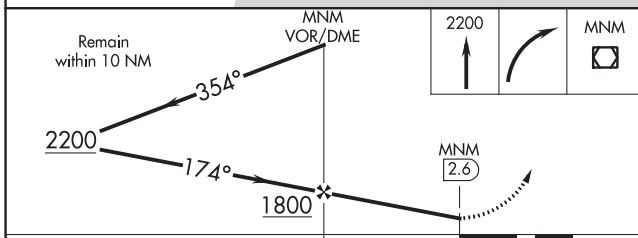
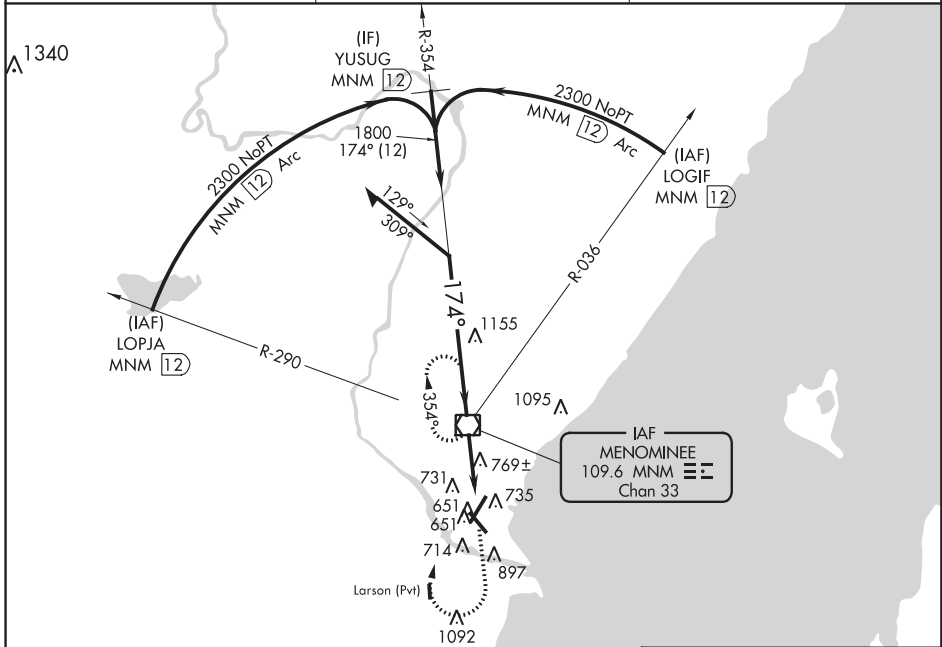
VOR-A

MENOMINEE-MARINETTE TWIN COUNTY (MNM)

⚠ When local altimeter setting not received, use Sturgeon Bay altimeter setting and increase MDA 60 feet, increase Circling Cat C/D visibility ¼ mile. Circling Rwy 14/32 NA at night.

MISSED APPROACH: Climb to 2200 then right turn direct MNM VOR/DME and hold.

| | | |
|--------------------------|--|--|
| AWOS-3PT 109.6 | GREEN BAY APP CON* 120.3 338.2 | UNICOM 122.8 (CTAF) ⓪ |
|--------------------------|--|--|



| | | | | | | | | | | |
|-------------------|--------|-------------|-------------------------|-------------------------|-------------------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 2.6 NM | | | | | |
| | 1200-1 | 575 (600-1) | 1200-1½ 575 (600-1½) | 1460-2¾ 835 (900-2¾) | Knots | 60 | 90 | 120 | 150 | 180 |
| C CIRCLING | | | | | Min:Sec | 2:36 | 1:44 | 1:18 | 1:02 | 0:52 |

VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 72912 W24A | APP CRS 246° | Rwy Idg TDZE Apt Elev | 3801 635 635 |
|--|------------------------|-----------------------------|---|

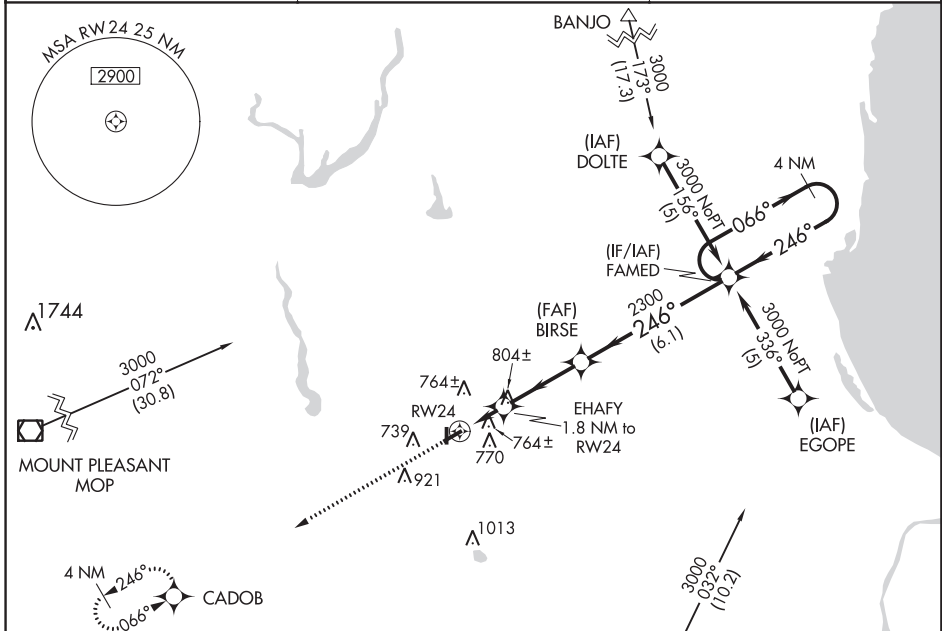
RNAV (GPS) RWY 24

JACK BARSTOW (IKW)

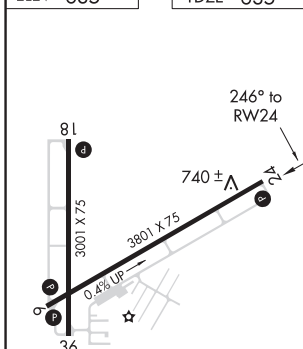
⚠ Baro-VNAV NA when using MBS Intl altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Rwy 24 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use MBS Intl altimeter setting and increase all DA 31 feet and all MDA 40 feet and all LPV visibility ¼ mile. Circling Rwy 18, 36 NA at night.

⚠ MISSED APPROACH: Climb to 3000 direct CADOB and hold.

| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 119.525 | SAGINAW APP CON ★ 126.45 235.625 | UNICOM 122.8 (CTAF) ① |
|--------------------------|--|---------------------------------|

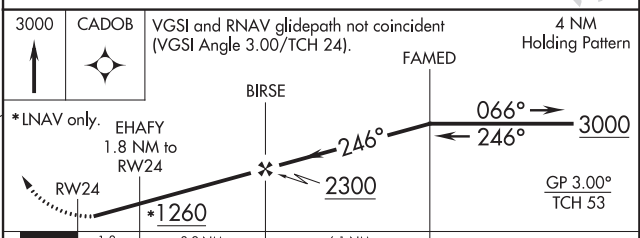


| | |
|-----------------|-----------------|
| ELEV 635 | TDZE 635 |
|-----------------|-----------------|



REIL Rws 6, 18, 24 and 36 ①
MIRL Rws 6-24 and 18-36 ①

Procedure NA for arrivals at MBS VOR/DME via V45 southbound.



| CATEGORY | A | B | C | D |
|--------------|----------------------|-------------|-------------------------|----|
| LPV DA | 1021-1¼ 386 (400-1¼) | | | NA |
| LNAV/VNAV DA | 1068-1½ 433 (500-1½) | | | NA |
| LNAV MDA | 1060-1 | 425 (500-1) | 1060-1¼ 425 (500-1¼) | NA |
| CIRCLING | 1120-1 | 485 (500-1) | 1120-1½ 485 (500-1½) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MIDLAND, MICHIGAN

AL-5476 (FAA)

16231

| | | |
|---|------------------------|---|
| VOR/DME MBS 112.9 Chan 76 | APP CRS 137° | Rwy Idg TDZE Apt Elev N/A N/A 635 |
|---|------------------------|---|

VOR-A
JACK BARSTOW (IKW)

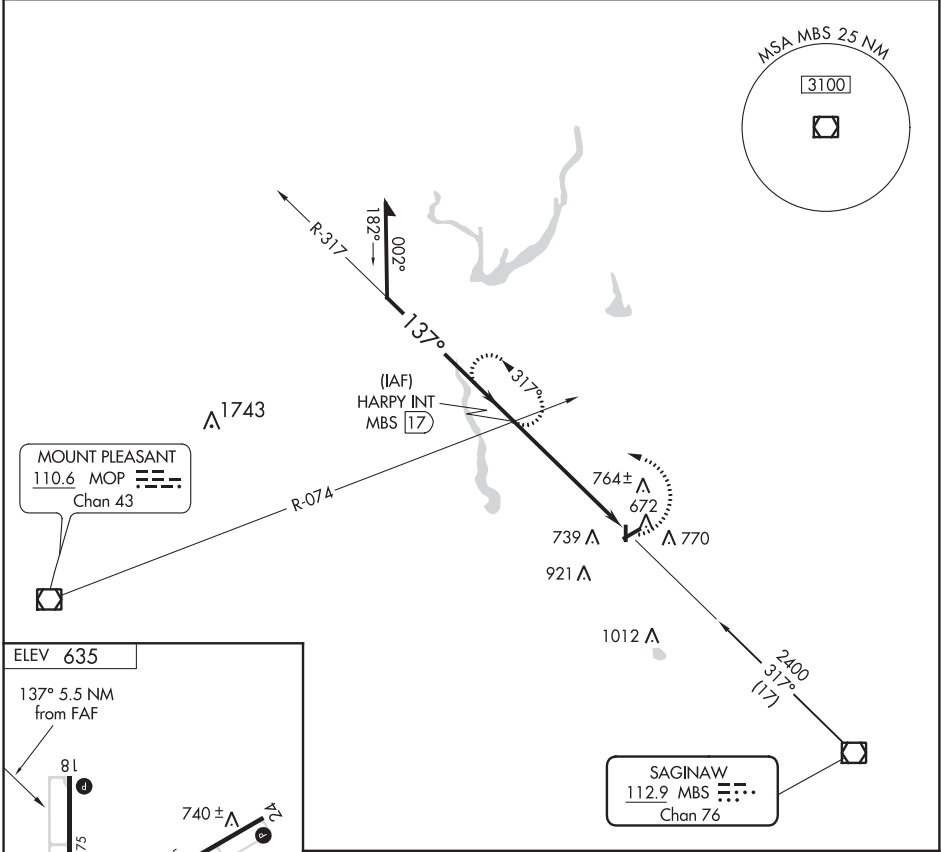
⚠ When local altimeter setting not received, use MBS Intl altimeter setting and increase all MDA 40 feet. Circling Rwy 18, 36 NA at night.
⚠ Rwy 18, 36 helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing left turn to 2400 via heading 272° and MBS VOR/DME R-317 to HARPY INT/17 DME and hold.

AWOS-3
119.525

SAGINAW APP CON ★
126.45 235.625

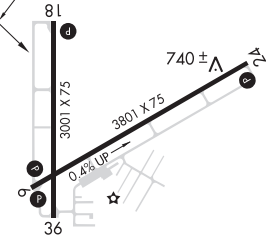
UNICOM
122.8 (CTAF) 0



MOUNT PLEASANT
110.6 MOP
Chan 43

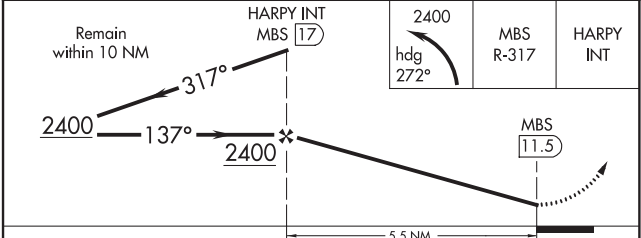
ELEV 635

137° 5.5 NM
from FAF



REIL Rws 6, 18, 24 and 36
MRL Rws 6-24 and 18-36

SAGINAW
112.9 MBS
Chan 76



| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 5.5 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:30 | 3:40 | 2:45 | 2:12 | 1:50 |

| | | | | |
|----------|--------|-------------|-------------------------|----|
| CATEGORY | A | B | C | D |
| CIRCLING | 1140-1 | 505 (600-1) | 1140-1½ 505 (600-1½) | NA |

MIDLAND, MICHIGAN
Amdt 7A 18AUG16

43°40'N-84°16'W

JACK BARSTOW (IKW)
VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|------------------------|
| APP CRS 027° | Rwy Idg 4997 |
| | TDZE 614 |
| | Apt Elev 616 |

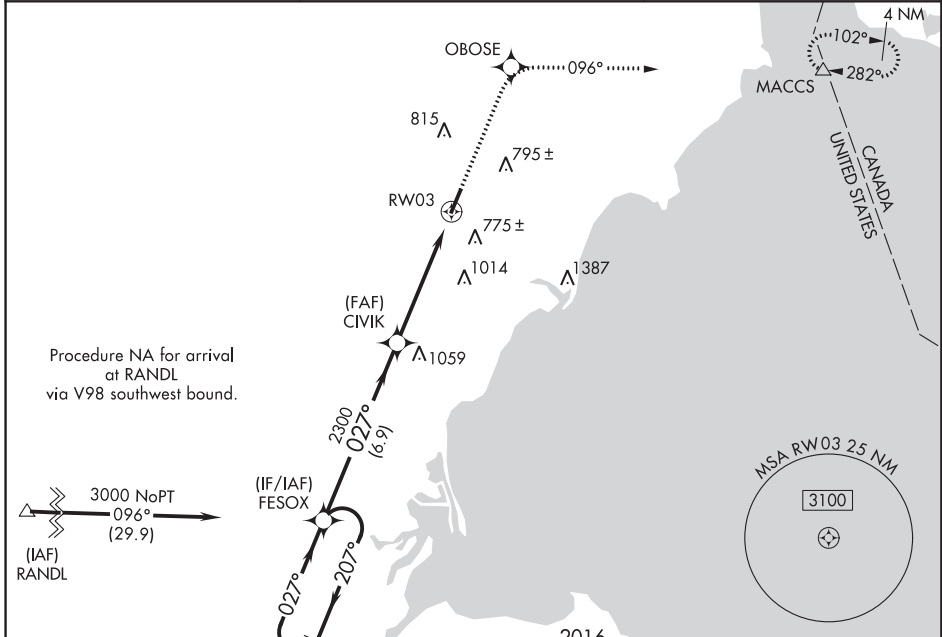
RNAV (GPS) RWY 3

CUSTER (TTF)

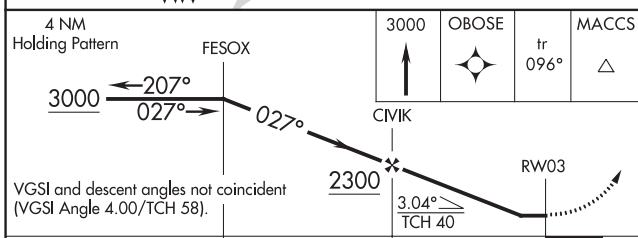
⚠ When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase all MDA 60 feet, LNAV Cat C/D visibility ¼ mile, and Circling Cat C visibility ¼ mile. Visibility reduction by helicopters NA. DME/DME RNP-0.3 NA.

⚠ MISSED APPROACH: Climb to 3000 direct OBOSE and via 096° track to MACCS and hold.

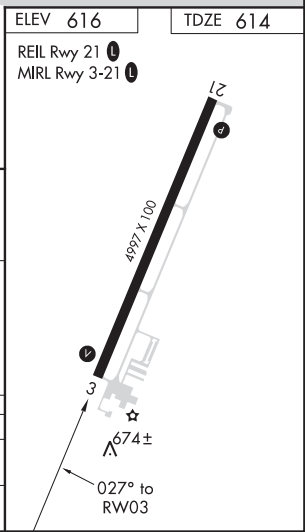
| | | |
|--------------------------|---------------------------------------|-------------------------------|
| AWOS-3 119.075 | DETROIT APP CON 134.3 363.2 | UNICOM 122.7 (CTAF) |
|--------------------------|---------------------------------------|-------------------------------|



| | |
|-------------|---------------|
| ELEV 616 | TDZE 614 |
| REIL Rwy 21 | MIRL Rwy 3-21 |



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-------------------------|
| LNAV MDA | 1100-1 | 486 (500-1) | 1100-1¼ 486 (500-1¼) | 1100-1½ 486 (500-1½) |
| CIRCLING | 1120-1 504 (600-1) | 1180-1 564 (600-1) | 1180-1½ 564 (600-1½) | 1180-2 564 (600-2) |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MONROE, MICHIGAN

AL-5642 (FAA)

15120

| | | |
|--|------------------------|---|
| WAAS CH 86707 W21A | APP CRS 208° | Rwy Idg 4997 TDZE 616 Apt Elev 616 |
|--|------------------------|---|

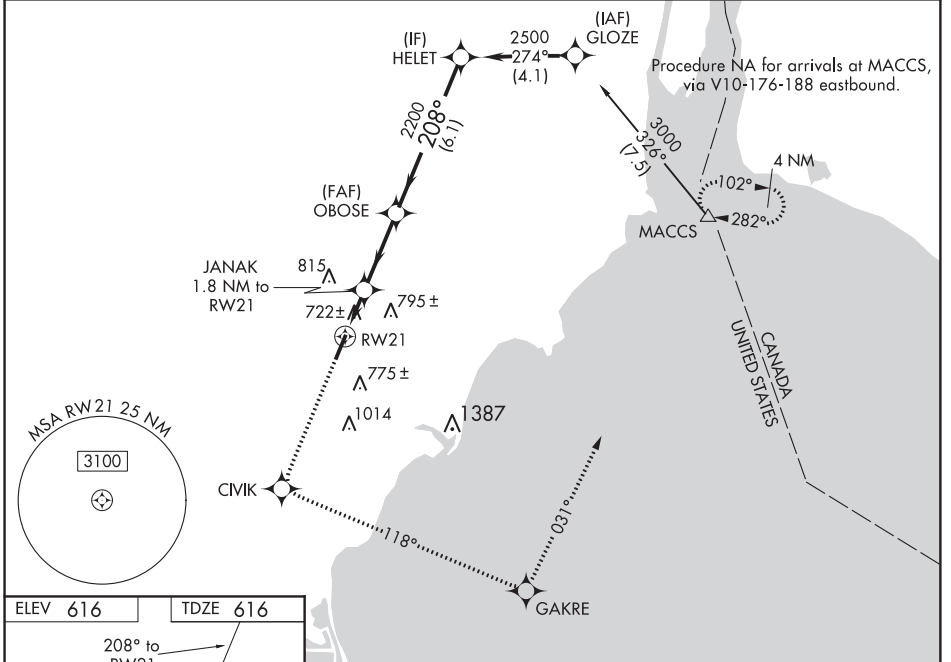
RNAV (GPS) RWY 21

CUSTER (TTF)

⚠ When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase LPV DA 43 feet and all visibilities ¼ mile, LNAV/VNAV DA 138 feet and all visibilities ½ mile and all MDA 60 feet and Cat C visibilities ¼ mile. Baro-VNAV and VDP NA when using Detroit Metropolitan Wayne County altimeter setting. 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.

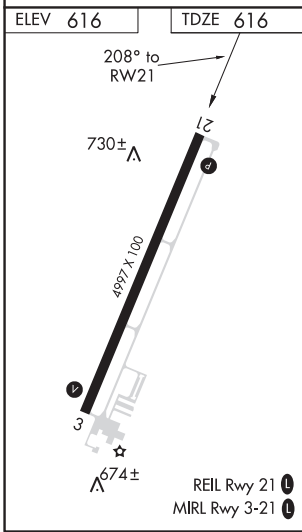
MISSED APPROACH:
Climb to 3000 direct CIVIK and via 118° track to GAKRE and via 031° track to MACCS and hold.

| | | |
|--------------------------|---------------------------------------|-------------------------------|
| AWOS-3 119.075 | DETROIT APP CON 134.3 363.2 | UNICOM 122.7 (CTAF) |
|--------------------------|---------------------------------------|-------------------------------|

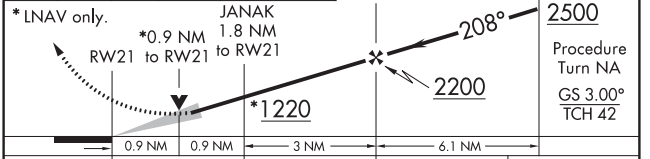


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | | | | | | |
|----------|----------|------------|---------|---------|-------|--|-------|
| ELEV 616 | TDZE 616 | 3000 CIVIK | | GAKRE | MACCS | VGSI and RNAV glidepath not coincident (VGSI Angle 3.50/TCH 49). | HELET |
| | | ↑ | 118° tr | 031° tr | △ | | |



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------|------------------------|
| LPV DA | 966-1¼ 350 (400-1¼) | | | |
| LNAV/VNAV DA | 1009-1½ 393 (400-1½) | | | |
| LNAV MDA | 980-1 364 (400-1) | | | 980-1¼ 364 (400-1¼) |
| CIRCLING | 1120-1 504 (600-1) | 1180-1 564 (600-1) | 1180-1½ 564 (600-1½) | 1180-2 564 (600-1) |

MONROE, MICHIGAN
Orig 31JUL08

41°56'N-83°26'W

RNAV (GPS) RWY 21

CUSTER (TTF)

| | | |
|---|------------------------|---|
| VOR/DME DXO 113.4 Chan 81 | APP CRS 196° | Rwy Idg 4997 TDZE 616 Apt Elev 616 |
|---|------------------------|---|

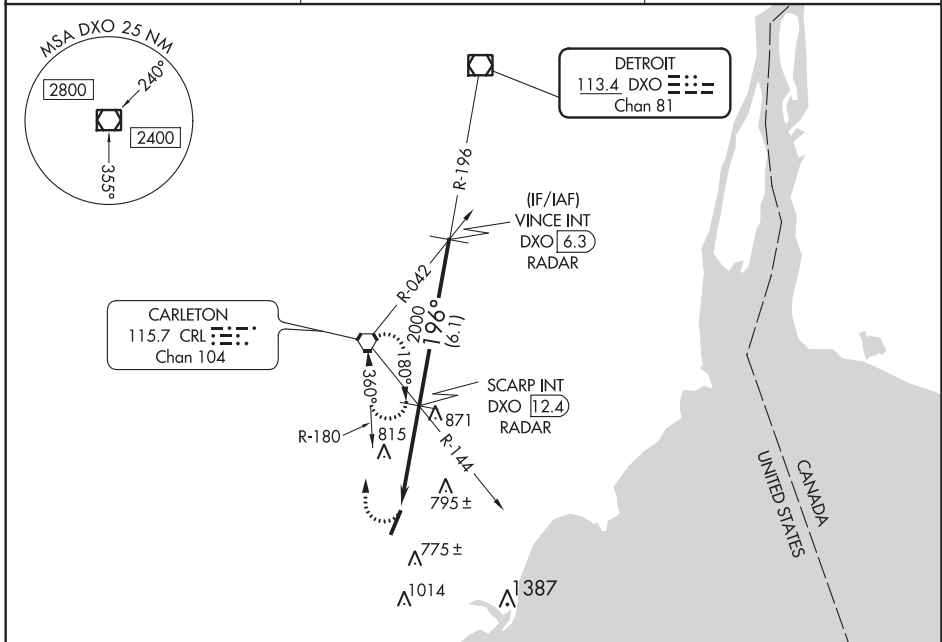
VOR RWY 21

CUSTER (TTF)

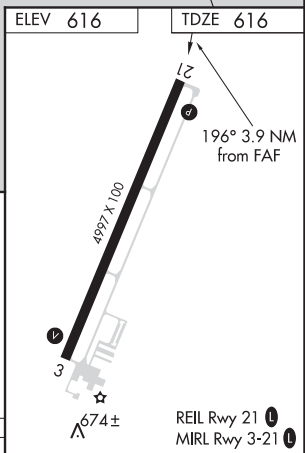
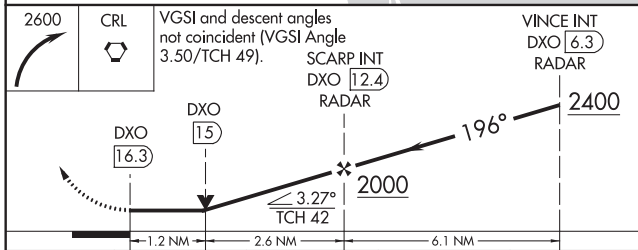
⚠ When local altimeter setting not received, use Detroit Metropolitan Wayne County altimeter setting and increase all MDA 60 feet, and increase Cat C and D visibility ¼ mile. VDP NA when using Detroit Metropolitan Wayne County altimeter setting.

⚠ MISSED APPROACH: Climbing right turn to 2600 direct CRL VORTAC and hold.

| | | |
|--------------------------|---------------------------------------|---------------------------------|
| AWOS-3 119.075 | DETROIT APP CON 134.3 363.2 | UNICOM 122.7 (CTAF) 0 |
|--------------------------|---------------------------------------|---------------------------------|



RADAR REQUIRED



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-----------------------|
| S-21 | 1120-1 504 (600-1) | 504 (600-1) | 1120-1½ 564 (600-1½) | 504 (600-1½) |
| CIRCLING | 1120-1 504 (600-1) | 1180-1 564 (600-1) | 1180-1½ 564 (600-1½) | 1180-2 564 (600-2) |

| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 3.9 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:54 | 2:36 | 1:57 | 1:34 | 1:18 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5000 |
| 096° | TDZE | 755 |
| | Apt Elev | 755 |

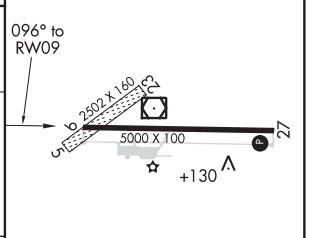
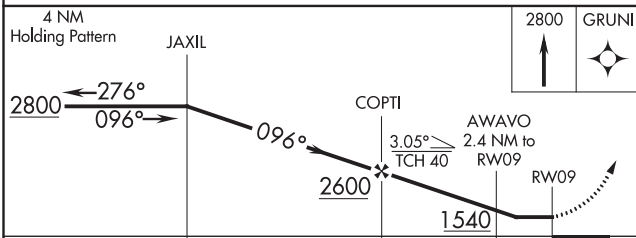
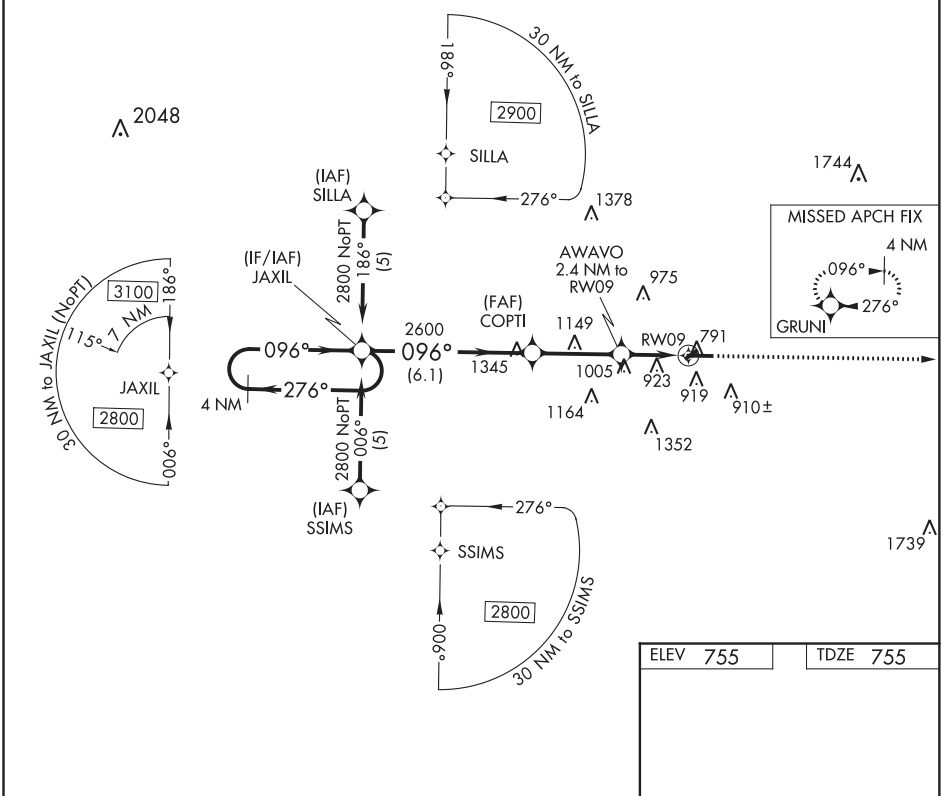
RNAV (GPS) RWY 9

MOUNT PLEASANT MUNI (MOP)

⚠ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received use Alma altimeter setting and increase all MDA 60 feet, increase LNAV Cat C/D and Circling Cat C visibility ¼ mile.

⚠ MISSED APPROACH: Climb to 2800 direct GRUNI and hold.

| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 133.025 | SAGINAW APP CON ★ 126.45 235.625 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|--|---------------------------------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| LNAV MDA | 1320-1 | 565 (600-1) | 1320-1½ 565 (600-1½) | 1320-1¾ 565 (600-1¾) |
| CIRCLING | 1320-1 | 565 (600-1) | 1320-1½ 565 (600-1½) | 1360-2 605 (700-2) |

REIL Rwy 27 **0**
MIRL Rwy 9-27 **0**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 82613 W27A | APP CRS 276° | Rwy Idg TDZE Apt Elev | 5000 753 755 |
|--|------------------------|-----------------------------|---|

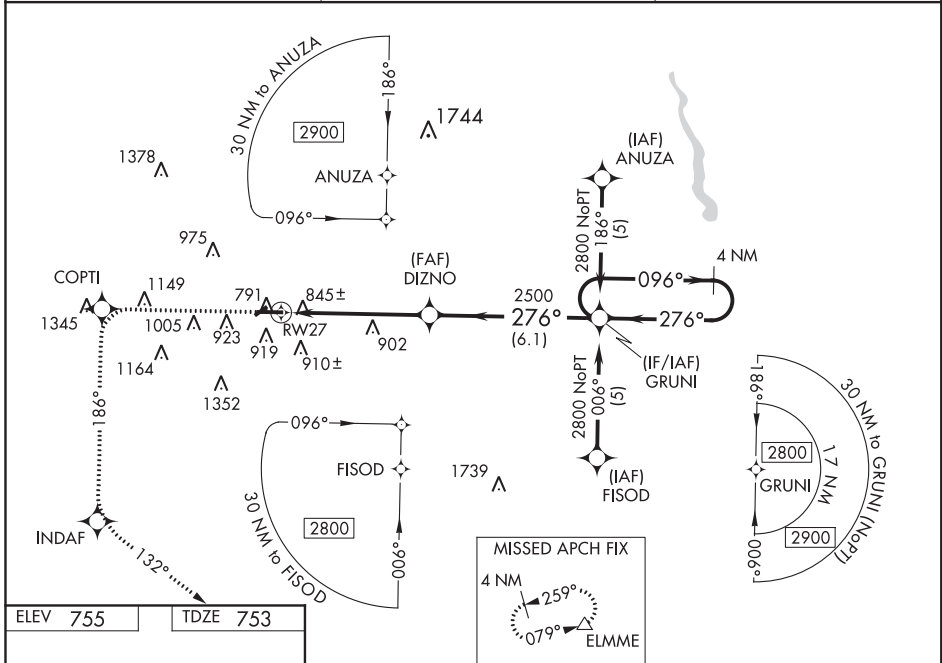
RNAV (GPS) RWY 27

MOUNT PLEASANT MUNI (MOP)

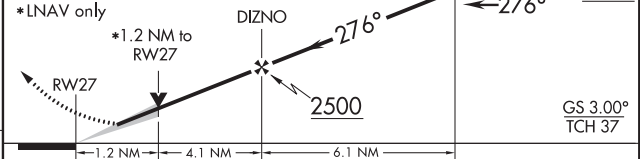
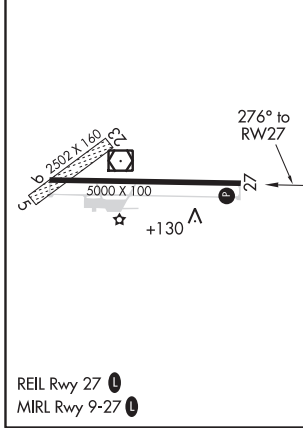
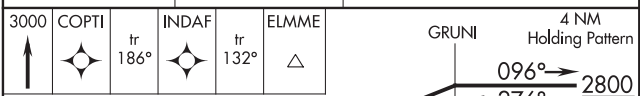
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Alma altimeter setting and increase all DA 42 feet and all MDA 60 feet, increase LPV, LNAV/VNAV all Cats, LNAV Cat D and Circling Cat C visibilities ¼ mile. Baro-VNAV and VDP NA when using Alma altimeter setting.

MISSED APPROACH: Climb to 3000 direct COPTI and via 186° track direct INDAF and via 132° track to ELMME and hold.

| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 133.025 | SAGINAW APP CON ★ 126.45 235.625 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|--|---------------------------------|



| | |
|-----------------|-----------------|
| ELEV 755 | TDZE 753 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|--------------|--------------|
| LPV DA | | 1099-1¼ | 346 (400-1¼) | |
| LNAV/VNAV DA | | 1201-1½ | 448 (500-1½) | |
| LNAV MDA | 1160-1 | 407 (500-1) | 1160-1¼ | 407 (500-1¼) |
| CIRCLING | 1220-1 | 465 (500-1) | 1320-1½ | 1360-2 |
| | | | 565 (600-1½) | 605 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MOUNT PLEASANT, MICHIGAN

AL-5283 (FAA)

15008

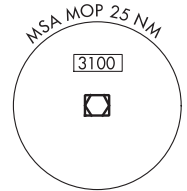
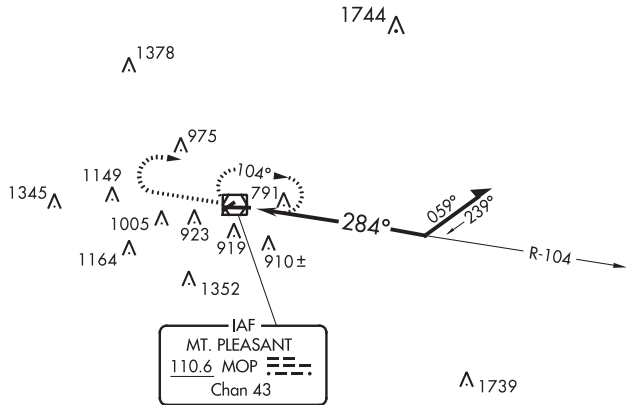
| | | | |
|---|------------------------|---|-------------|
| VOR/DME MOP 110.6 Chan 43 | APP CRS 284° | Rwy Idg TDZE 753 Apt Elev 755 | 5000 |
|---|------------------------|---|-------------|

VOR RWY 27

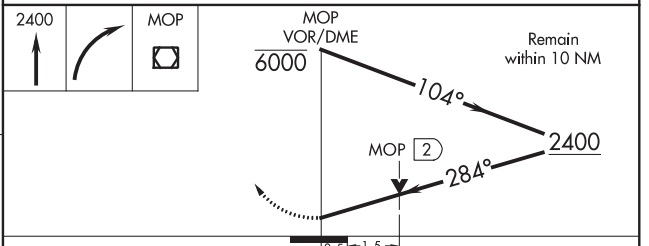
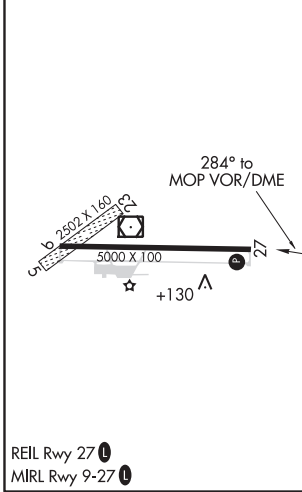
MOUNT PLEASANT MUNI (MOP)

| | |
|---|---|
| ⚠ Visibility reduction by helicopters NA. When local altimeter setting not received, use Alma altimeter setting and increase all MDA 60 feet, S-27 Cat D and Circling Cat C visibilities ¼ mile. VDP NA when using Alma altimeter setting. | MISSED APPROACH: Climb to 2400 then right turn direct MOP VOR/DME and hold. |
|---|---|

| | | |
|--------------------------|--|--|
| AWOS-3 133.025 | SAGINAW APP CON ★ 126.45 235.625 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|--|--|



| | |
|----------|----------|
| ELEV 755 | TDZE 753 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-----------------------|
| S-27 | 1260-1 | 507 (600-1) | 1260-1½ | 507 (600-1½) |
| CIRCLING | 1260-1 | 505 (600-1) | 1320-1½ 565 (600-1½) | 1360-2 605 (700-2) |

MOUNT PLEASANT, MICHIGAN
Amdt 1 03APR14

43°37'N-84°44'W

MOUNT PLEASANT MUNI (MOP) VOR RWY 27

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|---|
| LOC/DME I-CJH 109.5 Chan 32 | APP CRS 240° | Rwy ldg TDZE 627 Apt Elev 629 |
|---|------------------------|---|

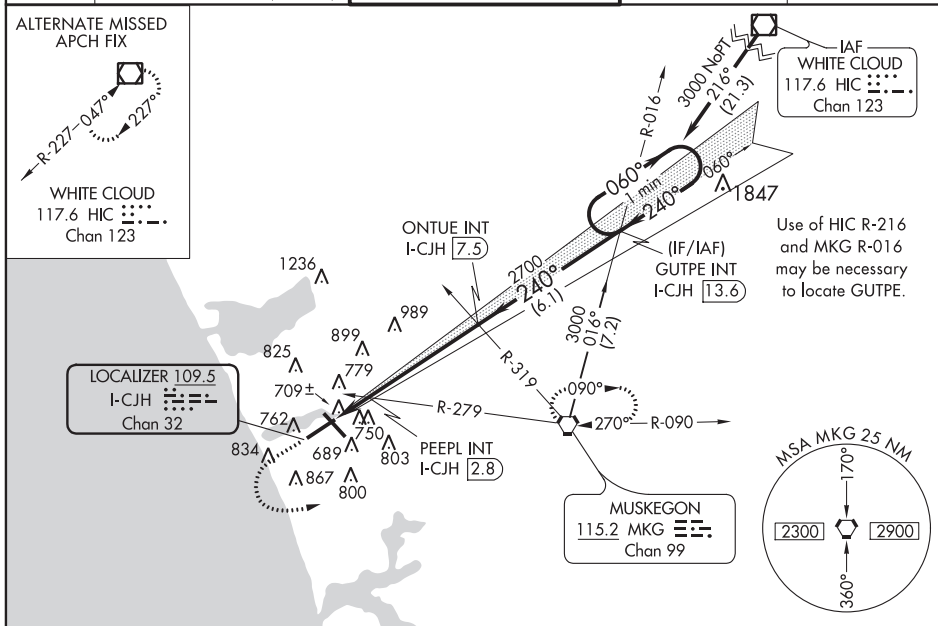
ILS or LOC RWY 24

MUSKEGON COUNTY (MKG)

ASR **▼** VDP NA with Fremont altimeter setting. When local altimeter setting not received, use Fremont altimeter setting and increase all DA 65 feet and all MDA 80 feet. Increase S-LOC 24 Cats C/D and Circling Cat C visibility ¼ mile. PEEPL Fix minimums: increase S-LOC 24 Cat C visibility ¼ mile. PEEPL Fix Minimums: For inoperative MALSR, increase S-LOC 24 Cat D visibility to 1 mile. For inoperative MALSR, when using Fremont altimeter setting; increase S-ILS 24 visibility to 1 mile all Cats

MALSR **ASR** **▲** MISSED APPROACH: Climb to 2500 then left turn direct MKG VORTAC and hold.

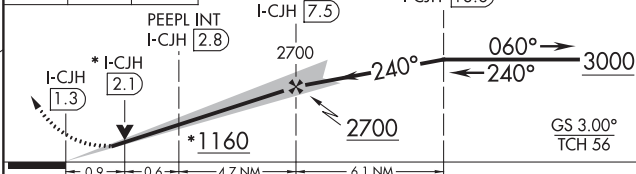
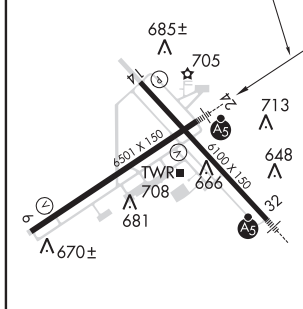
| | | | | |
|-----------------------|--|---|-------------------------|-------------------------|
| ASOS 124.30 | MUSKEGON APP CON ★ 119.8 290.35 (N of V2) 133.825 290.35 (S of V2) | MUSKEGON TOWER ★ 126.25 (CTAF) 343.725 | GND CON 121.6 | UNICOM 122.95 |
|-----------------------|--|---|-------------------------|-------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ELEV 629 **D** TDZE 627 **MKG** **▲** 2500 **▲** 1240 when using Fremont altimeter setting. * LOC only. One Minute Holding Pattern



| CATEGORY | A | B | C | D |
|--------------------|--------------------|----------------------|----------------------|--------------------|
| S-ILS 24 | 827-½ 200 (200-½) | | | |
| S-LOC 24 | 1160-½ 533 (600-½) | 1160-1 533 (600-1) | 1160-1¼ 533 (600-1¼) | 1180-2 551 (600-2) |
| CIRCLING | 1160-1 531 (600-1) | 1160-1½ 531 (600-1½) | 1180-2 551 (600-2) | |
| PEEPL FIX MINIMUMS | | | | |
| S-LOC 24 | 960-½ 333 (400-½) | 960-¾ 333 (400-¾) | | |
| CIRCLING | 1080-1 451 (500-1) | 1140-1½ 511 (600-1½) | 1180-2 551 (600-2) | |

REIL Rwy 6 and 14 **▲**
HIRL Rwy 6-24 and 14-32 **▲**
FAF to MAP 6.2 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 6:12 | 4:08 | 3:06 | 2:29 | 2:04 |

| | | |
|---|------------------------|--|
| LOC/DME I-MKG 109.9 Chan 36 | APP CRS 321° | Rwy Ldg 6100 THRE 629 Apt Elev 629 |
|---|------------------------|--|

ILS or LOC RWY 32

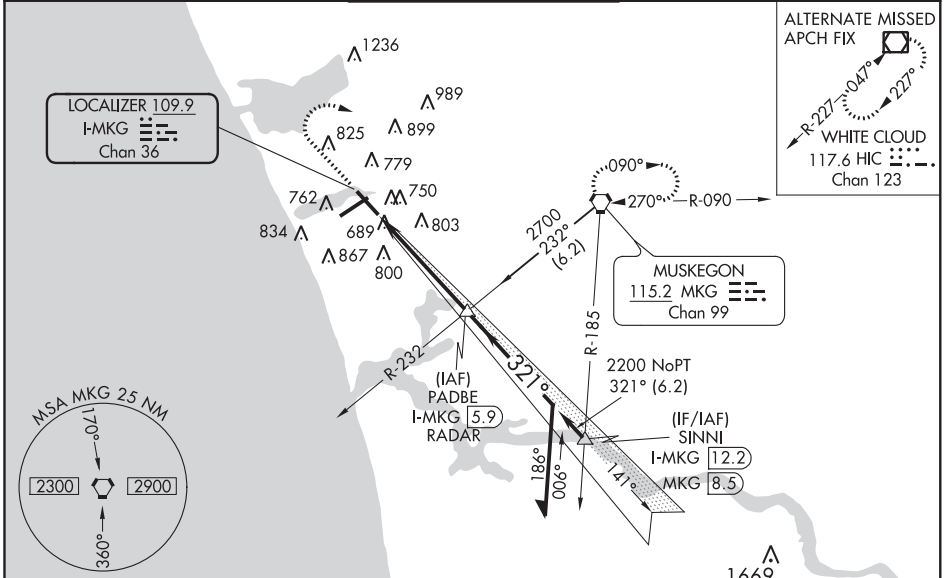
MUSKEGON COUNTY (MKG)

When local altimeter setting not received, use Fremont altimeter setting and increase DA 65 feet, and all MDA 80 feet, increase S-LOC 32 Cat C and D visibility to RVR 5500 and Circling Cat C to 1 ¼ mile. For inoperative MALSR when using Fremont Muni altimeter setting increase S-ILS 32 all Cats visibility to ½ mile, S-LOC 32 Cat A and B visibility to 1 mile, Cat C and D to 1 ½ mile. VDP NA when using Fremont Muni altimeter setting. **RVR 1800 authorized with the use of FD or AP or HUD to DA.

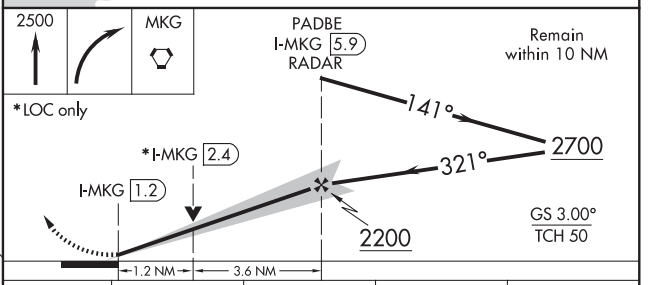
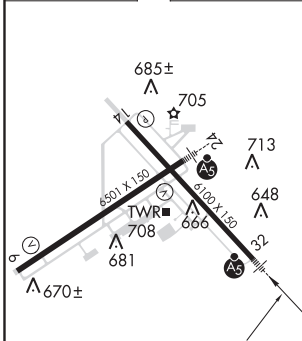
MALSR

MISSED APPROACH:
Climb to 2500 then right turn direct MKG VORTAC and hold.

| | | | | |
|-----------------------|--|---|-------------------------|-------------------------|
| ASOS 124.30 | MUSKEGON APP CON * 119.8 290.35 (N of V2) 133.825 290.35 (S of V2) | MUSKEGON TOWER * 126.25 (CTAF) 0 343.725 | GND CON 121.6 | UNICOM 122.95 |
|-----------------------|--|---|-------------------------|-------------------------|



| | | |
|-----------------|----------|-----------------|
| ELEV 629 | D | THRE 629 |
|-----------------|----------|-----------------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------|-----------------------|
| S-ILS 32 | ** 829/24 200 (200-½) | | | |
| S-LOC 32 | 1060/24 | 431 (500-½) | 1060/40 | 431 (500-¾) |
| C CIRCLING | 1080-1 451 (500-1) | 1180-1 551 (600-1) | 1200-1½ 571 (600-1½) | 1200-2 571 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS Ch 56618 W06A | APP CRS 060° | Rwy Idg 6501 TDZE 623 Apt Elev 629 |
|--|------------------------|---|

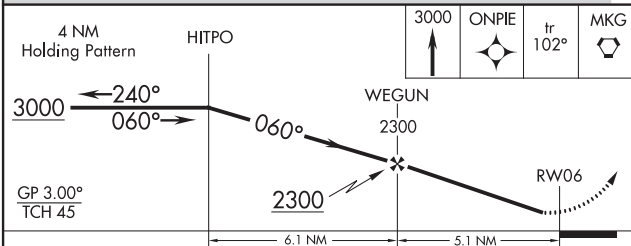
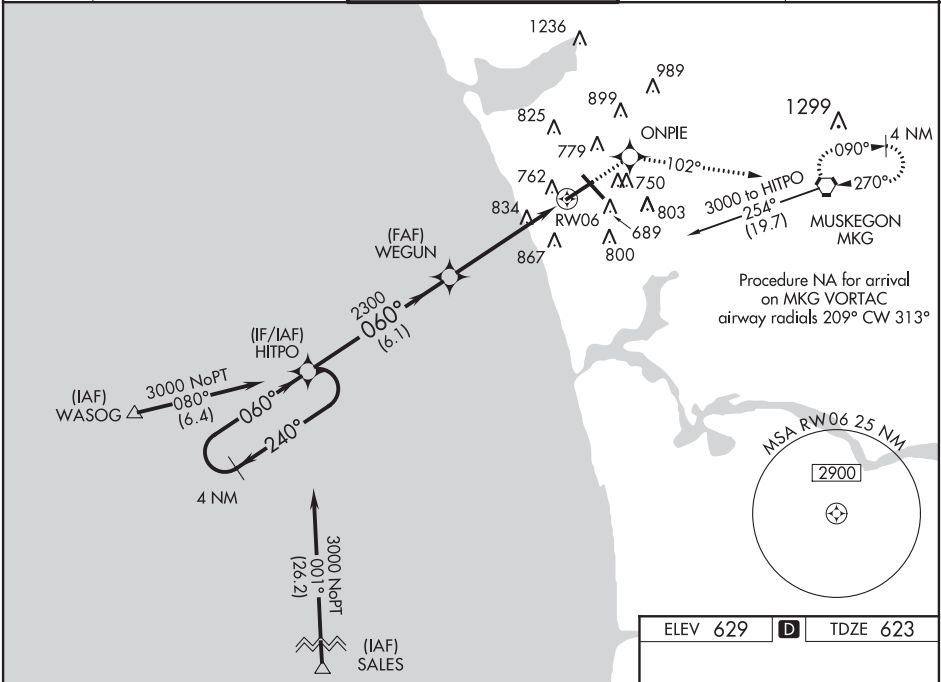
RNAV (GPS) RWY 6

MUSKEGON COUNTY (MKG)

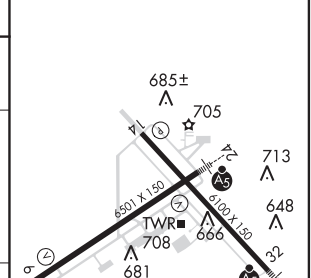
ASR When VGSI inoperative, procedure NA at night. Baro-VNAV NA when using Fremont altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Fremont altimeter setting and increase all DA 65 feet and all MDA 80 feet. Increase LPV, LNAV/VNAV all Cats and LNAV Cats C/D visibility ¼ mile.

MISSED APPROACH:
Climb to 3000 direct ONPIE and on track 102° to MKG VORTAC and hold.

| | | | | |
|-----------------------|--|--|-------------------------|-------------------------|
| ASOS 124.30 | MUSKEGON APP CON ★ 119.8 290.35 (N of V2) 133.825 290.35 (S of V2) | MUSKEGON TOWER★ 126.25 (CTAF) 343.725 | GND CON 121.6 | UNICOM 122.95 |
|-----------------------|--|--|-------------------------|-------------------------|



| | | |
|----------|----------|----------|
| ELEV 629 | D | TDZE 623 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------------------|----------------------|----------------------|---|
| LPV DA | 926-1 303 (300-1) | | | |
| LNAV/VNAV DA | 1173-2 550 (600-2) | | | |
| LNAV MDA | 1100-1 477 (500-1) | 1100-1½ 477 (500-1¼) | 1100-1½ 477 (500-1½) | |
| CIRCLING | 1100-1 471 (500-1) | 1140-1½ 511 (600-1½) | 1180-2 551 (600-2) | |

REIL Rwy 6 and 14 **1**
HIRL Rwy 6-24 and 14-32 **1**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS Ch 42918 W24A | APP CRS 240° | Rwy Idg TDZE Apt Elev | 6501 627 629 |
|--|------------------------|-----------------------------|---|

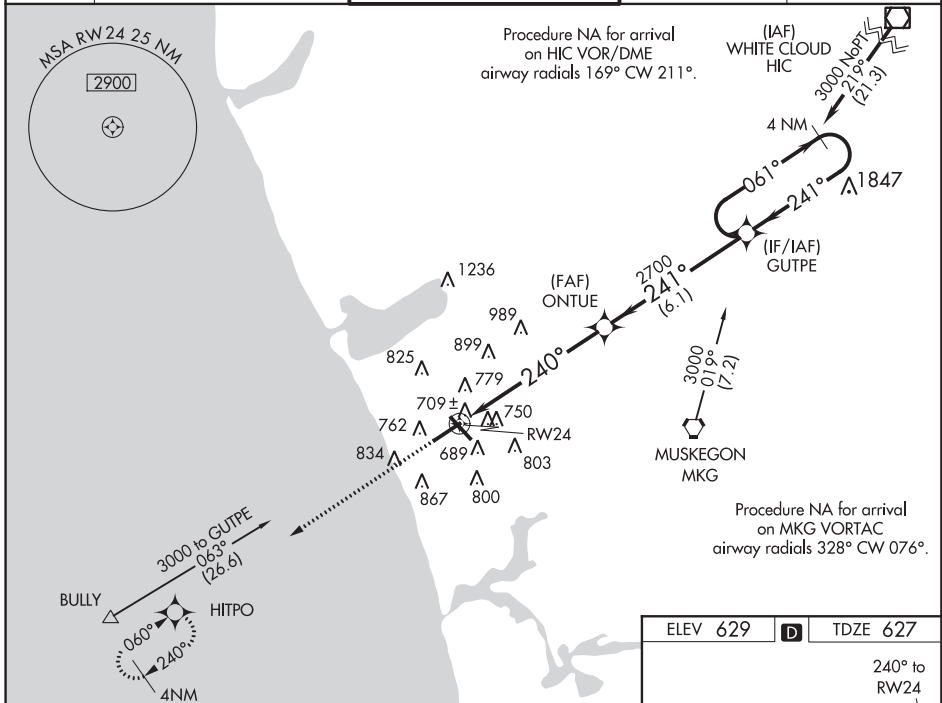
RNAV (GPS) RWY 24

MUSKEGON COUNTY (MKG)

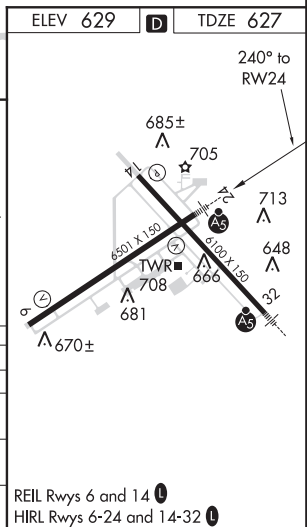
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 48°C (118°F). DME/DME RNP -0.3 NA. Baro-VNAV and VDP NA when using Fremont altimeter setting. When local altimeter setting not received, use Fremont altimeter setting and increase all ASR DA 65 feet and all MDA 80 feet. Increase LNAV/VNAV visibility all Cats ¼ mile. For inoperative MALSR, when using Fremont altimeter setting: increase LPV visibility to 1 mile all Cats.

MALSR
A5
MISSED APPROACH:
Climb to 3000 direct
HITPO and hold.

| | | | | |
|-----------------------|--|---|-------------------------|-------------------------|
| ASOS 124.30 | MUSKEGON APP CON ★ 119.8 290.35 (N of V2) 133.825 290.35 (S of V2) | MUSKEGON TOWER ★ 126.25 (CTAF) 343.725 | GND CON 121.6 | UNICOM 122.95 |
|-----------------------|--|---|-------------------------|-------------------------|



| | | | | |
|--------------|--------------------|----------------------|----------------------|----------------------|
| 3000 | HITPO | *LNAV only | GUTPE | 4 NM Holding Pattern |
| ↑ | ✧ | | | |
| | | *1.4 NM to RW24 | 2700 | 061° → 3000 |
| | | RW24 | 241° | ← 241° |
| | | 1.4 | 4.8 NM | 6.1 NM |
| CATEGORY | A | B | C | D |
| LPV DA | 827-½ 200 (200-½) | | | |
| LNAV/VNAV DA | 1076-1 449 (500-1) | | | |
| LNAV MDA | 1140-½ 513 (600-½) | 1140-1 513 (600-1) | 1140-1¼ 513 (500-1¼) | |
| CIRCLING | 1140-1 511 (600-1) | 1140-1½ 511 (600-1½) | 1180-2 551 (600-2) | |



REIL Rwy 6 and 14 **Ⓛ**
HIRL Rwy 6-24 and 14-32 **Ⓛ**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 63010 W32A | APP CRS 321° | Rwy Idg TDZE Apt Elev | 6100 629 629 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 32

MUSKEGON COUNTY (MKG)

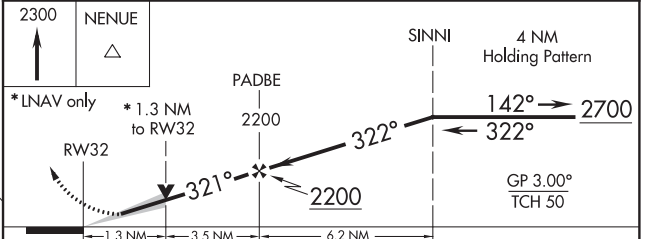
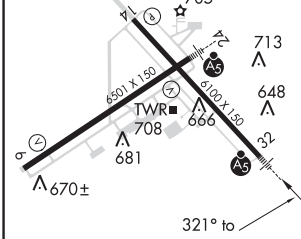
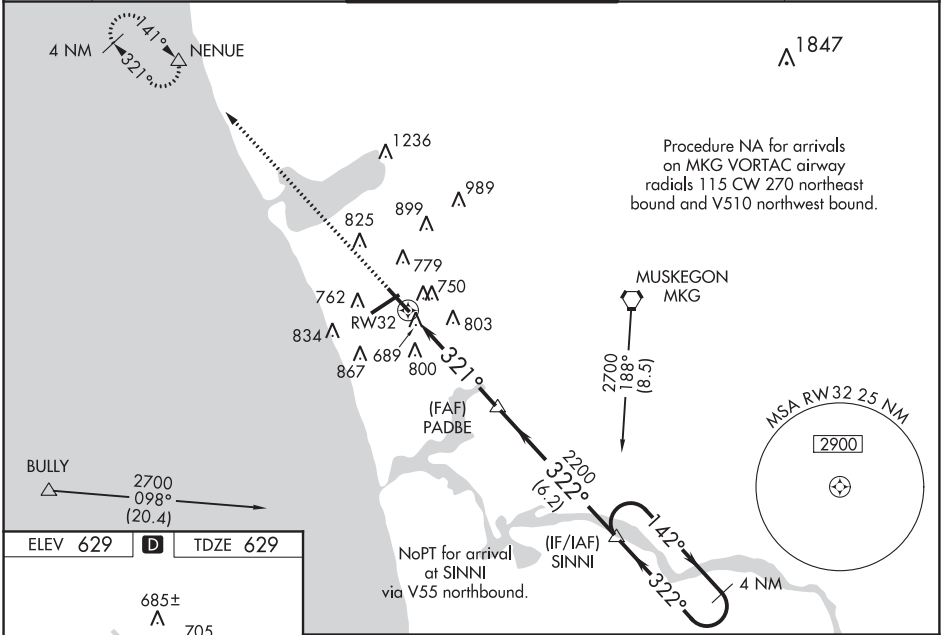
ASR For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. For inoperative MALSRS, increase LNAV/VNAV all Cats visibility to RVR 4500; LNAV Cats A and B visibility to RVR 5500 and Cats C and D visibility to 1 3/4 mile. When local altimeter setting is not received use Fremont Muni altimeter setting: increase DA 65 feet and all MDAs 80 feet; increase LNAV/VNAV all Cats to RVR 3000 and LNAV Cats C and D to RVR 5500. Increase Circling Cat C visibility to 1 3/4 mile. Baro VNAV and VDP NA when using Fremont Muni altimeter setting. For inoperative MALSRS when using Fremont Muni altimeter setting, increase LPV all Cats visibility to RVR 4500, LNAV/VNAV all Cats visibility to RVR 5500 and LNAV Cats C and D visibility to 1 1/2 mile.

MALSRS



MISSED APPROACH:
Climb to 2300 direct NENUE and hold.

| | | | | |
|-----------------------|--|---|-------------------------|-------------------------|
| ASOS 124.30 | MUSKEGON APP CON ★ 119.8 290.35 (N of V2) 133.825 290.35 (S of V2) | MUSKEGON TOWER ★ 126.25 (CTAF) 343.725 | GND CON 121.6 | UNICOM 122.95 |
|-----------------------|--|---|-------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------------|-----------------------|
| LPV DA | | 829/24 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 915/24 | 286 (300-1) | |
| LNAV MDA | 1080/24 | 451 (500-1/2) | 1080/45 | 451 (500-3/4) |
| C CIRCLING | 1080-1 451 (500-1) | 1180-1 551 (600-1) | 1200-1 1/2 571 (600-1 1/2) | 1200-2 571 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---|------------------------|--|
| LOC/DME I-MKG 109.9 Chan 36 | APP CRS 141° | Rwy Ldg THRE 627 Apt Elev 629 |
|---|------------------------|--|

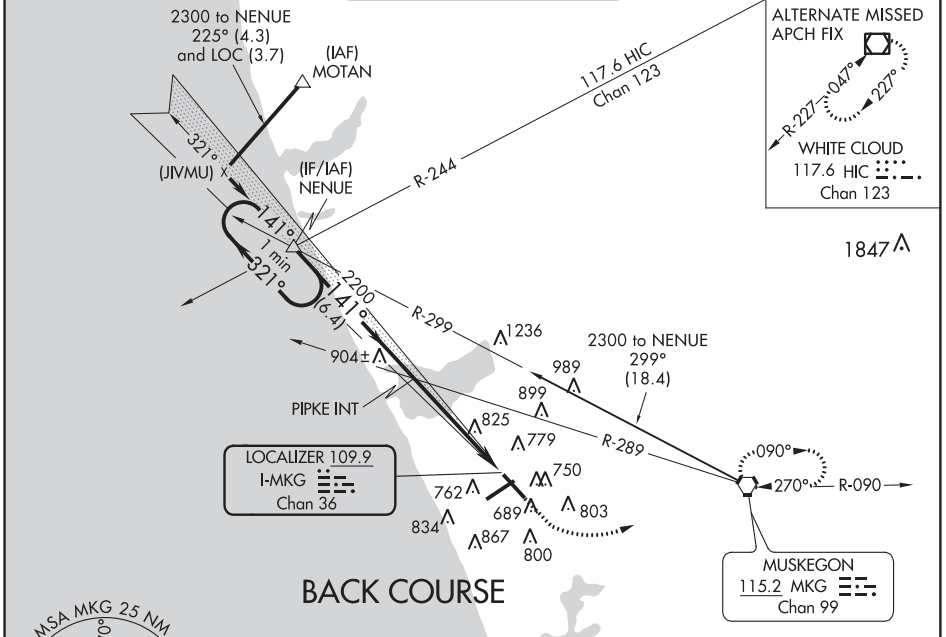
LOC BC RWY 14

MUSKEGON COUNTY (MKG)

ASR Visibility reduction by helicopters NA. When local altimeter setting not received, use Fremont altimeter setting and increase all MDA 80 feet.

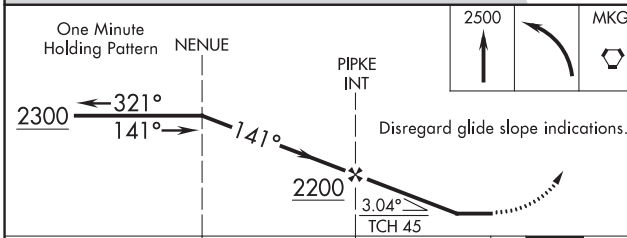
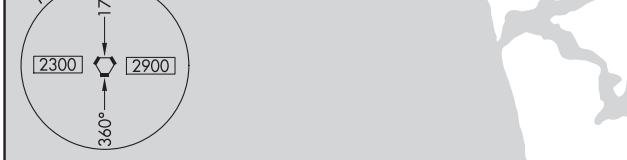
MISSED APPROACH: Climb to 2500 then left turn direct MKG VORTAC and hold.

| | | | | |
|-----------------------|--|--|-------------------------|-------------------------|
| ASOS 124.30 | MUSKEGON APP CON ★ 119.8 290.35 (N of V2) 133.825 290.35 (S of V2) | MUSKEGON TOWER★ 126.25 (CTAF) 343.725 | GND CON 121.6 | UNICOM 122.95 |
|-----------------------|--|--|-------------------------|-------------------------|

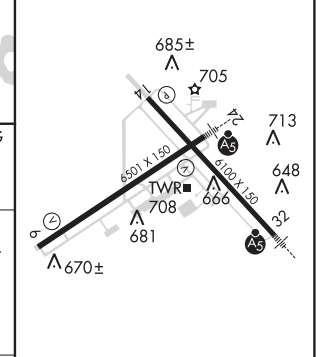


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | |
|----------|----------|----------|
| ELEV 629 | D | TDZE 627 |
|----------|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------|----------------------|
| S-14 | 1140-1 513 (600-1) | | 1140-1½ 513 (600-1½) | 1140-1¾ 513 (600-1¾) |
| CIRCLING | 1140-1 511 (600-1) | | 1140-1½ 511 (600-1½) | 1180-2 551 (600-2) |

REIL Rwy 6 and 14
HRL Rwy 6-24 and 14-32

FAF to MAP 4.1 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:06 | 2:44 | 2:03 | 1:38 | 1:22 |

AIRPORT DIAGRAM

AL-278 (FAA)

MUSKEGON COUNTY (MKG)
MUSKEGON, MICHIGAN

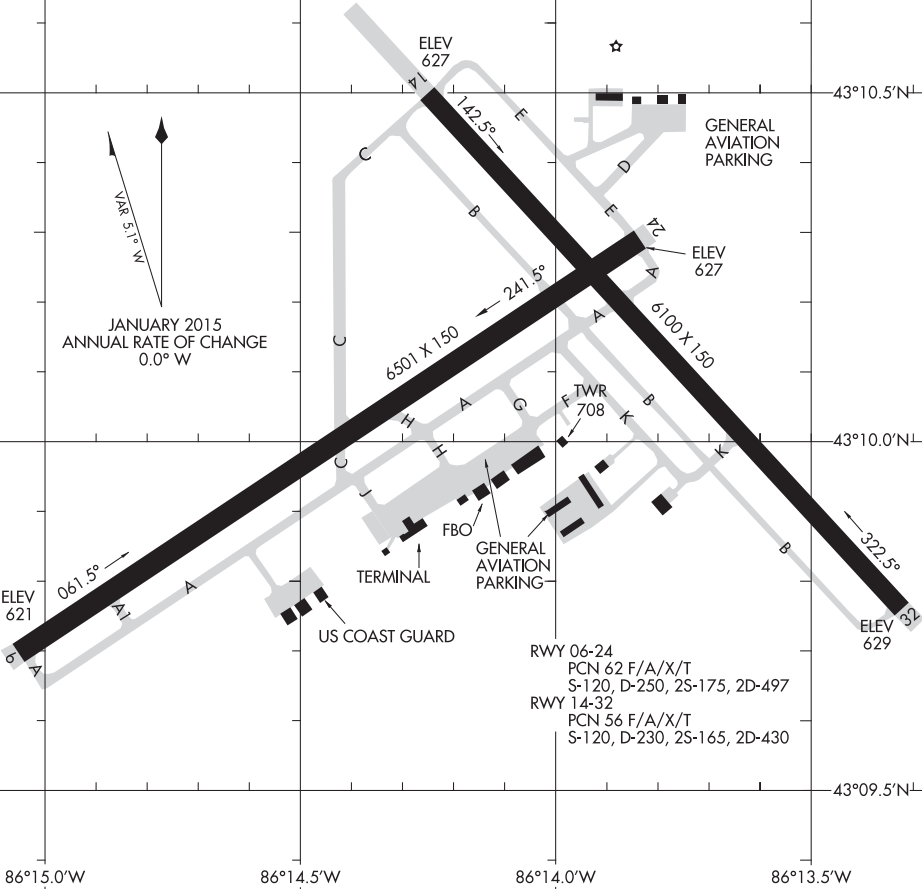
ATIS
124.3
MUSKEGON TOWER ★
126.25 343.725
GND CON
121.6

FIELD
ELEV
629

D

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

VAR 15.1° N
JANUARY 2015
ANNUAL RATE OF CHANGE
0.0° W



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

86°15.0'W

86°14.5'W

86°14.0'W

86°13.5'W

43°11.0'N

43°10.5'N

43°10.0'N

43°09.5'N

AIRPORT DIAGRAM

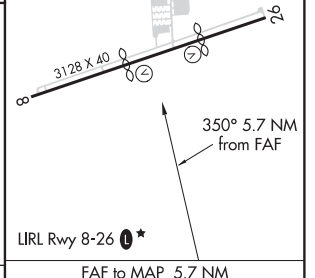
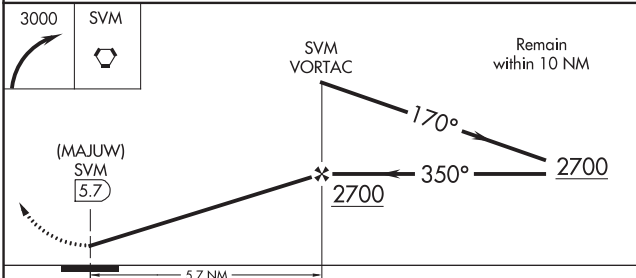
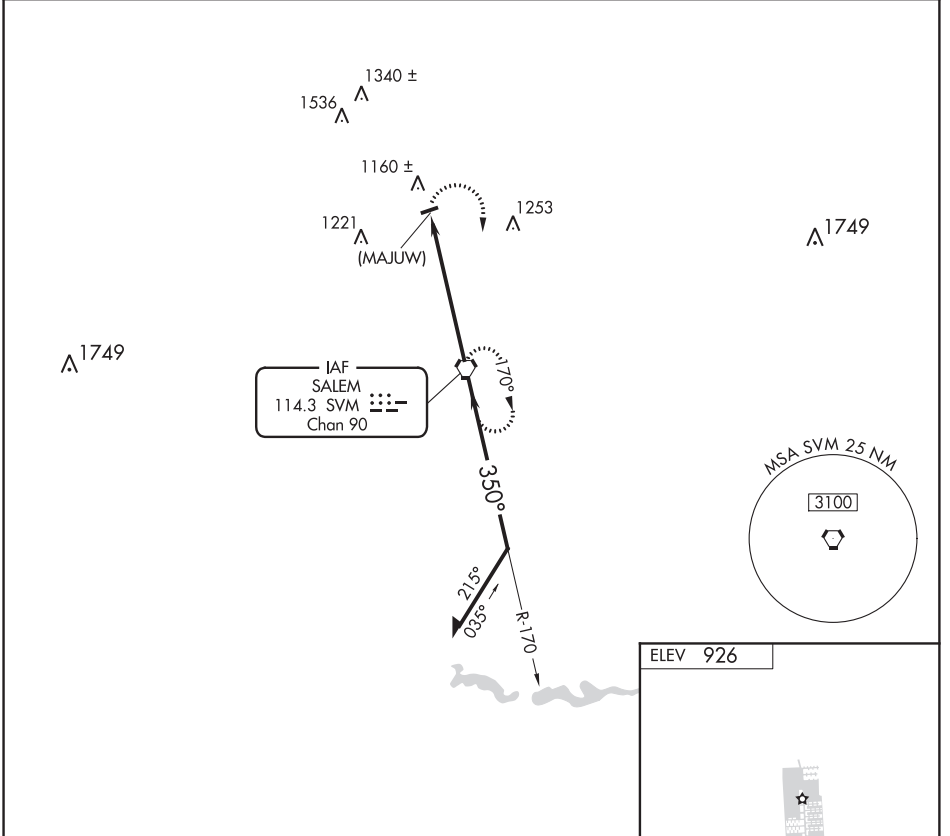
MUSKEGON, MICHIGAN
MUSKEGON COUNTY (MKG)

| | | | |
|--|------------------------|-----------------------------|--|
| VORTAC SVM 114.3 Chan 90 | APP CRS 350° | Rwy Idg TDZE Apt Elev | N/A N/A 926 |
|--|------------------------|-----------------------------|--|

VOR or GPS-A
OAKLAND SOUTHWEST (Y47)

| | |
|--|---|
| <p>▼ Use Detroit Willow Run airport altimeter setting. Night visibility minimums 2 miles.</p> <p>▲ NA When VGSF inop, Circling to Rwy 8 NA at night.</p> | <p>MISSED APPROACH: Climbing right turn to 3000 direct SVM VORTAC and hold.</p> |
|--|---|

| | |
|---|--|
| <p>DETROIT APP CON 127.5 363.2</p> | <p>UNICOM 122.7 (CTAF) 0*</p> |
|---|--|



| | | | | | | | | | | |
|----------|--------|-------------|---|----|---------|------|------|------|------|------|
| CATEGORY | A | B | C | D | Knots | 60 | 90 | 120 | 150 | 180 |
| CIRCLING | 1520-1 | 594 (600-1) | | NA | Min:Sec | 5:42 | 3:48 | 2:51 | 2:17 | 1:54 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

RNAV (GPS) RWY 11

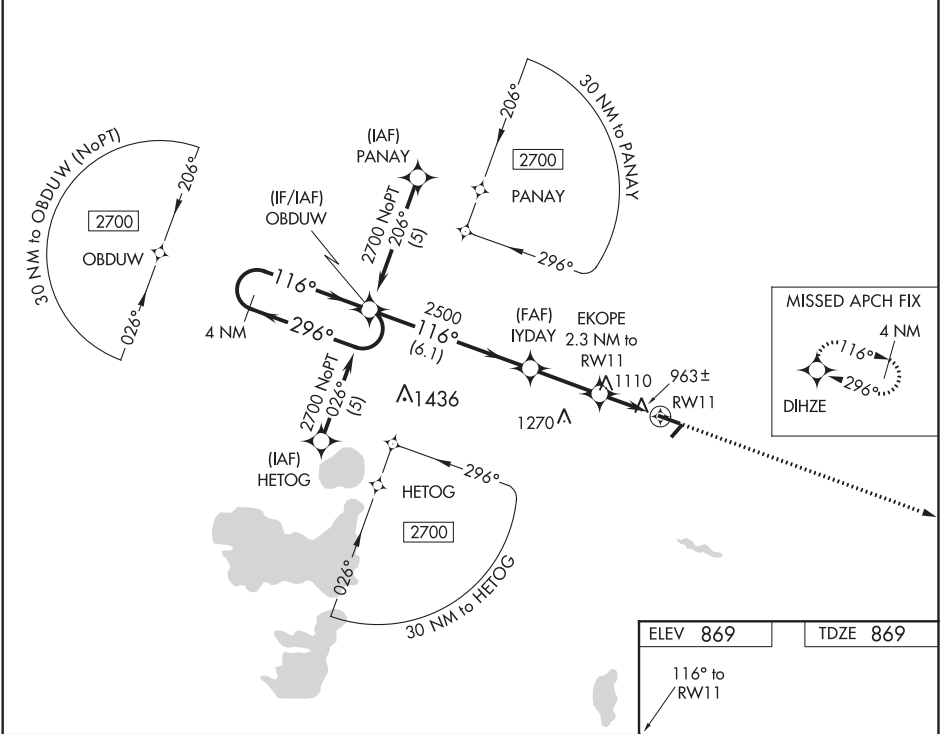
LUCE COUNTY (ERY)

| | |
|------------------------|------------------------|
| APP CRS 116° | Rwy Idg 4304 |
| | TDZE 869 |
| | Apt Elev 869 |

⚠ 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. Visibility reduction by helicopters NA. When local altimeter setting not received, use Chippewa Co Intl altimeter setting and increase DA 105 feet and all MDA 120 feet, increase LNAV/VNAV visibility ¼ mile all Cats, LNAV Cats C and D ½ mile, and Circling Cats C and D ¼ mile. Baro-VNAV NA when using Chippewa Co Intl altimeter setting.

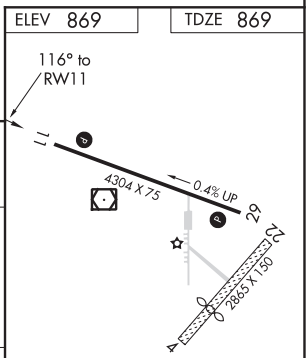
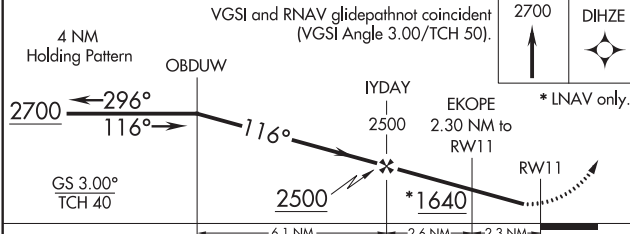
MISSED APPROACH:
Climb to 2700 direct DIHZE and hold.

| | | |
|--------------------------|---------------------------------|---------------------------------|
| AWOS-3 119.525 | GREEN BAY RADIO 122.4 | UNICOM 122.8 (CTAF) ① |
|--------------------------|---------------------------------|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | | | | |
|--------------|---------|-------------|-------------------------|-------------------------|
| CATEGORY | A | B | C | D |
| LNAV/DA/VNAV | 1259-1½ | | 390 (400-1½) | |
| LNAV MDA | 1360-1 | 491 (500-1) | 1360-1¼ 491 (500-1¼) | 1360-1½ 491 (500-1½) |
| CIRCLING | 1360-1 | 491 (500-1) | 1360-1½ 491 (500-1½) | 1420-2 551 (600-2) |

MIRL Rwy 11-29 ①
REIL Rwy 11 and 29 ①

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 40418 W29A | APP CRS 296° | Rwy Idg TDZE Apt Elev | 4304 867 869 |
|--|------------------------|-----------------------------|---|

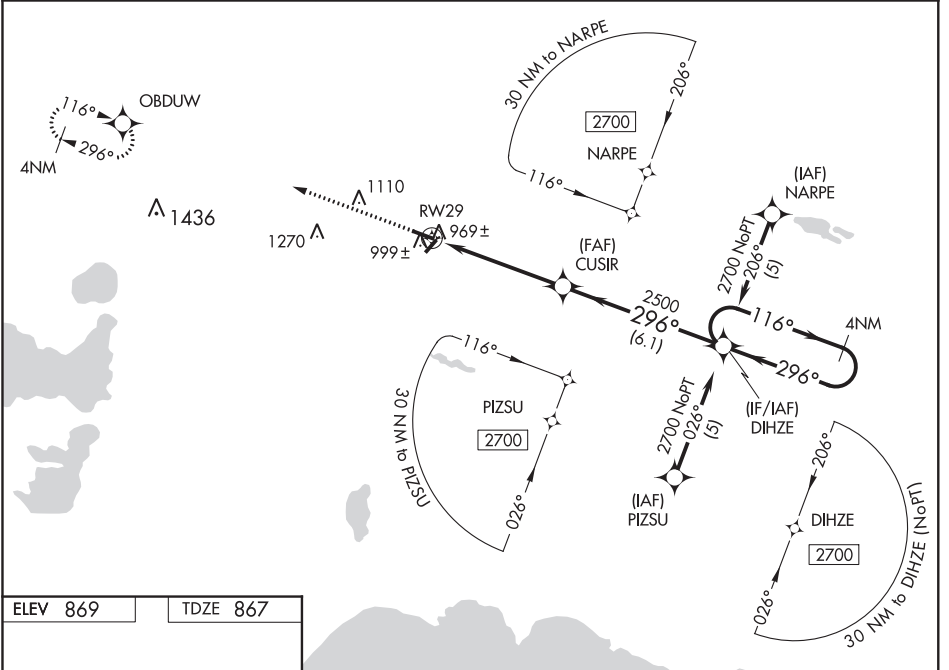
RNAV (GPS) RWY 29

LUCE COUNTY (E.R.Y)

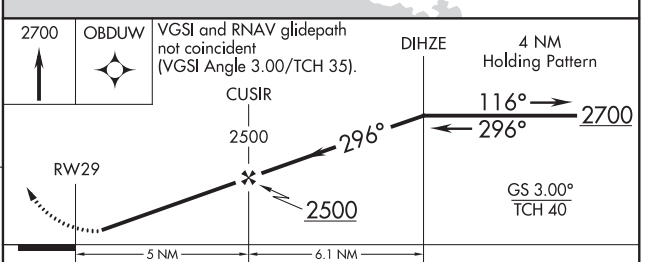
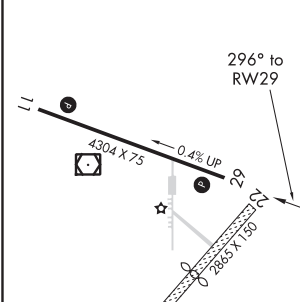
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Chippewa Co Intl altimeter setting and increase all DA 105 feet and all MDA 120 feet, increase LPV and LNAV/VNAV visibility ¼ mile all Cats, LNAV Cats C and D ½ mile, and Circling Cat D ¼ mile. Baro-VNAV NA when using Chippewa Co Intl altimeter setting.

MISSED APPROACH:
Climb to 2700 direct
OBDUW and hold.

| | | |
|--------------------------|---------------------------------|--|
| AWOS-3 119.525 | GREEN BAY RADIO 122.4 | UNICOM 122.8 (CTAF) 📻 |
|--------------------------|---------------------------------|--|



| | |
|----------|----------|
| ELEV 869 | TDZE 867 |
|----------|----------|



| | | | | |
|--------------|-----------------------|-----------------------|-------------------------|-------------------------|
| | 5 NM | 6.1 NM | | |
| CATEGORY | A | B | C | D |
| LPV DA | 1117-1 250 (300-1) | | | |
| LNAV/VNAV DA | 1239-1½ 372 (400-1½) | | | |
| LNAV MDA | 1260-1 393 (400-1) | | | 1260-1¼ 393 (400-1¼) |
| CIRCLING | 1300-1 431 (500-1) | 1320-1 451 (500-1) | 1320-1½ 451 (500-1½) | 1420-2 551 (600-2) |

MIRL Rwy 11-29 **📻**
REIL Rwy 11 and 29 **📻**

NEWBERRY, MICHIGAN
Orig 29JUL10

46°19'N - 85°27'W
381

RNAV (GPS) RWY 29

LUCE COUNTY (E.R.Y)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

NEWBERRY, MICHIGAN

AL-5836 (FAA)

15008

| | | | |
|--------------|-------------|----------|------|
| VOR/DME ERY | APP CRS | Rwy Idg | 4304 |
| 108.2 | 126° | TDZE | 869 |
| Chan 19 | | Apt Elev | 869 |

VOR RWY 11

LUCE COUNTY (ERY)

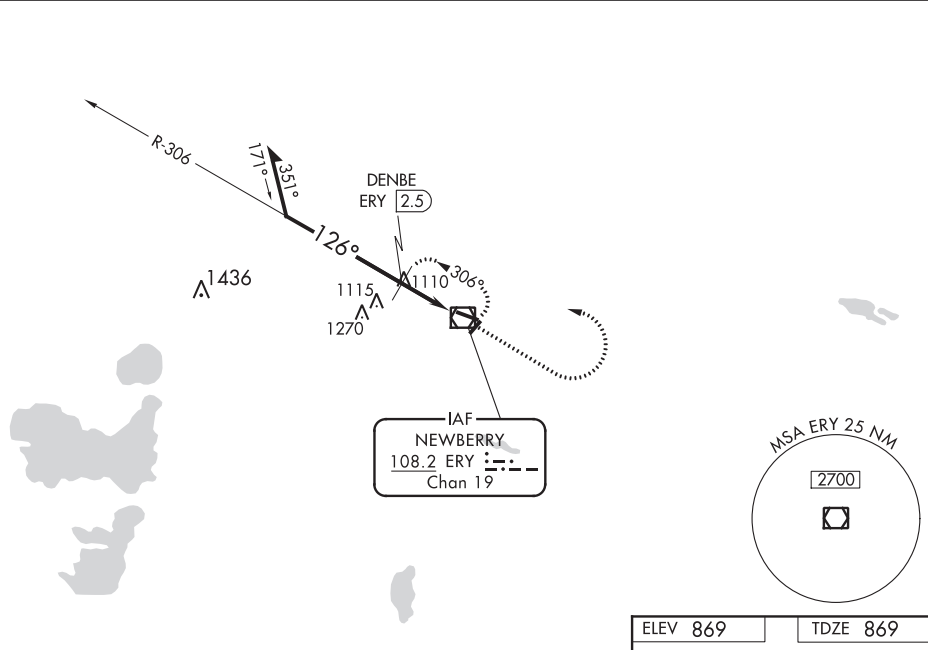
NA Visibility reduction by helicopters NA. When local altimeter setting not received, use Chippewa Co Intl altimeter setting and increase all MDA 120 feet, increase S-11 and Circling Cat B visibility ¼ mile, Cat C and D ½ mile, DENBE FIX minimums; Increase S-11 Cat C and D visibility ½ mile, Circling Cat C and D ¼ mile.

MISSED APPROACH: Climb to 2700 then left turn direct ERY VOR/DME and hold.

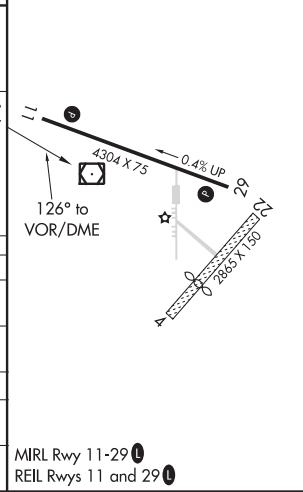
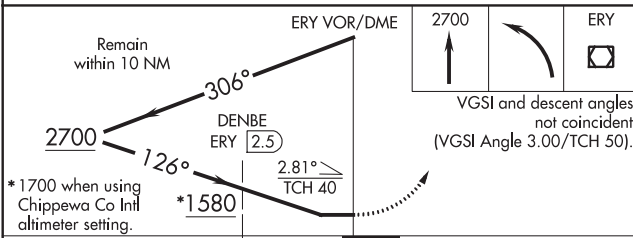
AWOS-3
119.525

GREEN BAY RADIO
122.4

UNICOM
122.8 (CTAF)



| | |
|----------|----------|
| ELEV 869 | TDZE 869 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------------|--------|-------------|-------------------------|-------------------------|
| S-11 | 1580-1 | 711 (800-1) | 1580-2 711 (800-2) | 1580-2¼ 711 (800-2¼) |
| CIRCLING | 1580-1 | 711 (800-1) | 1580-2 711 (800-2) | 1580-2¼ 711 (800-2¼) |
| DENBE FIX MINIMUMS | | | | |
| S-11 | 1360-1 | 491 (500-1) | 1360-1¼ 491 (500-1¼) | 1360-1½ 491 (500-1½) |
| CIRCLING | 1360-1 | 491 (500-1) | 1360-1½ 491 (500-1½) | 1420-2 551 (600-2) |

MIRL Rwy 11-29
REIL Rws 11 and 29

NEWBERRY, MICHIGAN
Amdt 12 29JUL10

46°19'N - 85°27'W

LUCE COUNTY (ERY)

VOR RWY 11

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

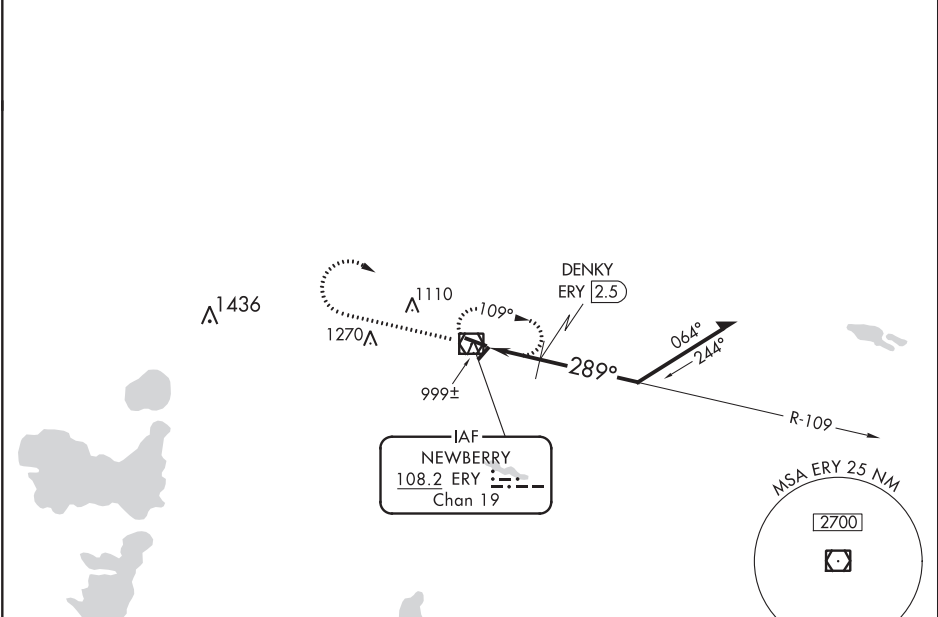
| | | | |
|---|------------------------|-----------------------------|---|
| VOR/DME ERY 108.2 Chan 19 | APP CRS 289° | Rwy Idg TDZE Apt Elev | 4304 867 869 |
|---|------------------------|-----------------------------|---|

VOR RWY 29
LUCE COUNTY (ERY)

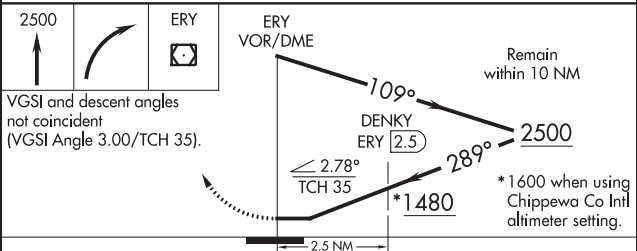
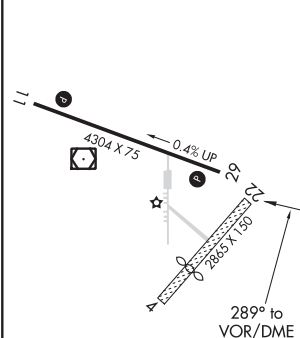
▽ Visibility reduction by helicopters NA. When local altimeter setting not received, use Chippewa Co Intl altimeter setting and increase all MDA 120 feet, increase S-29 Cat C and D visibility ¼ mile, Circling Cat C and D ¼ mile, DENKY FIX minimums; Increase S-29 Cat C and D visibility ½ mile and Circling Cat D visibility ¼ mile.

MISSED APPROACH:
Climb to 2500 then right turn direct ERY VOR/DME and hold.

| | | |
|--------------------------|---------------------------------|--|
| AWOS-3 119.525 | GREEN BAY RADIO 122.4 | UNICOM 122.8 (CTAF) ① |
|--------------------------|---------------------------------|--|



| | |
|----------|----------|
| ELEV 869 | TDZE 867 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------------|-----------------------|-----------------------|-------------------------|-------------------------|
| S-29 | 1480-1 | 613 (700-1) | 1480-1¾ 613 (700-1¾) | 1480-2 613 (700-2) |
| CIRCLING | 1480-1 | 611 (700-1) | 1480-1¾ 611 (700-1¾) | 1480-2 611 (700-2) |
| DENKY FIX MINIMUMS | | | | |
| S-29 | 1260-1 393 (400-1) | | | 1260-1¼ 393 (400-1¼) |
| CIRCLING | 1300-1 431 (500-1) | 1320-1 451 (500-1) | 1320-1½ 451 (500-1½) | 1420-2 551 (600-2) |

MIRL Rwy 11-29 **①**
REIL Rwy 11 and 29 **①**
NEWBERRY, MICHIGAN
Amdt 12 29JUL10

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

NILES, MICHIGAN

AL-5046 (FAA)

15288

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3800 |
| 151° | TDZE | 742 |
| | Apt Elev | 750 |

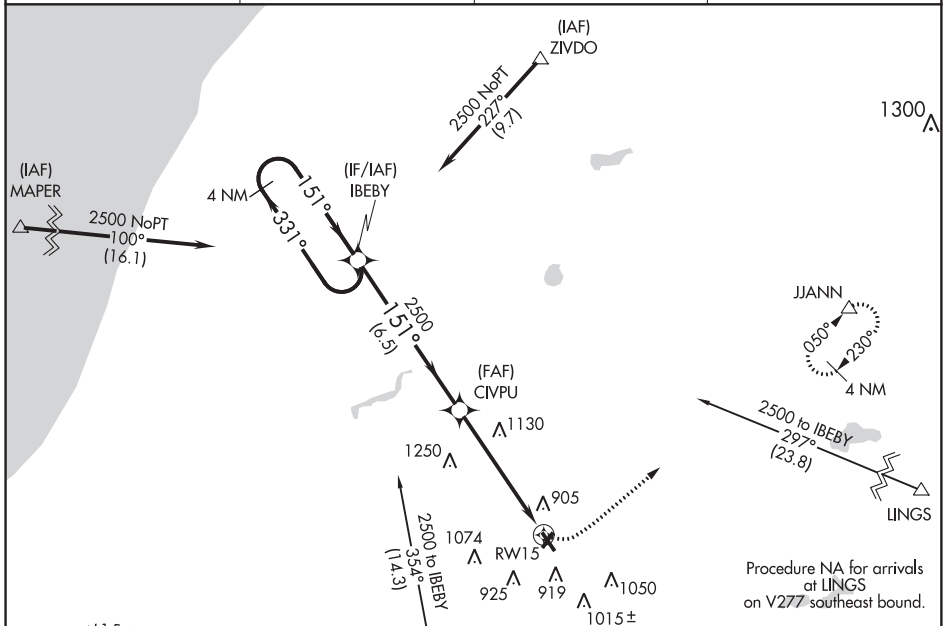
RNAV (GPS) RWY 15

JERRY TYLER MEMORIAL (3TR)

NA Use South Bend altimeter setting; when not received use Elkhart altimeter setting and increase all MDA 20 feet. DME/DME RNP-0.3 NA. Procedure NA at night. Visibility reduction by helicopters NA.

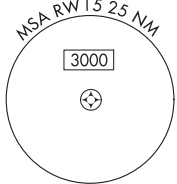
MISSED APPROACH: Climbing left turn to 3000 direct JJANN and hold.

| | | | |
|----------------------------------|---|-----------------------|---------------------------------|
| SOUTH BEND ASOS 118.15 | SOUTH BEND APP CON ★ 118.55 257.8 | GCO 121.725 | UNICOM 122.8 (CTAF) ① |
|----------------------------------|---|-----------------------|---------------------------------|

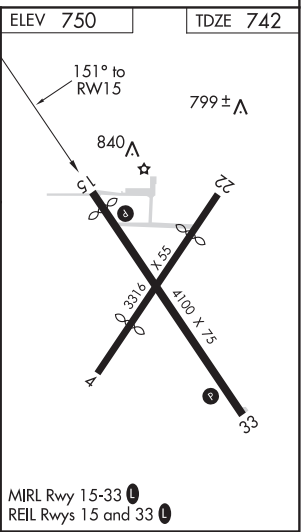
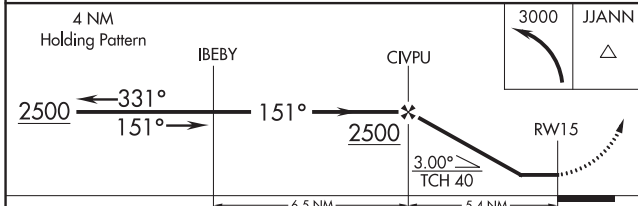


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



Procedure NA for arrivals on GUJ VORTAC airway radials 271 CW 050.



| CATEGORY | A | B | C | D |
|----------|--------------------|---|--------------------|----|
| RNAV MDA | 1460-1 718 (800-1) | | 1460-2 718 (800-2) | NA |
| CIRCLING | 1460-1 710 (800-1) | | 1460-2 710 (800-2) | NA |

NILES, MICHIGAN
Orig-C 15OCT15

41°50'N-86°14'W

JERRY TYLER MEMORIAL (3TR)

RNAV (GPS) RWY 15

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4100 |
| 331° | TDZE | 750 |
| | Apt Elev | 750 |

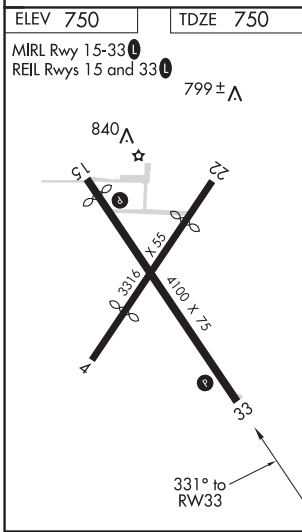
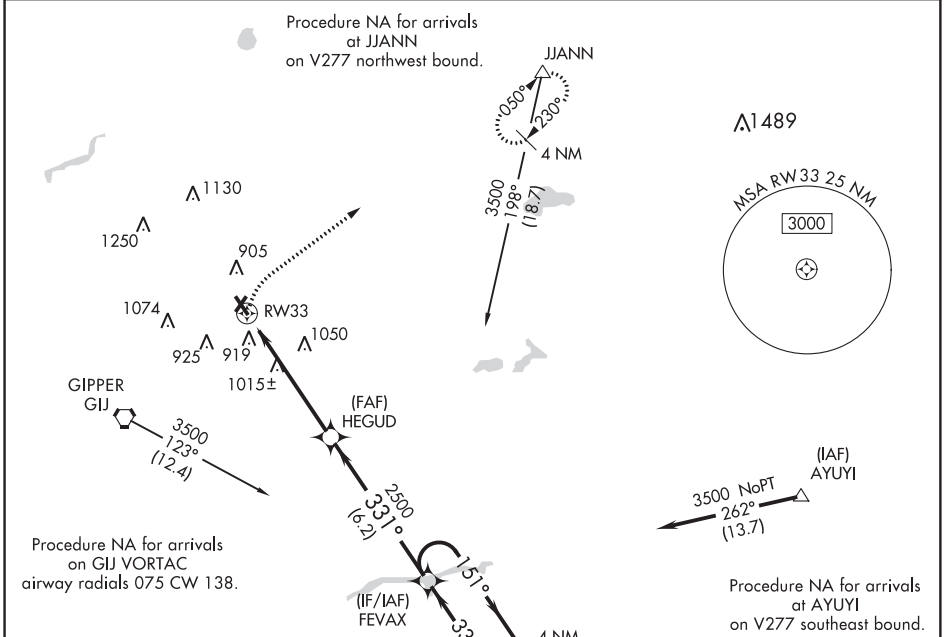
RNAV (GPS) RWY 33

JERRY TYLER MEMORIAL (3TR)

▼ Use South Bend altimeter setting; when not received, use Elkhart altimeter setting and increase all MDA 20 feet and all Cat C visibility 1/8 mile. DME/DME RNP -0.3 NA. Procedure NA at night. Helicopter visibility reduction below 1 SM NA.

▲ NA MISSED APPROACH: Climbing right turn to 3000 direct JJANN and hold.

| | | | |
|-----------------|---------------------|----------------|-----------------------|
| SOUTH BEND ASOS | SOUTH BEND APP CON* | GND CON | UNICOM |
| 118.15 | 118.55 257.8 | 121.725 | 122.8 (CTAF) 0 |



| | | | | | |
|----------|--------|-------------|-------------------------|------|-----------------|
| 3000 | JJANN | 4 NM | FEVAX | 4 NM | Holding Pattern |
| | | | | | |
| CATEGORY | A | B | C | D | |
| LNAV MDA | 1320-1 | 570 (600-1) | 1320-1½ 570 (600-1½) | NA | |
| CIRCLING | 1320-1 | 570 (600-1) | 1320-1½ 570 (600-1½) | NA | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

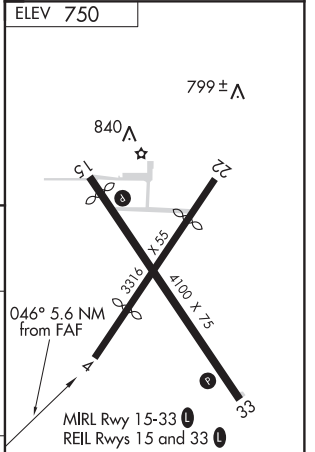
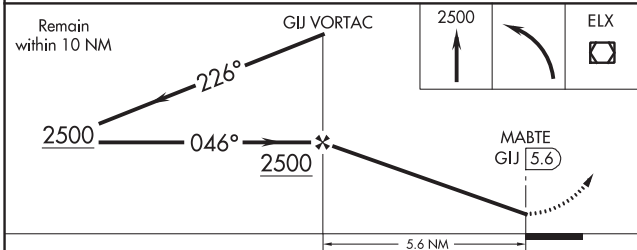
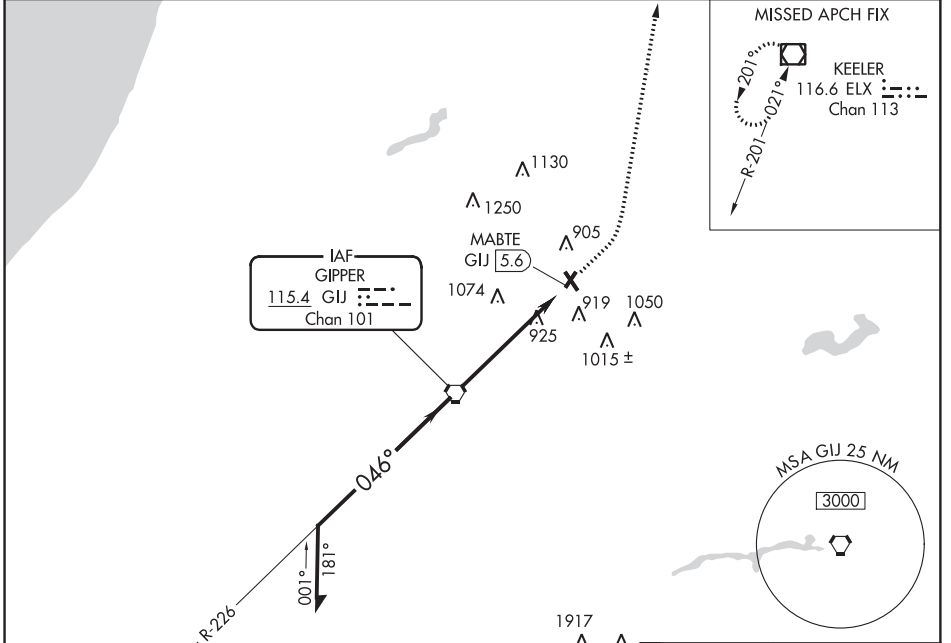
| | | | |
|--|------------------------|-----------------------------|--|
| VORTAC GIJ 115.4 Chan 101 | APP CRS 046° | Rwy Idg TDZE Apt Elev | N/A N/A 750 |
|--|------------------------|-----------------------------|--|

VOR-A
JERRY TYLER MEMORIAL (3TR)

NA Use South Bend altimeter setting; when not received, use Elkhart altimeter setting and increase all MDA 20 feet. Procedure NA at night. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 2500 then left turn direct ELX VOR/DME and hold.

| | | | |
|----------------------------------|---|-----------------------|--|
| SOUTH BEND ASOS 118.15 | SOUTH BEND APP CON * 118.55 257.8 | GCO 121.725 | UNICOM 122.8 (CTAF) U |
|----------------------------------|---|-----------------------|--|



| | | | | | | | | | | |
|----------|--------|-------------|-------------------------|----|-------------------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 5.6 NM | | | | | |
| CIRCLING | 1300-1 | 550 (600-1) | 1300-1½ 550 (600-1½) | NA | Knots | 60 | 90 | 120 | 150 | 180 |
| | | | | | Min:Sec | 5:36 | 3:44 | 2:48 | 2:14 | 1:52 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---------|----------|-----|
| APP CRS | Rwy Idg | N/A |
| 63° | TDZE | N/A |
| | Apt Elev | 669 |

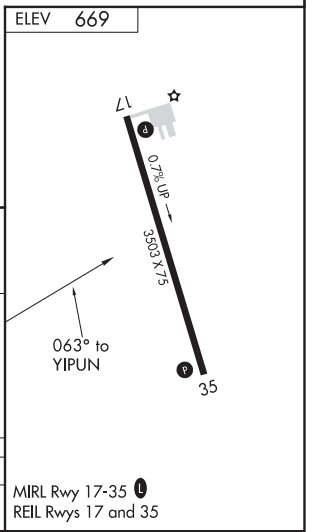
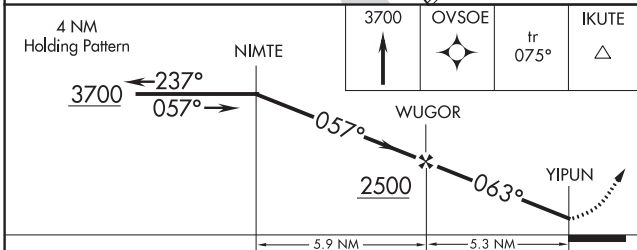
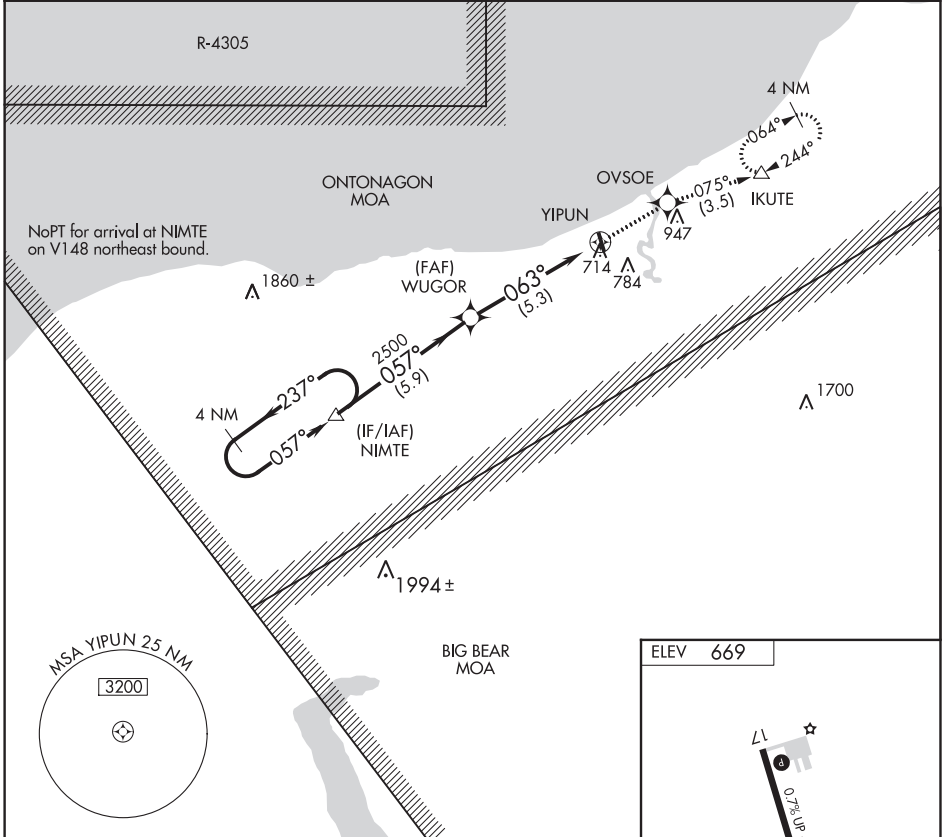
RNAV (GPS)-A

ONTONAGON COUNTY - SCHUSTER FIELD (OGM)

NA When VGSi inop, procedure NA at night. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Use Hancock altimeter setting; when not received use Ironwood altimeter setting and increase all MDA 20 feet.

MISSED APPROACH: Climb to 3700 direct OVSOE and on track 075° to IKUTE and hold. Continue climb-in-hold to 3700.

| | | |
|--------------------------------|---|------------------------|
| HANCOCK ASOS 125.675 | MINNEAPOLIS CENTER 133.55 379.1 | (CTAF) 122.9 |
|--------------------------------|---|------------------------|



| | | | | |
|----------|--------------------|---|--------------------|----|
| CATEGORY | A | B | C | D |
| CIRCLING | 1380-1 711 (800-1) | | 1380-2 711 (800-2) | NA |

MIRL Rwy 17-35
REIL Rwy 17 and 35

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

OSCODA, MICHIGAN

AL-32 (FAA)

14093

| | | |
|---------------------------|------------------------|---|
| LOC I-LJU 108.5 | APP CRS 245° | Rwy Idg 11,800 TDZE 624 Apt Elev 633 |
|---------------------------|------------------------|---|

ILS or LOC/DME RWY 24

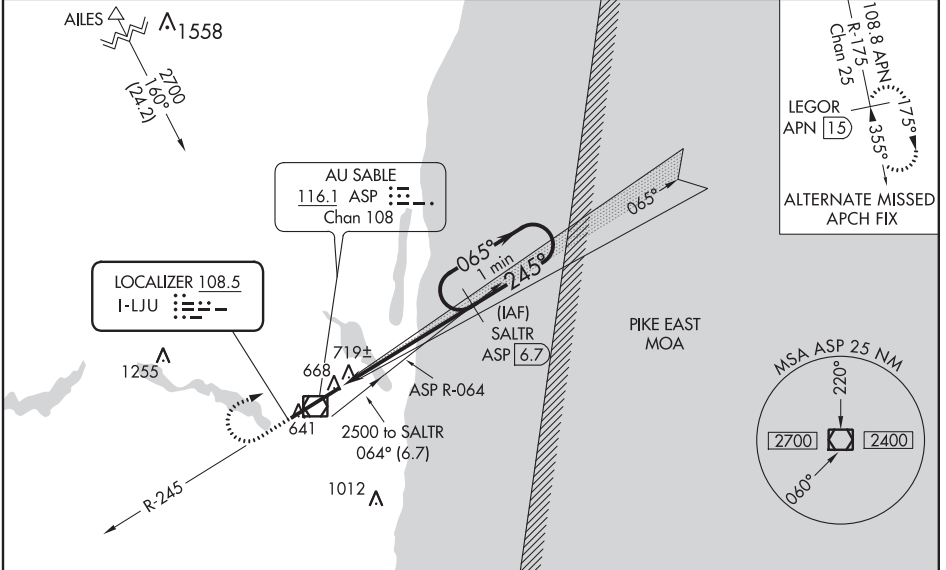
OSCODA-WURTSMITH (OSC)

NA Circling NA southeast of Rwy 6-24. DME from ASP VOR/DME. Simultaneous reception of I-LJU and ASP DME required. When local altimeter setting not received, use Alpena altimeter setting and increase all DA 96 feet and all MDA 100 feet and increase S-LOC 24 Cat C and D visibility ¼ mile, and increase circling Cat C visibility ¼ mile. For inoperative MALSAR when using Alpena altimeter setting increase S-ILS all Cats visibility to 1 mile.

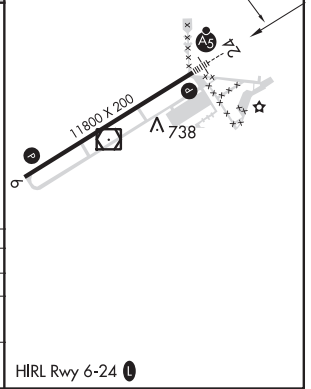
MALSAR
A5

MISSED APPROACH: Climb to 1200 then climbing right turn to 2500 via heading 096° and ASP VOR/DME R-064 to SALTR/ASP 6.7 DME and hold.

| | | |
|------------------------|---|---------------------------------|
| AWOS-3 118.7 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 123.0 (CTAF) 0 |
|------------------------|---|---------------------------------|



| | |
|----------|----------|
| ELEV 633 | TDZE 624 |
|----------|----------|



| | | | |
|--|--------------------|-----------------|---|
| 1200 | 2500 | SALTR ASP (6.7) | hdg 096° ASP R-064 |
| ASP (1.1) | 2500 | SALTR ASP (6.7) | 2500 |
| VGS1 and ILS glidepath not coincident. | | | |
| CATEGORY | A | B | C |
| S-ILS 24 | 824-½ 200 (200-½) | | D |
| S-LOC 24 | 980-½ 356 (400-½) | | 980-¾ 356 (400-¾) |
| CIRCLING | 1140-1 507 (600-1) | | 1140-1½ 507 (600-1½) 1200-2 567 (600-2) |

OSCODA, MICHIGAN
Amdt 3 03JUN10

44°27'N - 83°24'W

OSCODA-WURTSMITH (OSC)

ILS or LOC/DME RWY 24

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 97417 W06A | APP CRS 065° | Rwy Idg 11,800 TDZE 633 Apt Elev 633 |
|--|------------------------|---|

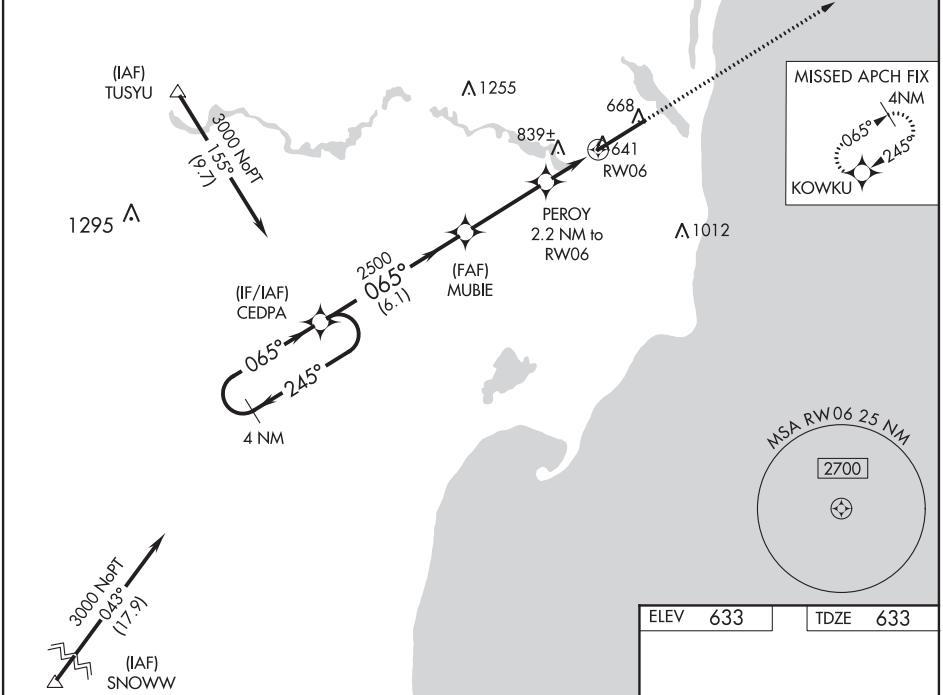
RNAV (GPS) RWY 6

OSCODA-WURTSMITH (OSC)

⚠ Circling NA southeast of Rwy 6-24. 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. Visibility reduction by helicopters NA. VDP NA with Alpena altimeter setting. Baro-VNAV NA when using Alpena altimeter setting. When local altimeter setting not received use Alpena altimeter setting and increase all DA 96 feet and all MDA 100 feet and increase LPV and LNAV/VNAV all Cats visibility ½ mile, and LNAV Cat C and D and circling Cat C visibility ¼ mile.

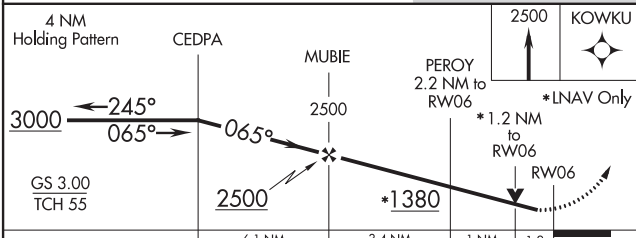
MISSED APPROACH:
Climb to 2500 direct KOWKU and hold.

| | | |
|------------------------|---|-------------------------------|
| AWOS-3 118.7 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 123.0 (CTAF) |
|------------------------|---|-------------------------------|



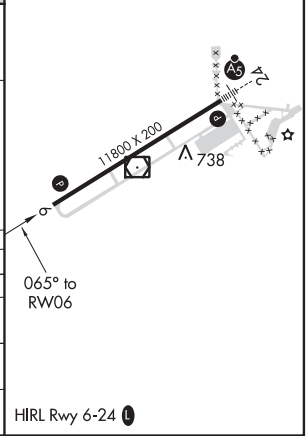
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|----------|----------|
| ELEV 633 | TDZE 633 |
|----------|----------|

| CATEGORY | A | B | C | D |
|--------------|----------------------|-------------|-------------------------|-------------------------|
| LPV DA | 892-¾ 259 (300-¾) | | | |
| LNAV/DA VNAV | 1148-1¾ 515 (600-1¾) | | | |
| LNAV MDA | 1080-1 | 447 (500-1) | 1080-1½ 447 (500-1½) | 1080-1½ 447 (500-1½) |
| CIRCLING | 1140-1 | 507 (600-1) | 1140-1½ 507 (600-1½) | 1200-2 567 (600-2) |




| | | |
|--|------------------------|---|
| WAAS CH 82317 W24A | APP CRS 245° | Rwy Idg 11,800 TDZE 624 Apt Elev 633 |
|--|------------------------|---|

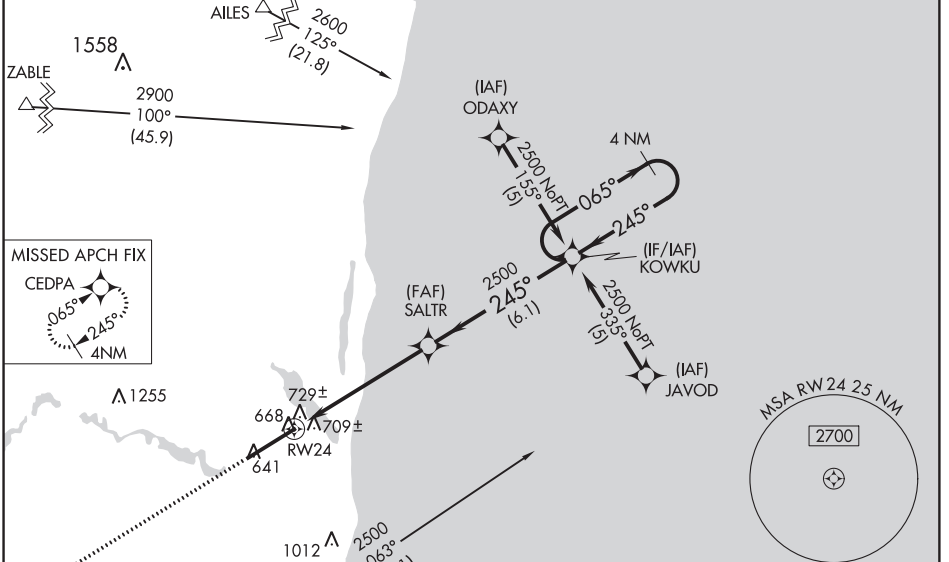
RNAV (GPS) RWY 24

OSCODA-WURTSMITH (OSC)

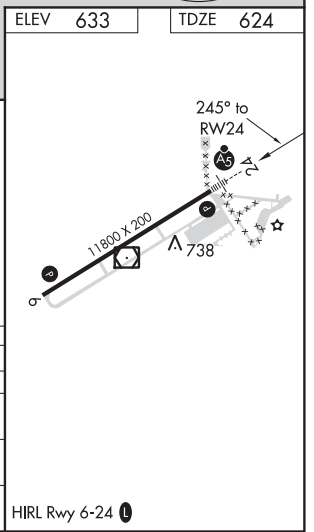
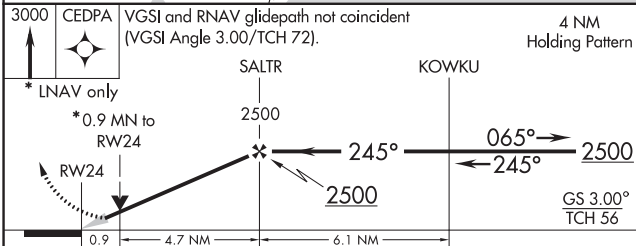
▼ Circling NA southeast of Rwy 6-24. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Alpena altimeter setting and increase all DA 96 feet and all MDA 100 feet and increase LNAV/VNAV all Cats visibility ½ mile, and increase LNAV and circling Cat C visibility ¼ mile. VDP NA with Alpena altimeter setting. Baro-VNAV NA when using Alpena altimeter setting. For inoperative MALSR, increase LNAV Cat D visibility to 1 ¼ mile. For inoperative MALSR when using Alpena altimeter setting increase LPV all Cats visibility to 1 mile.

MALSR
 MISSED APPROACH:
 Climb to 3000 direct CEDPA and hold.

| | | |
|------------------------|---|---------------------------------|
| AWOS-3 118.7 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 123.0 (CTAF) 0 |
|------------------------|---|---------------------------------|



| | |
|-----------------|-----------------|
| ELEV 633 | TDZE 624 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|--------------------|---|----------------------|--------------------|
| LPV DA | 824-½ 200 (200-½) | | | |
| LNAV/VNAV DA | 1004-¾ 380 (400-¾) | | | |
| LNAV MDA | 980-½ 356 (400-½) | | 980-1 356 (400-1) | |
| CIRCLING | 1140-1 507 (600-1) | | 1140-1½ 507 (600-1½) | 1200-2 567 (600-2) |

HIRL Rwy 6-24 0

EC-1, 10 NOV 2016 to 05 JAN 2017

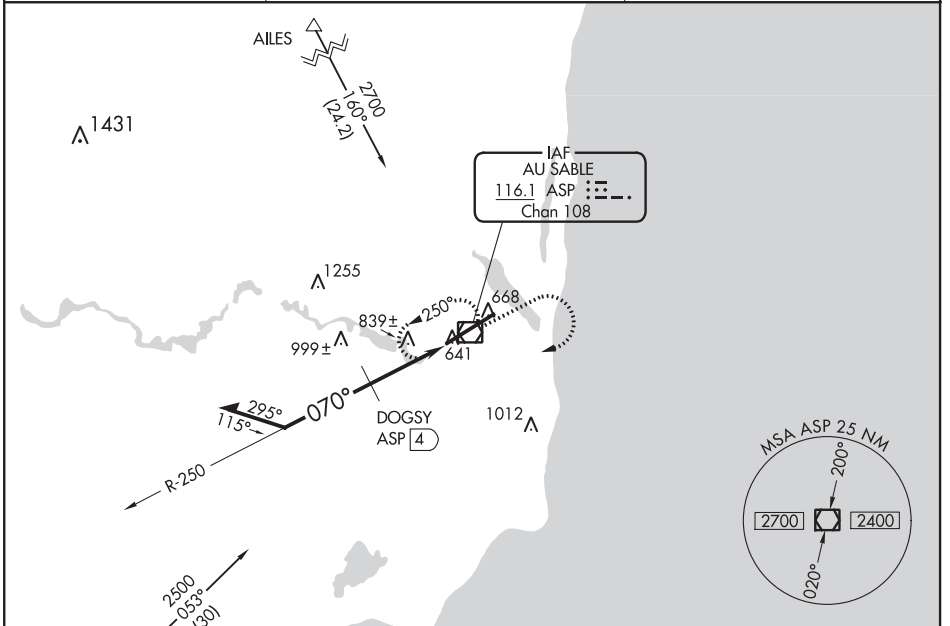
EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| VOR/DME ASP 116.1 Chan 108 | APP CRS 070° | Rwy Idg 11,800 TDZE 634 Apt Elev 634 |
|--|------------------------|---|

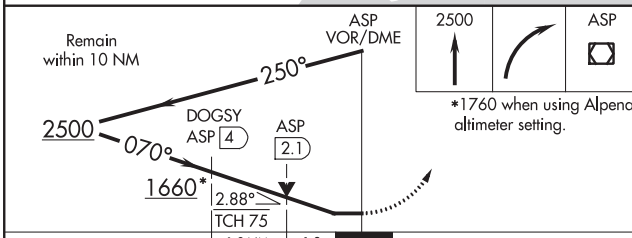
VOR RWY 6

OSCODA-WURTSMITH (OSC)

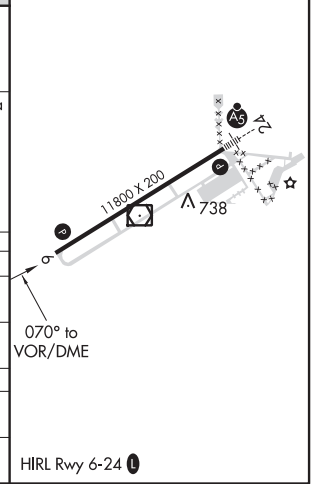
| | | |
|---|---|--|
| <p>NA Circling NA southeast of Rwy 6 and 24. VDP NA when using Alpena altimeter setting. When local altimeter setting not received, use Alpena altimeter setting and increase all MDAs 100 feet and DOGSY Fix minimums visibility S-6/Circling Cat C ¼ mile, S-6 Cat D ½ mile.</p> | | <p>MISSED APPROACH: Climb to 2500 then right turn direct ASP VOR/DME and hold.</p> |
| AWOS-3 118.7 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 123.0 (CTAF) 0 |



| | | | |
|------|-----|------|-----|
| ELEV | 634 | TDZE | 634 |
|------|-----|------|-----|



| CATEGORY | A | B | C | D |
|--------------------|---------------------------|---------------------------|-------------------------|-------------------------|
| S-6 | 1660-1¼ 1026 (1100-1¼) | 1660-1½ 1026 (1100-1½) | 1660-3 | 1026 (1100-3) |
| CIRCLING | 1660-1¼ 1026 (1100-1¼) | 1660-1½ 1026 (1100-1½) | 1660-3 | 1026 (1100-3) |
| DOGSY FIX MINIMUMS | | | | |
| S-6 | 1100-1 | 466 (500-1) | 1100-1¼ 466 (500-1¼) | 1100-1½ 466 (500-1½) |
| CIRCLING | 1140-1 | 506 (600-1) | 1140-1½ 506 (600-1½) | 1200-2 566 (600-2) |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 50209 W11A | APP CRS 109° | Rwy Idg TDZE Apt Elev | 4300 736 736 |
|--|------------------------|-----------------------------|---|

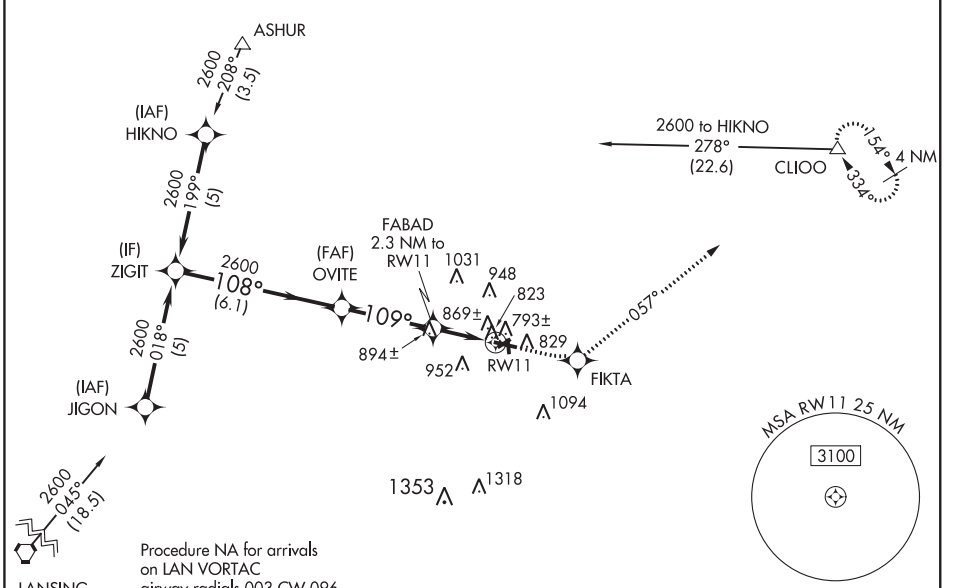
RNAV (GPS) RWY 11

OWOSSO COMMUNITY (RNP)

⚠ Baro-VNAV NA when using Flint altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Procedure NA at night. Circling NA to Rwy 6, 18, 24 and 36. Rwy 11 helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Flint altimeter setting and increase all DA 47 feet and LPV visibility ¼ mile all Cats, increase all MDA 60 feet and LNAV Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 3000 direct FIKTA and on track 057° to CLIOO and hold.

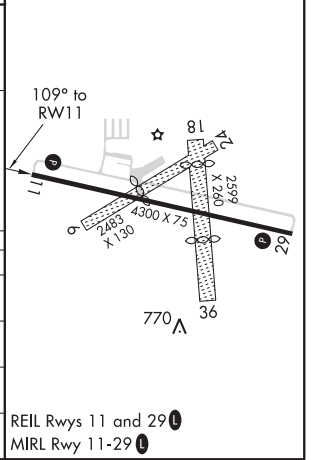
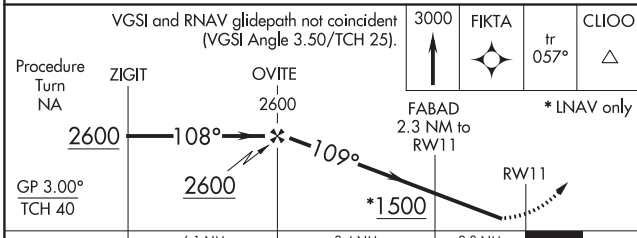
| | | |
|--------------------------|--------------------------------------|---------------------------------|
| AWOS-3 118.025 | FLINT APP CON* 118.8 257.9 | UNICOM 123.0 (CTAF) 0 |
|--------------------------|--------------------------------------|---------------------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 736 | TDZE 736 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|---------|--------------|-------------------------|----|
| LPV DA | 1079-1¼ | 343 (400-1¼) | | NA |
| LNAV/VNAV DA | 1258-2 | 522 (600-2) | | NA |
| LNAV MDA | 1180-1 | 444 (500-1) | 1180-1¼ 444 (500-1¼) | NA |
| CIRCLING | 1240-1 | 504 (600-1) | 1260-1½ 524 (600-1½) | NA |

REIL Rwy 11 and 29
MIRL Rwy 11-29

OWOSSO, MICHIGAN

AL-5312 (FAA)

16287

| | | |
|---|------------------------|---|
| VORTAC FNT 116.9 Chan 116 | APP CRS 281° | Rwy ldg 4300 TDZE 736 Apt Elev 736 |
|---|------------------------|---|

VOR/DME RWY 29

OWOSSO COMMUNITY (R.N.P)

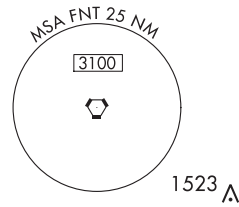
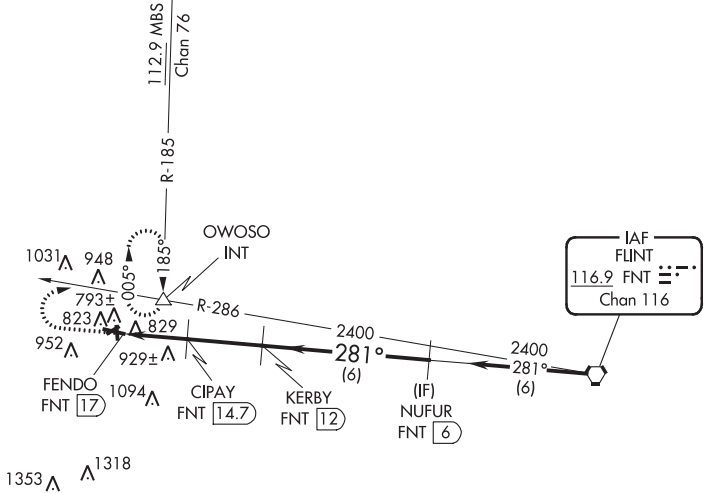
▼ Procedure NA at night. Circling NA to Rwys 6, 18, 24 and 36. Rwy 29 helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Flint altimeter setting and increase all MDA 60 feet and S-29 Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 1900 then climbing right turn to 2700 via FNT VORTAC R-286 to OWOSSO INT and hold.

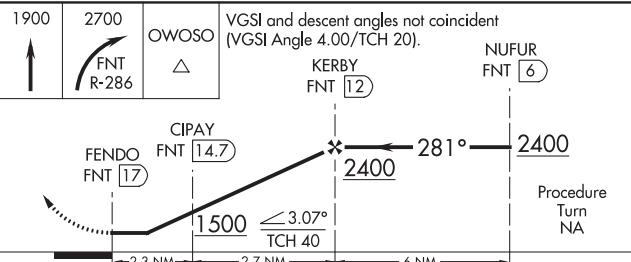
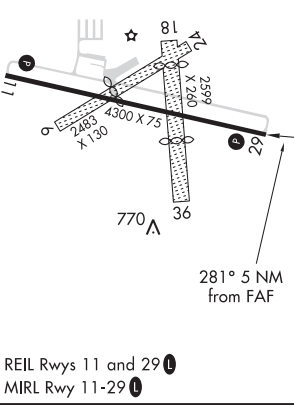
AWOS-3
118.025

FLINT APP CON ★
118.8 257.9

UNICOM
123.0 (CTAF) 0



| | |
|----------|----------|
| ELEV 736 | TDZE 736 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|----|
| S-29 | 1180-1 | 444 (500-1) | 1180-1¼ 444 (500-1¼) | NA |
| CIRCLING | 1240-1 | 504 (600-1) | 1260-1½ 524 (600-1½) | NA |

OWOSSO, MICHIGAN
Amdt 1C 13OCT16

43°00'N-84°08'W

OWOSSO COMMUNITY (R.N.P) VOR/DME RWY 29

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

PELLSTON, MICHIGAN

AL-647 (FAA)

16259

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5395 |
| 051° | TDZE | 716 |
| | Apt Elev | 721 |

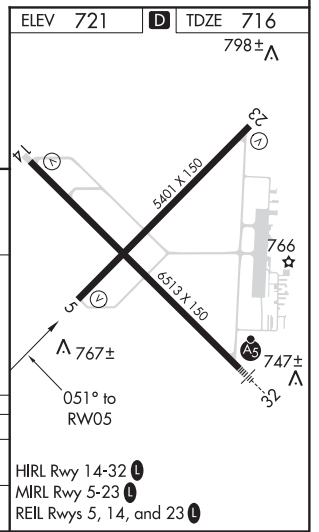
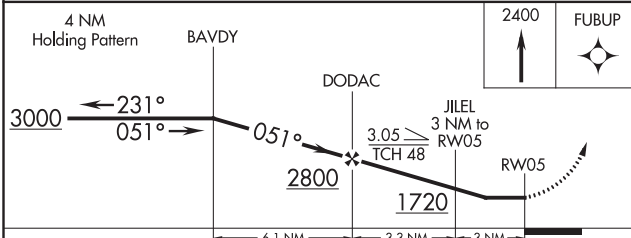
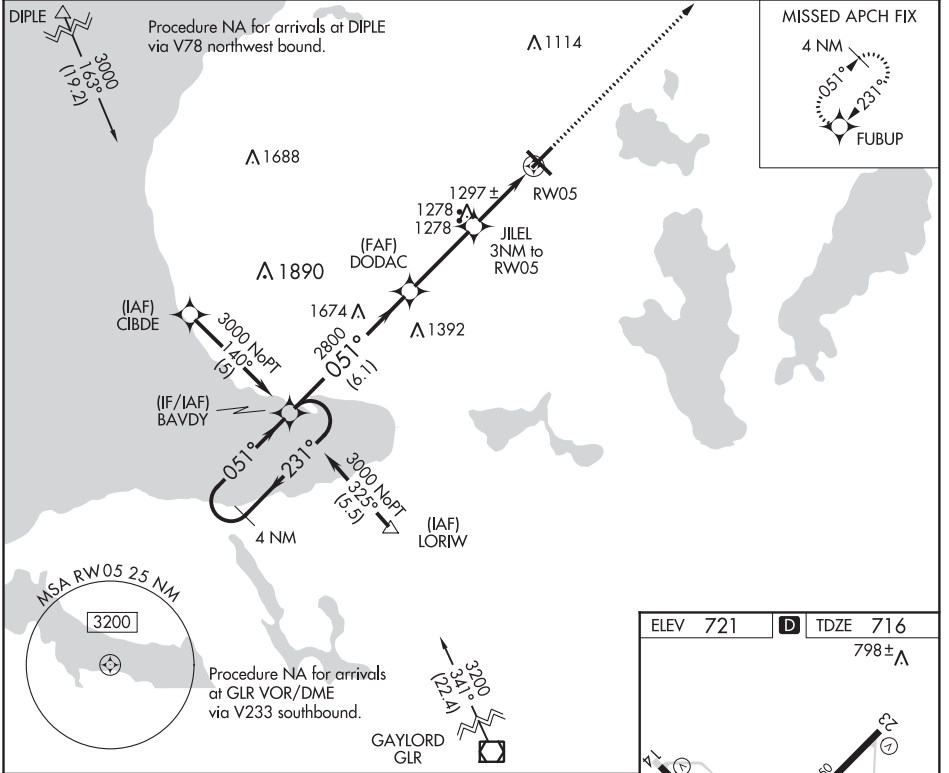
RNAV (GPS) RWY 5

PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)

⚠ DME/DME RNP-0.3 NA. Rwy 5 helicopters visibility reduction below 1 SM NA. When local altimeter setting not received, use Harbor Springs altimeter setting and increase all MDA 40 feet, increase LNAV Cat. A/C/D visibilities $\frac{1}{8}$ mile. Straight-in Rwy 5 NA at night, Circling Rwy 5 NA at night.

⚠ MISSED APPROACH: Climb to 2400 direct FUBUP and hold.

| | | | |
|------------------------|---|--------------------------------|--|
| ASOS 119.025 | MINNEAPOLIS CENTER 134.6 354.05 | PELLSTON RADIO 123.6 | UNICOM 123.0 (CTAF) ⓪ |
|------------------------|---|--------------------------------|--|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------|-------------------------|-------------------------|
| LNAV MDA | 1560-1 844 (900-1) | 1560-1¼ 844 (900-1¼) | 1560-2½ 844 (900-2½) | 1560-2¾ 844 (900-2¾) |
| CIRCLING | 1560-1 839 (900-1) | 1560-1¼ 839 (900-1¼) | 1560-2½ 839 (900-2½) | 1560-2¾ 839 (900-2¾) |

PELLSTON, MICHIGAN
Orig-B 15SEP16

PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)
45°34'N-84°48'W
RNAV (GPS) RWY 5

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---------------------------------|------------------------|---|-------------|
| WAAS CH 81915 W23A | APP CRS 231° | Rwy Idg TDZE 721 Apt Elev 721 | 5395 |
|---------------------------------|------------------------|---|-------------|

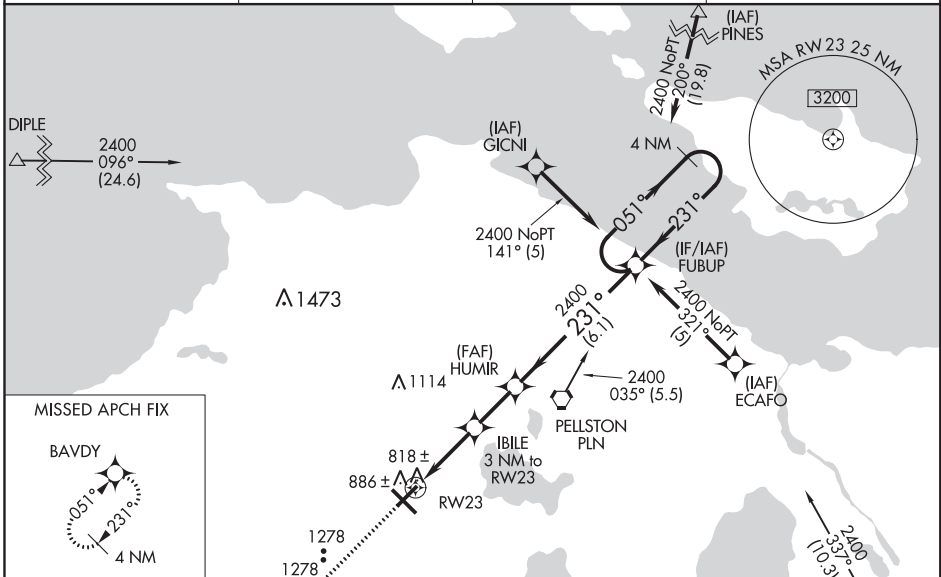
RNAV (GPS) RWY 23

PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)

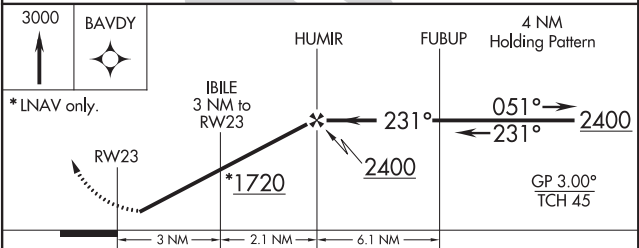
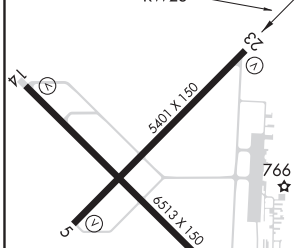
Baro-VNAV NA when using Harbor Springs altimeter setting. For uncompassed Baro-VNAV systems, LNAV/VNAV NA below -1.6°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Rwy 23 helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Harbor Springs altimeter setting and increase LPV DA to 1085 LNAV/VNAV DA to 1137 and all visibilities 1/4 mile, and all MDA 40 feet; increase Circling Cat C visibility 1/4 mile. Circling Rwy 5 NA at night.

MISSED APPROACH:
Climb to 3000 direct BAVDY and hold.

| | | | |
|------------------------|---|--------------------------------|-------------------------------|
| ASOS 119.025 | MINNEAPOLIS CENTER 134.6 354.05 | PELLSTON RADIO 123.6 | UNICOM 123.0 (CTAF) |
|------------------------|---|--------------------------------|-------------------------------|



| | | |
|-----------------|----------|-----------------|
| ELEV 721 | D | TDZE 721 |
|-----------------|----------|-----------------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------|-------------------------|
| LPV DA | | 1057-1¼ | 336 (400-1¼) | |
| LNAV/VNAV DA | | 1109-1¼ | 338 (400-1¼) | |
| LNAV MDA | 1240-1 | 519 (600-1) | 1240-1½ 519 (600-1½) | 1240-1¾ 519 (600-1¾) |
| CIRCLING | 1260-1 539 (600-1) | 1300-1 579 (600-1) | 1300-1½ 579 (600-1½) | 1420-2¼ 699 (700-2¼) |

HIRL Rwy 14-32
MIRL Rwy 5-23
REIL Rwy 5, 14, and 23

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

PELLSTON, MICHIGAN

AL-647 (FAA)

16091

| | | |
|--|------------------------|---|
| WAAS CH 77813 W32A | APP CRS 321° | Rwy Idg 6513 TDZE 712 Apt Elev 721 |
|--|------------------------|---|

RNAV (GPS) RWY 32

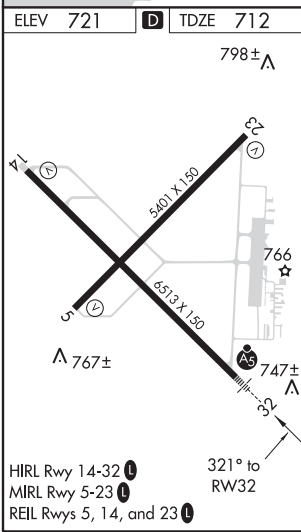
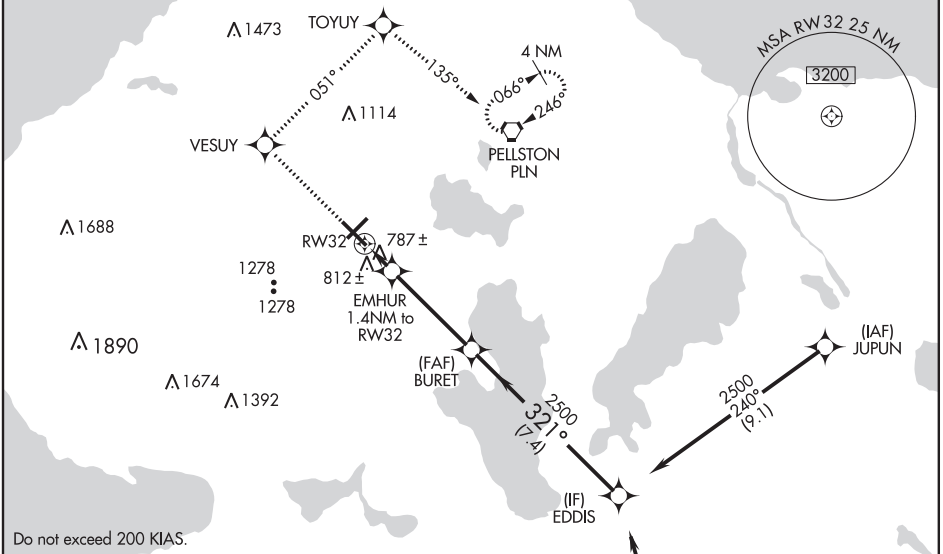
PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)

⚠ Baro-VNAV NA when using Harbor Springs altimeter setting. 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 Harbor Springs altimeter setting and increase LPV DA to 940, LNAV/VNAV DA to 1084, and all MDA 40 feet; increase Circling Cat C visibility ¼ mile. Right Landing: Rwy 5 NA.

MALS MISSED APPROACH: Climb to 2600 direct VESUY and via track 051° to TOYUY and via track 135° to PLN VORTAC and hold.

⚠ -30°C/-22°F

| | | | |
|------------------------|---|--------------------------------|---------------------------------|
| ASOS 119.025 | MINNEAPOLIS CENTER 134.6 354.05 | PELLSTON RADIO 123.6 | UNICOM 123.0 (CTAF) 0 |
|------------------------|---|--------------------------------|---------------------------------|



Procedure NA for arrivals at RONDO via V609 southbound.

| | | | | | | |
|------|-------|---------|-------|---------|-----|-------------------|
| 2600 | VESUY | tr 051° | TOYUY | tr 135° | PLN | Procedure Turn NA |
|------|-------|---------|-------|---------|-----|-------------------|

*LNAV only.

| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------|--------------------------|
| LPV DA | 912-½ | | 200 (200-½) | |
| LNAV/VNAV DA | 1056-⅝ | | 344 (400-⅝) | |
| LNAV MDA | 1080-½ | 368 (400-½) | 1080-⅝ | 368 (400-⅝) |
| CIRCLING | 1260-1 539 (600-1) | 1300-1 579 (600-1) | 1300-1½ 579 (600-1½) | 1420-2 ¼ 699 (700-2¼) |

GP 3.00°
TCH 54'

PELLSTON, MICHIGAN
Orig-C 31MAR16

PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)
45°34'N-84°48'W
RNAV (GPS) RWY 32

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---------------------------------------|------------------------|---|
| VORTAC PLN 111.8 Chan 55 | APP CRS 245° | Rwy Idg 5395 TDZE 721 Apt Elev 721 |
|---------------------------------------|------------------------|---|

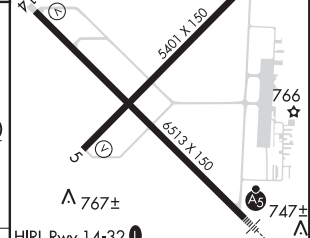
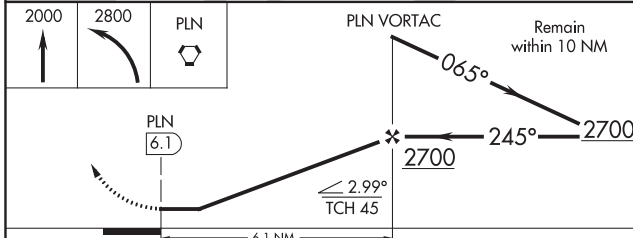
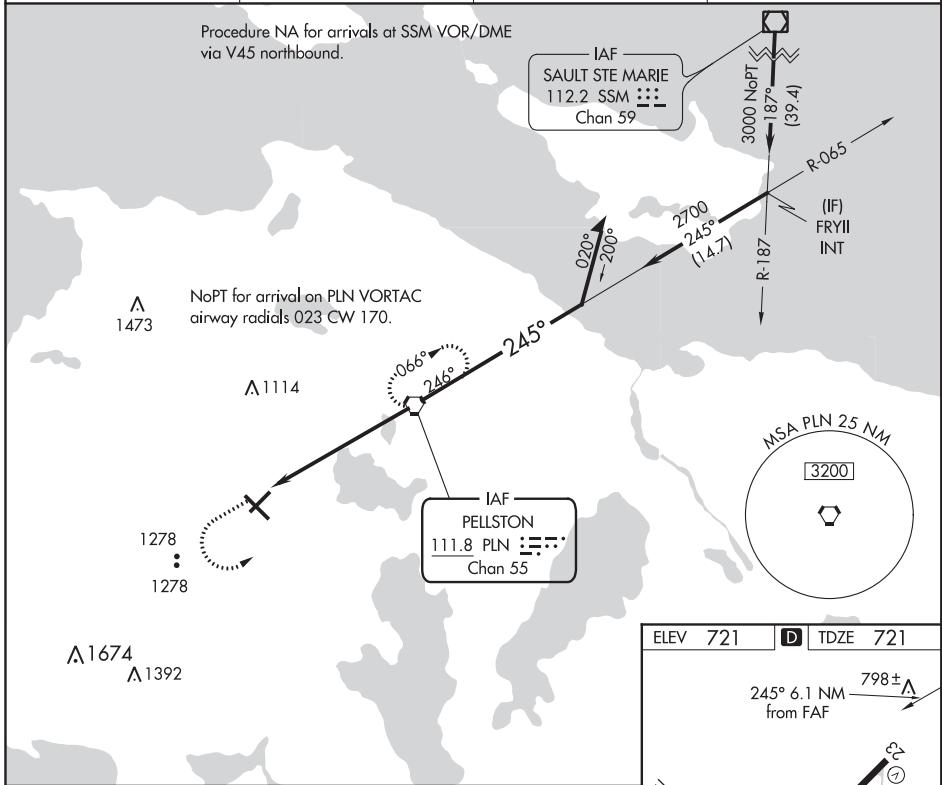
VOR RWY 23

PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)

⚠ When local altimeter setting not received, use Harbor Springs altimeter setting and increase all MDA 40 feet. Increase all Cat C and S-23 Cat D visibility ¼ mile. Rwy 23 helicopter visibility reduction below 1 SM NA. Straight-in Rwy 23 NA at night, Circling Rwy 5, 23 NA at night.

⚠ MISSED APPROACH: Climb to 2000 then climbing left turn to 2800 direct PLN VORTAC and hold.

| | | | |
|------------------------|---|--------------------------------|---------------------------------|
| ASOS 119.025 | MINNEAPOLIS CENTER 134.6 354.05 | PELLSTON RADIO 123.6 | UNICOM 123.0 (CTAF) 0 |
|------------------------|---|--------------------------------|---------------------------------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| S-23 | 1300-1 | 579 (600-1) | 1300-1½ 579 (600-1½) | 1300-1¾ 579 (600-1¾) |
| CIRCLING | 1300-1 | 579 (600-1) | 1300-1½ 579 (600-1½) | 1420-2¼ 699 (700-2¼) |

| | |
|-------------------------|--------------------------|
| HIRL Rwy 14-32 | 0 |
| MIRL Rwy 5-23 | 0 |
| REIL Rwys 5, 14, and 23 | 0 |
| FAF to MAP 6.1 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 6:06 4:04 3:03 2:26 2:02 |

EC-1, 10 NOV 2016 to 05 JAN 2017

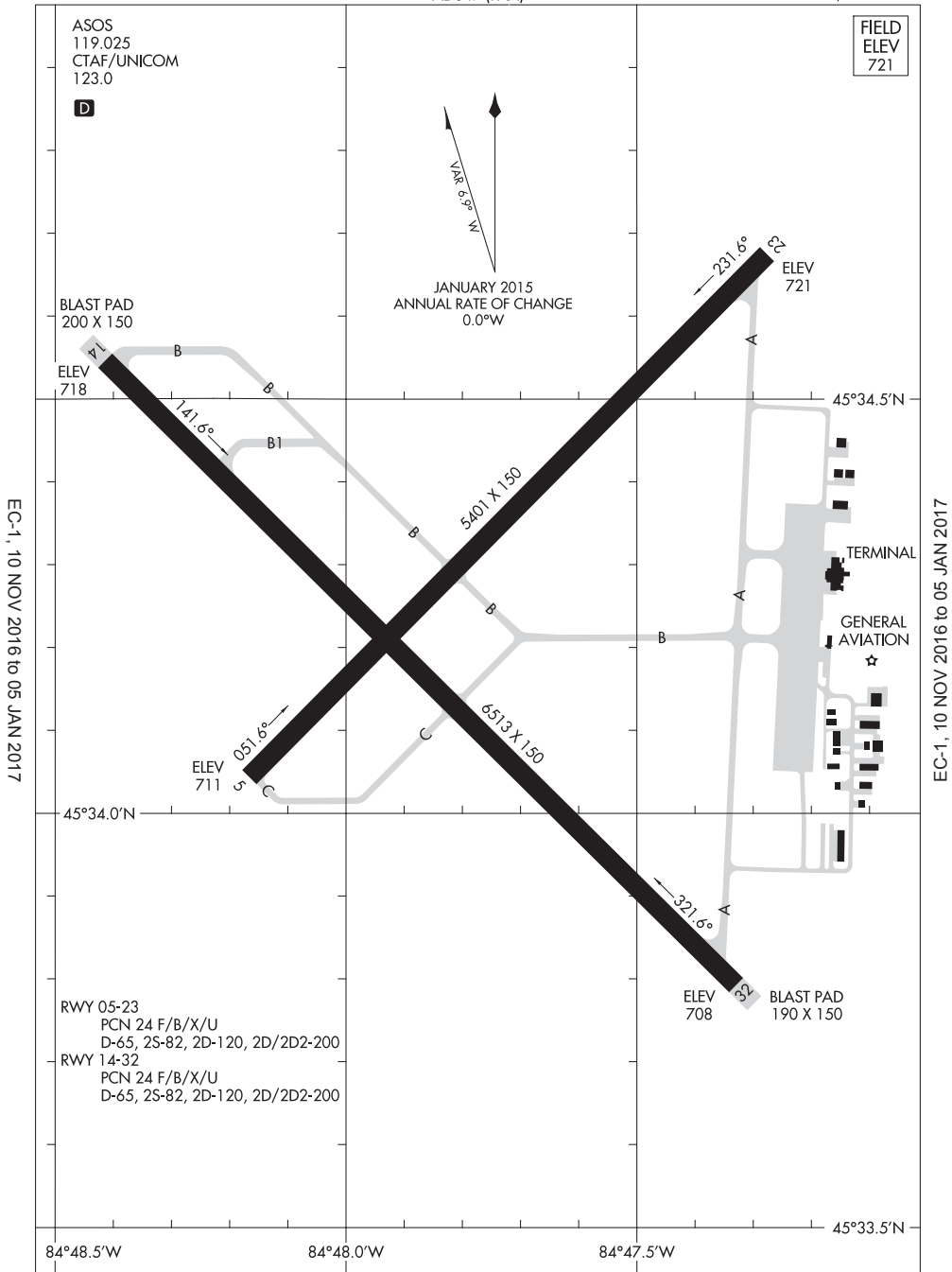
EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)

AL-647 (FAA)

PELLSTON, MICHIGAN



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

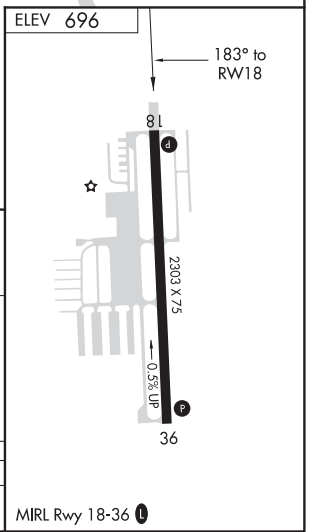
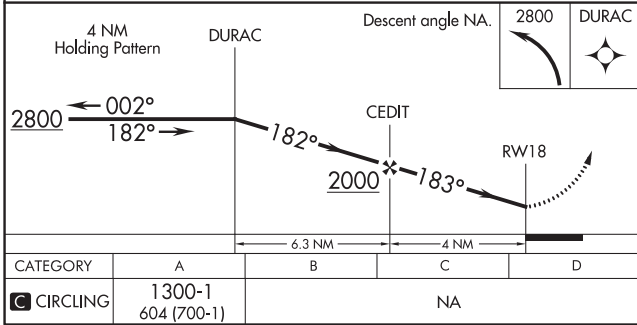
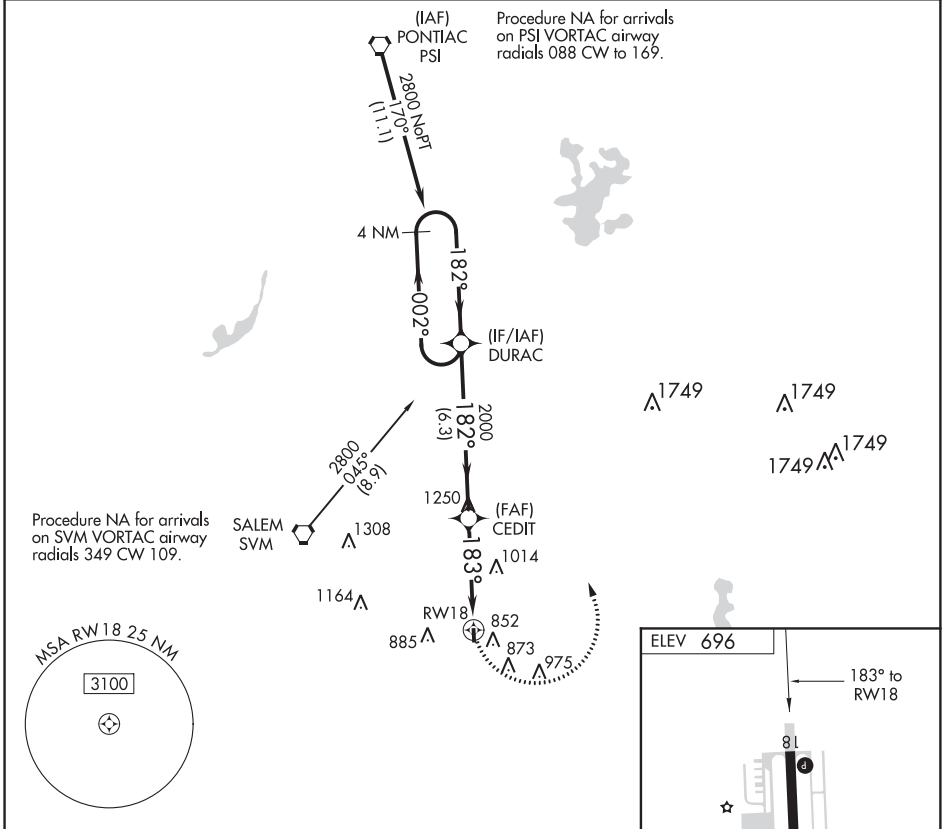
PELLSTON RGNL AIRPORT OF EMMET COUNTY (PLN)

| | |
|------------------------|------------------------|
| APP CRS 183° | Rwy Idg 2303 |
| | TDZE N/A |
| | Apt Elev 696 |

RNAV (GPS)-B

CANTON-PLYMOUTH-METTETAL (1D2)

| | | |
|----------------------------------|---|--|
| NA | DME/DME RNP-0.3 NA. Procedure NA at night. Use Willow Run altimeter setting. Helicopter visibility reduction below 1 SM NA. | MISSED APPROACH: Climbing left turn to 2800 direct DURAC and hold. |
| WILLOW RUN ASOS 132.35 | DETROIT APP CON 118.95 363.2 | UNICOM 122.7 (CTAF) 0 |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

PLYMOUTH, MICHIGAN

AL-5508 (FAA)

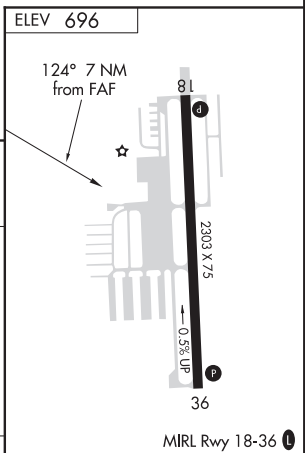
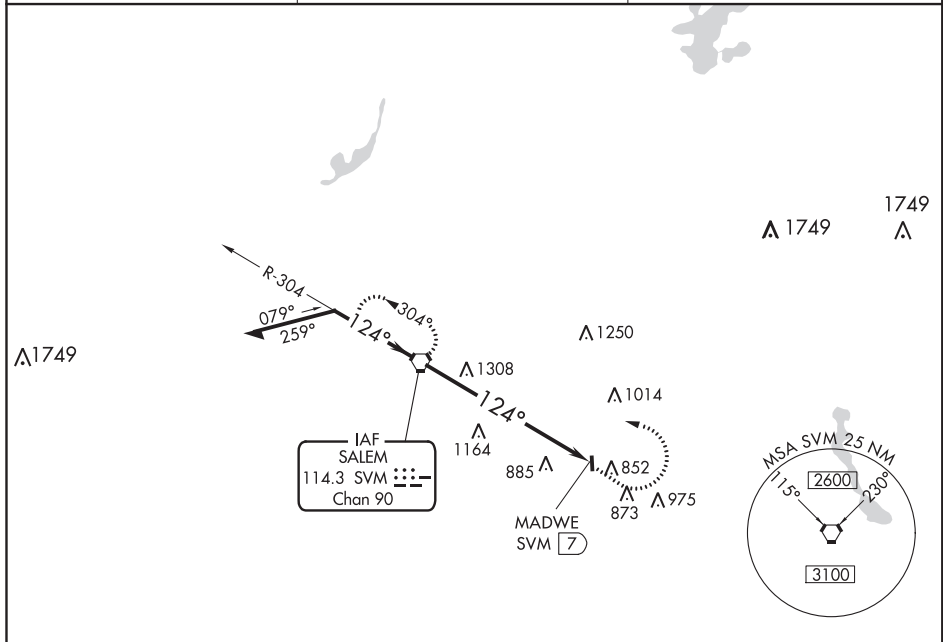
14289

| | | |
|--|------------------------|---|
| SVM VORTAC 114.3 Chan 90 | APP CRS 124° | Rwy Idg TDZE Apt Elev N/A N/A 696 |
|--|------------------------|---|

VOR-A

CANTON-PLYMOUTH-METTETAL (1D2)

| | | |
|--|---|--|
| <p>▼ Procedure NA at night. Use Willow Run altimeter setting, when not received, use Detroit Metropolitan Wayne County altimeter setting. Helicopter visibility reduction below 1 SM NA.</p> <p>▲ NA</p> | <p>MISSED APPROACH: Climb to 1800 then climbing left turn to 2400 direct SVM VORTAC and hold.</p> | |
| <p>WILLOW RUN ASOS 132.35</p> | <p>DETROIT APP CON 118.95 363.2</p> | <p>UNICOM 122.7 (CTAF) 0</p> |



| | | | |
|---|------|------|-----|
| Remain within 5 NM | 1800 | 2400 | SVM |
| <p>SVM VORTAC 6000</p> <p>2400 304°</p> <p>2400 124°</p> <p>2400</p> <p>MADWE SVM 7</p> <p>7 NM</p> | | | |

| | | | | | | | | | | |
|----------|--------------------------|---|----|---|-----------------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 7 NM | | | | | |
| CIRCLING | 1640-1¼ 944 (1000-1¼) | | NA | | Knots | 60 | 90 | 120 | 150 | 180 |
| | | | | | Min:Sec | 7:02 | 4:41 | 3:31 | 2:49 | 2:21 |

PLYMOUTH, MICHIGAN
Amdt 12A 16OCT14

42°21'N-83°27'W

CANTON-PLYMOUTH-METTETAL (1D2)

VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---------------------------|------------------------|------------------------|
| LOC I-PTK 111.1 | APP CRS 092° | Rwy Idg 6520 |
| | | TDZE 980 |
| | | Apt Elev 980 |

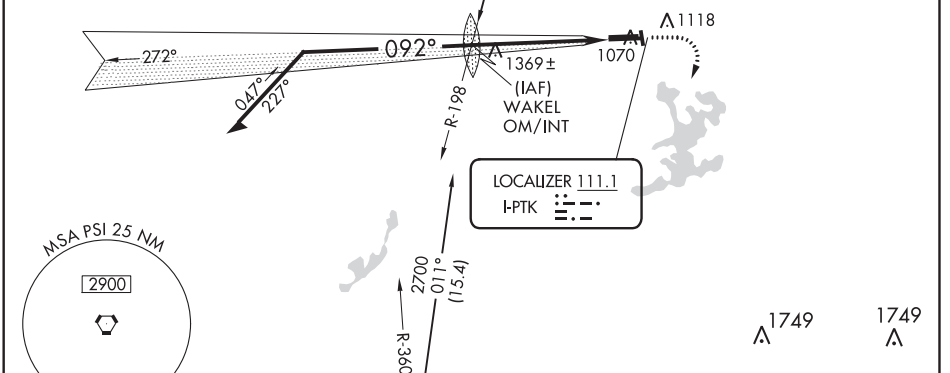
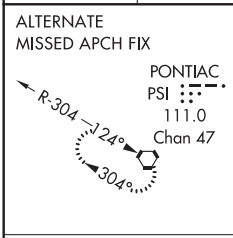
ILS or LOC RWY 9R

OAKLAND COUNTY INTL (PTK)

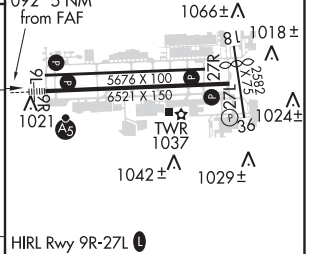
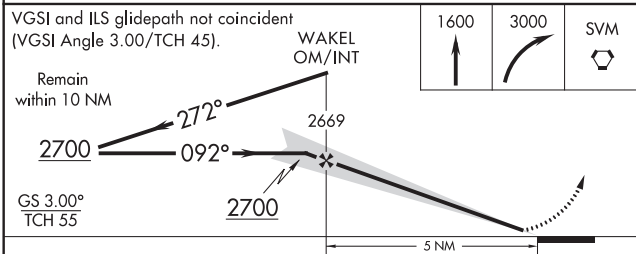
⚠ *RVR 1800 authorized with the use of FD or AP or HUD to DA.
⚠ When local altimeter setting not received, use Coleman A Young Muni altimeter setting and increase DA 105 feet and all MDA 120 feet, increase S-LOC 9R Cats C and D visibility ½ mile, circling Cat B visibility ¼ mile, Cats C and D visibility ½ mile.

MALSR

MISSED APPROACH: Climb to 1600, then climbing right turn to 3000 direct SVM VORTAC and hold.

| | | | | | |
|------------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 125.025 | DETROIT APP CON 127.5 363.2 | PONTIAC TOWER * 120.5 (CTAF) 0 | GND CON 121.9 | CLNC DEL 118.25 | UNICOM 122.95 |
|------------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|



| | | |
|----------|----------|----------|
| ELEV 980 | D | TDZE 980 |
| 1108±A | | |



| CATEGORY | A | B | C | D |
|----------|---------|-------------|-------------------------|-------------------------|
| S-ILS 9R | | * 1180/24 | 200 (200-½) | |
| S-LOC 9R | 1620/24 | 640 (700-½) | 1620/60 640 (700-1¼) | 1620-1½ 640 (700-1½) |
| CIRCLING | 1620-1 | 640 (700-1) | 1620-1¾ 640 (700-1¾) | 1640-2 660 (700-2) |

| | |
|----------------------|--------------------------|
| HIRL Rwy 9R-27L | 0 |
| MIRL Rwy 9L-27R | 0 |
| REIL Rwys 9L and 27R | 0 |
| REIL Rwy 27L | 0 |
| FAF to MAP 5 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 5:00 3:20 2:30 2:00 1:40 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

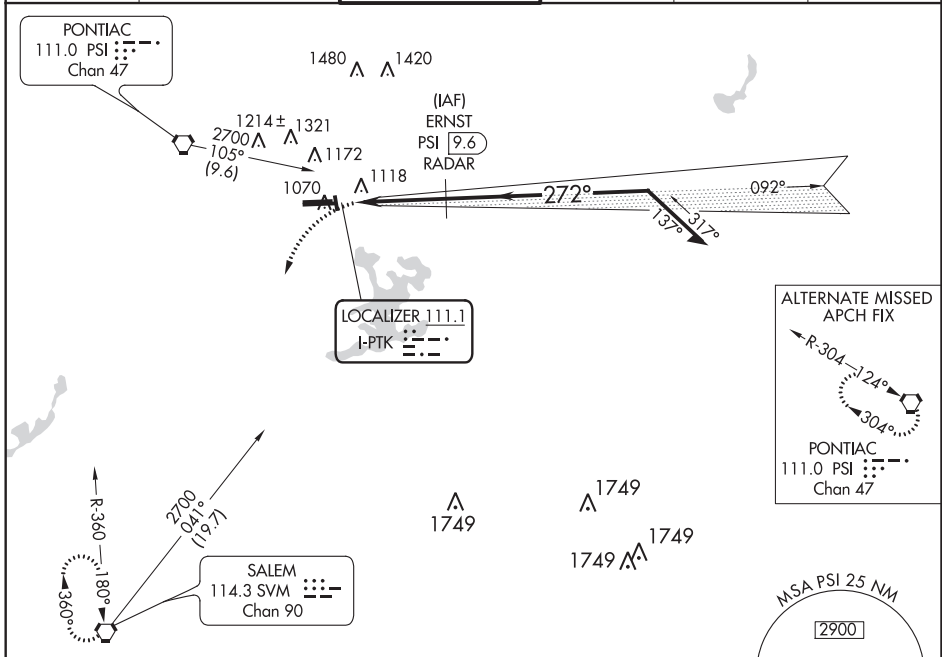
| | | |
|---------------------------|------------------------|------------------------|
| LOC I-PTK 111.1 | APP CRS 272° | Rwy Idg 6520 |
| | | TDZE 974 |
| | | Apt Elev 980 |

LOC BC RWY 27L
OAKLAND COUNTY INTL (PTK)

⚠ When local altimeter setting not received, use Coleman A Young Muni altimeter setting and increase all MDA 120 feet, increase S-27L Cat C/D visibility ¼ mile and Circling Cat C/D visibility ½ mile.

⚠ MISSED APPROACH: Climbing left turn to 3000 direct SVM VORTAC and hold.

| | | | | | |
|------------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 125.025 | DETROIT APP CON 127.5 363.2 | PONTIAC TOWER * 120.5 (CTAF) 0 | GND CON 121.9 | CLNC DEL 118.25 | UNICOM 122.95 |
|------------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|

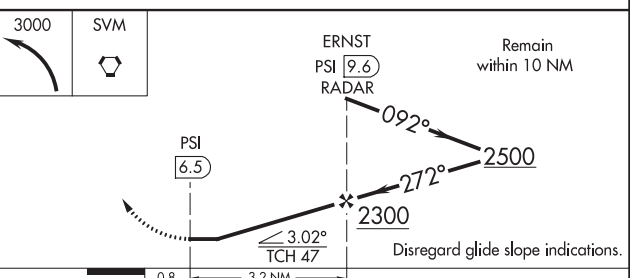
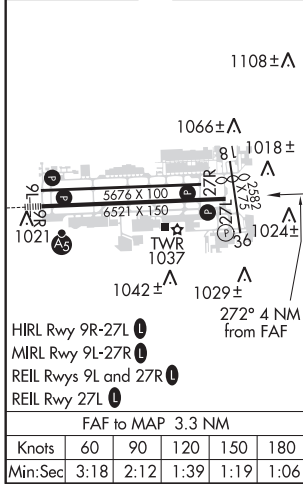


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|----------|----------|----------|
| ELEV 980 | D | TDZE 974 |
|----------|----------|----------|

BACK COURSE
DME or RADAR REQUIRED



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-------------------------|
| S-27L | 1420-1 | 446 (500-1) | 1420-1¼ 446 (500-1¼) | 1420-1½ 446 (500-1½) |
| CIRCLING | 1500-1 520 (600-1) | 1520-1 540 (600-1) | 1560-1½ 580 (600-1½) | 1640-2 660 (700-2) |

| | | |
|--|------------------------|---|
| VORTAC PSI 111.0 Chan 47 | APP CRS 119° | Rwy Idg 6520 TDZE 980 Apt Elev 980 |
|--|------------------------|---|

VOR RWY 9R

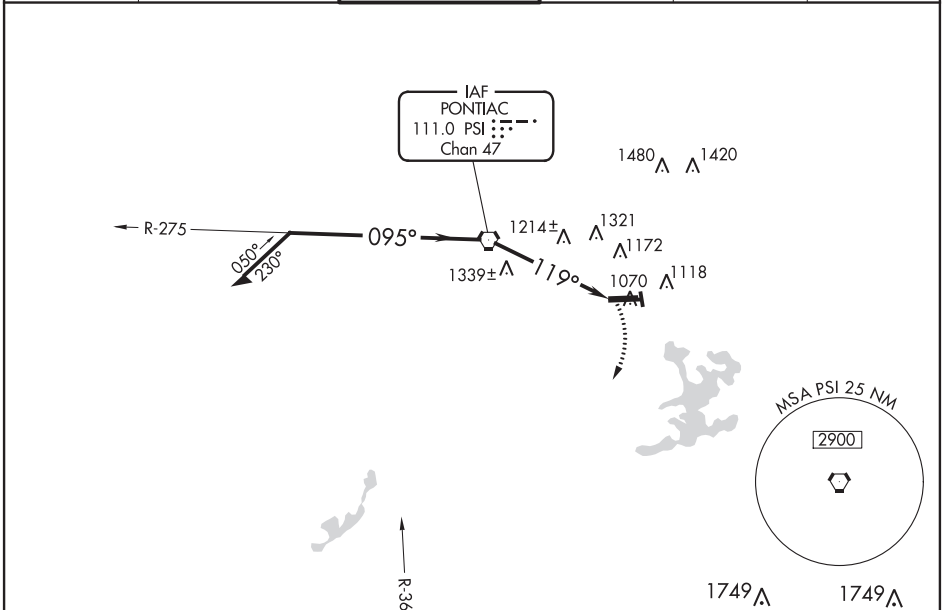
OAKLAND COUNTY INTL (P'TK)

⚠ Inoperative table does not apply. Visibility reduction by helicopters NA.
⚠ When local altimeter setting not received, use Coleman A Young Muni altimeter setting and increase all MDA 120 feet, increase S-9R Cat C/D and Circling Cat C visibility 1/4 mile and Circling Cat D visibility 1/2 mile. Inoperative table does not apply, when using Coleman A Young Muni altimeter setting.



MISSED APPROACH:
Climbing right turn to 3000 direct SVM VORTAC and hold.

| | | | | | |
|------------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 125.025 | DETROIT APP CON 127.5 363.2 | PONTIAC TOWER * 120.5 (CTAF) | GND CON 121.9 | CLNC DEL 118.25 | UNICOM 122.95 |
|------------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|



| | | |
|----------|----------|----------|
| ELEV 980 | D | TDZE 980 |
|----------|----------|----------|

HIRL Rwy 9R-27L

MIRL Rwy 9L-27R

REIL Rwys 9L and 27R

REIL Rwy 27L

FAF to MAP 4.9 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:54 | 3:16 | 2:27 | 1:58 | 1:38 |

| | | | | | | |
|----------|---------------------|------|---------|-------------|-------------------------------|-----------------------|
| CATEGORY | Remain within 10 NM | | A | B | C | D |
| | PSI VORTAC | | | | | |
| S-9R | 2700 | 275° | 1600/50 | 620 (700-1) | 1600-1 3/4 620 (700-1 3/4) | 1600-2 620 (700-2) |
| CIRCLING | 2700 | 095° | 1600-1 | 620 (700-1) | 1600-1 3/4 620 (700-1 3/4) | 1640-2 660 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

PONTIAC, MICHIGAN

AL-5052 (FAA)

15064

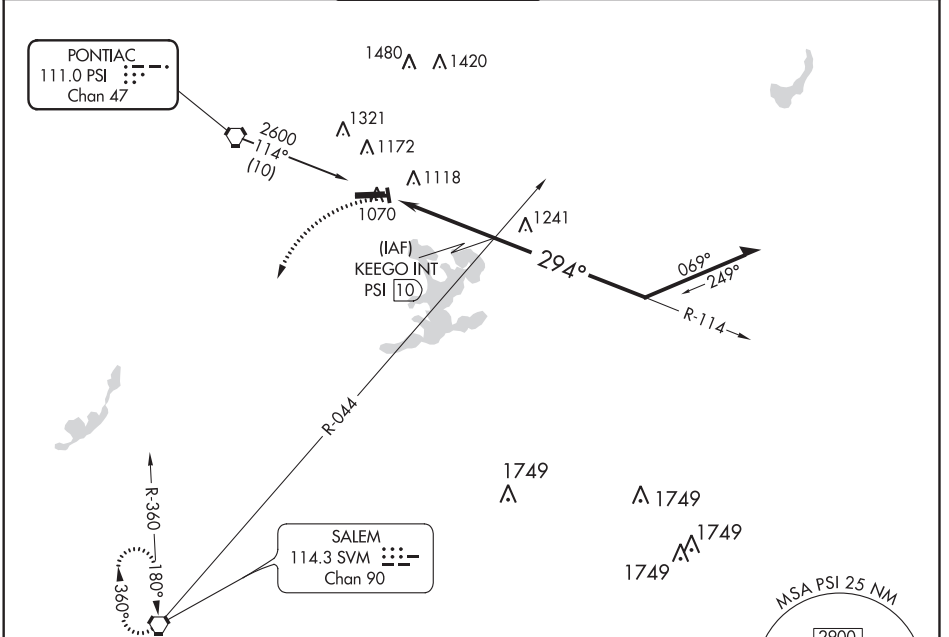
| | | | |
|--|------------------------|-----------------------------|---|
| VORTAC PSI 111.0 Chan 47 | APP CRS 294° | Rwy Idg TDZE Apt Elev | 6520 974 980 |
|--|------------------------|-----------------------------|---|

VOR RWY 27L
OAKLAND COUNTY INTL (PTK)

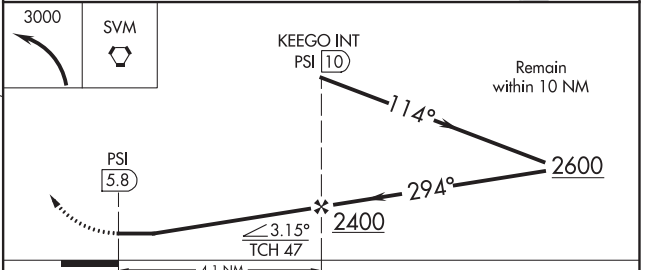
⚠ Visibility reduction by helicopters NA. When local altimeter setting not received, use Coleman A Young Muni altimeter setting and increase all MDA 120 feet, increase S-27L Cat C/D and Circling Cat C/D visibility 1/2 mile.

⚠ MISSED APPROACH: Climbing left turn to 3000 direct SVM VORTAC and hold.

| | | | | | |
|------------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|
| ATIS 125.025 | DETROIT APP CON 127.5 363.2 | PONTIAC TOWER * 120.5 (CTAF) 0 | GND CON 121.9 | CLNC DEL 118.25 | UNICOM 122.95 |
|------------------------|---------------------------------------|--|-------------------------|---------------------------|-------------------------|



| | | |
|----------|----------|----------|
| ELEV 980 | D | TDZE 974 |
|----------|----------|----------|



HIRL Rwy 9R-27L **Ⓛ**
MIRL Rwy 9L-27R **Ⓛ**
REIL Rws 9L and 27R **Ⓛ**
REIL Rwy 27L **Ⓛ**

FAF to MAP 4.1 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:06 | 2:44 | 2:03 | 1:38 | 1:22 |

| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-------------------------|
| S-27L | 1460-1 | 486 (500-1) | 1460-1½ 486 (500-1½) | 1460-1½ 486 (500-1½) |
| CIRCLING | 1500-1 520 (600-1) | 1520-1 540 (600-1) | 1560-1½ 580 (600-1½) | 1640-2 660 (700-2) |

PONTIAC, MICHIGAN
Amdt 15 22OCT09

42°40'N-83°25'W

OAKLAND COUNTY INTL (PTK)
VOR RWY 27L

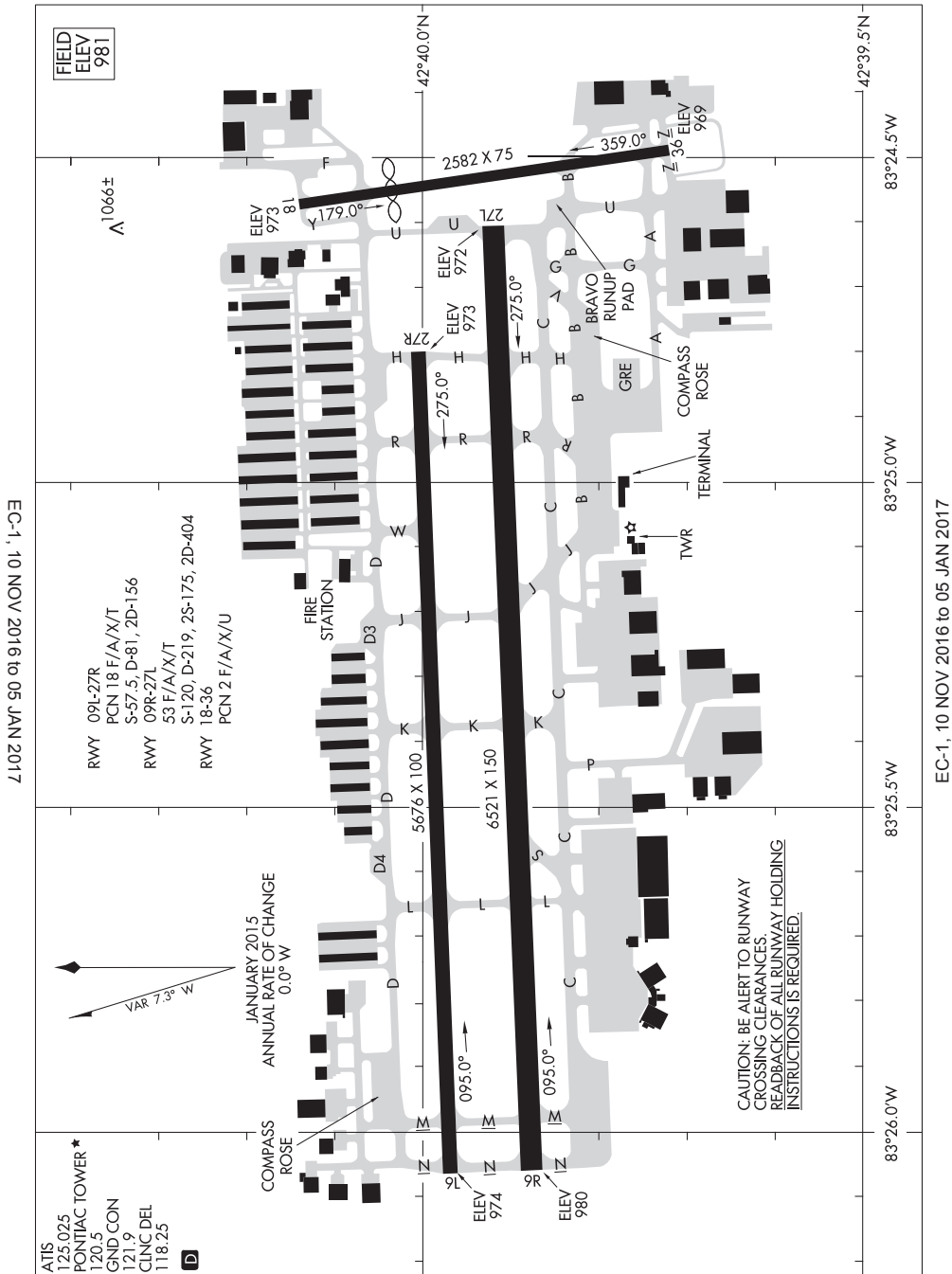
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

AL-5052 (FAA)

OAKLAND COUNTY INTL (PTK)
PONTIAC, MICHIGAN



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

PONTIAC, MICHIGAN
OAKLAND COUNTY INTL (PTK)

AKRON FIVE DEPARTURE

SL-5052 (FAA)

OAKLAND COUNTY INTL (PTK)

PONTIAC, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

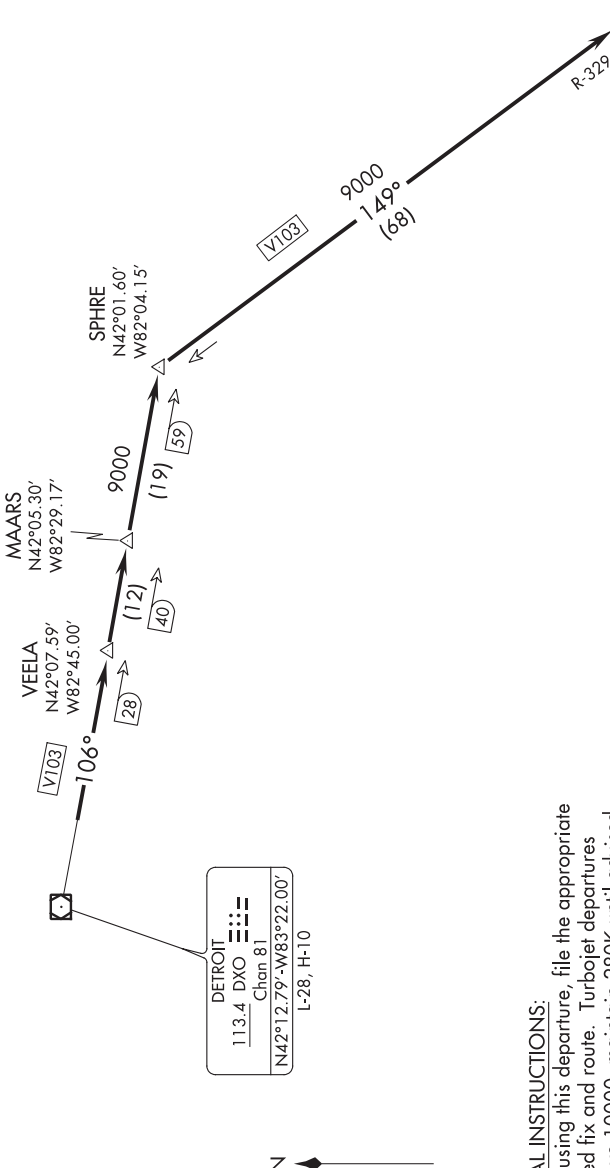
TOP ALTITUDE:
3000



TAKEOFF MINIMUMS:

Rwys 18, 36: NA - Environmental.
Rwys 9L/R, 27L/R: Standard.

ATIS 125.025
CLNC DEL 118.25
GND CON 121.9
PONTIAC TOWER*
120.5 (CTAF)
DETROIT DEP CON
127.5 239.275



SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted fix and route. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Radar required.
NOTE: DME required
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

AKRON FIVE DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb on assigned heading for radar vectors, thence....

....to intercept DXO VOR/DME R-106 to SPHRE INT, then on ACO R-329 to ACO VOR/DME. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 9L: Hangars beginning 203' from DER, 510' left of centerline, up to 30' AGL/1000' MSL.
Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL.
- Rwy 9R: Antenna on hangar 870' from DER, 732' right of centerline, 36' AGL/1006' MSL.
Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL.
Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL.
- Rwy 27L: Vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL.
Vehicle on road 417' from DER, 574' right of centerline, 15' AGL/992' MSL.
Trees beginning 452' from DER, 552' right of centerline, up to 23' AGL/1002' MSL.
Trees beginning 565' from DER, 521' left of centerline, up to 76' AGL/1046' MSL.
- Rwy 27R: Vehicle on road 416' from DER, 24' right of centerline, 15' AGL/992' MSL.
Trees beginning 451' from DER, 2' right of centerline, up to 62' AGL/1041' MSL.
Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ERRTH SIX DEPARTURE

SL-5052 (FAA)

OAKLAND COUNTY INTL (PTK)
PONTIAC, MICHIGAN

EC-1, 10 NOV 2016 to 05 JAN 2017

TOP ALTITUDE:
3000

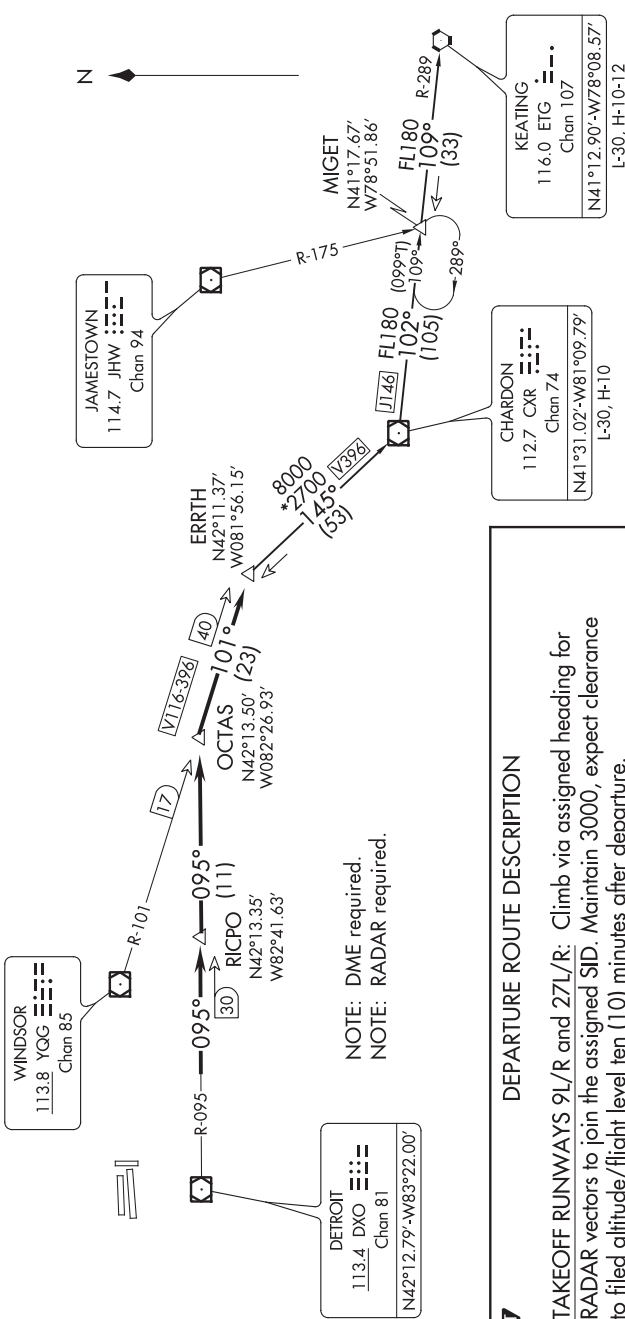
SPECIAL INSTRUCTIONS:

Turbopjet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwys 18, 36: NA - Environmental.
Rwys 9L/R, 27L/R: Standard.

ATS 125.025
CLNC DEL 118.25
GND CON 121.9
PONTIAC TOWER *
120.5 (CTAF)



DETROIT
113.4 DXO
Chan 81
N42°12.79'-W83°22.00'

NOTE: DME required.
NOTE: RADAR required.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb via assigned heading for RADAR vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

KEATING TRANSITION (ERRTH6.ETG): From over ERRTH to CXR VOR/DME, then on CXR R-102 and ETG R-289 to MIDGET, then on ETG R-289 to ETG VORTAC.

CHARDON TRANSITION (ERRTH6.CXR): From over ERRTH to CXR VOR/DME.

(NOTES CONTINUED ON FOLLOWING PAGE)
NOTE: Chart not to scale.

ERRTH SIX DEPARTURE

EC-1, 10 NOV 2016 to 05 JAN 2017

TAKEOFF OBSTACLES:

- Rwy 9L: Hangars beginning 203' from DER, 510' left of centerline, up to 30' AGL/1000' MSL.
Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL.
- Rwy 9R: Antenna on hangar 870' from DER, 732' right of centerline, 36' AGL/1006' MSL.
Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL.
Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL.
- Rwy 27L: Vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL.
Vehicle on road 417' from DER, 574' right of centerline, 15' AGL/992' MSL.
Trees beginning 452' from DER, 552' right of centerline, up to 23' AGL/1002' MSL.
Trees beginning 565' from DER, 521' left of centerline, up to 76' AGL/1046' MSL.
- Rwy 27R: Vehicle on road 416' from DER, 24' right of centerline, 15' AGL/992' MSL.
Trees beginning 451' from DER, 2' right of centerline, up to 62' AGL/1041' MSL.
Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

(FWA6.FWA) 15120

FORT WAYNE SIX DEPARTURE

SL-5052 (FAA)

OAKLAND COUNTY INTL (PTK)
PONTIAC, MICHIGAN

ATIS 125.025
CLNC DEL 118.25
GND CON 121.9
PONTIAC TOWER ★
120.5 (CTAF)
DETROIT DEP CON
127.5 239.275

**TOP ALTITUDE:
3000**



DETROIT
113.4 DXO
Chan 81
N42°12.79'-W83°22.00'
L-28, H-10

TAKEOFF MINIMUMS:

Rwys 18, 36: NA - Environmental.
Rwys 9L/R, 27L/R: Standard.

SPECIAL INSTRUCTIONS:

Jets only. When using this departure, file the appropriate depicted fix and route.
Departures at/above 10000, maintain 280K until advised by ATC.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

FORT WAYNE
117.8 FWA
Chan 125
N40°58.74'-W85°11.28'
L-27, H-5-10

ILLIE
N41°14.91'
W84°07.96'

WATERVILLE
113.1 VVV
Chan 78

FLAG CITY
108.2 FBC
Chan 19

NOTE: Radar required.

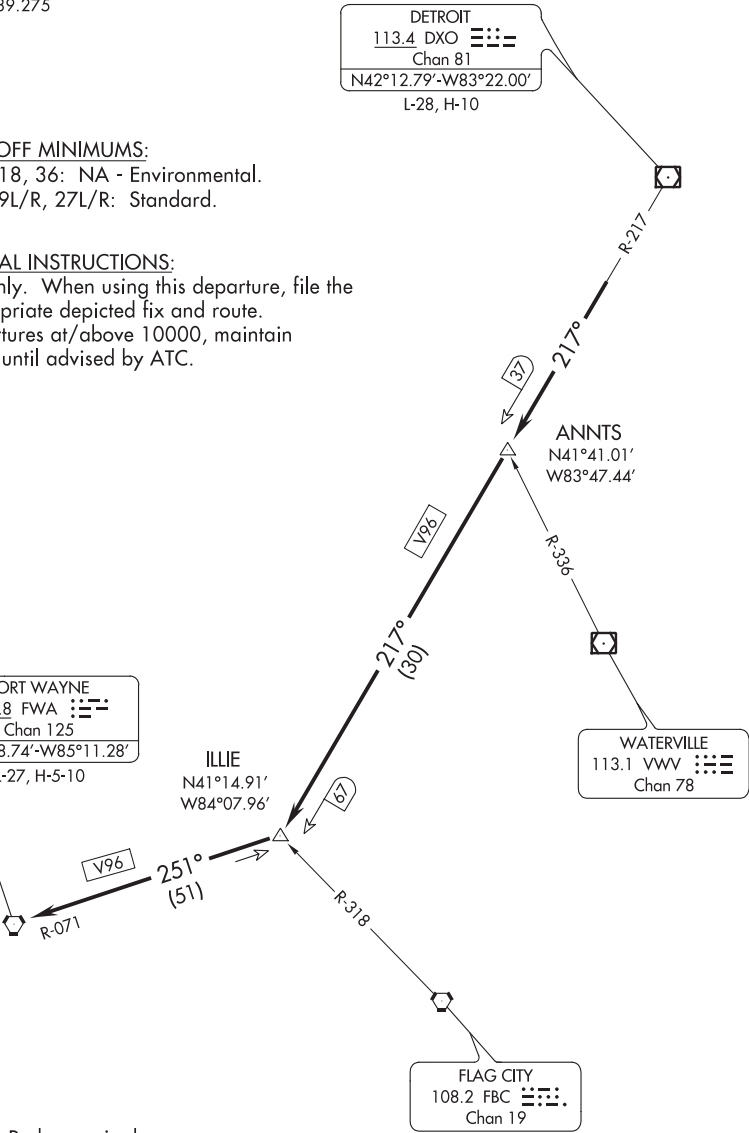
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

FORT WAYNE SIX DEPARTURE

(FWA6.FWA) 15120

PONTIAC, MICHIGAN
OAKLAND COUNTY INTL (PTK)





DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb on assigned heading for radar vectors, thence....

....to intercept DXO VOR/DME R-217 to ILLIE INT, then on FWA R-071 to FWA VORTAC. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 9L: Hangars beginning 203' from DER, 510' left of centerline, up to 30' AGL/1000' MSL.
Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL.
- Rwy 9R: Antenna on hangar 870' from DER, 732' right of centerline, 36' AGL/1006' MSL.
Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL.
Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL.
- Rwy 27L: Vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL.
Vehicle on road 417' from DER, 574' right of centerline, 15' AGL/992' MSL.
Trees beginning 452' from DER, 552' right of centerline, up to 23' AGL/1002' MSL.
Trees beginning 565' from DER, 521' left of centerline, up to 76' AGL/1046' MSL.
- Rwy 27R: Vehicle on road 416' from DER, 24' right of centerline, 15' AGL/992' MSL.
Trees beginning 451' from DER, 2' right of centerline, up to 62' AGL/1041' MSL.
Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

MOONN SEVEN DEPARTURE

SL-5052 (FAA)

PONTIAC, MICHIGAN

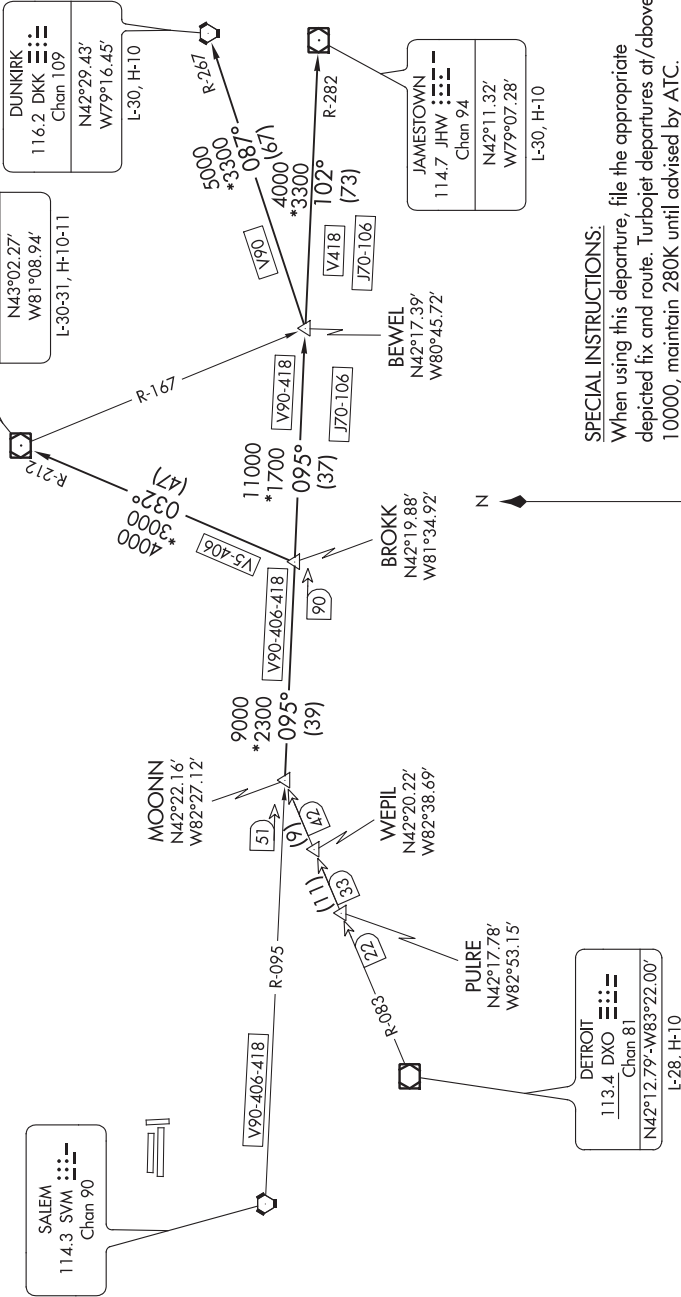
EC-1, 10 NOV 2016 to 05 JAN 2017

ATIS 125.025
 CLNC DEL 118.25
 GND CON 121.9
 PONTIAC TOWER*
 120.5 (CTAF)
 DETROIT DEP CON
 127.5 239.275

TAKEOFF MINIMUMS:

Rwys 18, 36: NA - Environmental.
 Rwys 9L/R, 27L/R: Standard.

TOP ALTITUDE:
3000



SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted fix and route. Turbojet departures at/above 10000, maintain 280K until advised by ATC. LONDON TRANSITION for use by Props only. DUNKIRK TRANSITION for use FL270 and below.

NOTE: Radar required.
 NOTE: DME required.
 NOTE: Chan not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

MOONN SEVEN DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

DUNKIRK TRANSITION (MOONN7.DKK): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on DKK R-267 to DKK VORTAC.

JAMESTOWN TRANSITION (MOONN7.JHW): From over MOONN on SVM R-095 to BROKK, then on SVM R-095 and JHW R-282 to BEWEL, then on JHW R-282 to JHW VOR/DME.

LONDON TRANSITION (MOONN7.YXU): From over MOONN on SVM R-095 to BROKK, then on YXU R-212 to YXU VOR/DME.

TAKEOFF OBSTACLES:

- Rwy 9L: Hangars beginning 203' from DER, 510' left of centerline, up to 30' AGL/1000' MSL.
Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL.
- Rwy 9R: Antenna on hangar 870' from DER, 732' right of centerline, 36' AGL/1006' MSL.
Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL.
Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL.
- Rwy 27L: Vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL.
Vehicle on road 417' from DER, 574' right of centerline, 15' AGL/992' MSL.
Trees beginning 452' from DER, 552' right of centerline, up to 23' AGL/1002' MSL.
Trees beginning 565' from DER, 521' left of centerline, up to 76' AGL/1046' MSL.
- Rwy 27R: Vehicle on road 416' from DER, 24' right of centerline, 15' AGL/992' MSL.
Trees beginning 451' from DER, 2' right of centerline, up to 62' AGL/1041' MSL.
Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000', expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLE NOTES:

- Rwy 9L: Hangers beginning 203' from DER, 510' left of centerline, up to 30' AGL/1000' MSL.
Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL.
- Rwy 9R: Antenna on hanger 870' from DER, 732' right of centerline, 36' AGL/1006' MSL.
Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL.
Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL.
- Rwy 27L: Vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL.
Vehicle on road 417' from DER, 574' right of centerline, 15' AGL/992' MSL.
Trees beginning 452' from DER, 552' right of centerline, up to 23' AGL/1002' MSL.
Trees beginning 565' from DER, 521' left of centerline, up to 76' AGL/1046' MSL.
- Rwy 27R: Vehicle on road 416' from DER, 24' right of centerline, 15' AGL/992' MSL.
Trees beginning 451' from DER, 2' right of centerline, up to 62' AGL/1041' MSL.
Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL.

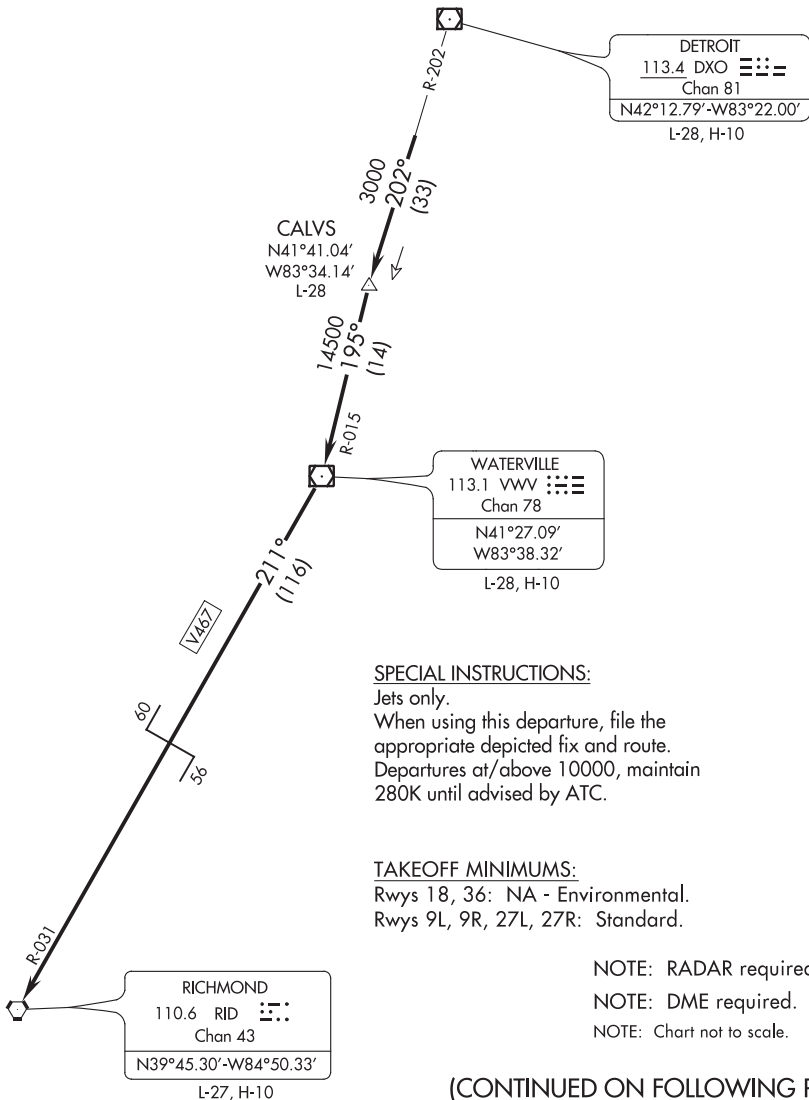
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

RICHMOND EIGHT DEPARTURE

ATIS 125.025
CLNC DEL 118.25
GND CON 121.9
PONTIAC TOWER ★
120.5 (CTAF)

**TOP ALTITUDE:
3000**



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

(CONTINUED ON FOLLOWING PAGE)

RICHMOND EIGHT DEPARTURE

RICHMOND EIGHT DEPARTURE



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb on assigned heading for RADAR vectors, thence....

....to intercept DXO VOR/DME R-202 to CALVS, then on VWV R-015 to VWV VOR/DME, then right turn on VWV R-211 and RID R-031 to RID VORTAC.

TAKEOFF OBSTACLES:

- Rwy 9L: Hangars beginning 203' from DER, 510' left of centerline, up to 30' AGL/1000' MSL.
Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL.
- Rwy 9R: Antenna on hangar 870' from DER, 732' right of centerline, 36' AGL/1006' MSL.
Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL.
Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL.
- Rwy 27L: Vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL.
Vehicle on road 417' from DER, 574' right of centerline, 15' AGL/992' MSL.
Trees beginning 452' from DER, 552' right of centerline, up to 23' AGL/1002' MSL.
Trees beginning 565' from DER, 521' left of centerline, up to 76' AGL/1046' MSL.
- Rwy 27R: Vehicle on road 416' from DER, 24' right of centerline, 15' AGL/992' MSL.
Trees beginning 451' from DER, 2' right of centerline, up to 62' AGL/1041' MSL.
Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ATIS 125.025
CLNC DEL 118.25
GND CON 121.9
PONTIAC TOWER *
120.5 (CTAF)
DETROIT DEP CON
127.5 239.275

**TOP ALTITUDE:
3000**



DETROIT
113.4 DXO
Chan 81
N42°12.79'-W83°22.00'
L-28, H-10



SCORR
N41°40.31'
W83°20.49'



CHOOT
N41°31.54'
W83°20.09'

WATERVILLE
113.1 VWV
Chan 78



FLAG CITY
108.2 FBC
Chan 19



SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted fix and route. Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

Rwys 18, 36: NA - Environmental.
Rwys 9L/R, 27L/R: Standard.

ROSEWOOD
117.5 ROD
Chan 122
N40°17.27'
W84°02.59'
L-27, H-10

NOTE: Radar required.
NOTE: DME required.
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

TAKEOFF OBSTACLES:

- Rwy 9L: Hangars beginning 203' from DER, 510' left of centerline, up to 30' AGL/1000' MSL.
Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL.
- Rwy 9R: Antenna on hangar 870' from DER, 732' right of centerline, 36' AGL/1006' MSL.
Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL.
Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL.
- Rwy 27L: Vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL.
Vehicle on road 417' from DER, 574' right of centerline, 15' AGL/992' MSL.
Trees beginning 452' from DER, 552' right of centerline, up to 23' AGL/1002' MSL.
Trees beginning 565' from DER, 521' left of centerline, up to 76' AGL/1046' MSL.
- Rwy 27R: Vehicle on road 416' from DER, 24' right of centerline, 15' AGL/992' MSL.
Trees beginning 451' from DER, 2' right of centerline, up to 62' AGL/1041' MSL.
Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL.

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ST. CLAIR NINE DEPARTURE

SL-5052 (FAA)

EC-1, 10 NOV 2016 to 05 JAN 2017

TOP ALTITUDE:
3000

ATIS 125.025
CINC DEL 118.25
GND CON 121.9
PONTIAC TOWER *
120.5 (CTAF)

SPECIAL INSTRUCTIONS: When using this departure, file the appropriate depicted fix and route. Aircraft landing Columbus (CMH) must file via SCORR. Aircraft filed over APE must file via SCORR. Aircraft landing Cleveland (CLE) must file via MAARS. Departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

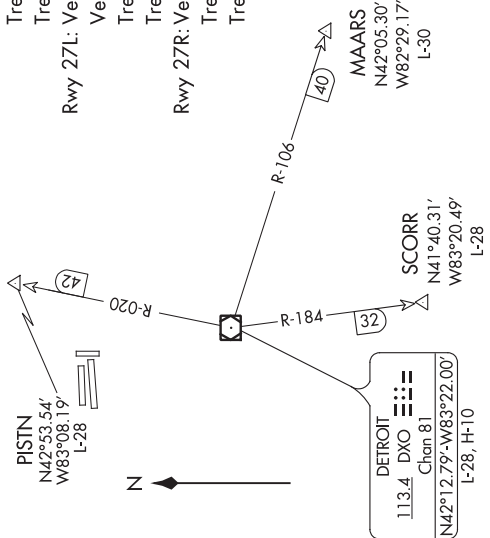
Rwys 18, 36: NA - Environmental.
Rwys 9L/R, 27L/R: Standard.

NOTE: ATC requested only.
NOTE: Radar required.
NOTE: DME required.

NOTE: JETS only except for aircraft landing CMH, CLE, YYZ, or prop aircraft filed over APE.

TAKEOFF OBSTACLES:

- Rwy 9L: Hangars beginning 203' from DER, 510' left of centerline, up to 30' AGL/1000' MSL. Trees beginning 3347' from DER, 1252' left of centerline, up to 100' AGL/1089' MSL.
- Rwy 9R: Antenna on hangar 870' from DER, 732' right of centerline, 36' AGL/1006' MSL. Trees beginning 1136' from DER, 480' right of centerline, up to 100' AGL/1079' MSL. Trees beginning 1383' from DER, 646' left of centerline, up to 41' AGL/1011' MSL.
- Rwy 27L: Vehicle on road 401' from DER, 539' left of centerline, 15' AGL/991' MSL. Vehicle on road 417' from DER, 574' right of centerline, 15' AGL/992' MSL. Trees beginning 452' from DER, 552' right of centerline, up to 23' AGL/1002' MSL.
- Rwy 27R: Vehicle on road 416' from DER, 521' left of centerline, up to 76' AGL/1046' MSL. Trees beginning 451' from DER, 2' right of centerline, 15' AGL/992' MSL. Trees beginning 1234' from DER, 19' left of centerline, up to 36' AGL/1015' MSL.



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb on assigned heading for radar vectors to join the assigned SID. Maintain 3000, expect clearance to filed altitude/flight level ten (10) minutes after departure.

NOTE: Chart not to scale.

PORT HURON, MICHIGAN

AL-5445 (FAA)

14205

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 53523 W04A | APP CRS 043° | Rwy Idg TDZE 647 Apt Elev 650 | 5104 |
|--|------------------------|---|-------------|

RNAV (GPS) RWY 4

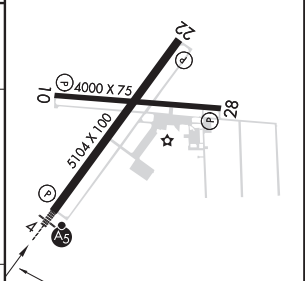
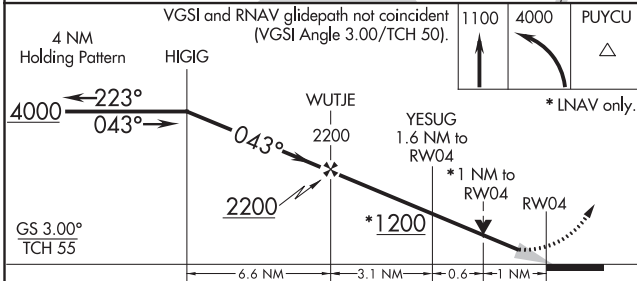
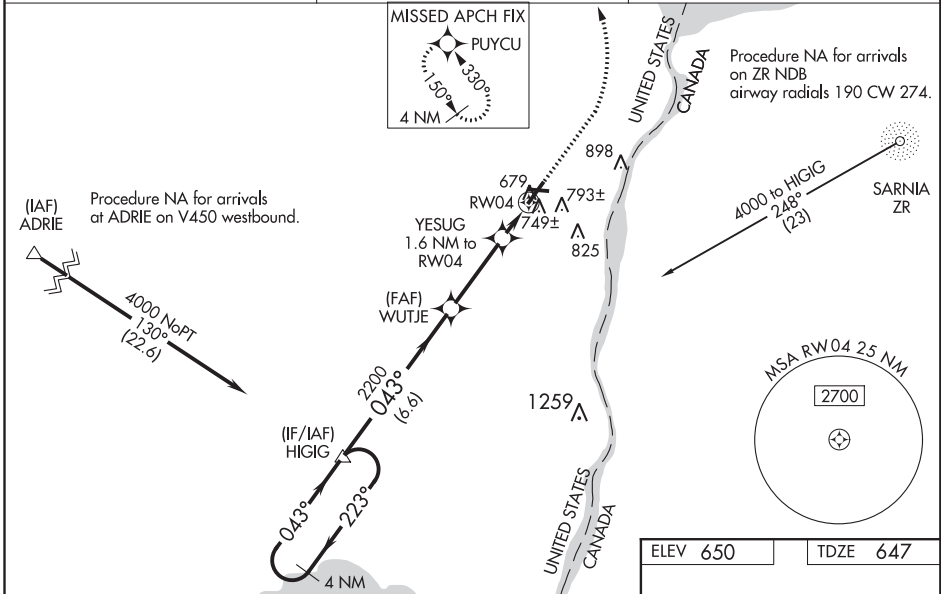
ST. CLAIR COUNTY INTL (PHN)

⚠ DME/DME RNP-0.3 NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). Baro-VNAV and VDP NA when using Troy altimeter setting. When local altimeter setting not received, use Troy altimeter setting and increase all DA 95 feet; increase all MDA 100 feet and increase LNAV/VNAV all Cats, LNAV Cat C and D and Circling Cat C and D visibility ¼ mile. For inoperative MALSR, increase LNAV/VNAV all Cats visibility to 7/8 mile. For inoperative MALSR when using Troy altimeter setting, increase LNAV/VNAV all Cats visibility to 1 1/8 mile. Night Landing: Rwy 10, 22, 28 NA.

MISSED APPROACH:
Climb to 1100 then climbing left turn to 4000 direct PUYCU and hold, continue climb-in-hold to 4000. When authorized by ATC continue climb-in-hold to 7000.

MALSR
A5

| | | |
|--------------------------|--|--------------------------------|
| AWOS-3 118.375 | SELRIDGE APP CON * 119.6 391.9 | UNICOM 123.05 (CTAF) |
|--------------------------|--|--------------------------------|



| CATEGORY | A | B | C | D |
|-------------------|----------|---------------|-------------------------------|-----------------------|
| LPV DA | | 847-1/2 | 200 (200-1/2) | |
| LNAV/VNAV DA | | 930-1/2 | 283 (300-1/2) | |
| LNAV MDA | 1000-1/2 | 353 (400-1/2) | 1000-5/8 | 353 (400-5/8) |
| C CIRCLING | 1160-1 | 510 (600-1) | 1260-1 3/4 610 (700-1 3/4) | 1260-2 610 (700-2) |

HIRL Rwy 4-22 **Ⓛ**
MIRL Rwy 10-28 **Ⓛ**
REIL Rws 10, 22, and 28 **Ⓛ**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

PORT HURON, MICHIGAN
Amdt 1 24JUL14

42°55'N-82°32'W

ST. CLAIR COUNTY INTL (PHN)

RNAV (GPS) RWY 4

| | | |
|--|------------------------|---|
| WAAS CH 97723 W22A | APP CRS 223° | Rwy ldg 5104 TDZE 649 Apt Elev 650 |
|--|------------------------|---|

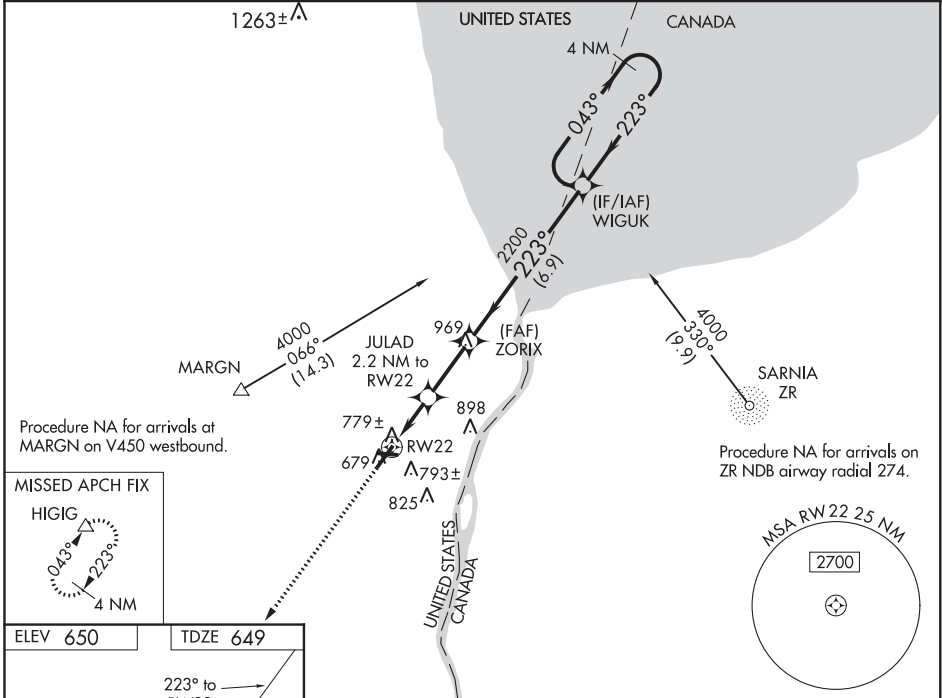
RNAV (GPS) RWY 22

ST. CLAIR COUNTY INTL (PHN)

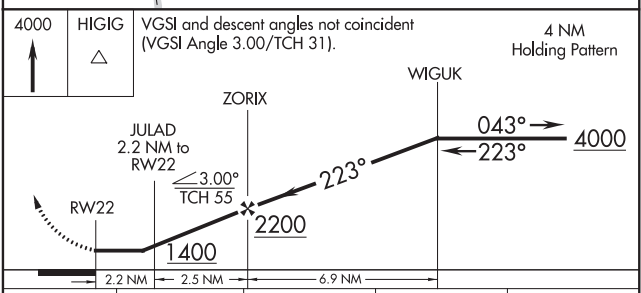
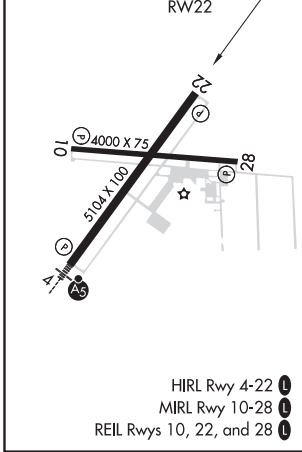
⚠ DME/DME RNP-0.3 NA. When local altimeter setting not received, use Troy altimeter setting and increase all MDA 100 feet; increase LP Cat C and D visibility $\frac{3}{8}$ mile and LNAV and Circling Cats C and D visibility $\frac{1}{4}$ mile.
⚠ Night landing: Rwy 22, 10, 28 NA. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 4000 direct HIGIG and hold, continue climb-in-hold to 4000.

| | | |
|--------------------------|---|----------------------------------|
| AWOS-3 118.375 | SELFRIDGE APP CON * 119.6 391.9 | UNICOM 123.05 (CTAF) 0 |
|--------------------------|---|----------------------------------|



| | |
|----------|----------|
| ELEV 650 | TDZE 649 |
|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|--------------------|---|--------------------|---|
| LP MDA | 1020-1 371 (400-1) | | | |
| LNAV MDA | 1040-1 391 (400-1) | 1040-1 $\frac{1}{8}$ 391 (400-1 $\frac{1}{8}$) | | |
| C CIRCLING | 1160-1 510 (600-1) | 1260-1 $\frac{3}{4}$ 610 (700-1 $\frac{3}{4}$) | 1260-2 610 (700-2) | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

PORT HURON, MICHIGAN

AL-5445 (FAA)


14261

NDB RWY 4

ST. CLAIR COUNTY INTL (PHN)

| | | |
|----------------------|------------------------|------------------------|
| LOM PH 332 | APP CRS 043° | Rwy Idg 5104 |
| | | TDZE 647 |
| | | Apt Elev 650 |

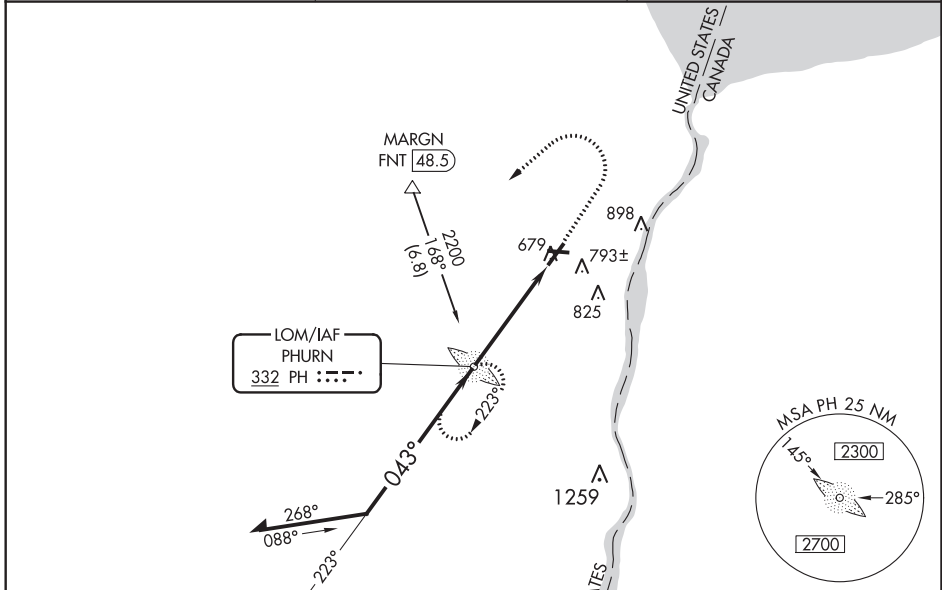
NA When local altimeter setting not received, use Troy altimeter setting and increase all MDA 100 feet, increase S-4 and Circling Cats C and D visibility ¼. For inoperative MALSR, increase S-4 Cats C and D visibility to 1¾ mile. For inoperative MALSR when using Troy altimeter setting, increase S-4 Cat D visibility to 1¾ mile. Night landing: Rwy 10, 22, 28 NA.

MALSR  **MISSED APPROACH:** Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

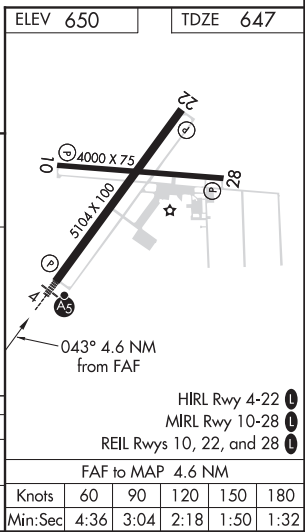
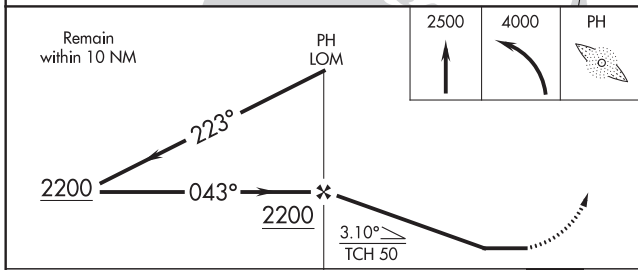
AWOS-3
118,375

SELFRIDGE APP CON ★
119.6 391.9

UNICOM
123.05 (CTAF) 0



| | |
|----------|----------|
| ELEV 650 | TDZE 647 |
|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|--------------------|---|----------------------|--------------------|
| S-4 | 1160-¾ 513 (600-¾) | | 1160-1 513 (600-1) | |
| C CIRCLING | 1160-1 510 (600-1) | | 1260-1¾ 610 (700-1¾) | 1260-2 610 (700-2) |

PORT HURON, MICHIGAN
Amdt 5 18SEP14

42°55'N-82°32'W

ST. CLAIR COUNTY INTL (PHN)

NDB RWY 4

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---------|----------|-----|
| APP CRS | Rwy Idg | N/A |
| 094° | TDZE | N/A |
| | Apt Elev | 632 |

RNAV (GPS)-A

RAY COMMUNITY (57D)

▽ DME/DME RNP-0.3 NA. Procedure NA at night. Helicopter visibility reduction below 1 SM NA. Use Troy altimeter setting, when not received use Pontiac altimeter setting and increase all MDAs 60 feet.

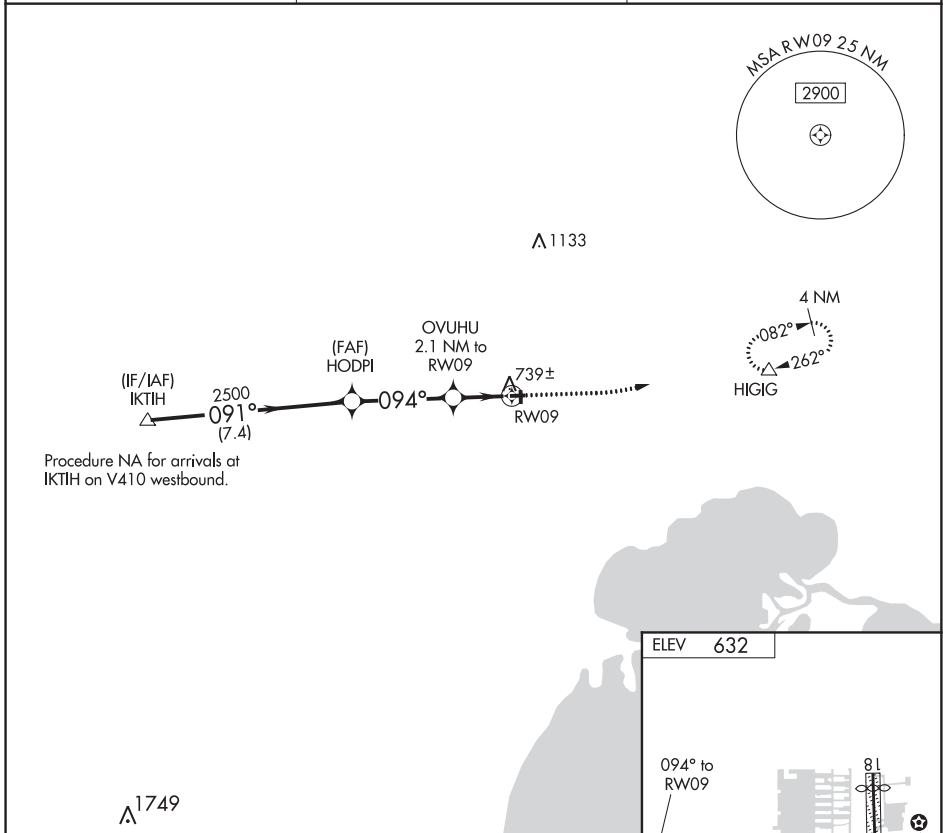
△ NA

MISSED APPROACH: Climb to 2000 then climbing left turn to 4000 direct HIGIG and hold, continue climb-in-hold to 4000.

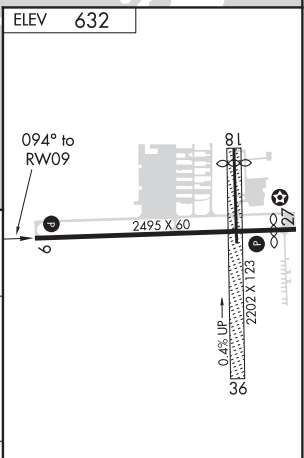
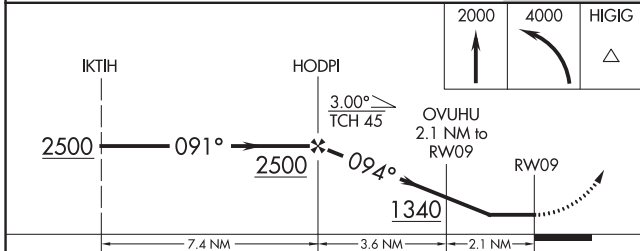
OAKLAND/TROY AWOS-3
119.475

SELFDRIDGE APP CON
119.6 391.9

UNICOM
122.7 (CTAF) 0



Procedure NA for arrivals at IKTIH on V410 westbound.



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|----|---|
| C CIRCLING | 1100-1 468 (500-1) | 1220-1 588 (600-1) | NA | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

ROGERS CITY, MICHIGAN

AL-6561 (FAA)

15120

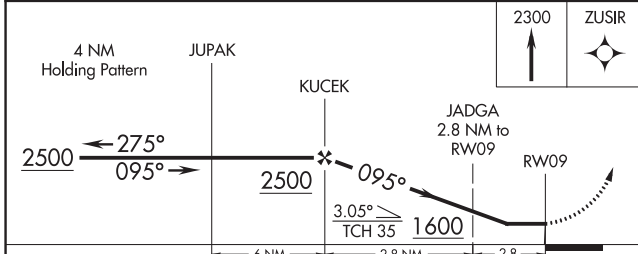
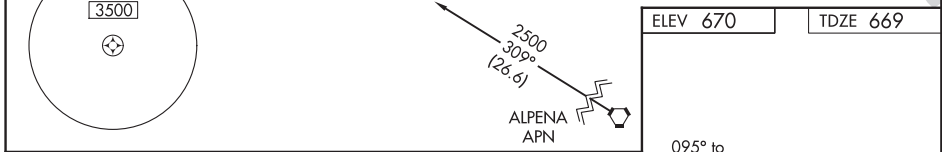
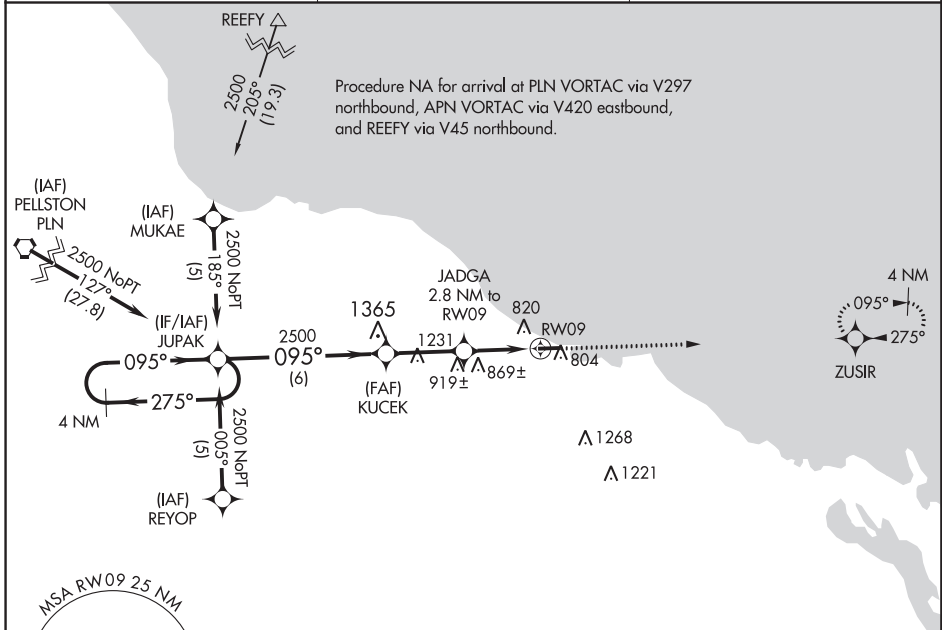
| | | |
|------------------------|-----------------------------|---|
| APP CRS 095° | Rwy Idg TDZE Apt Elev | 3886 669 670 |
|------------------------|-----------------------------|---|

RNAV (GPS) RWY 9

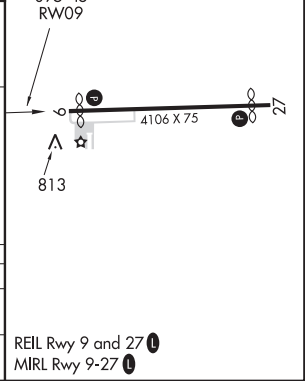
PRESQUE ISLE COUNTY (PZQ)

▽ DME/DME RNP-0.3 NA. If local altimeter setting not received, use Alpena County Rgnl altimeter setting and increase all MDAs 60 feet. When VGSI inop, straight-in/circling Rwy 9 NA at night.
▲ NA MISSED APPROACH: Climb to 2300 direct ZUSIR and hold.

| | | |
|--------------------------|--|------------------------|
| AWOS-3 118.125 | ALPENA APP CON ★ 128.425 379.3 | CTAF 122.9 0 |
|--------------------------|--|------------------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|----|
| LNVA MDA | 1120-1 | 451 (500-1) | 1120-1¼ 451 (500-1¼) | NA |
| CIRCLING | 1200-1 530 (600-1) | 1220-1 550 (600-1) | 1220-1½ 550 (600-1½) | NA |



ROGERS CITY, MICHIGAN
Orig 01SEP05

45°24'N-83°49'W

PRESQUE ISLE COUNTY (PZQ)
RNAV (GPS) RWY 9

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|------------------------|
| APP CRS 275° | Rwy Idg 327Z |
| | TDZE 670 |
| | Apt Elev 670 |

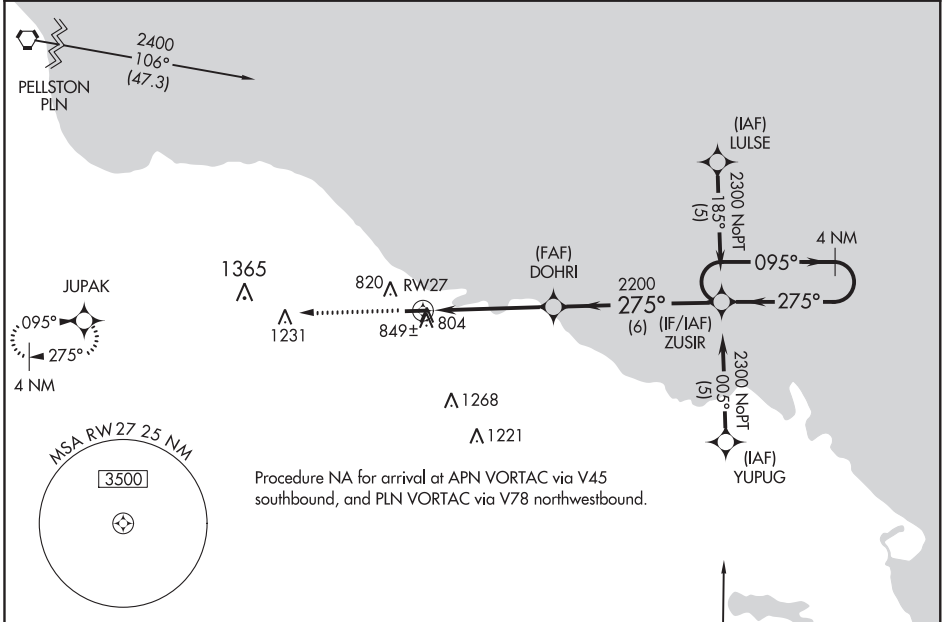
RNAV (GPS) RWY 27

PRESQUE ISLE COUNTY (PZQ)

⚠ DME/DME RNP-0.3 NA. Circling NA at night to Rwy 9.
⚠ NA If local altimeter setting not received, use Alpena County Rgnl altimeter setting and increase all MDAs 60 feet.
 VDP NA with Alpena County Rgnl altimeter setting.

MISSED APPROACH: Climb to 2500 direct JUPAK and hold.

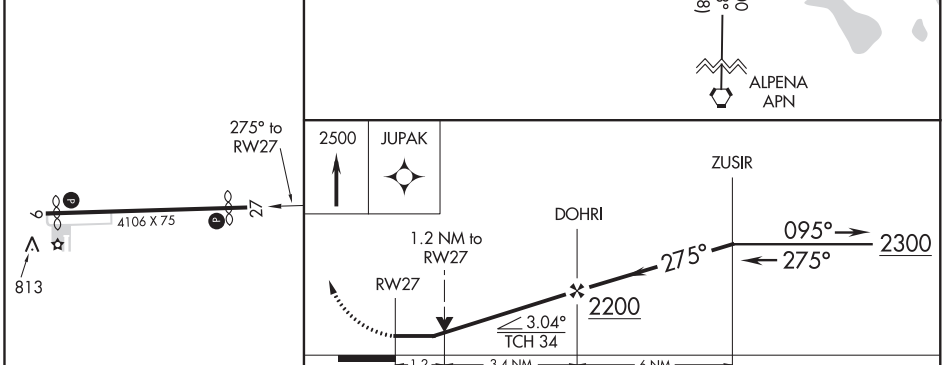
| | | |
|--------------------------|--|----------------------|
| AWOS-3 118.125 | ALPENA APP CON ★ 128.425 379.3 | CTAF 122.9 |
|--------------------------|--|----------------------|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 670 | TDZE 670 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|----|
| RNAV MDA | 1100-1 | 430 (500-1) | 1100-1¼ 430 (500-1¼) | NA |
| CIRCLING | 1200-1 530 (600-1) | 1220-1 550 (600-1) | 1220-1½ 550 (600-1½) | NA |

ROMEO, MICHIGAN

AL-6112 (FAA)

15092

| | | |
|------------------------|-----------------------------|---|
| APP CRS 184° | Rwy Idg TDZE Apt Elev | 3530 739 739 |
|------------------------|-----------------------------|---|

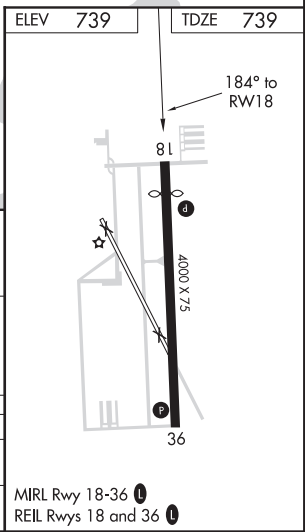
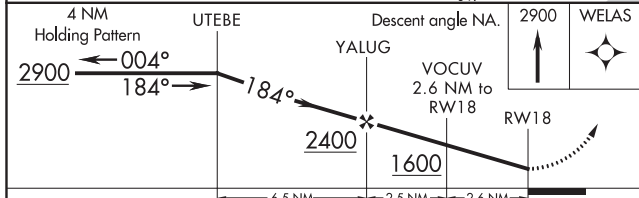
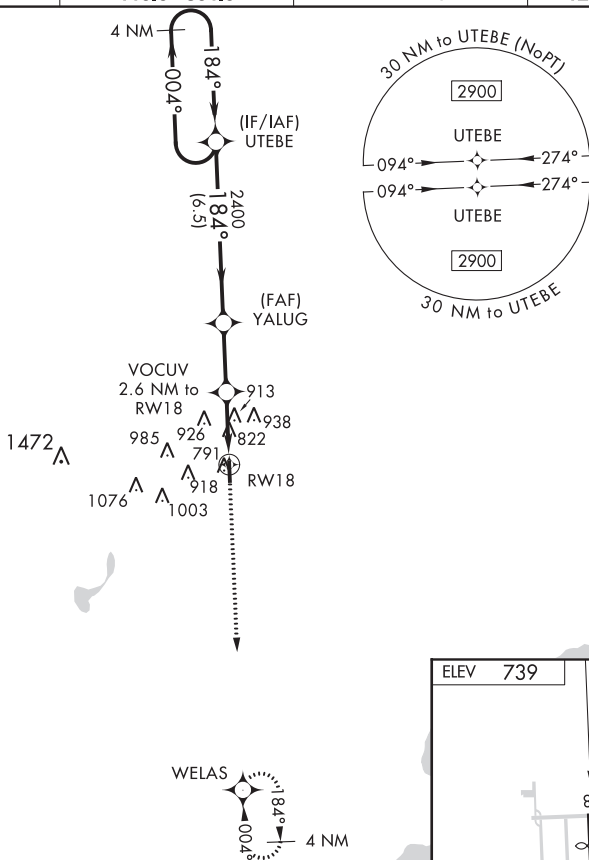
RNAV (GPS) RWY 18

ROMEO STATE (D98)

NA Use Coleman A Young Muni altimeter setting; when not received, use Pontiac altimeter setting and increase all MDA 20 feet and LNAV visibility Cats C and D 1/8 mile and Circling visibility Cat C 1/4 mile. DME/DME RNP-0.3 NA. Procedure NA at night. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 2900 direct WELAS and hold.

| | | | |
|---|---|-----------------------|-------------------------------|
| COLEMAN A YOUNG MUNI ASOS 124.875 | SELFRIDGE APP CON ★ 119.6 391.9 | GCO 121.725 | UNICOM 122.8 (CTAF) |
|---|---|-----------------------|-------------------------------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------------|-------------------------------|
| LNAV MDA | 1240-1 | 501 (600-1) | 1240-1 3/8 | 501 (600-1 3/8) |
| CIRCLING | 1300-1 561 (600-1) | 1320-1 581 (600-1) | 1320-1 1/2 581 (600-1 1/2) | 1420-2 1/4 681 (700-2 1/4) |

ROMEO, MICHIGAN
Amdt 1A 02APR15

42°48'N-82°58'W

RNAV (GPS) RWY 18

ROMEO STATE (D98)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|------------------------|
| APP CRS 004° | Rwy Idg 4000 |
| | TDZE 736 |
| | Apt Elev 739 |

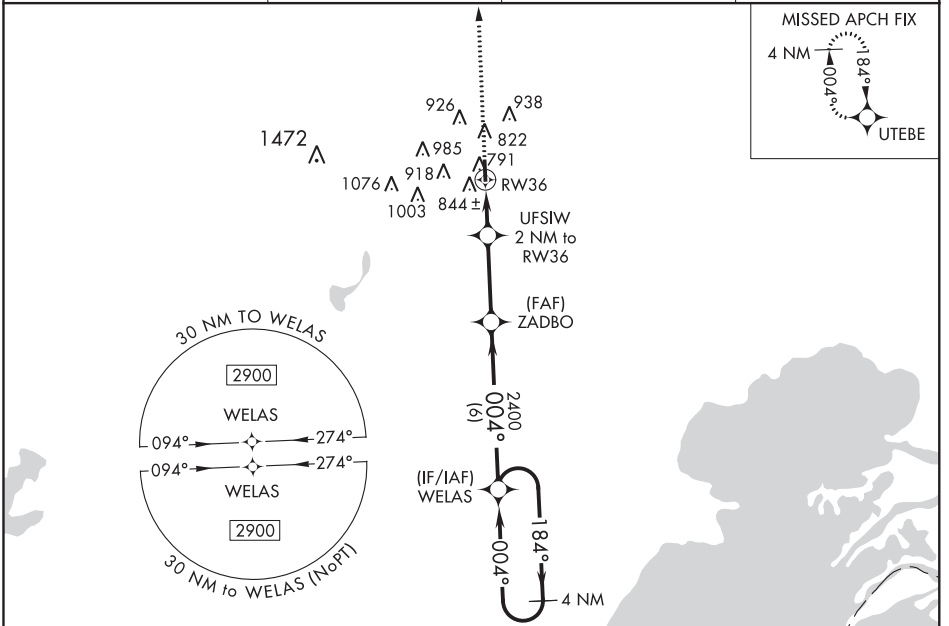
RNAV (GPS) RWY 36

ROMEO STATE (D98)

NA Use Coleman A Young Muni altimeter setting; when not received, use Pontiac altimeter setting and increase all MDA 20 feet and Circling visibility Cat C ¼ mile. Procedure NA at night. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 2900 direct UTEBE and hold.

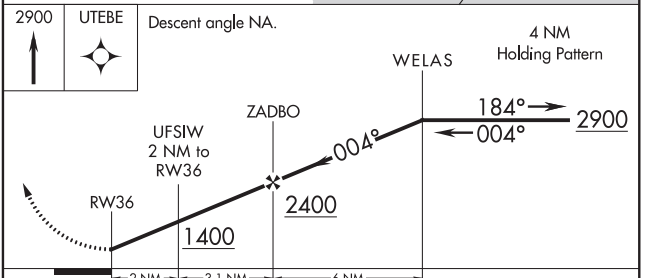
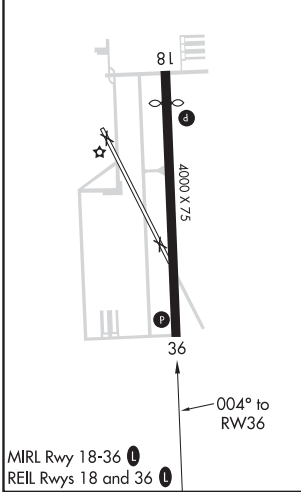
| | | | |
|---|---|-----------------------|--|
| COLEMAN A YOUNG MUNI ASOS 124.875 | SELFRIDGE APP CON ★ 119.6 391.9 | GCO 121.725 | UNICOM 122.8 (CTAF) U |
|---|---|-----------------------|--|



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 739 | TDZE 736 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|-------------------------|-------------------------|
| INAV MDA | 1180-1 | 444 (500-1) | 1180-1½ | 444 (500-1½) |
| CIRCLING | 1300-1 561 (600-1) | 1320-1 581 (600-1) | 1380-1½ 641 (700-1½) | 1420-2¼ 681 (700-2¼) |

ILS or LOC RWY 5

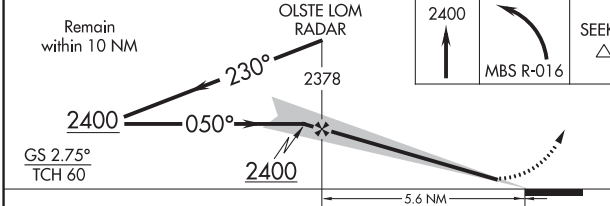
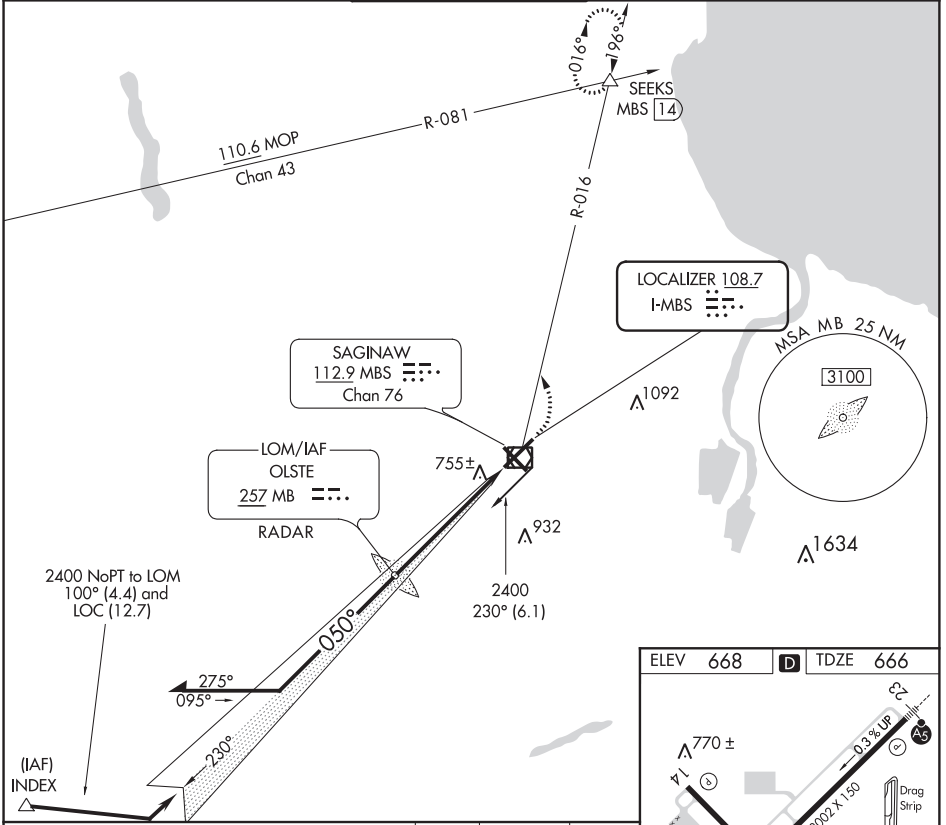
MBS INTL (MBS)

| | | | |
|---------------------------|------------------------|------------------------|--------------------|
| LOC I-MBS 108.7 | APP CRS 050° | Rwy Idg 8002 | TDZE 666 |
| | | Apt Elev 668 | |

⚠ Cat D S-LOC visibility increased to RVR 5000 for inoperative MM. When control tower closed, activate MALSR Rwy 23 and SSALR Rwy 5 - CTAF. *RVR 1800 authorized with the use of FD or AP or HUD to DA.

MALSR MISSED APPROACH: Climb to 2400 then left turn via MBS R-016 to SEKS Int/14 DME and hold.

| | | | | | |
|------------------------|--|--|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON* 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER* 120.1 (CTAF) 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|--|--|-------------------------|---------------------------|-------------------------|



| | | | | |
|----------|-----------------------|-----------------------|-------------------------------|--------------------------|
| CATEGORY | A | B | C | D |
| S-ILS 5 | | *866/24 | 200 (200-1/2) | |
| S-LOC 5 | 1060/24 | 394 (400-1/2) | | 1060/40 394 (400-3/4) |
| CIRCLING | 1100-1 432 (500-1) | 1120-1 452 (500-1) | 1120-1 1/2 452 (500-1 1/2) | 1220-2 552 (600-2) |

| | | | | |
|-------------------------|------|------|------|------|
| REIL Rws 14 and 32 | | | | |
| HIRL Rws 5-23 and 14-32 | | | | |
| FAF to MAP 5.6 NM | | | | |
| Knots | 60 | 90 | 120 | 150 |
| Min:Sec | 5:36 | 3:44 | 2:48 | 2:14 |
| | | | 1:52 | |

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---------------------------|------------------------|-----------------|-------------|
| LOC I-TQR 108.7 | APP CRS 230° | Rwy Idg 8002 | TDZE 661 |
| | | Apt Elev 668 | |

ILS or LOC RWY 23

MBS INTL (MBS)

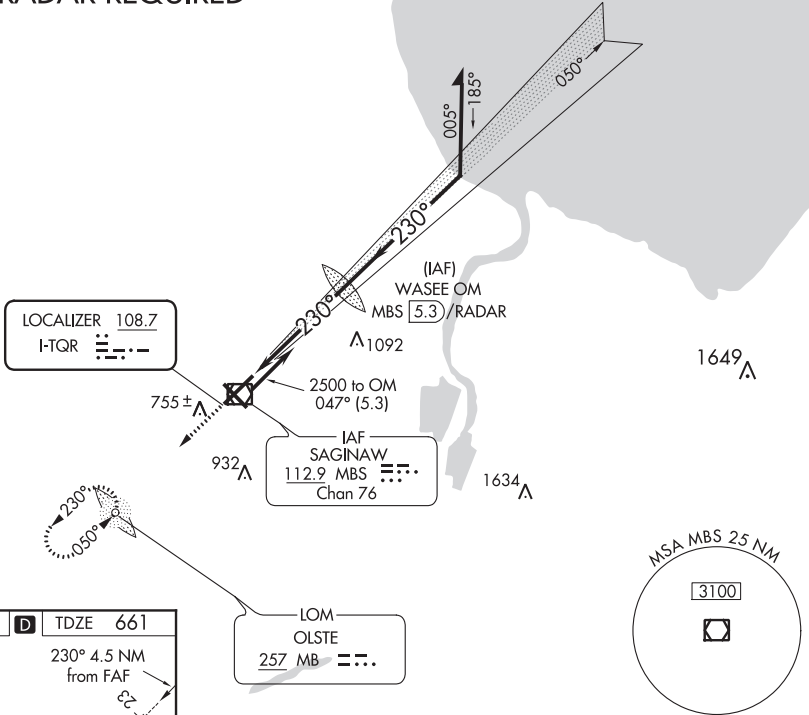
⚠ *RVR 1800 authorized with the use of FD or AP or HUD to DA. ADF REQUIRED.

MALSR 

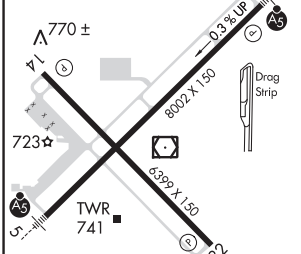
MISSED APPROACH: Climb to 2500 direct OLSTE LOM and hold.

| | | | | | |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON * 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER * 120.1 (CTAF) 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|

DME or RADAR REQUIRED



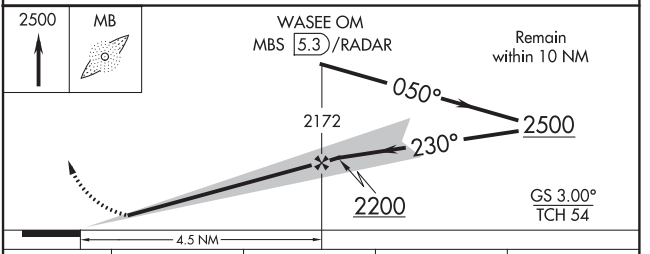
| | | |
|----------------------|----------|----------|
| ELEV 668 | D | TDZE 661 |
| 230° 4.5 NM from FAF | | |



REIL Rwy 14 and 32
HIRL Rwy 5-23 and 14-32

FAF to MAP 4.5 NM

| | | | | | |
|---------|------|------|------|------|------|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:30 | 3:00 | 2:15 | 1:48 | 1:30 |



| | | | | |
|----------|-----------------------|-----------------------|-------------------------------|-----------------------|
| CATEGORY | A | B | C | D |
| S-ILS 23 | *861/24 200 (200-1/2) | | | |
| S-LOC 23 | 1060/24 399 (400-1/2) | | | 1060/40 399 (400-3/4) |
| CIRCLING | 1100-1 432 (500-1) | 1120-1 452 (500-1) | 1120-1 1/2 452 (500-1 1/2) | 1220-2 552 (600-2) |

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EC-1, 10 NOV 2016 to 05 JAN 2017

SAGINAW, MICHIGAN

AL-648 (FAA)

16203

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 82010 W05A | APP CRS 050° | Rwy Idg TDZE Apt Elev | 8002 666 668 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 5

MBS INTL (MBS)

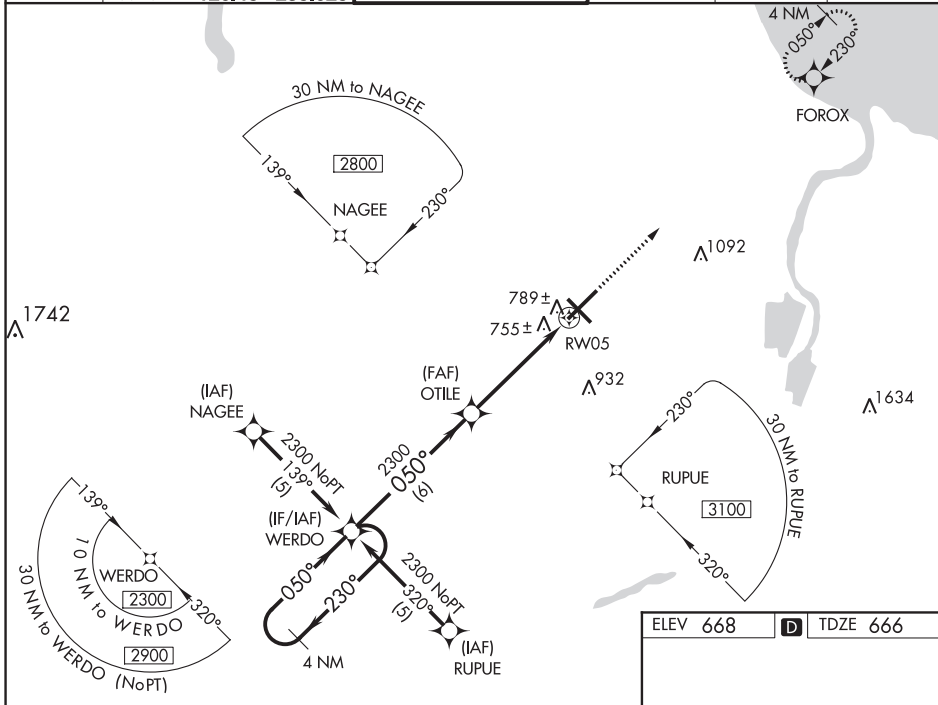
⚠ When local altimeter setting not received, use Saginaw County H W Browne altimeter setting and increase all DA 36 feet and all MDA 40 feet, increase LNAV/VNAV all Cats visibility to RVR 5000. For inoperative MALSR, increase LNAV Cat D visibility to RVR 6000. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Baro-VNAV and VDP NA when using Saginaw County H W Browne altimeter setting.

MALSR



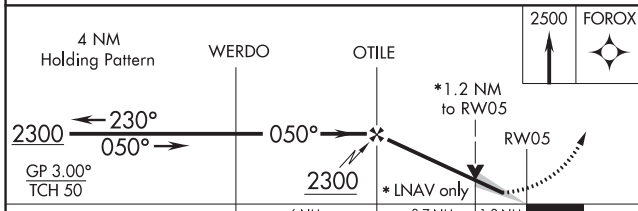
MISSED APPROACH:
Climb to 2500 direct FOROX and hold.

| | | | | | |
|------------------------|--|---|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON* 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER* 120.1(CTAF) 0 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|--|---|-------------------------|---------------------------|-------------------------|

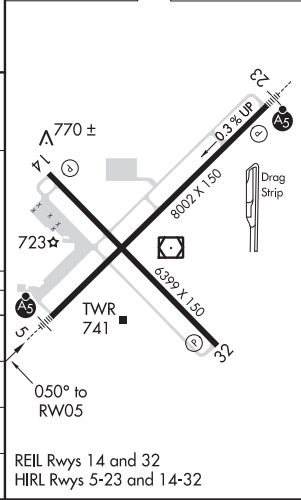


EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017



| | |
|----------|-------------------|
| ELEV 668 | D TDZE 666 |
|----------|-------------------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------|------------------------|
| LPV DA | | 866/24 | 200 (200-½) | |
| LNAV/VNAV DA | | 1059/40 | 393 (400-¾) | |
| LNAV MDA | 1080/24 | 414 (500-½) | 1080/40 414 (500-¾) | 1080/50 414 (500-1) |
| CIRCLING | 1100-1 432 (500-1) | 1120-1 452 (500-1) | 1120-1½ 452 (500-1½) | 1220-2 552 (600-2) |

SAGINAW, MICHIGAN
Amdt 1 15JAN09

43°32'N - 84°05'W

RNAV (GPS) RWY 5

MBS INTL (MBS)

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 69211 W14A | APP CRS 140° | Rwy Idg TDZE Apt Elev | 6399 668 668 |
|--|------------------------|-----------------------------|---|

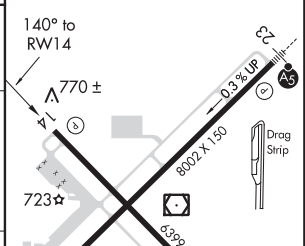
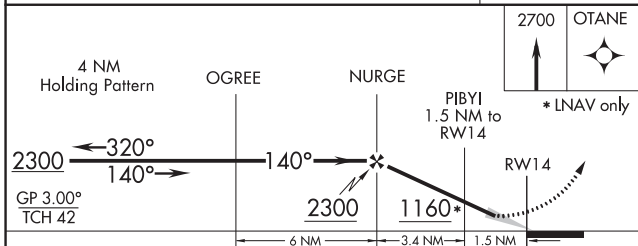
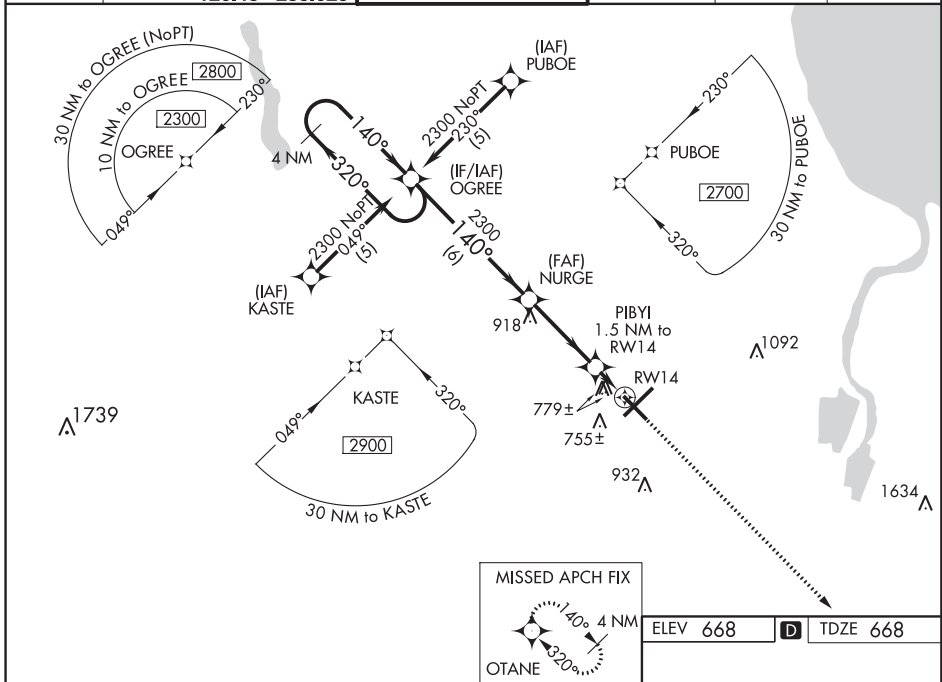
RNAV (GPS) RWY 14

MBS INTL (MBS)

⚠ Baro-VNAV NA when using Saginaw County H W Browne altimeter setting.
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C (4°F) or above 47°C (116°F). When local altimeter setting not received, use Saginaw County H W Browne altimeter setting and increase all DA 36 feet and all MDA 40 feet, increase LNAV Cat. C visibility ¼ mile. DME/DME RNP -0.3 NA.

MISSED APPROACH: Climb to 2700 direct OTANE and hold.

| | | | | | |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON * 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER * 120.1 (CTAF) 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-----------------------|-------------------------|-------------------------|
| LPV DA | | 1004-1¼ | 336 (400-1¼) | |
| LNAV/VNAV DA | | 1079-1½ | 411 (500-1½) | |
| LNAV MDA | 1040-1 | 372 (400-1) | | 1040-1¼ 372 (400-1¼) |
| CIRCLING | 1100-1 432 (500-1) | 1120-1 452 (500-1) | 1120-1½ 452 (500-1½) | 1220-2 552 (600-2) |

REIL Rwy 14 and 32
 HIRL Rwy 5-23 and 14-32

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EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 78011 W32A | APP CRS 320° | Rwy Idg TDZE Apt Elev | 6399 665 668 |
|--|------------------------|-----------------------------|---|

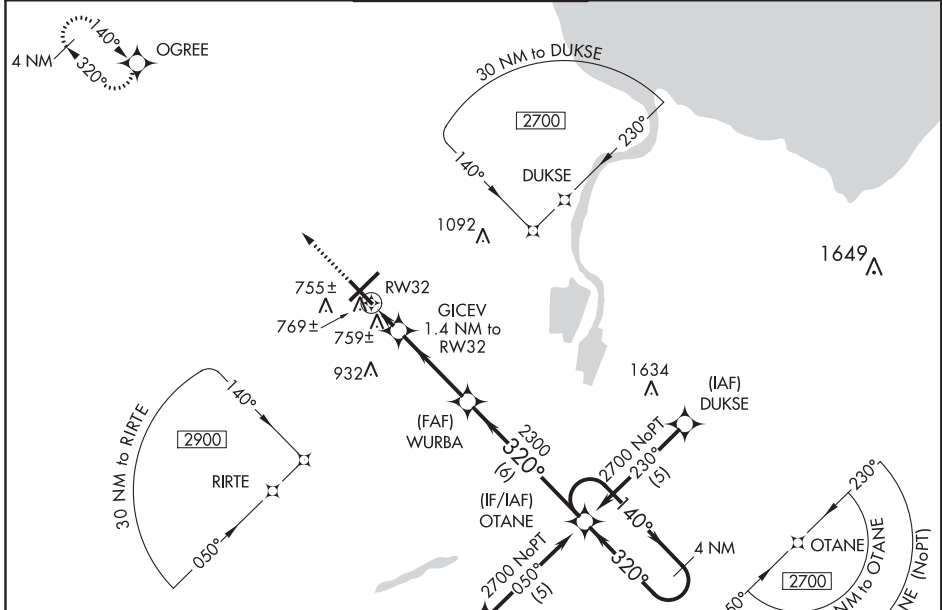
RNAV (GPS) RWY 32

MBS INTL (MBS)

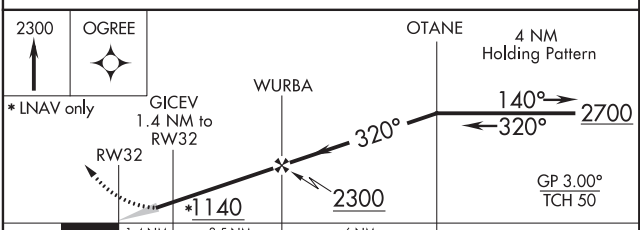
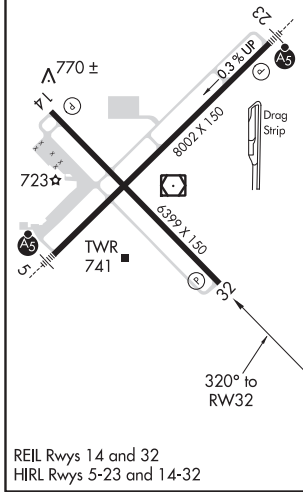
⚠ Baro-Vnav NA when using Saginaw County H W Browne altimeter setting. For uncompensated Baro-Vnav systems, LNAV/VNAV NA below -16°C (4°F) or above 47° (116°F). When local altimeter setting not received, use Saginaw County H W Browne altimeter setting and increase all DA 36 feet and all MDA 40 feet, increase LPV all Cats visibility and LNAV Cat C visibility ¼ mile. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2300 direct OGREE and hold.

| | | | | | |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON * 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER * 120.1(CTAF) 0 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|



| | |
|----------|-------------------|
| ELEV 668 | D TDZE 665 |
|----------|-------------------|



| CATEGORY | A | B | C | D |
|--------------|----------------------|--------------------|----------------------|----------------------|
| LPV DA | 964-1 299 (300-1) | | | |
| LNAV/VNAV DA | 1057-1½ 392 (400-1½) | | | |
| LNAV MDA | 1040-1 375 (400-1) | | | 1040-1½ 375 (400-1½) |
| CIRCLING | 1100-1 432 (500-1) | 1120-1 452 (500-1) | 1120-1½ 452 (500-1½) | 1220-2 552 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAGINAW, MICHIGAN

AL-648 (FAA)

16203

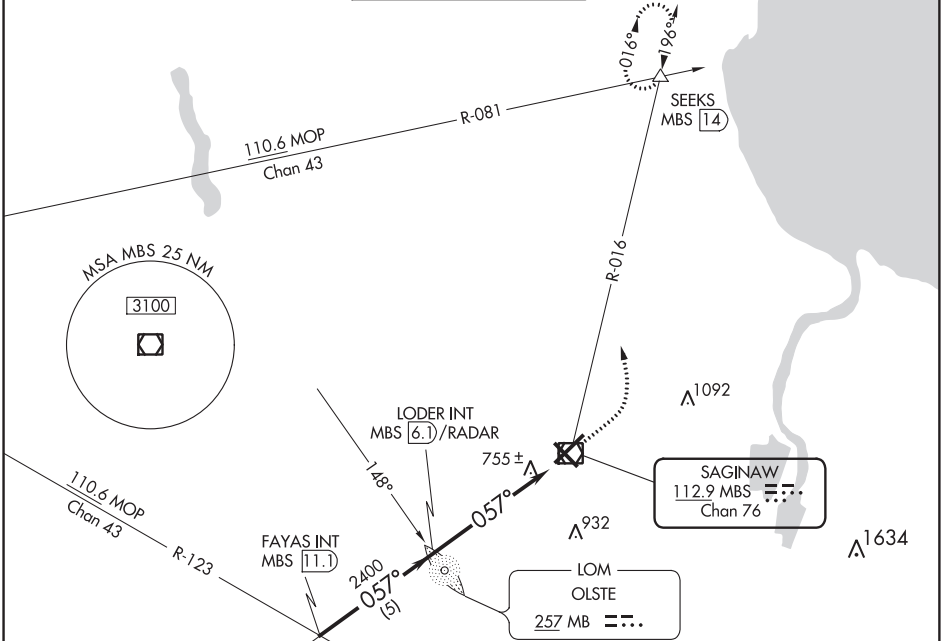
| | | | |
|--|------------------------|-----------------|-------------|
| VOR/DME MBS 112.9 Chan 76 | APP CRS 057° | Rwy Idg 8002 | TDZE 666 |
| | | Apt Elev 668 | |

VOR RWY 5

MBS INTL (MBS)

| | | | |
|--|--|--|---|
| | Category D S-5 visibility increased to RVR 6000 for inoperative SSALR. | | MISSED APPROACH: Climb to 2400 then left turn via MBS R-016 to Seeks Int/14 DME and hold. |
|--|--|--|---|

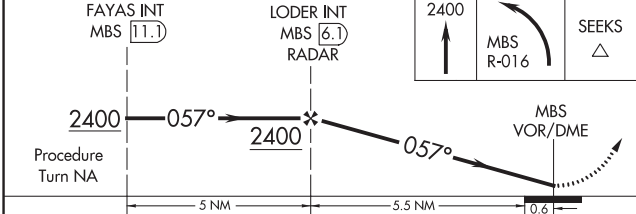
| | | | | | |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON ★ 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER ★ 120.1 (CTAF) 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|



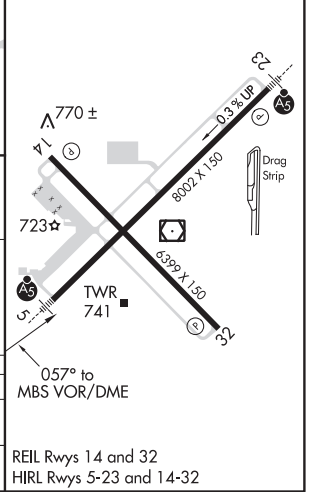
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|----------|--|----------|
| ELEV 668 | | TDZE 666 |
|----------|--|----------|



| | | | | |
|----------|-----------------------|-----------------------|-------------------------------|------------------------|
| CATEGORY | A | B | C | D |
| S-5 | 1060/24 | 394 (400-1/2) | | 1060/50 394 (400-1) |
| CIRCLING | 1100-1 432 (500-1) | 1120-1 452 (500-1) | 1120-1 1/2 452 (500-1 1/2) | 1220-2 552 (600-2) |



SAGINAW, MICHIGAN
Amdt 14A 12JAN01

43°32'N - 84°05'W

MBS INTL (MBS) VOR RWY 5

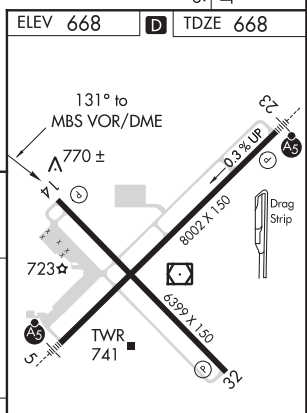
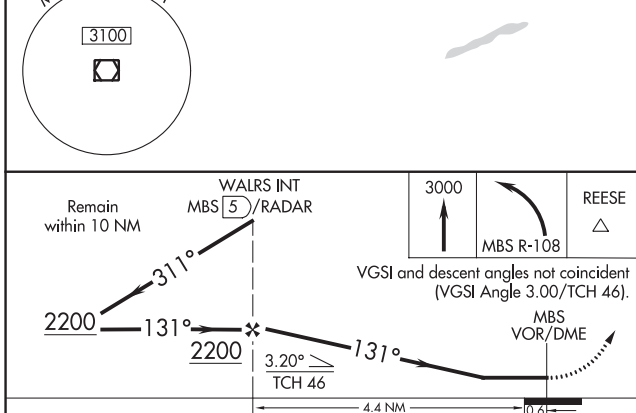
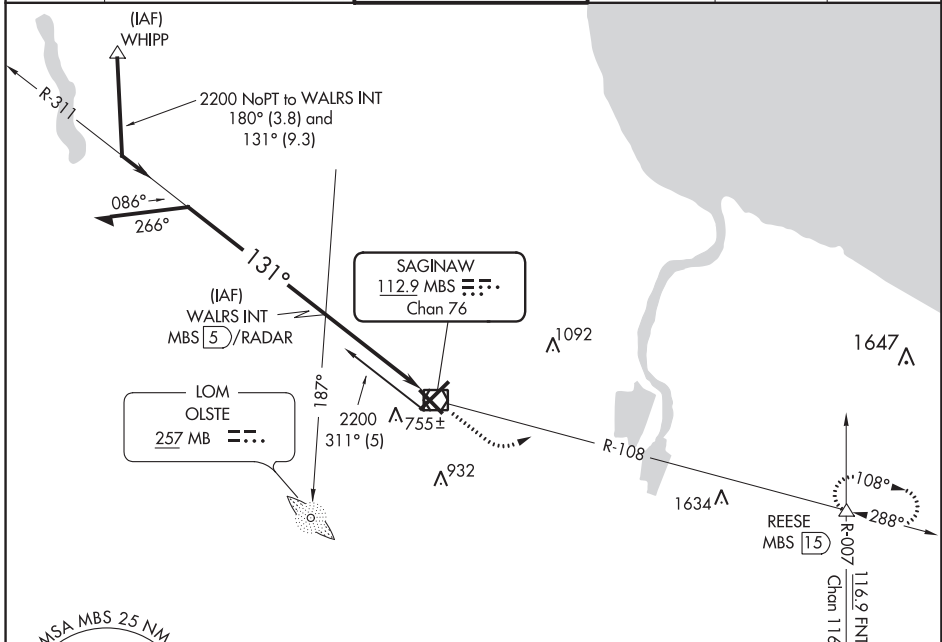
| | | | |
|--|------------------------|-----------------------------|---|
| VOR/DME MBS 112.9 Chan 76 | APP CRS 131° | Rwy Idg TDZE Apt Elev | 6399 668 668 |
|--|------------------------|-----------------------------|---|

VOR RWY 14

MBS INTL (MBS)

⚠ DME, ADF, or Radar Required. MISSED APPROACH: Climb to 3000 then left turn via MBS R-108 to REESE Int/15 DME and hold.

| | | | | | |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON ★ 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER ★ 120.1 (CTAF) 0 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|----------|--------------------|--------------------|----------------------|----------------------|
| S-14 | | 1040-1 372 (400-1) | | 1040-1¼ 372 (400-1¼) |
| CIRCLING | 1100-1 432 (500-1) | 1120-1 452 (500-1) | 1120-1½ 452 (500-1½) | 1220-2 552 (600-2) |

REIL Rwy 14 and 32
HIRL Rwy 5-23 and 14-32

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAGINAW, MICHIGAN

AL-648 (FAA)

16203

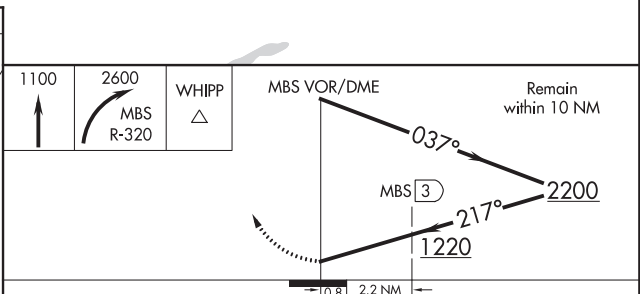
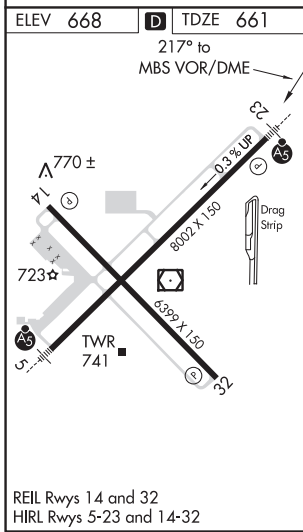
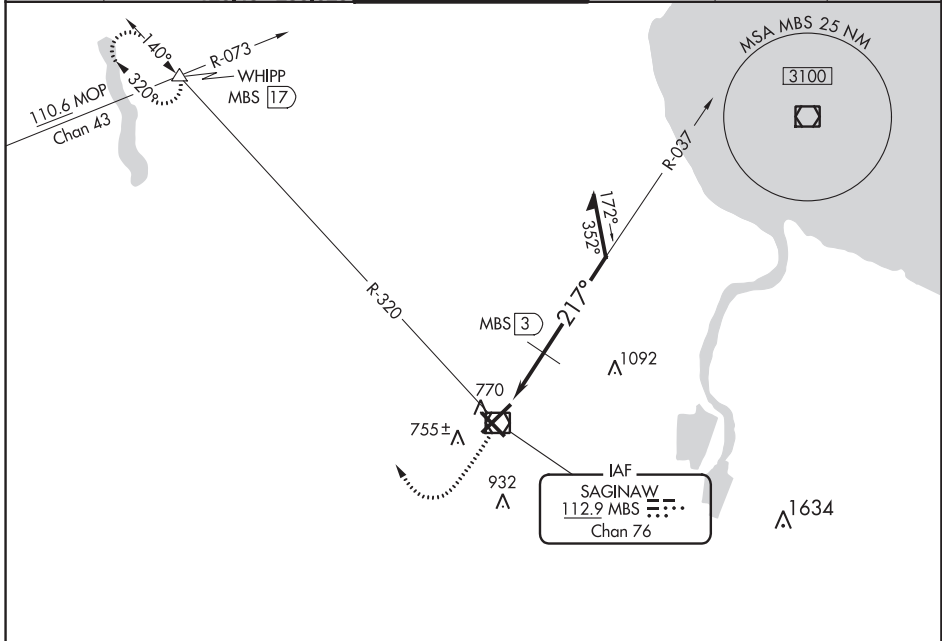
| | | |
|--|------------------------|--|
| VOR/DME MBS 112.9 Chan 76 | APP CRS 217° | Rwy Idg TDZE Apt Elev 8002 661 668 |
|--|------------------------|--|

VOR RWY 23

MBS INTL (MBS)

| | | | | | |
|--|-------|---|---|---|-------------------------|
| Cat D S-23 DME minimums visibility increased ¼ mile for inoperative MALSR. | MALSR | MISSED APPROACH: Climb to 1100 then climbing right turn to 2600 via MBS R-320 to WHIPP Int/17 DME and hold. | | | |
| | | ATIS 125.925 | SAGINAW APP CON ★ 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER ★ 120.1(CTAF) 257.7 | GND CON 121.7 |

| | | | | | |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON ★ 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER ★ 120.1(CTAF) 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|------------|-----------------------|-----------------------|-------------------------|-------------------------|
| S- 23 | 1220-½ | 559 (600-½) | 1220-1 559 (600-1) | 1220-1¼ 559 (600-1¼) |
| CIRCLING | 1220-1 | 552 (600-1) | 1220-1½ 552 (600-1½) | 1220-2 552 (600-2) |
| DME MINIMA | | | | |
| S- 23 | 1020-½ 359 (400-½) | | 1020-1 359 (400-1) | |
| CIRCLING | 1100-1 432 (500-1) | 1120-1 452 (500-1) | 1120-1½ 452 (500-1½) | 1220-2 552 (600-2) |

SAGINAW, MICHIGAN
Amdt 14A 12JUL01

43°32'N - 84°05'W

MBS INTL (MBS) VOR RWY 23

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

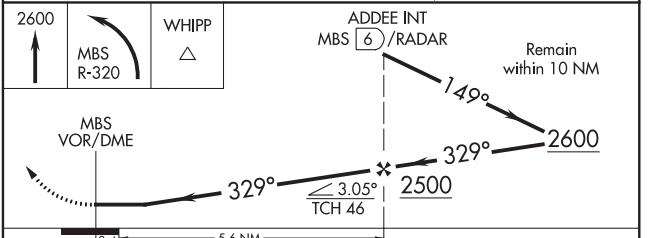
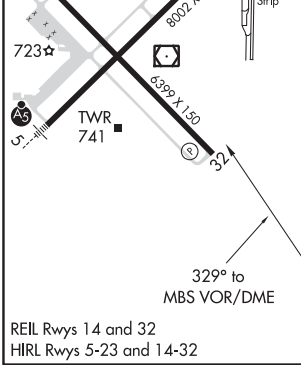
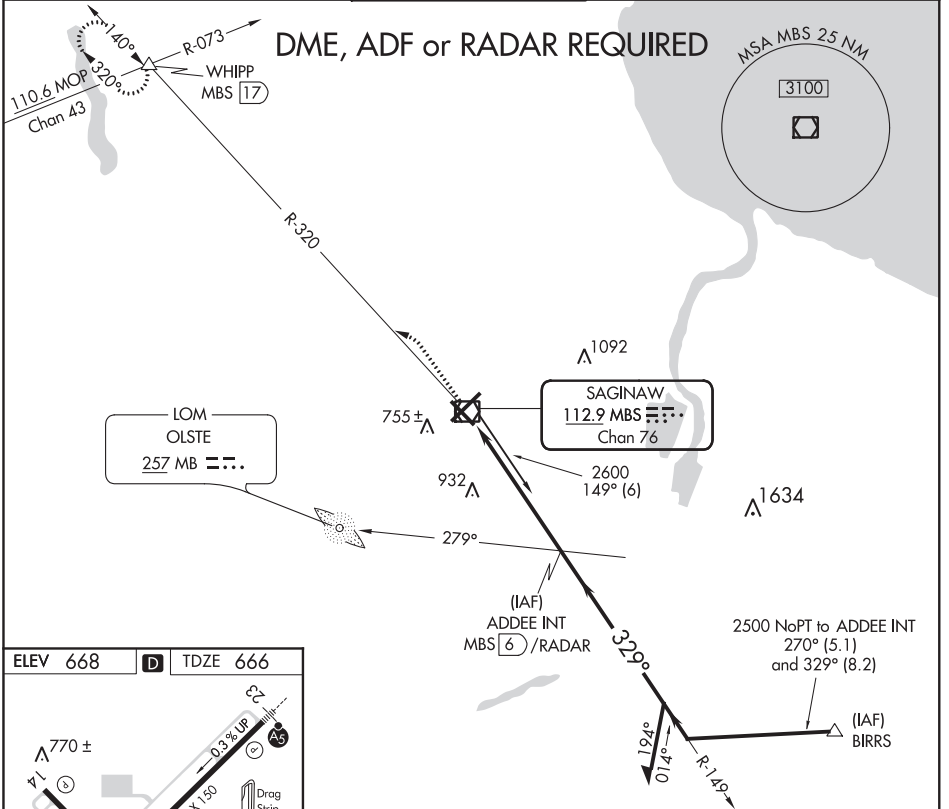
| | | |
|--|------------------------|--|
| VOR/DME MBS 112.9 Chan 76 | APP CRS 329° | Rwy Idg TDZE Apt Elev 6399 666 668 |
|--|------------------------|--|

VOR RWY 32

MBS INTL (MBS)

⚠ MISSED APPROACH: Climb to 2600 then left turn via MBS R-320 to WHIPP Int/17 DME and hold.

| | | | | | |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|
| ATIS 125.925 | SAGINAW APP CON ★ 050°-229° 120.95 235.625 230°-049° 126.45 235.625 | SAGINAW TOWER ★ 120.1 (CTAF) 257.7 | GND CON 121.7 | CLNC DEL 121.85 | UNICOM 122.95 |
|------------------------|---|---|-------------------------|---------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|-------------------------|-------------------------|
| S-32 | 1200-1 534 (600-1) | | 1200-1½ 534 (600-1½) | 1200-1¾ 534 (600-1¾) |
| CIRCLING | 1200-1 532 (600-1) | | 1200-1½ 532 (600-1½) | 1220-2 552 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

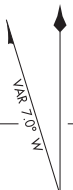
AIRPORT DIAGRAM

AL-648 (FAA)

MBS INTL (MBS)
SAGINAW, MICHIGAN

ATIS
125.925
SAGINAW TOWER ★
120.1 257.7
GND CON
121.7
CLNC DEL
121.85

D



JANUARY 2015
ANNUAL RATE OF CHANGE
0.0° W

43°32.5'N

ELEV 650

FIELD
ELEV
668

TERMINAL



DRAG STRIP

43°32.0'N

FIRE STATION

FBO

GENERAL
AVIATION
PARKING

ELEV
665

TWR
741

ELEV
659

43°31.5'N

RWY 05-23
PCN 50 F/C/X/U
S-135, D-160, 2S-175, 2D-265
RWY 14-32
PCN 50 F/C/X/U
S-135, D-160, 2S-175, 2D-265

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

84°05.5'W

84°05.0'W

84°04.5'W

84°04.0'W

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

15288

SAGINAW, MICHIGAN
MBS INTL (MBS)

| | | |
|--|------------------------|---|
| LOC/DME I-HQW 111.35 Chan 50 (Y) | APP CRS 274° | Rwy Idg 5002 TDZE 600 Apt Elev 601 |
|--|------------------------|---|

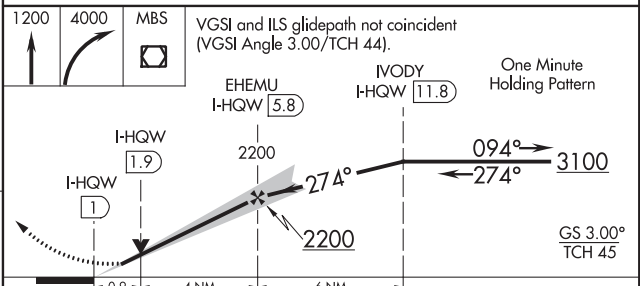
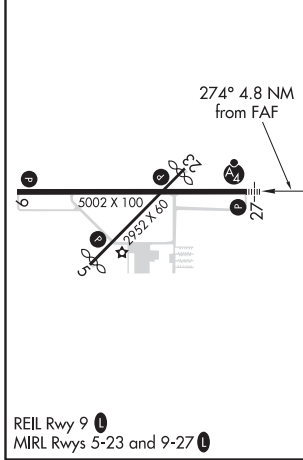
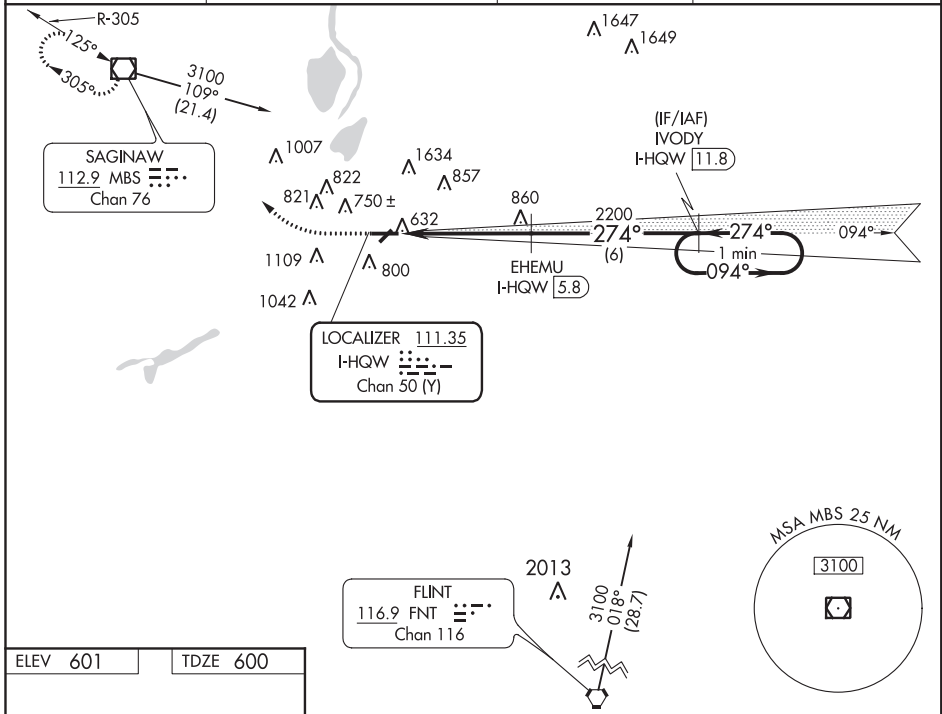
ILS or LOC/DME RWY 27

SAGINAW COUNTY H W BROWNE (HYX)

⚠ When local altimeter setting not received, use Saginaw MBS Intl altimeter setting and increase all DA 36 feet, increase all MDA 40 feet. VDP NA when using MBS Intl altimeter setting. Circling to ASR Rwy 5/23 NA at night.

MALSF MISSED APPROACH: Climb to 1200 then climbing right turn to 4000 direct MBS VOR/DME and hold, continue climb-in-hold to 4000.

| | | | |
|--------------------------|--|-----------------------|--|
| AWOS-3 118.325 | SAGINAW APP CON * 120.95 235.625 | GCO 121.725 | UNICOM 122.8 (CTAF) Ⓛ |
|--------------------------|--|-----------------------|--|



| CATEGORY | A | B | C | D |
|----------|----------------------------------|---|--|----|
| S-ILS 27 | 800- ³ / ₄ | 200 (200- ³ / ₄) | | NA |
| S-LOC 27 | 900- ³ / ₄ | 300 (300- ³ / ₄) | | NA |
| CIRCLING | 1100-1 | 499 (500-1) | 1100-1 ¹ / ₂ 499 (500-1 ¹ / ₂) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAGINAW, MICHIGAN

AL-6474 (FAA)

16091

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 50200 W09A | APP CRS 094° | Rwy Idg TDZE Apt Elev | 5002 600 601 |
|--|------------------------|-----------------------------|---|

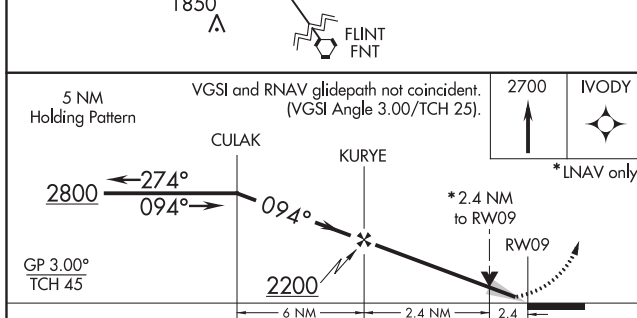
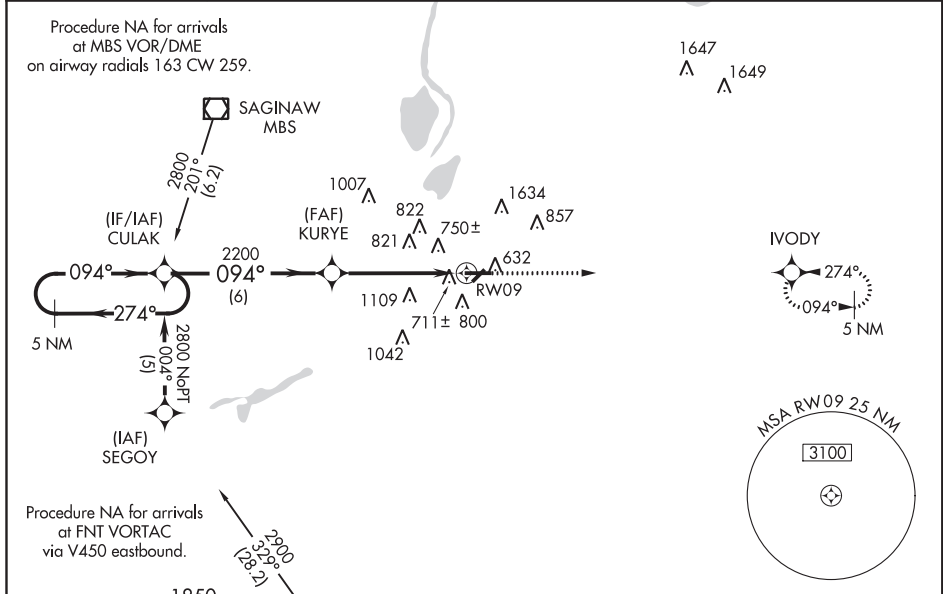
RNAV (GPS) RWY 9

SAGINAW COUNTY H W BROWNE (HYX)

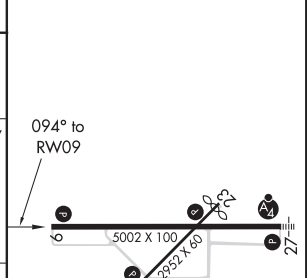
⚠ Circling to Rwy 5/23 NA at night. When local altimeter setting not received, use Saginaw MBS Intl altimeter setting and increase all DA 36 feet, increase LPV and LNAV/VNAV all Cats visibility ¼ mile, increase all MDA 40 feet, increase LNAV visibility Cat C ¼ mile and Circling visibility Cat C ¼ mile. VDP and Baro-VNAV NA when using Saginaw MBS Intl altimeter setting. For uncompensated Baro-VNAV system, procedure NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA.

⚠ MISSED APPROACH: Climb to 2700 direct IVODY and hold.

| | | | |
|--------------------------|--|-----------------------|--|
| AWOS-3 118.325 | SAGINAW APP CON * 120.95 235.625 | GCO 121.725 | UNICOM 122.8 (CTAF) Ⓛ |
|--------------------------|--|-----------------------|--|



| | |
|----------|----------|
| ELEV 601 | TDZE 600 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|-----------------------|-------------------------------|-------------------------------|----|
| LPV DA | 850-3/4 | 250 (300-3/4) | | NA |
| LNAV/VNAV DA | 1095-1 3/4 | 495 (500-1 3/4) | | NA |
| LNAV MDA | 1380-1 780 (800-1) | 1380-1 1/4 780 (800-1 1/4) | 1380-2 1/4 780 (800-2 1/4) | NA |
| CIRCLING | 1380-1 779 (800-1) | 1380-1 1/4 779 (800-1 1/4) | 1380-2 1/4 779 (800-2 1/4) | NA |

REIL Rwy 9 **Ⓛ**
MIRL Rwy 5-23 and 9-27 **Ⓛ**

SAGINAW, MICHIGAN

SAGINAW COUNTY H W BROWNE (HYX)

Orig-B 27JUN13

43°26'N-83°52'W

RNAV (GPS) RWY 9

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 90200 W27A | APP CRS 274° | Rwy Idg TDZE Apt Elev | 5002 600 601 |
|--|------------------------|-----------------------------|---|

RNAV (GPS) RWY 27

SAGINAW COUNTY H W BROWNE (HYX)

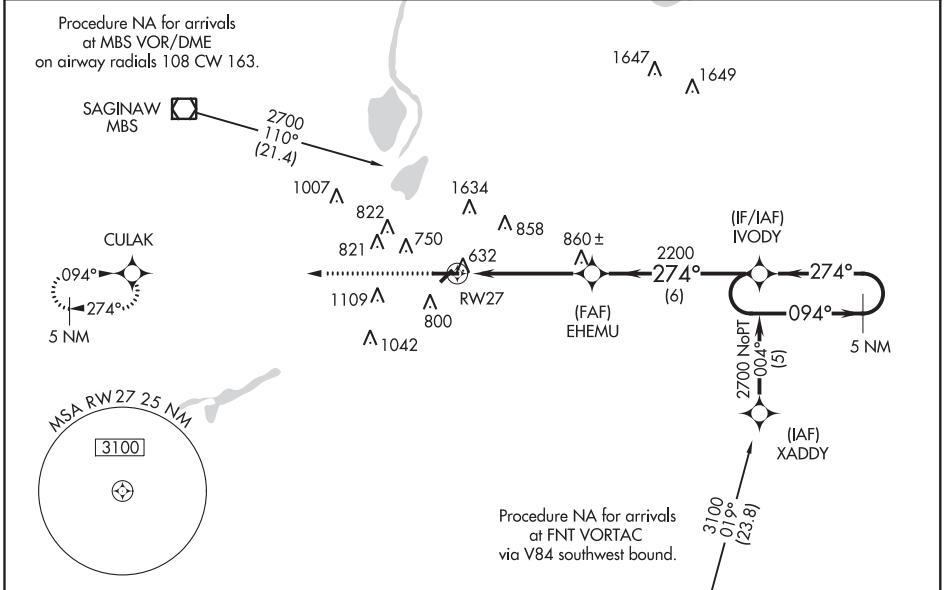
⚠ When local altimeter setting not received, use Saginaw MBS Intl altimeter setting and increase all DA 36 feet, increase LNAV/VNAV visibility ¼ mile all Cats; increase all MDA 40 feet. Baro-VNAV and VDP NA when using Saginaw MBS Intl altimeter setting. For uncompensated Baro-VNAV system, Procedure NA below -1.6°C (4°F) or above 54°C (130°F). Inop table does not apply to LNAV Cat C. When using Saginaw MBS Intl altimeter setting, inop table does not apply to LNAV/VNAV all Cats and LNAV Cat C. Circling to Rwy 5/23 NA at night.

MALSF

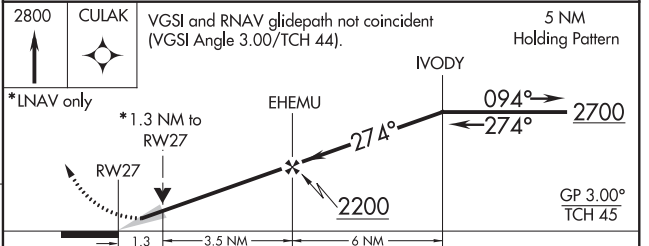
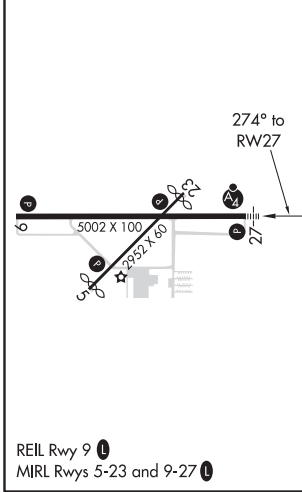


MISSED APPROACH:
Climb to 2800 direct
CULAK and hold.

| | | | |
|--------------------------|--|-----------------------|--|
| AWOS-3 118.325 | SAGINAW APP CON * 120.95 235.625 | GCO 121.725 | UNICOM 122.8 (CTAF) Ⓛ |
|--------------------------|--|-----------------------|--|



| | |
|----------|----------|
| ELEV 601 | TDZE 600 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------------------|---|----------------------|----|
| LPV DA | 850-¾ 250 (300-¾) | | | NA |
| LNAV/VNAV DA | 903-¾ 303 (400-¾) | | | NA |
| LNAV MDA | 1040-¾ 440 (500-¾) | | 1040-1¼ 440 (500-1¼) | |
| CIRCLING | 1100-1 499 (500-1) | | 1100-1½ 499 (500-1½) | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAGINAW, MICHIGAN

AL-6474 (FAA)

15288

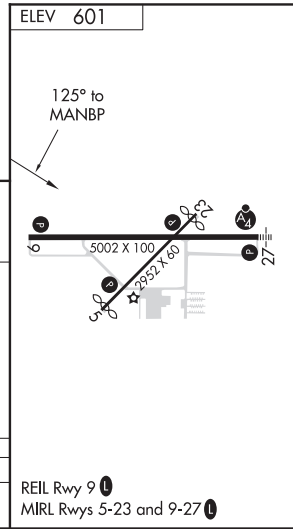
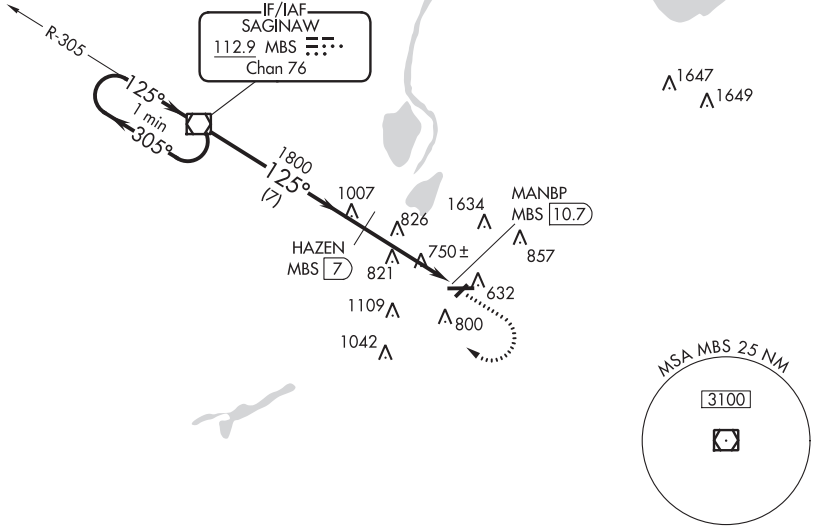
| | | | |
|---|------------------------|---|--|
| VOR/DME MBS 112.9 Chan 76 | APP CRS 125° | Rwy Idg TDZE Apt Elev 601 | N/A N/A 601 |
|---|------------------------|---|--|

VOR/DME-A

SAGINAW COUNTY H W BROWNE (HYX)

| | | | |
|---|--|---|--|
| <p>⚠ Circling to Rwy 5/23 NA at night. When local altimeter setting not received, use Saginaw MBS Intl altimeter setting and increase all MDA 40 feet.</p> | | <p>MISSED APPROACH: Climb to 1900 then climbing right turn to 3000 direct MBS VOR/DME and hold.</p> | |
| AWOS-3 118.325 | SAGINAW APP CON * 120.95 235.625 | GCO 121.725 | UNICOM 122.8 (CTAF) 0 |

NoPT for arrival on MBS VOR/DME
airway radials 212 CW 016.



| | | | | |
|----------------------------|--------------------|------|----------------------|-----|
| One Minute Holding Pattern | MBS VOR/DME | 1900 | 3000 | MBS |
| | | | | |
| CATEGORY | A | B | C | D |
| CIRCLING | 1160-1 559 (600-1) | | 1160-1½ 559 (600-1½) | NA |

REIL Rwy 9 **0**
MIRL Rwy 5-23 and 9-27 **0**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAGINAW, MICHIGAN

SAGINAW COUNTY H W BROWNE (HYX)

Amtd 4 07MAR13

43°26'N - 83°52'W

VOR/DME-A

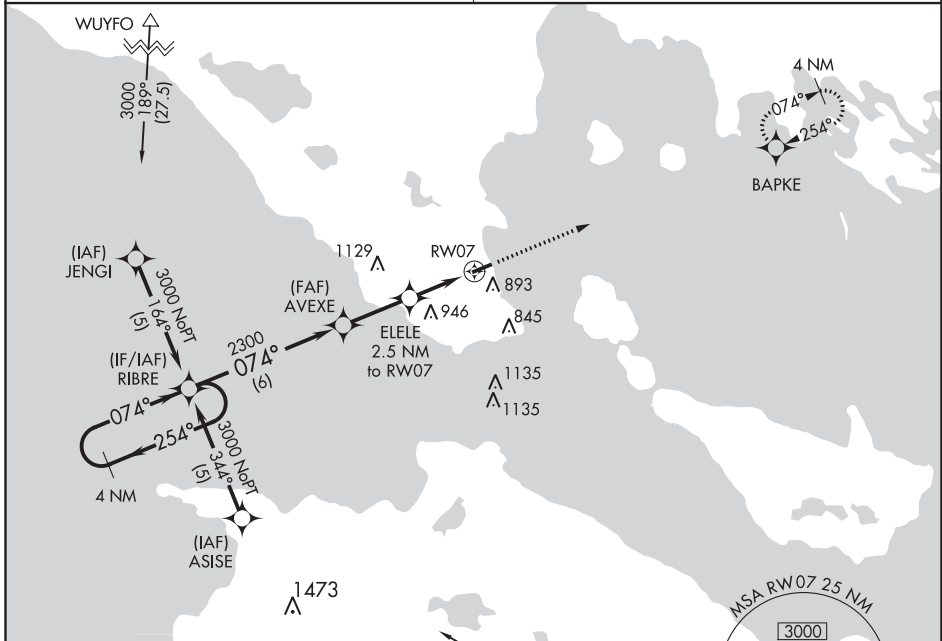
| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3800 |
| 074° | TDZE | 623 |
| | Apt Elev | 623 |

RNAV (GPS) RWY 7

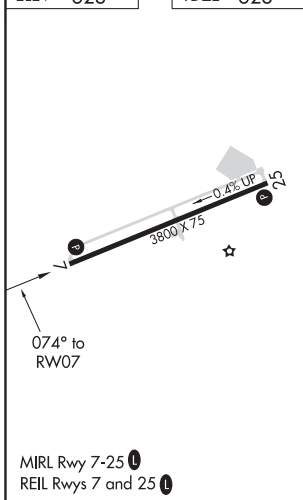
MACKINAC COUNTY (83D)

| | |
|--|---|
| <p>▽ NA Use Mackinac Island altimeter setting. GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. Circling NA at night south of Rwy 7-25.</p> | <p>MISSED APPROACH: Climb to 3000 direct BAPKE WP and hold.</p> |
|--|---|

| | |
|---|---|
| <p>MINNEAPOLIS CENTER 134.6 354.05</p> | <p>UNICOM 122.7 (CTAF) 0</p> |
|---|---|



| | |
|----------|----------|
| ELEV 623 | TDZE 623 |
|----------|----------|



ST IGNACE, MICHIGAN
Orig-A 07AUG03

| | | | | | |
|----------|----------------------|-------------|--|----------------------|-------|
| | 4 NM Holding Pattern | RIBRE | VGSI and descent angles not coincident (VGSI Angle 4.00/TCH 30). | 3000 | BAPKE |
| | | AVEXE | | ELELE 2.5 NM to RW07 | |
| | | | | 1.3 NM to RW07 | RW07 |
| | | | | 1.2 | 1.3 |
| CATEGORY | A | B | C | D | |
| LNAV MDA | 1200-1 | 577 (600-1) | 1200-1½ 577 (600-1½) | NA | |
| CIRCLING | 1260-1 | 637 (700-1) | 1260-1¾ 637 (700-1¾) | NA | |

45°53'N-84°44'W

RNAV (GPS) RWY 7

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

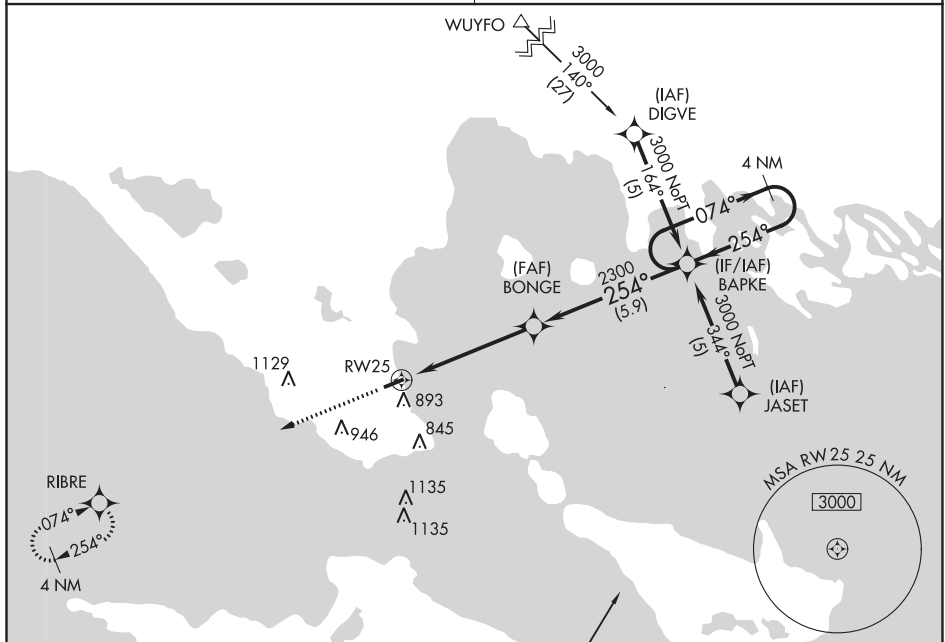
| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 3800 |
| 254° | TDZE | 623 |
| | Apt Elev | 623 |

RNAV (GPS) RWY 25

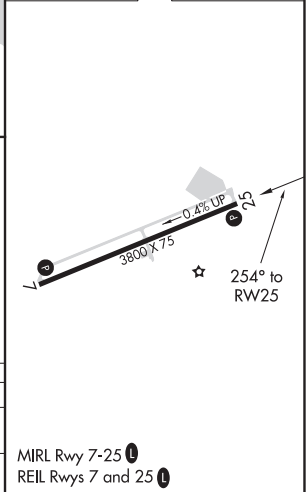
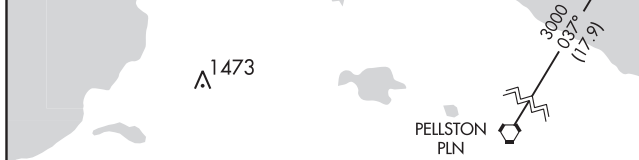
MACKINAC COUNTY (83D)

| | |
|---|---|
| <p>▼ Use Mackinac Island altimeter setting. ▲ NA GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. Circling NA at night south of RWY 7-25.</p> | <p>MISSED APPROACH: Climb to 3000 via 254° course to RIBRE WP and hold.</p> |
|---|---|

| | |
|--|--|
| <p>MINNEAPOLIS CENTER 134.6 354.05</p> | <p>UNICOM 122.7 (CTAF) 0</p> |
|--|--|



| | | | |
|------|-----|------|-----|
| ELEV | 623 | TDZE | 623 |
|------|-----|------|-----|



| | | | | |
|----------|--------------------|---|----------------------|----|
| CATEGORY | A | B | C | D |
| LNVA MDA | 1020-1 397 (400-1) | | | NA |
| CIRCLING | 1260-1 637 (700-1) | | 1260-1¾ 637 (700-1¾) | |

MIRL Rwy 7-25 0
 REIL Rwy 7 and 25 0

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--------------|-------------|----------|-------------|
| LOC I-CIU | APP CRS | Rwy Idg | 7201 |
| 110.3 | 157° | TDZE | 799 |
| | | Apt Elev | 799 |

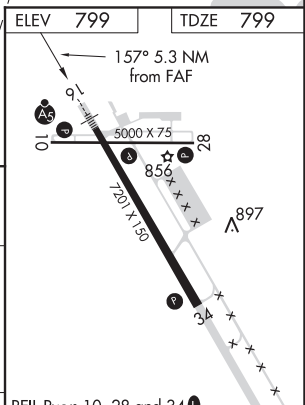
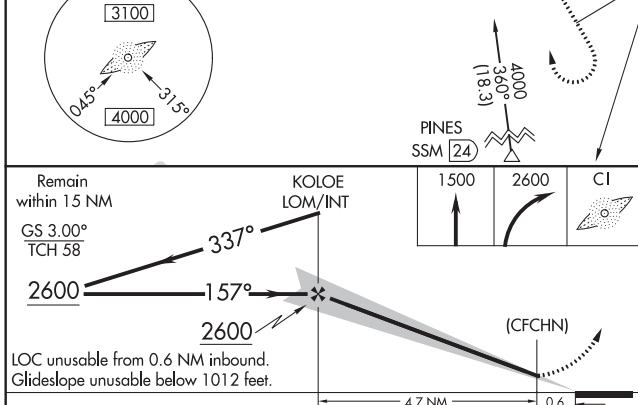
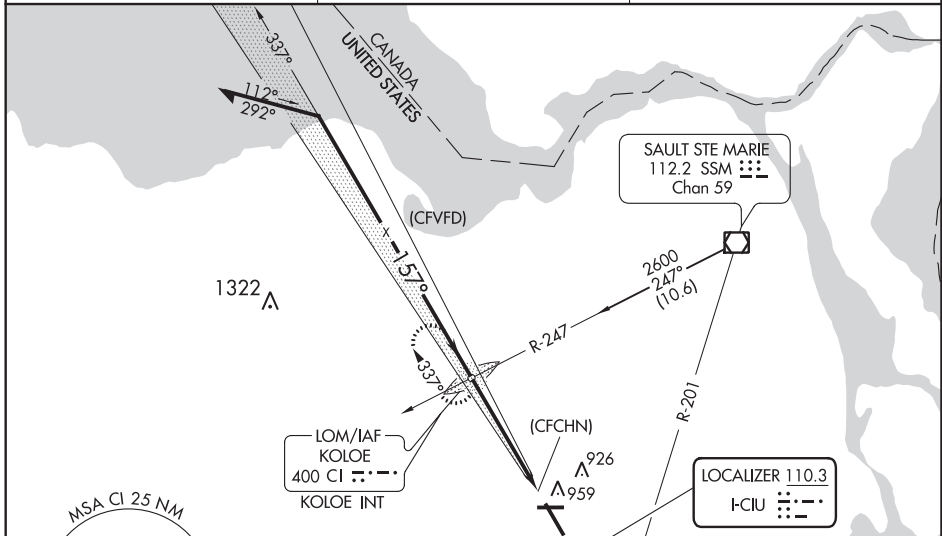
ILS or LOC RWY 16

CHIPPEWA COUNTY INTL (CIU)

⚠ ADF required. When local altimeter setting not received, use Sault Ste Marie Muni/Sanderson field altimeter setting and increase all DA 45 feet and all MDA 60 feet, increase S-LOC 16 Cats C/D/E visibility and circling Cat E ¼ mile. For inoperative MALSRL, increase S-ILS 16 Cat E visibility by ¼ mile and S-LOC 16 Cats C/D/E visibility by ⅓ mile. For inoperative MALSRL when using Sault Ste Marie Muni/Sanderson field altimeter setting increase S-ILS 16 all Cats visibility by ⅓ mile and S-LOC 16 Cats C/D/E visibility by ⅓ mile. Autopilot coupled approach NA below 1325.

MALSRL

 MISSED APPROACH: Climb to 1500 then climbing right turn to 2600 direct KOLOE LOM/INT and hold. (TACAN aircraft climb to 5000 on heading 160° and SSM VOR/DME R-201 to PINES/SSM 24 DME and hold south, right turn, 021° inbound.)

| | | |
|----------------------------|---------------------------------------|-------------------------------|
| AWOS-3PT 127.575 | TORONTO CENTER 132.65 344.5 | UNICOM 123.0 (CTAF) |
|----------------------------|---------------------------------------|-------------------------------|



| | | | | | |
|----------|--------------------|-------------|--------------|-------------|-------------|
| CATEGORY | A | B | C | D | E |
| S-ILS 16 | 1049-½ 250 (300-½) | | | | |
| S-LOC 16 | 1160-½ | 361 (400-½) | 1160-⅓ | 361 (400-⅓) | |
| CIRCLING | 1260-1 | 461 (500-1) | 1260-1½ | 1360-2 | 1380-2 |
| | | | 461 (500-1½) | 561 (600-2) | 581 (600-2) |

| | |
|------------------------|--------------------------|
| REIL Rwy 10, 28 and 34 | |
| MIRL Rwy 10-28 | |
| HIRL Rwy 16-34 | |
| FAF to MAP 4.7 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 4:42 3:08 2:21 1:53 1:34 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAULT STE MARIE, MICHIGAN

AL-810 (FAA)

16259

RNAV (GPS) RWY 10

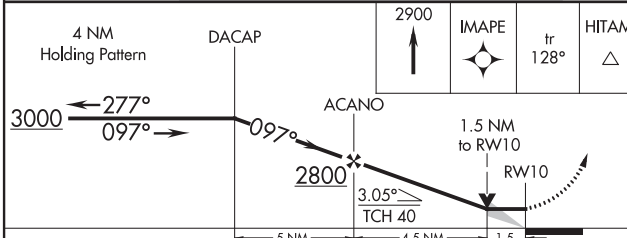
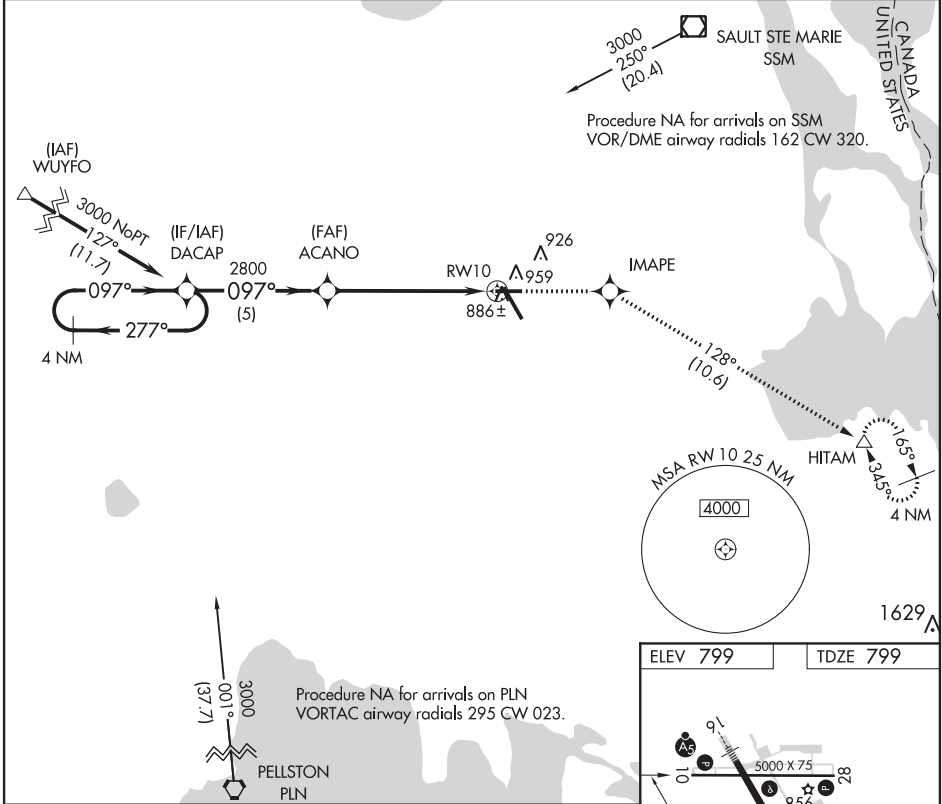
CHIPPEWA COUNTY INTL (CIU)

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5000 |
| 097° | TDZE | 799 |
| | Apt Elev | 799 |

⚠ DME/DME RNP-0.3 NA, VDP NA with Sault Ste Marie altimeter setting.
⚠ When local altimeter setting not received, use Sault Ste Marie Muni/Sanderson Field altimeter setting and increase all MDA 60 feet, increase LNAV visibility Cat C/D and Circling Cat C ¼ mile.

MISSED APPROACH: Climb to 2900 direct IMAPE and track 128° to HITAM and hold.

| | | |
|----------------------------|---------------------------------------|-------------------------------|
| AWOS-3PT 127.575 | TORONTO CENTER 132.65 344.5 | UNICOM 123.0 (CTAF) |
|----------------------------|---------------------------------------|-------------------------------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| LNAV MDA | 1320-1 | 521 (600-1) | 1320-1½ | 521 (600-1½) |
| CIRCLING | 1320-1 | 521 (600-1) | 1320-1½ 521 (600-1½) | 1360 - 2 561 (600-2) |

REIL Rwy 10, 28 and 34
 MIRL Rwy 10-28
 HIRL Rwy 16-34

SAULT STE MARIE, MICHIGAN
 Orig-A 05MAR15

46°15'N-84°28'W

CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---------------------------------|------------------------|-----------------------------|---|
| WAAS CH 69215 W16A | APP CRS 157° | Rwy Idg TDZE Apt Elev | 7201 799 799 |
|---------------------------------|------------------------|-----------------------------|---|

RNAV (GPS) RWY 16

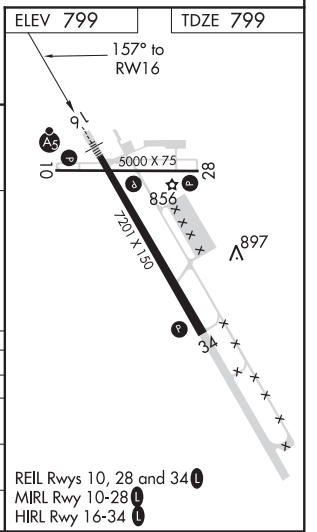
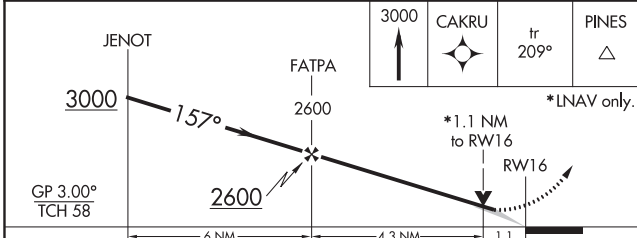
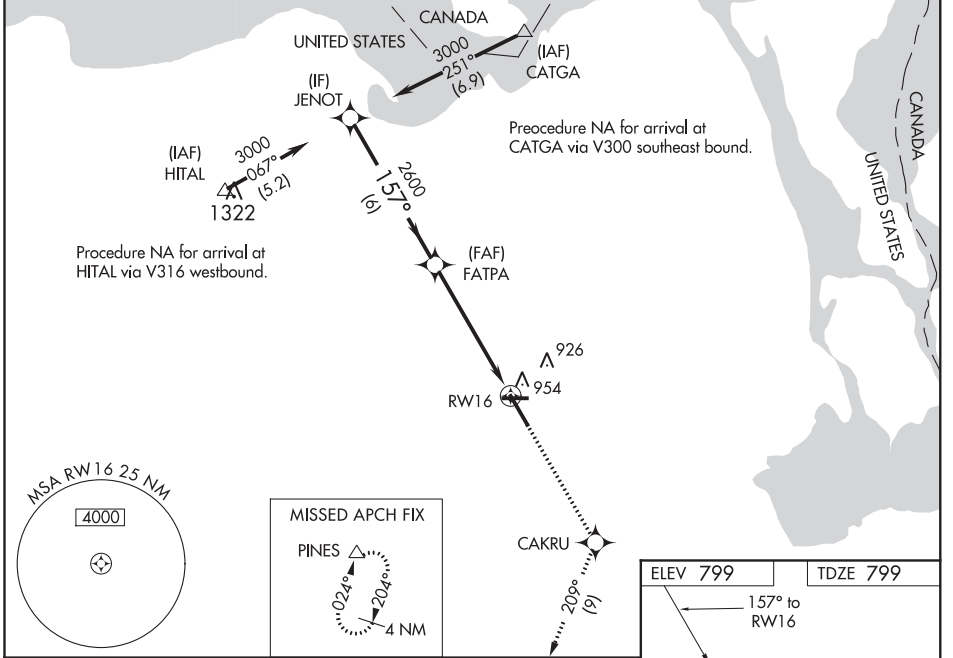
CHIPPEWA COUNTY INTL (CIU)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Sault Ste Marie Muni/Sanderson Field altimeter setting and increase all DA 45 feet and all MDA 60 feet. Baro-VNAV and VDP NA when using Sault Ste Marie Muni/Sanderson Field altimeter setting. For inoperative MALSR, increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats A/B/C ½ mile, increase LNAV Cat D ¼ mile. For inoperative MALSR, when using Sault Ste Marie Muni/Sanderson Field altimeter setting, increase LPV all Cats, LNAV/VNAV all Cats and LNAV all Cats ½ mile.

MALSR


MISSED APPROACH:
Climb to 3000 direct CAKRU and on track 209° to PINES and hold.

| | | |
|----------------------------|---------------------------------------|-------------------------------|
| AWOS-3PT 127.575 | TORONTO CENTER 132.65 344.5 | UNICOM 123.0 (CTAF) |
|----------------------------|---------------------------------------|-------------------------------|



| CATEGORY | A | B | C | D |
|---------------|--------------------|----------------------|---|--------------------|
| LPV DA | 1068-½ 269 (300-½) | | | |
| LNAV/ VNAV DA | 1204-1 405 (500-1) | | | |
| LNAV MDA | 1220-½ 421 (500-½) | 1220-¾ 421 (500-¾) | | 1220-1 421 (500-1) |
| CIRCLING | 1260-1 461 (500-1) | 1260-1½ 461 (500-1½) | | 1360-2 561 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

RNAV (GPS) RWY 28

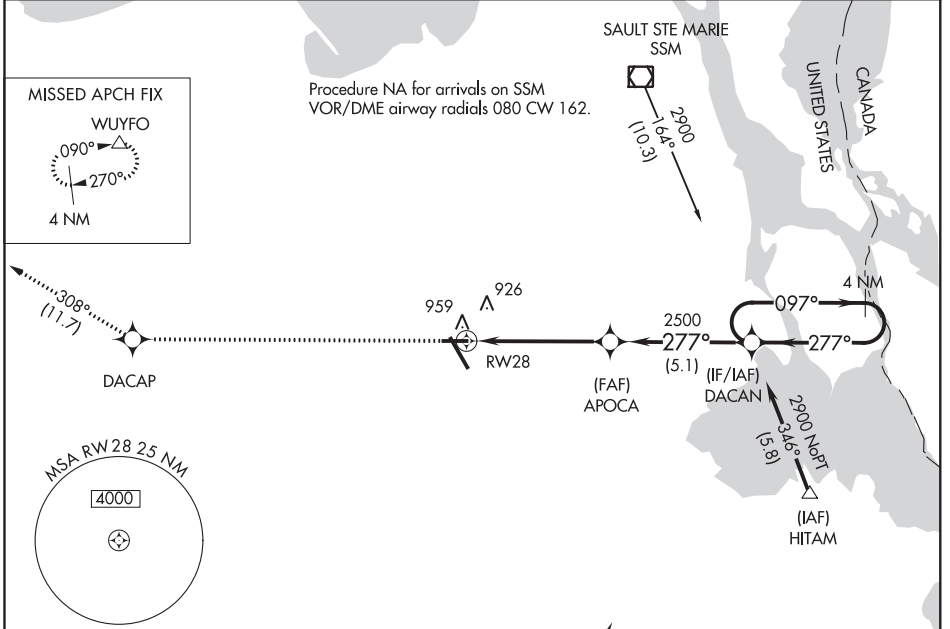
CHIPPEWA COUNTY INTL (CIU)

| | | |
|------------------------|-----------------------------|---|
| APP CRS 277° | Rwy Idg TDZE Apt Elev | 5000 799 799 |
|------------------------|-----------------------------|---|

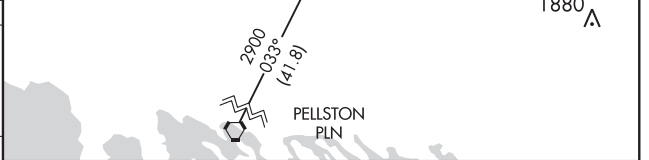
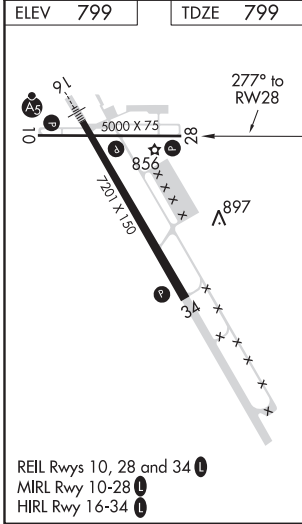
⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Sault Ste Marie Muni/ Sanderson Field altimeter setting and increase all MDA 60 feet, increase LNAV and Circling visibility Cat C/D ¼ mile. Night landing: Rwy 28 NA.

MISSED APPROACH: Climb to 3000 direct DACAP and track 308° to WUYFO and hold.

| | | |
|----------------------------|---------------------------------------|-------------------------------|
| AWOS-3PT 127.575 | TORONTO CENTER 132.65 344.5 | UNICOM 123.0 (CTAF) |
|----------------------------|---------------------------------------|-------------------------------|



ELEV 799 TDZE 799



| | | | | | |
|------|-------|---------|-------|--------|----------------------|
| 3000 | DACAP | fr 308° | WUYFO | DACAN | 4 NM Holding Pattern |
| | | | APOCA | | |
| | RW28 | | 2500 | 277° | 097° → 2900 |
| | | | | ← 277° | |
| | | | | | |

| | | | | |
|----------|--------|-------------|-------------------------|-----------------------|
| CATEGORY | A | B | C | D |
| LNAV MDA | 1220-1 | 421 (500-1) | 1220-1½ | 421 (500-1½) |
| CIRCLING | 1260-1 | 461 (500-1) | 1260-1½ 461 (500-1½) | 1360-2 561 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 56315 W34A | APP CRS 337° | Rwy Idg TDZE Apt Elev | 7201 796 799 |
|--|------------------------|-----------------------------|---|

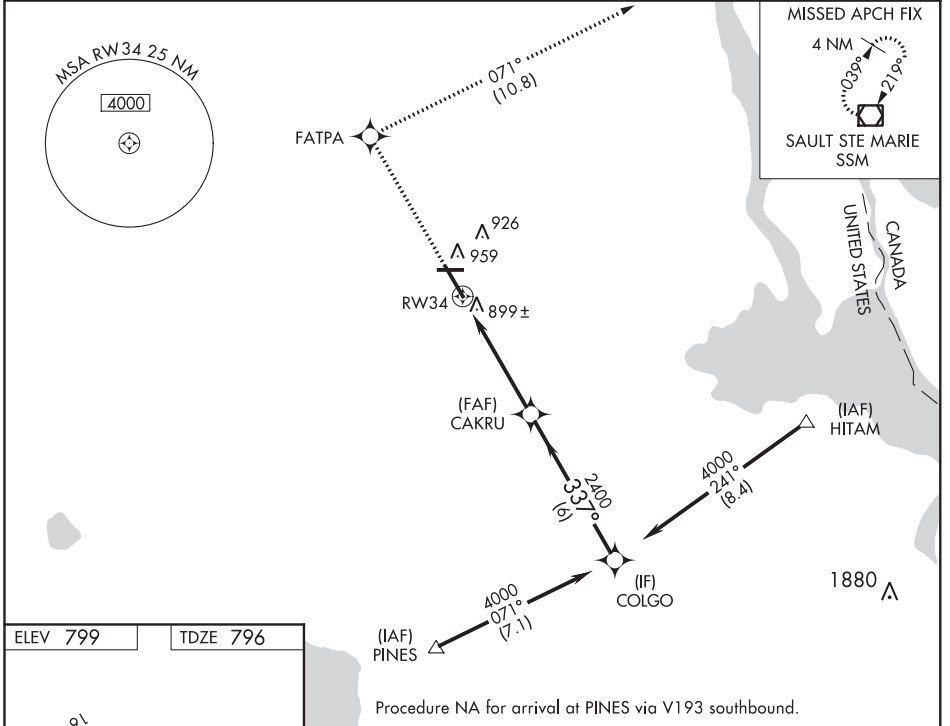
RNAV (GPS) RWY 34

CHIPPEWA COUNTY INTL (CIU)

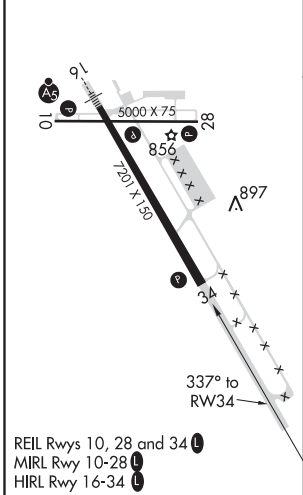
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Sault Ste Marie Muni/Sanderson Field altimeter setting and increase all DA 45 feet and all MDA 60 feet; increase LNAV Cat D visibility ¼ mile. Baro-VNAV and VDP NA when using Sault Ste Marie Muni/Sanderson Field altimeter setting.

⚠ MISSED APPROACH: Climb to 3000 direct FATPA and track 071° to SSM VOR/DME and hold.

| | | |
|----------------------------|---------------------------------------|---------------------------------|
| AWOS-3PT 127.575 | TORONTO CENTER 132.65 344.5 | UNICOM 123.0 (CTAF) 0 |
|----------------------------|---------------------------------------|---------------------------------|



| | |
|----------|----------|
| ELEV 799 | TDZE 796 |
|----------|----------|



| | | | |
|--------------------|--------|-----------------|---|
| COLGO | CAKRU | FATPA | SSM |
| 4000 | 2400 | ↑ 3000 | tr 071° |
| GP 3.00° TCH 40 | 2400 | *1.2 NM to RW34 | *LNAV only. |
| | 6 NM | 3.7 NM | 1.2 NM |
| CATEGORY | A | B | C |
| LPV DA | | 1046-1 | 250 (300-1) |
| LNAV/DA VNAV | | 1198-1½ | 402 (400-1½) |
| LNAV MDA | 1200-1 | 404 (400-1) | 1200-1¼ 404 (400-1¼) |
| CIRCLING | 1260-1 | 461 (500-1) | 1260-1½ 461 (500-1½) 1360-2 561 (600-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAULT STE MARIE, MICHIGAN

AL-810 (FAA)

16259

| | | | |
|------------|-------------|----------|-------------|
| LOM CI | APP CRS | Rwy Idg | 7201 |
| 400 | 337° | TDZE | 796 |
| | | Apt Elev | 799 |

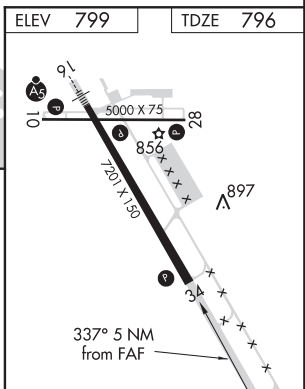
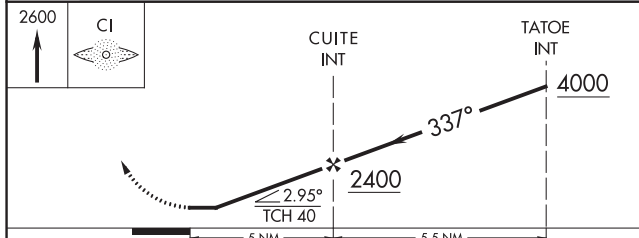
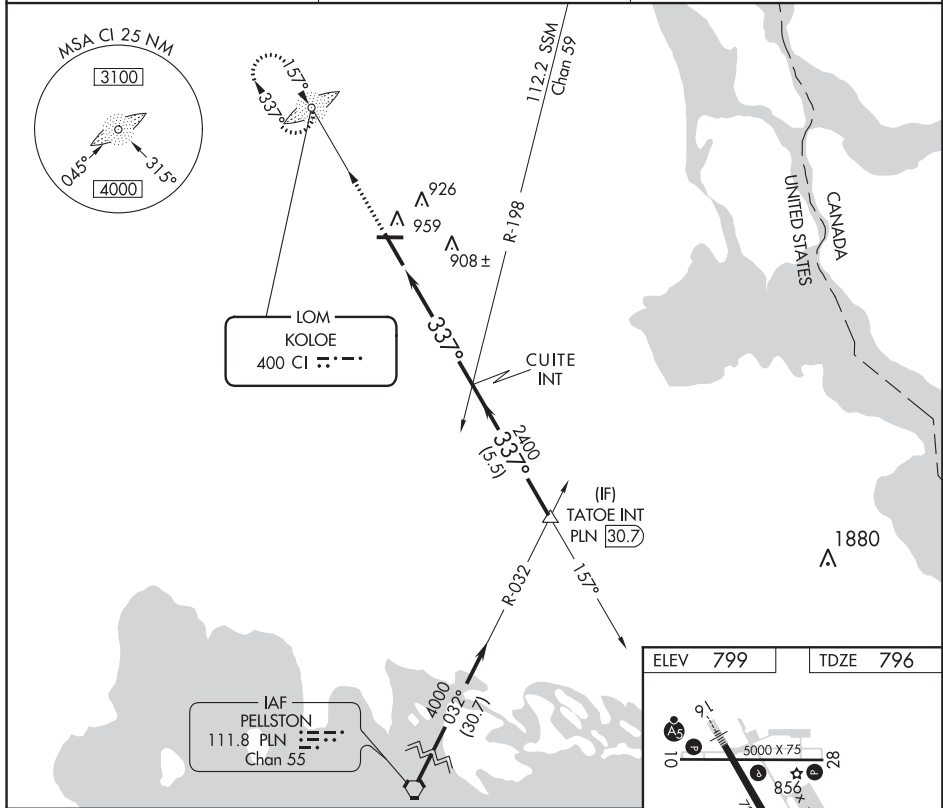
NDB RWY 34

CHIPPEWA COUNTY INTL (CIU)

⚠ When local altimeter setting not received, use Sault-Ste Marie Muni/Sanderson Field altimeter setting and increase all MDA 60 feet and increase S-34 Cat C/D visibility to 1 3/8 .

⚠ NA MISSED APPROACH: Climb to 2600 direct KOLOE LOM and hold.

| | | |
|----------------------------|---------------------------------------|--|
| AWOS-3PT 127.575 | TORONTO CENTER 132.65 344.5 | UNICOM 123.0 (CTAF) 📻 |
|----------------------------|---------------------------------------|--|



| CATEGORY | A | B | C | D |
|----------|--------------------|---|----------------------------|--------------------|
| S-34 | 1220-1 424 (500-1) | | 1220-1 1/4 424 (500-1 1/4) | |
| CIRCLING | 1260-1 461 (500-1) | | 1260-1 1/2 461 (500-1 1/2) | 1360-2 561 (600-2) |

| | | | | | |
|---------------------------------|------|------|------|------|------|
| REIL Rwy 10, 28 and 34 📻 | | | | | |
| MIRL Rwy 10-28 📻 | | | | | |
| HIRL Rwy 16-34 📻 | | | | | |
| FAF to MAP 5 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:00 | 3:20 | 2:30 | 2:00 | 1:40 |

SAULT STE MARIE, MICHIGAN
Amdt 5A 05MAR15

46°15'N-84°28'W

CHIPPEWA COUNTY INTL (CIU)

NDB RWY 34

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAULT STE MARIE, MICHIGAN

AL-503 (FAA)

15092

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 70622 W14A | APP CRS 143° | Rwy Idg TDZE Apt Elev | 5054 712 716 |
|--|------------------------|-----------------------------|---|

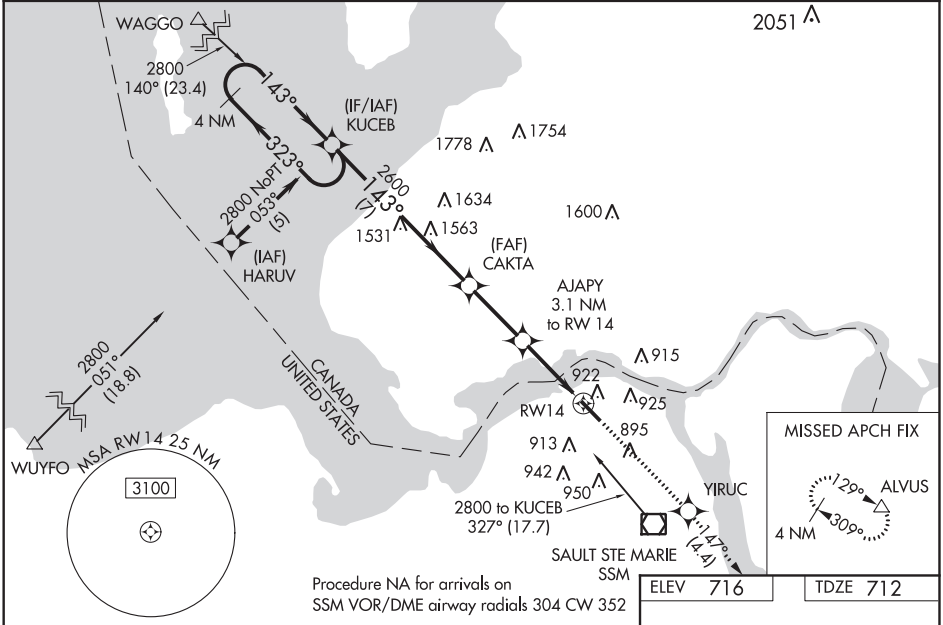
RNAV (GPS) RWY 14

SAULT STE MARIE MUNI/SANDERSON FIELD (A.N.J)

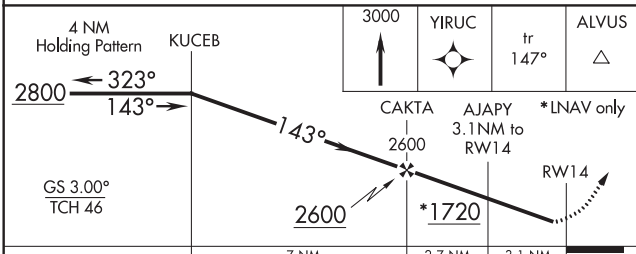
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Chippewa County Intl altimeter setting and increase all DA 45 feet and all MDA 60 feet. Increase LNAV/VNAV all Cats visibilities to 1½ mile and LNAV Cat C visibility to 1¾ mile. When VGSI inop, Straight-in/Circling Rwy 14 procedure NA at night. When VGSI inop, Circling Rwy 32 NA at night.

⚠ MISSED APPROACH: Climb to 3000 direct YIRUC and on track 147° to ALVUS and hold.

| | | |
|------------------------|---------------------------------------|---------------------------------|
| ASOS 118.375 | TORONTO CENTER 132.65 344.5 | UNICOM 122.7 (CTAF) 0 |
|------------------------|---------------------------------------|---------------------------------|



Procedure NA for arrivals on SSM VOR/DME airway radials 304 CW 352



| CATEGORY | A | B | C | D |
|--------------|---------|--------------|-------------------------|----|
| LPV DA | 962-1 | 250 (300-1) | | NA |
| LNAV/VNAV DA | 1137-1¾ | 425 (500-1¾) | | NA |
| LNAV MDA | 1240-1 | 528 (600-1) | 1240-1½ 528 (600-1½) | NA |
| CIRCLING | 1280-1 | 564 (600-1) | 1320-1¾ 604 (700-1¾) | NA |

ELEV 716 TDZE 712

MIRL Rwy 14-32 0

REIL Rwy 14 and 32 0

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

SAULT STE MARIE, MICHIGAN
Orig-A 02APR15

SAULT STE MARIE MUNI/SANDERSON FIELD (A.N.J)
46°29'N-84°22'W

RNAV (GPS) RWY 14

SAULT STE MARIE, MICHIGAN

AL-503 (FAA)

15092

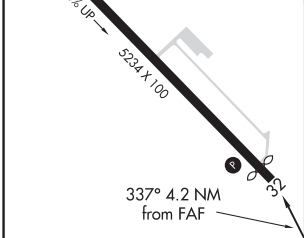
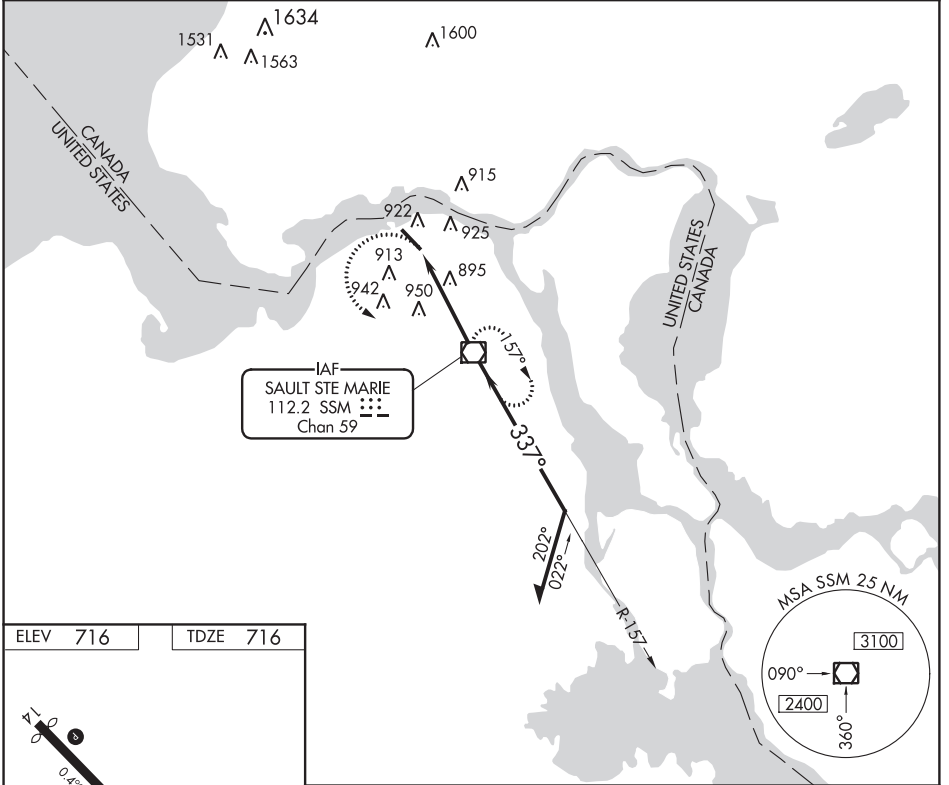
| | | | |
|---|------------------------|-----------------------------|---|
| VOR/DME SSM 112.2 Chan 59 | APP CRS 337° | Rwy Idg TDZE Apt Elev | 5056 716 716 |
|---|------------------------|-----------------------------|---|

VOR RWY 32

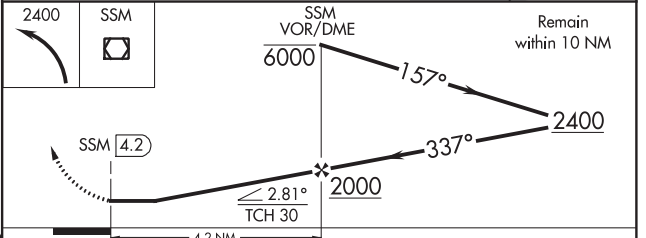
SAULT STE MARIE MUNI/SANDERSON FIELD (A.N.J)

| | |
|---|--|
| <p>▼ Visibility reduction by helicopters NA. When local altimeter setting not received, use Chippewa County Intl altimeter setting and increase all MDA 60 feet and increase S-32 Cat C visibility to 1¼ mile. When VGSI inop, Straight-in/Circling Rwy 32 procedure NA at night. When VGSI inop, Circling Rwy 14 NA at night.</p> | <p>▲ MISSED APPROACH: Climbing left turn to 2400 direct SSM VOR/DME and hold.</p> |
|---|--|

| | | |
|------------------------|---------------------------------------|---------------------------------|
| ASOS 118,375 | TORONTO CENTER 132.65 344.5 | UNICOM 122.7 (CTAF) 0 |
|------------------------|---------------------------------------|---------------------------------|



| | | | | | |
|---|------|------|------|------|------|
| ELEV | 716 | TDZE | 716 | | |
| MIRL Rwy 14-32 0 REIL Rwys 14 and 32 0 | | | | | |
| FAF to MAP 4.2 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:12 | 2:48 | 2:06 | 1:41 | 1:24 |



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|----|
| S-32 | 1260-1 | 544 (600-1) | 1260-1½ 544 (600-1½) | NA |
| CIRCLING | 1280-1 | 564 (600-1) | 1320-1¾ 604 (700-1¾) | NA |

SAULT STE MARIE, MICHIGAN
Amdt 3A 02APR15

SAULT STE MARIE MUNI/SANDERSON FIELD (A.N.J)
46°29'N-84°22'W
VOR RWY 32

EC-1, 10 NOV 2016 to 05 JAN 2017

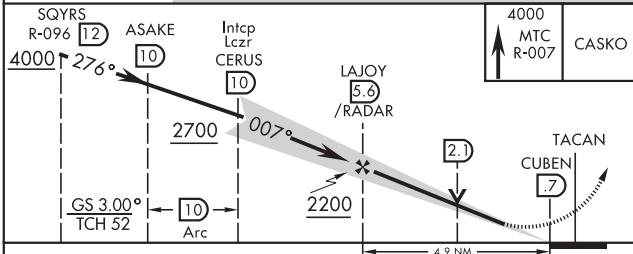
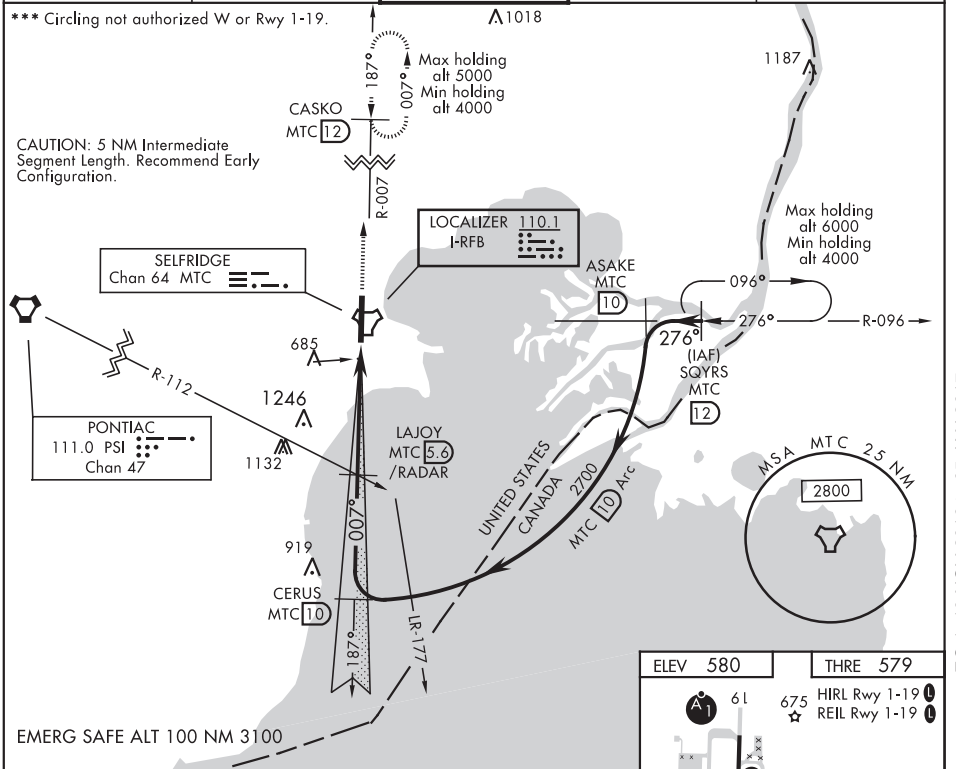
EC-1, 10 NOV 2016 to 05 JAN 2017

MT. CLEMENS, MICHIGAN

ILS or LOC/DME RWY 1

| | | | | |
|---|-------------------------|---|-------------------|--|
| LOC I-RFB 110.1 | APCH CRS 007° | Rwy Idg THRE Arpt Elev 9000 579 580 | AL-276 [USAF] | SELFRIDGE ANGB (KMTC) |
| ▼ * When ALS inop, increase RVR to 50, vis to 1 mile. ** When ALS inop, increase CAT AB RVR to 55 and vis to 1 mile CAT CDE vis to 1½ miles. | | | SALS A2 | MISSED APPROACH: Climb to 4000 on MTC R-007 to CASKO and hold, continue climb-in-hold to 4000. |

| | | | | |
|------------------------------|---|--|-------------------------------|--------------------------------|
| ATIS 125.325 270.1 | SELFRIDGE APP CON 119.6 318.2 | SELFRIDGE TOWER ★ 120.15(CTAF) 225.4 | GND CON 128.3 275.8 | CLNC DEL 128.3 275.8 |
|------------------------------|---|--|-------------------------------|--------------------------------|



| | | | | | |
|----------------------|---------------|------|------|------|------|
| ELEV 580 | THRE 579 | | | | |
| 61 | 675 | | | | |
| HIRL Rwy 1-19 | REIL Rwy 1-19 | | | | |
| TWR 681 | | | | | |
| 007° 4.9 NM from FAF | | | | | |
| FAF to MAP 4.9 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:54 | 3:16 | 2:27 | 1:58 | 1:38 |

| | | | | | |
|--------------|---------|-------------|-------------------------|--------------|-------------|
| CATEGORY | A | B | C | D | E |
| S-ILS 01* | 907/40 | | 328 | (400-¾) | |
| S-LOC 01** | 1060/40 | 481 (500-¾) | 1060/60 | 481 (500-1½) | |
| CIRCLING *** | 1120-1 | 541 (600-1) | 1120-1½ 541 (600-1½) | 1140-2 | 561 (600-2) |

MT. CLEMENS, MICHIGAN 42° 36' N-82° 50' W SELFRIDGE ANGB (KMTC)
 Amdt 3 23AUG12

ILS or LOC/DME RWY 1

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

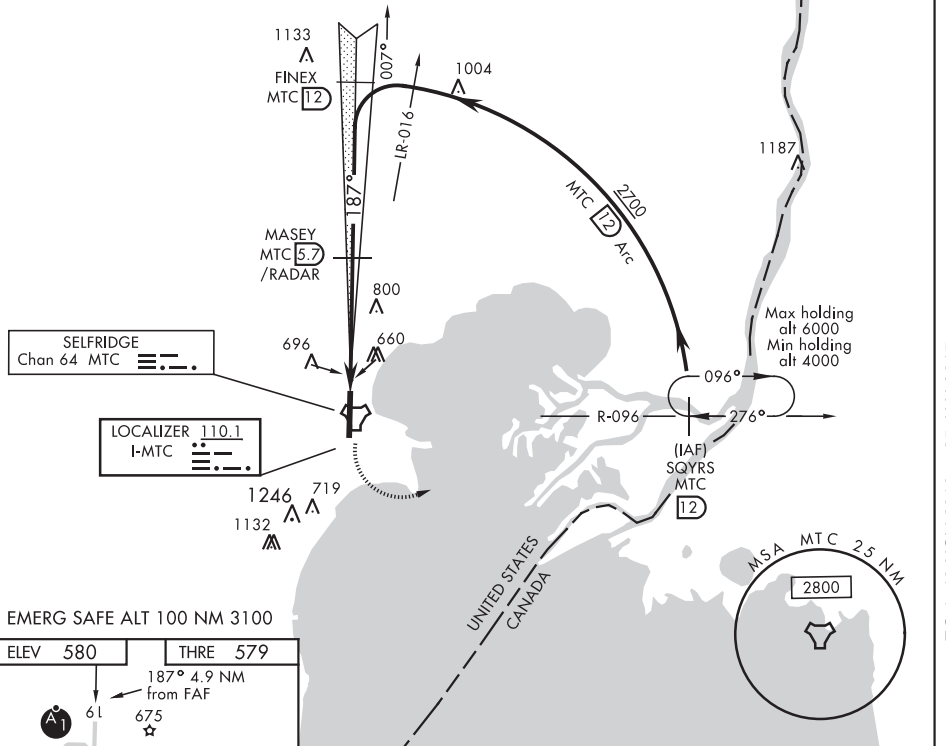
MT. CLEMENS, MICHIGAN

ILS or LOC/DME RWY 19

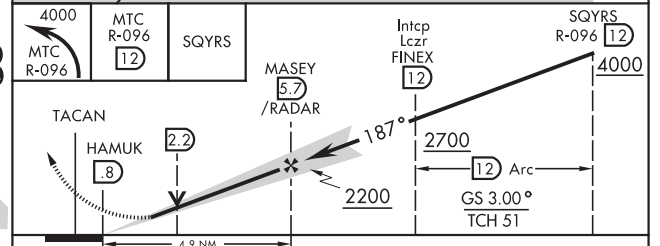
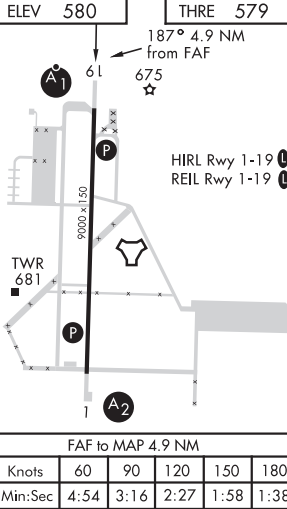
| | | | | |
|---|-------------------------|---|---------------|---|
| LOC I-MTC 110.1 | APCH CRS 187° | Rwy Idg THRE Arpt Elev 9000 579 580 | AL-276 [USAF] | SELFRIDGE ANGB (KMTC) |
| * When ALS inop, increase RVR to 55, vis to 1 mile. ** When ALS inop, increase CAT AB RVR to 55, vis to 1 mile, CAT CDE vis to 1½ miles. | | | ALSF-1 | MISSED APPROACH: Climbing left turn to 4000, intercept MTC R-096 to SQYRS and hold, continue climb-in-hold to 4000. |

| | | | | |
|------------------------------|---|--|-------------------------------|--------------------------------|
| ATIS 125.325 270.1 | SELFRIDGE APP CON 119.6 318.2 | SELFRIDGE TOWER * 120.15(CTAF) 0 225.4 | GND CON 128.3 275.8 | CLNC DEL 128.3 275.8 |
|------------------------------|---|--|-------------------------------|--------------------------------|

*** Circling not authorized W of Rwy 1-19.



EMERG SAFE ALT 100 NM 3100



| | | | | | |
|--------------|---------|-------------|---------|--------------|--------------------|
| CATEGORY | A | B | C | D | E |
| S-ILS 19* | 923/40 | | 344 | (400-¾) | |
| S-LOC 19** | 1080/40 | 501 (600-¾) | 1080/55 | 501 (600-1) | |
| CIRCLING *** | 1120-1 | 541 (600-1) | 1120-1½ | 541 (600-1½) | 1140-2 561 (600-2) |

MT. CLEMENS, MICHIGAN

42°36'N-82°50'W

SELFRIDGE ANGB (KMTC)

Amtd 3 23AUG12

ILS or LOC/DME RWY 19

EC-1, 10 NOV 2016 to 05 JAN 2017

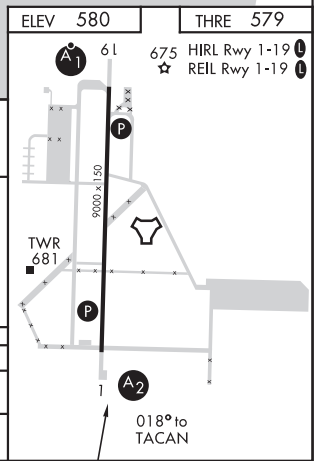
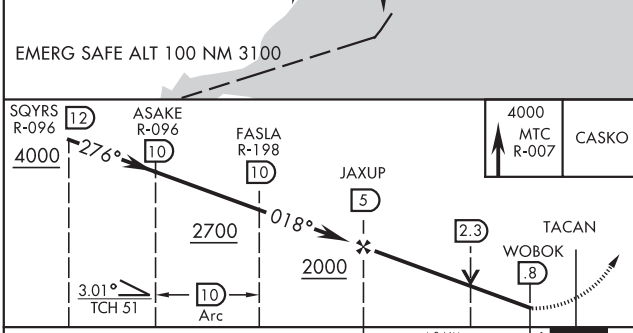
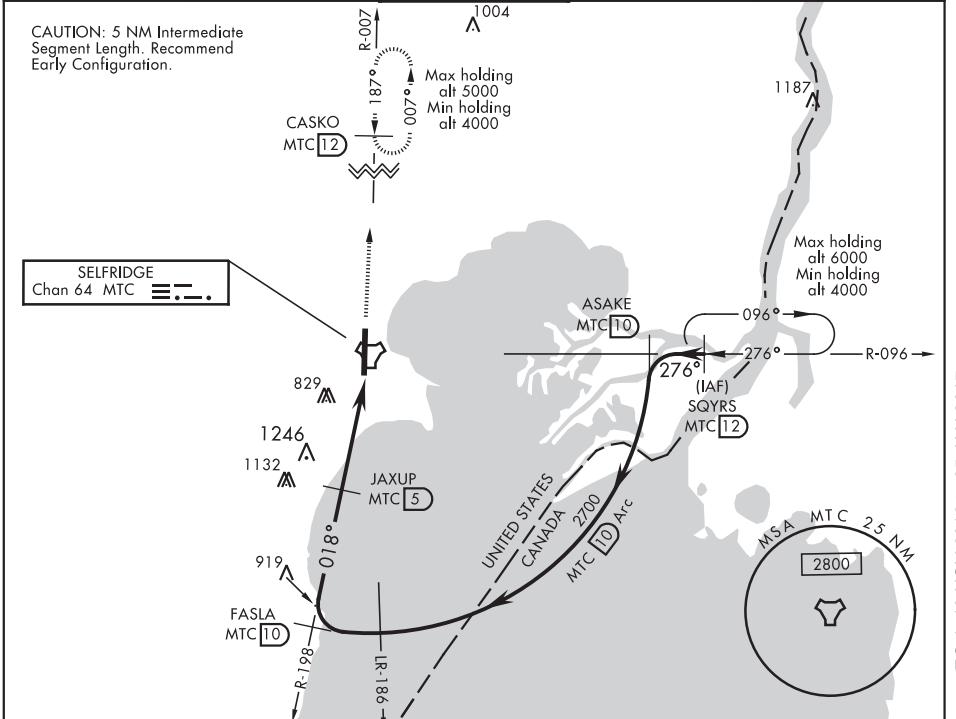
EC-1, 10 NOV 2016 to 05 JAN 2017

MT. CLEMENS, MICHIGAN

TACAN RWY 1

| | | | | |
|--|-------------------------|---|---------------|--|
| TACAN MTC Chan 64 | APCH CRS 018° | Rwy Idg THRE Arpt Elev 9000 579 580 | AL-276 [USAF] | SELFRIDGE ANGB (KMTC) |
| ▼ * When ALS inop, increase CAT AB RVR to 55, vis to 1 mile, CAT CDE vis to 1½ miles. ** Circling not authorized W of Rwy 1-19. | | | SALS | MISSED APPROACH: Climb to 4000 on MTC R-007 to CASKO and hold, continue climb-in-hold to 4000. |

| | | | | |
|------------------------------|---|--|-------------------------------|--------------------------------|
| ATIS 125.325 270.1 | SELFRIDGE APP CON 119.6 318.2 | SELFRIDGE TOWER ★ 120.15(CTAF) 225.4 | GND CON 128.3 275.8 | CLNC DEL 128.3 275.8 |
|------------------------------|---|--|-------------------------------|--------------------------------|



| CATEGORY | A | B | C | D | E |
|------------|---------|-------------|---------|--------------|-------------|
| S-1* | 1120/40 | 541 (600-¾) | 1120-1⅞ | 541 (600-1⅞) | |
| CIRCLING** | 1120-1 | 541 (600-1) | 1120-1⅞ | 1140-2 | 561 (600-2) |

MT. CLEMENS, MICHIGAN
Amdt 3 23AUG12

42°36'N-82°50'W

SELFRIDGE ANGB (KMTC)

TACAN RWY 1

EC-1, 10 NOV 2016 to 05 JAN 2017

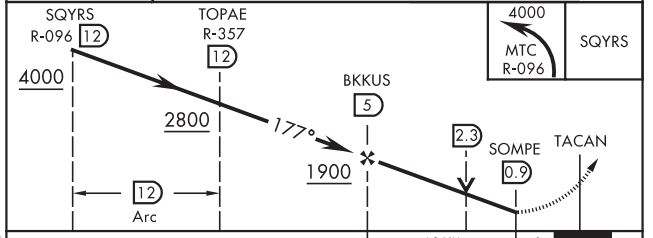
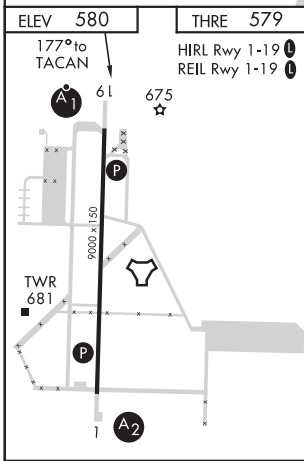
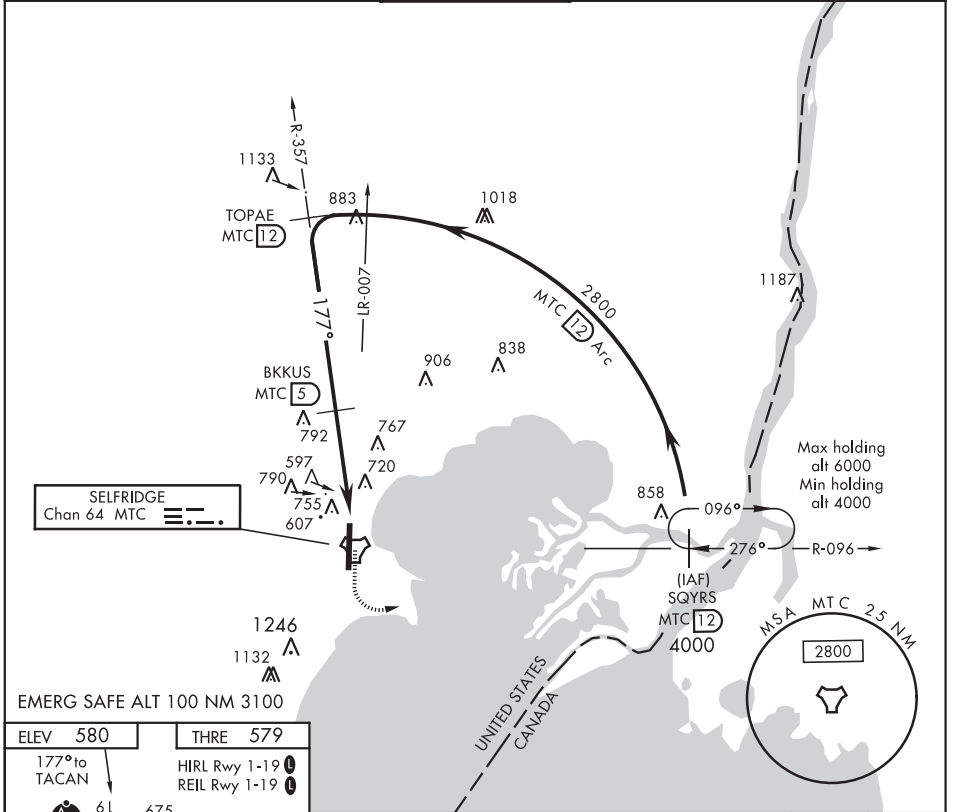
EC-1, 10 NOV 2016 to 05 JAN 2017

MT. CLEMENS, MICHIGAN

TACAN RWY 19

| | | | | |
|--|-------------------------|--|---------------|---|
| TACAN MTC Chan 64 | APCH CRS 177° | Rwy ldg THRE 579 Arpt Elev 580 | AL-276 [USAF] | SELFDRIGE ANGB (KMTC) |
| ▼ * When ALS inop, increase CAT AB RVR to 55, vis to 1 mile, CAT CDE vis to 1½ miles. ** Circling not authorized W of Rwy 1-19. | | | ALSF-1 | MISSED APPROACH: Climbing left turn to 4000, intercept MTC R-096 to SQYRS and hold, continue climb-in-hold to 4000. |

| | | | | |
|------------------------------|---|--|-------------------------------|--------------------------------|
| ATIS 125.325 270.1 | SELFDRIGE APP CON 119.6 318.2 | SELFDRIGE TOWER * 120.15(CTAF) 225.4 | GND CON 128.3 275.8 | CLNC DEL 128.3 275.8 |
|------------------------------|---|--|-------------------------------|--------------------------------|



| CATEGORY | A | B | C | D | E |
|-------------|---------|-------------|-------------------------|-------------|-------------|
| S-19 * | 1100/40 | 521 (600-¾) | 1100/55 | 521 (600-1) | |
| CIRCLING ** | 1120-1 | 541 (600-1) | 1120-1½ 541 (600-1½) | 1140-2 | 561 (600-2) |

MT. CLEMENS, MICHIGAN
Amdt 3 23AUG12

42°36'N-82°50'W

SELFDRIGE ANGB (KMTC)

TACAN RWY 19

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

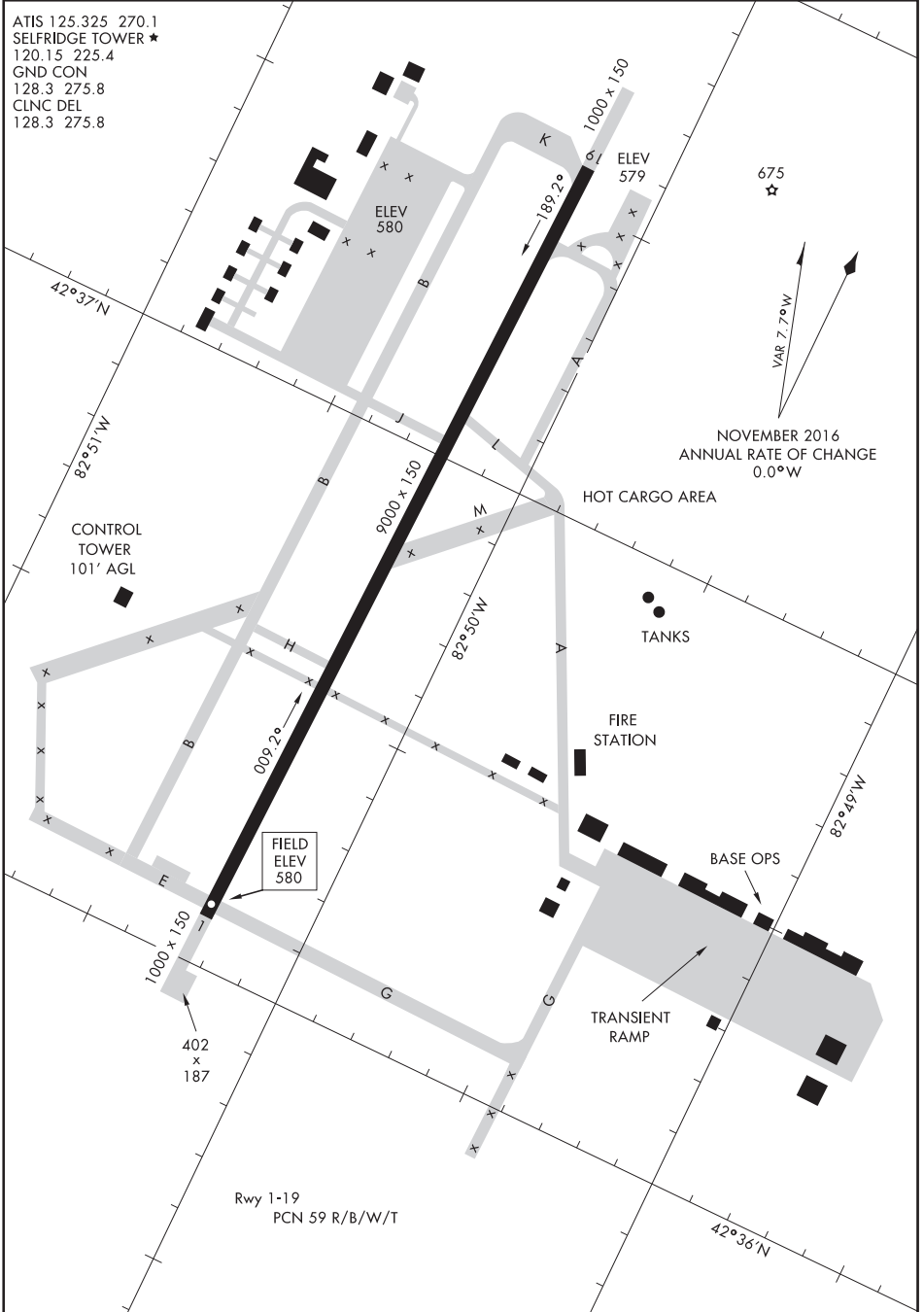
AIRPORT DIAGRAM

AFD-276 [USAF]

SELFRIDGE ANGB (KMTC)

MT. CLEMENS, MICHIGAN

ATIS 125.325 270.1
 SELFRIDGE TOWER ★
 120.15 225.4
 GND CON
 128.3 275.8
 CLNC DEL
 128.3 275.8



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

AIRPORT DIAGRAM

MT. CLEMENS, MICHIGAN
SELFRIDGE ANGB (KMTC)

SOUTH HAVEN, MICHIGAN

AL-5472 (FAA)

16147

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4801 |
| 047° | TDZE | 659 |
| | Apt Elev | 666 |

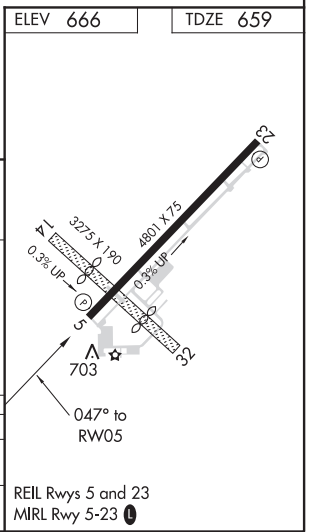
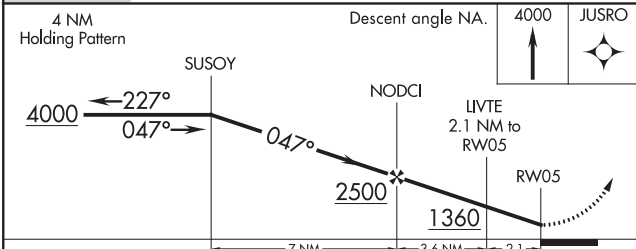
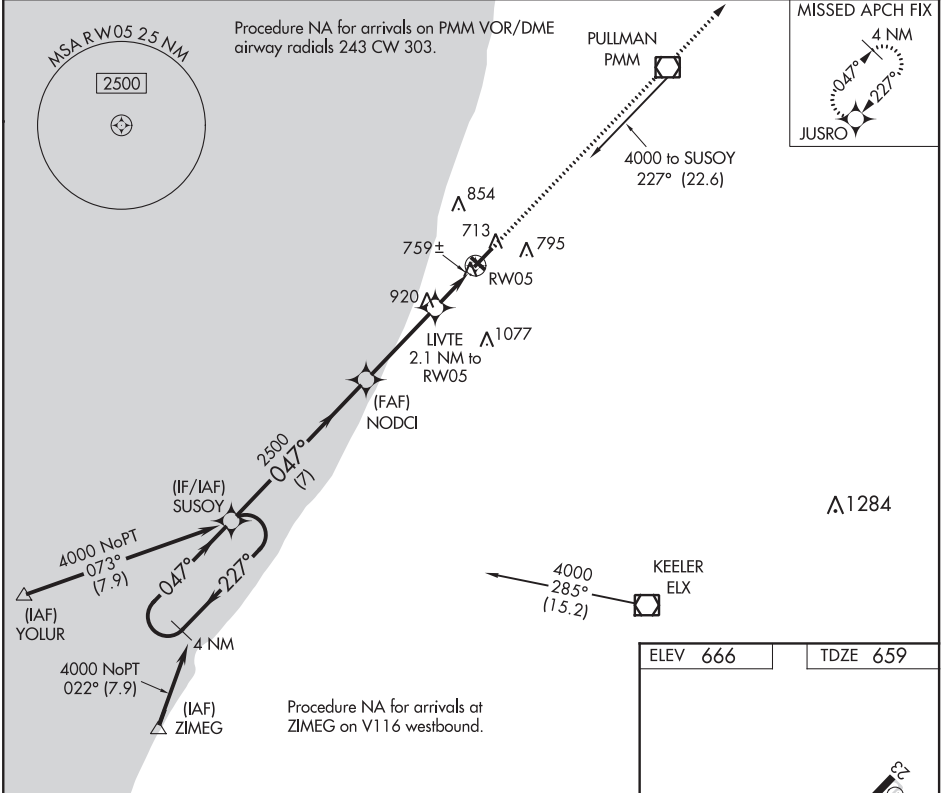
RNAV (GPS) RWY 5

SOUTH HAVEN AREA RGNL (LWA)

⚠ DME/DME RNP-0.3 NA. Procedure NA at night. When local altimeter setting not received, use Benton Harbor altimeter setting and increase all MDA 40 feet; increase LNAV Cats C and D visibility 1/8 mile and Circling Cat D visibility 1/4 mile. Helicopter visibility reduction below 1 SM NA. Circling NA to Rwy's 14 and 32.

⚠ MISSED APPROACH: Climb to 4000 direct JUSRO. Climb to 4000 direct JUSRO and hold, continue climb-in-hold to 4000.

| | | |
|--------------------------|--|--|
| AWOS-3 118.025 | SOUTH BEND APP CON* 118.55 257.8 | UNICOM 122.8 (CTAF) 0 |
|--------------------------|--|--|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------------|-------------------------------|
| LNAV MDA | 1020-1 | | 361 (400-1) | |
| C CIRCLING | 1120-1 454 (500-1) | 1140-1 474 (500-1) | 1280-1 3/4 614 (700-1 3/4) | 1520-2 3/4 854 (900-2 3/4) |

SOUTH HAVEN, MICHIGAN
Amdt 1C 17SEP15

42°21'N-86°15'W

SOUTH HAVEN AREA RGNL (LWA)
RNAV (GPS) RWY 5

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4801 |
| 227° | TDZE | 666 |
| | Apt Elev | 666 |

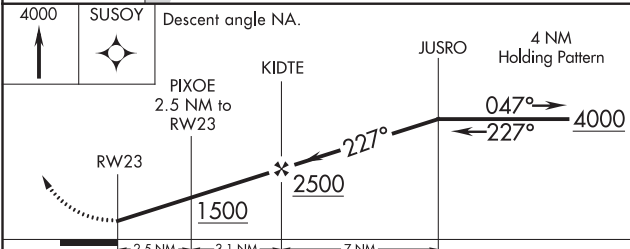
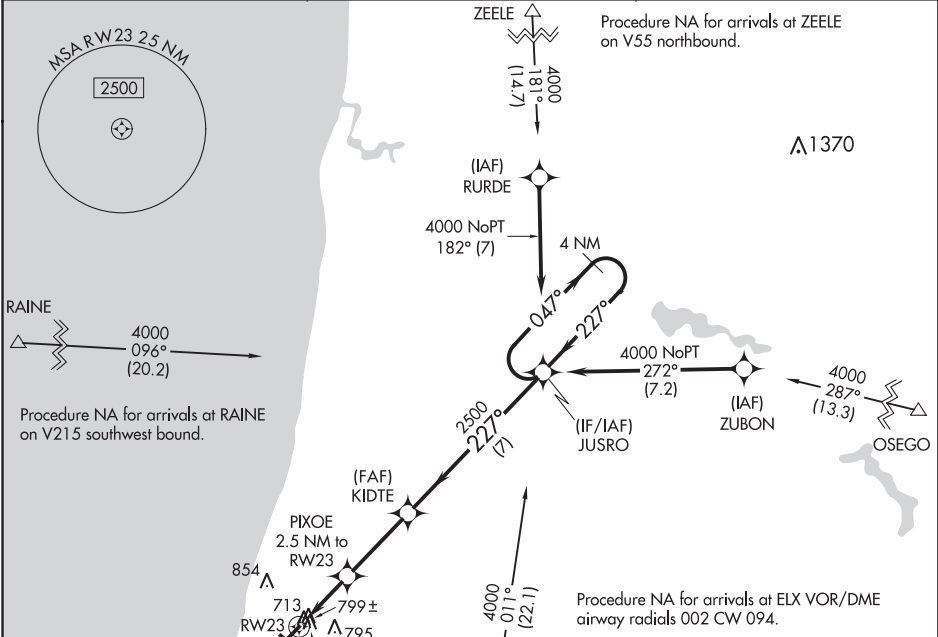
RNAV (GPS) RWY 23

SOUTH HAVEN AREA RGNL (LWA)

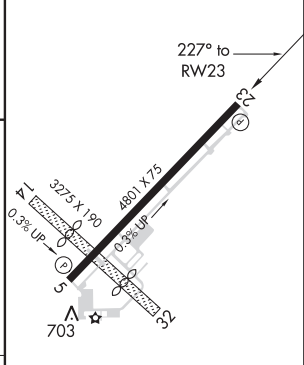
⚠ DME/DME RNP-0.3 NA. Procedure NA at night. When local altimeter setting not received, use Benton Harbor altimeter setting and increase all MDA 40 feet; increase LNAV Cats C and D visibility 1/8 mile and Circling Cat D visibility 1/4 mile. Helicopter visibility reduction below 1 SM NA. Circling NA to Rwy 14 and 32.

⚠ MISSED APPROACH: Climb to 4000 direct SUSOY and hold. Continue climb-in-hold to 4000.

| | | |
|--------------------------|---|--|
| AWOS-3 118.025 | SOUTH BEND APP CON * 118.55 257.8 | UNICOM 122.8 (CTAF) ⓪ |
|--------------------------|---|--|



| | |
|----------|----------|
| ELEV 666 | TDZE 666 |
|----------|----------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------------|-------------------------------|
| LNAV MDA | 1060-1 | 394 (400-1) | 1060-1 1/8 | 394 (400-1 1/8) |
| C CIRCLING | 1120-1 454 (500-1) | 1140-1 474 (500-1) | 1280-1 3/4 614 (700-1 3/4) | 1520-2 3/4 854 (900-2 3/4) |

REIL Rwy 5 and 23
 MIRL Rwy 5-23 **⓪**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|-----------------------------|---|
| VOR/DME PMM 112.1 Chan 58 | APP CRS 224° | Rwy Idg TDZE Apt Elev | 4801 666 666 |
|---|------------------------|-----------------------------|---|

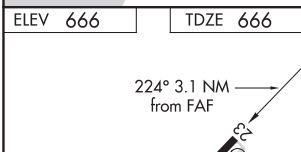
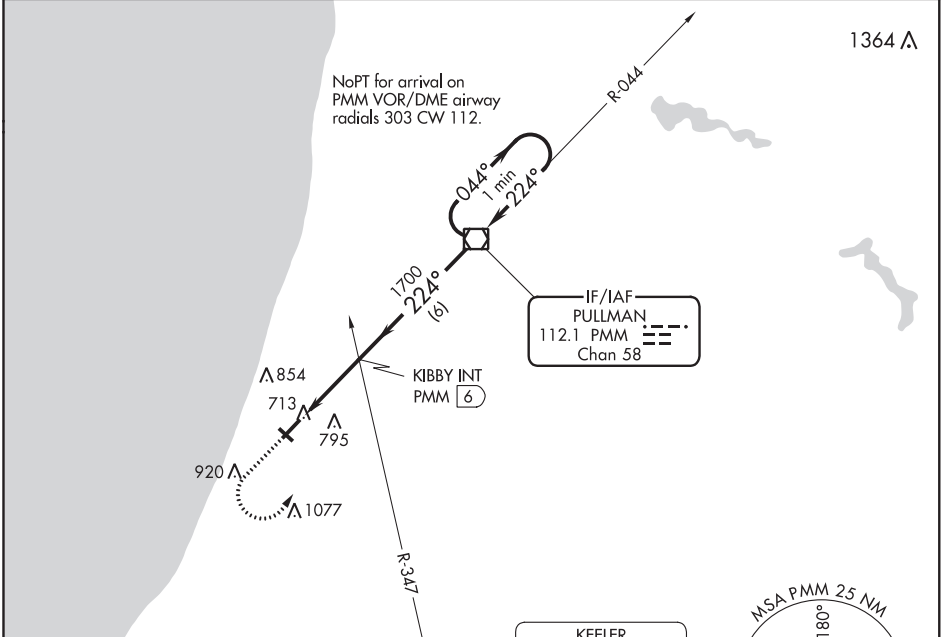
VOR RWY 23

SOUTH HAVEN AREA RGNL (LWA)

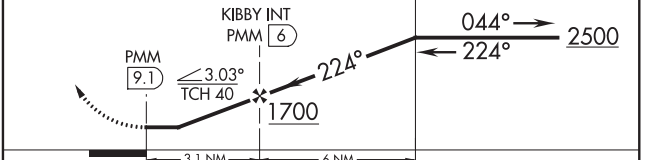
Procedure NA at night. When local altimeter setting not received, use Benton Harbor altimeter setting; increase all MDA 40 feet and Circling Cat D visibility ¼ mile. Circling NA to Rwy's 14 and 32. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing to 2500 then climbing left turn to 4000 direct PMM VOR/DME and hold.

| | | |
|--------------------------|---|-------------------------------|
| AWOS-3 118.025 | SOUTH BEND APP CON * 118.55 257.8 | UNICOM 122.8 (CTAF) |
|--------------------------|---|-------------------------------|



| | | | |
|------|------|-----|--|
| 2500 | 4000 | PMM | VGSI and descent angles not coincident (VGSI Angle 3.50/TCH 33). |
| | | | One Minute Holding Pattern |



| | A | B | C | D |
|-------------------|-----------------------|-----------------------|--|--|
| CATEGORY | A | B | C | D |
| S-23 | 1120-1 | 454 (500-1) | 1120-1 ³ / ₈ | 454 (500-1 ³ / ₈) |
| C CIRCLING | 1120-1 454 (500-1) | 1140-1 474 (500-1) | 1280-1 ³ / ₄ 614 (700-1 ³ / ₄) | 1520-2 ³ / ₄ 854 (900-2 ³ / ₄) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

RNAV (GPS) RWY 7

PAUL C MILLER - SPARTA (8D4)

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4032 |
| 066° | TDZE | 775 |
| | Apt Elev | 775 |

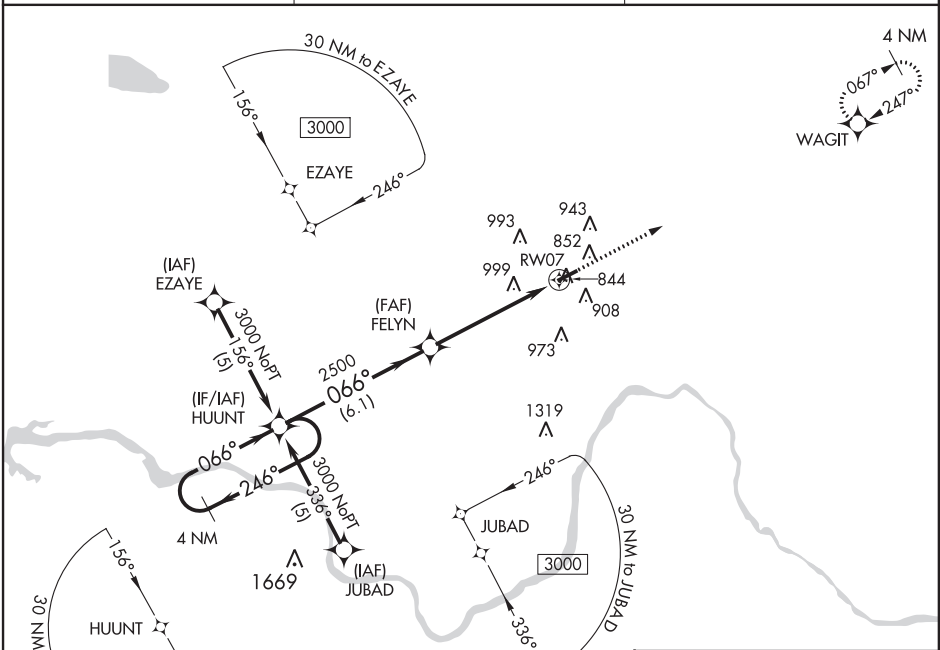
⚠ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
⚠ When local altimeter setting not received, use Grand Rapids altimeter setting and increase all MDA 60 feet.

MISSED APPROACH: Climb to 3000 direct WAGIT and hold.

AWOS-A
132.95

GRAND RAPIDS APP CON ★
124.6 257.6

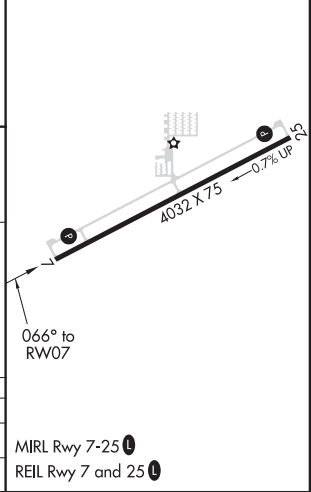
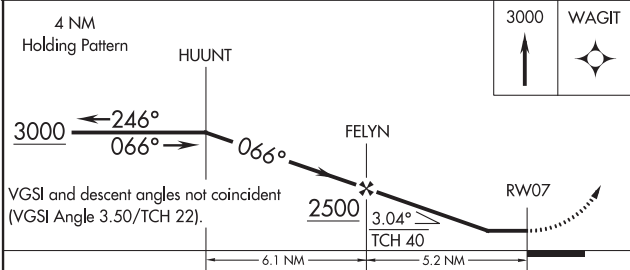
UNICOM
122.8 (CTAF) 0



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|----------|----------|
| ELEV 775 | TDZE 775 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|---|----|
| LNAV MDA | 1340-1 | 565 (600-1) | | NA |
| CIRCLING | 1340-1 | 565 (600-1) | | NA |

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 4032 |
| 247° | TDZE | 775 |
| | Apt Elev | 775 |

RNAV (GPS) RWY 25

PAUL C MILLER - SPARTA (8D4)

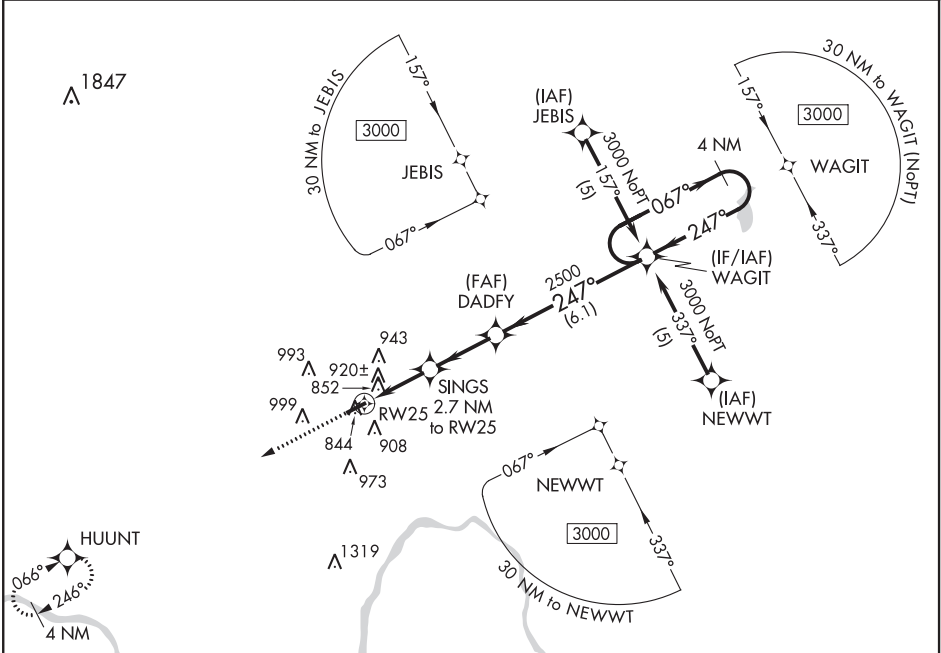
▽ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
▲ When local altimeter setting not received, use Grand Rapids altimeter setting and increase all MDA 60 feet.

MISSED APPROACH: Climb to 3000 direct HUUNT and hold.

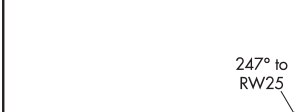
AWOS-A
132.95

GRAND RAPIDS APP CON *
124.6 257.6

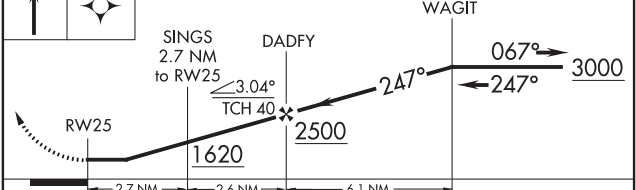
UNICOM
122.8 (CTAF) 0



| | |
|----------|----------|
| ELEV 775 | TDZE 775 |
|----------|----------|



3000 HUUNT VGSi and descent angles not coincident (VGSi Angle 3.50/TCH 34). 4 NM Holding Pattern



| CATEGORY | A | B | C | D |
|----------|-----------------------|-----------------------|----|---|
| LNAV MDA | 1220-1 | 445 (500-1) | NA | |
| CIRCLING | 1280-1 505 (600-1) | 1320-1 545 (600-1) | NA | |

MIRL Rwy 7-25 **0**
 REIL Rwy 7 and 25 **0**

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|--|------------------------|---|--|
| VORTAC MKG 115.2 Chan 99 | APP CRS 280° | Rwy Idg TDZE Apt Elev 775 | N/A N/A 775 |
|--|------------------------|---|--|

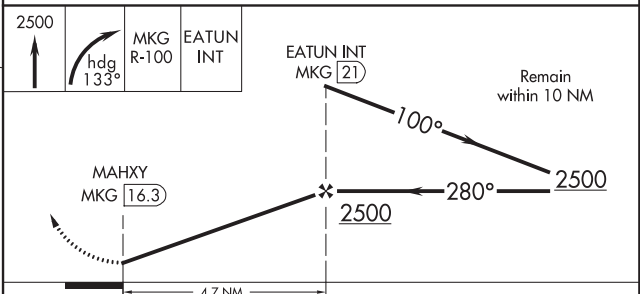
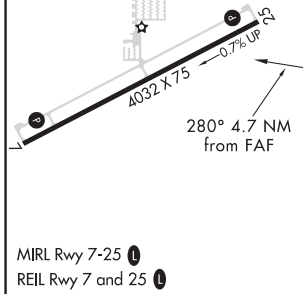
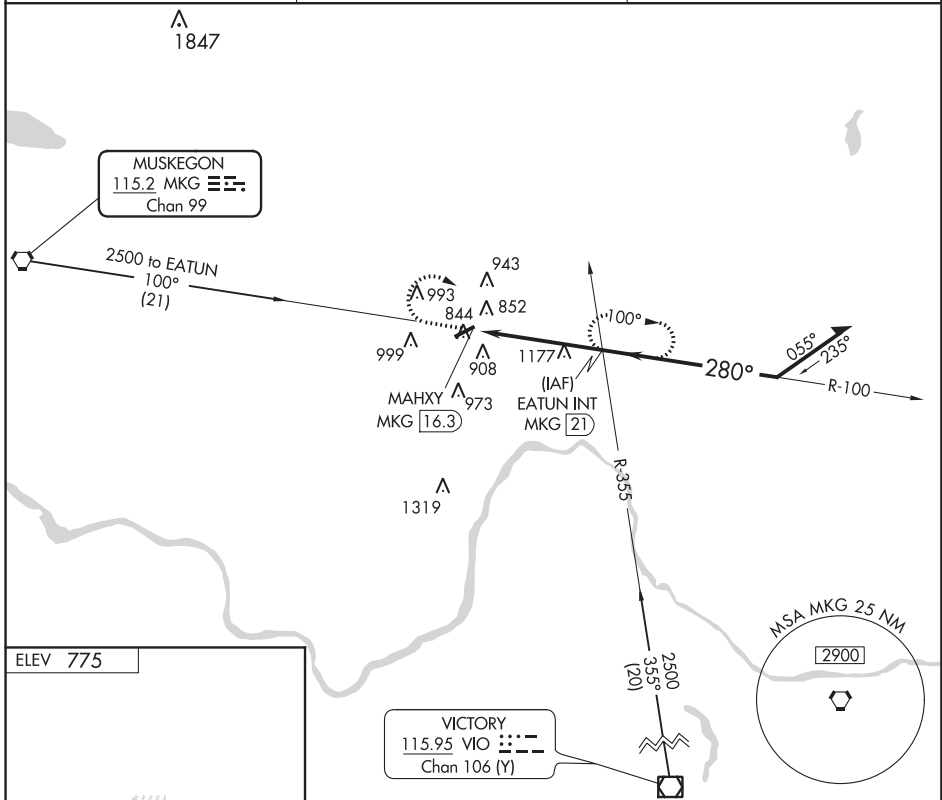
VOR-A

PAUL C MILLER - SPARTA (8D4)

⚠ When local altimeter setting not received, use Grand Rapids altimeter setting and increase all MDA 60 feet. Procedure NA at night. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 2500 then right turn on heading 133° and MKG R-100 to EATUN INT/MKG 21 DME and hold.

| | | |
|-------------------------|--|---------------------------------|
| AWOS-A 132.95 | GRAND RAPIDS APP CON ★ 124.6 257.6 | UNICOM 122.8 (CTAF) 0 |
|-------------------------|--|---------------------------------|



| | | | | | |
|-------------------|--------------------|------|------|------|------|
| FAF to MAP 4.7 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:42 | 3:08 | 2:21 | 1:53 | 1:34 |
| CATEGORY | A | B | C | D | |
| CIRCLING | 1480-1 705 (800-1) | | NA | | |

VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

STURGIS, MICHIGAN

AL-5362 (FAA)

15092

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 90230 W18A | APP CRS 184° | Rwy Idg TDZE Apt Elev | 5201 915 924 |
|--|------------------------|-----------------------------|---|

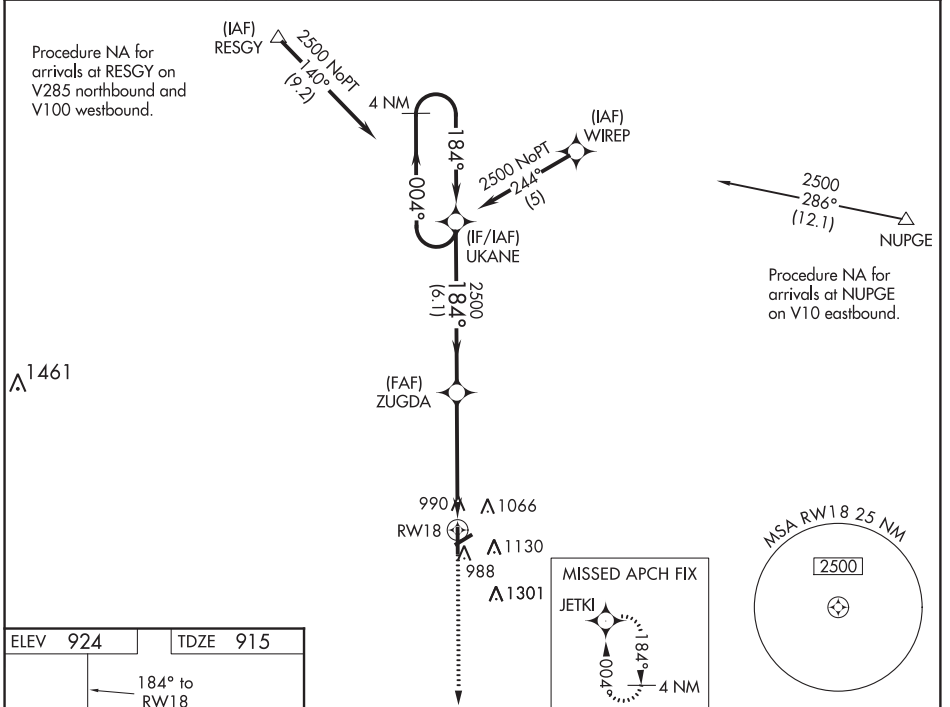
RNAV (GPS) RWY 18

KIRSCH MUNI (IRS)

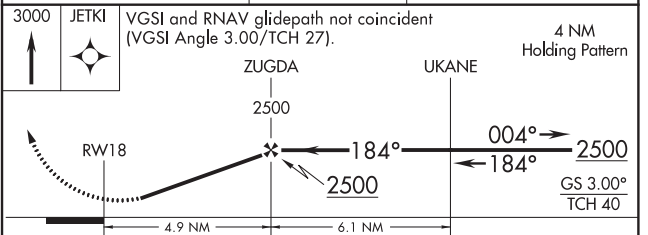
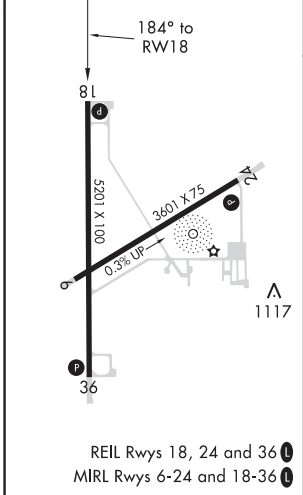
⚠ Circling to Rwy 6, 24 NA at night. Baro-VNAV NA. When VGS1 inop, Straight-In/Circling Rwy 18 procedure NA at night. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Three Rivers altimeter setting and increase all DA/MDA 40 feet; increase LPV visibility all Cats and LNAV Cat C and D ½ mile, increase LNAV/VNAV vis all Cats ¼ mile.

⚠ MISSED APPROACH: Climb to 3000 direct JETKI and hold.

| | | | |
|--------------------------|--|----------------------------|---|
| AWOS-3 121.325 | KALAMAZOO APP CON * 121.2 239.25 | CLNC DEL 118.325 | UNICOM 123.05 (CTAF) Ⓛ |
|--------------------------|--|----------------------------|---|



| | |
|----------|----------|
| ELEV 924 | TDZE 915 |
|----------|----------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------------|-------------------------------|
| LPV DA | | 1235-1 1/8 | 320 (400-1 1/8) | |
| LNAV/VNAV DA | | 1229-1 | 314 (300-1) | |
| LNAV MDA | 1400-1 | 485 (500-1) | 1400-1 3/8 | 485 (500-1 3/8) |
| CIRCLING | 1440-1 | 516 (600-1) | 1440-1 1/2 516 (600-1 1/2) | 1620-2 1/4 696 (700-2 1/4) |

STURGIS, MICHIGAN
Amdt 1A 02APR15

41°49'N-85°26'W

RNAV (GPS) RWY 18

KIRSCH MUNI (IRS)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 42915 W36A | APP CRS 004° | Rwy Idg 5201 TDZE 915 Apt Elev 924 |
|--|------------------------|---|

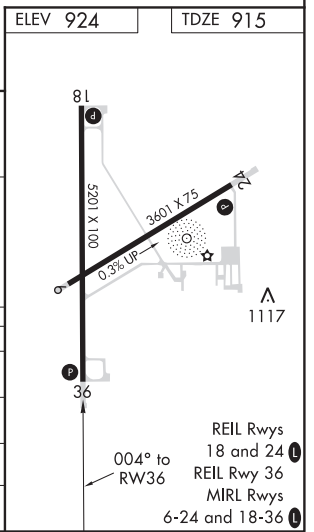
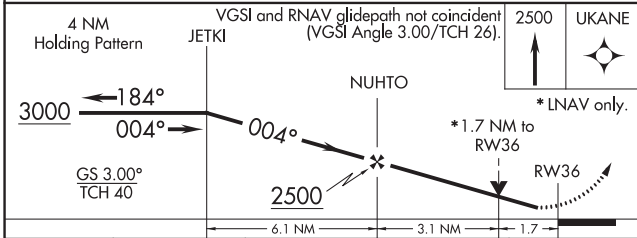
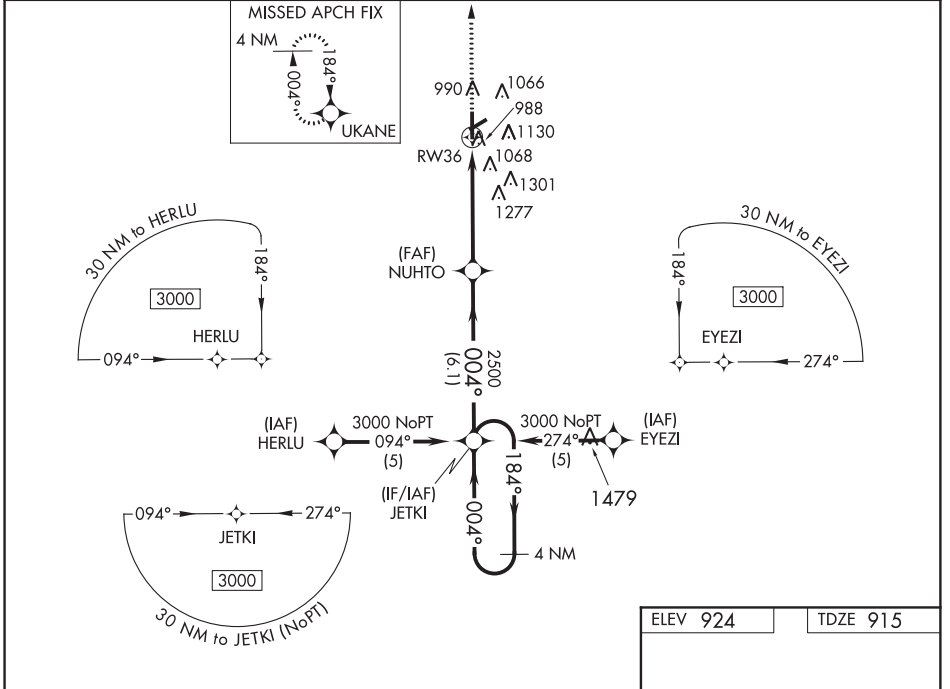
RNAV (GPS) RWY 36

KIRSCH MUNI (IRS)

▼ 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. Visibility reduction by helicopters NA. When local altimeter setting not received, use Three Rivers altimeter setting and increase all DA/MDA 40 feet, increase LNAV/VNAV all Cats and LNAV Cat C/D visibility ¼ mile. VDP NA when using Three Rivers altimeter setting. Baro-VNAV NA when using Three Rivers altimeter setting.

MISSED APPROACH: Climb to 2500 direct UKANE and hold.

| | | | |
|--------------------------|--|----------------------------|--------------------------------|
| AWOS-3 121.325 | KALAMAZOO APP CON * 121.2 239.25 | CLNC DEL 118.325 | UNICOM 123.05 (CTAF) |
|--------------------------|--|----------------------------|--------------------------------|



| CATEGORY | A | B | C | D |
|--------------|--------|-------------|-------------------------|-------------------------|
| LPV DA | | 1178-1 | 263 (300-1) | |
| LNAV/VNAV DA | | 1354-1½ | 439 (500-1½) | |
| LNAV MDA | 1480-1 | 565 (600-1) | 1480-1½ 565 (600-1½) | 1480-1¾ 565 (600-1¾) |
| CIRCLING | 1480-1 | 556 (600-1) | 1480-1½ 556 (600-1½) | 1620-2¼ 696 (700-1¼) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|-----------------------|------------------------|-----------------------------|---|
| NDB IRS 382 | APP CRS 236° | Rwy Idg TDZE Apt Elev | 3451 924 924 |
|-----------------------|------------------------|-----------------------------|---|

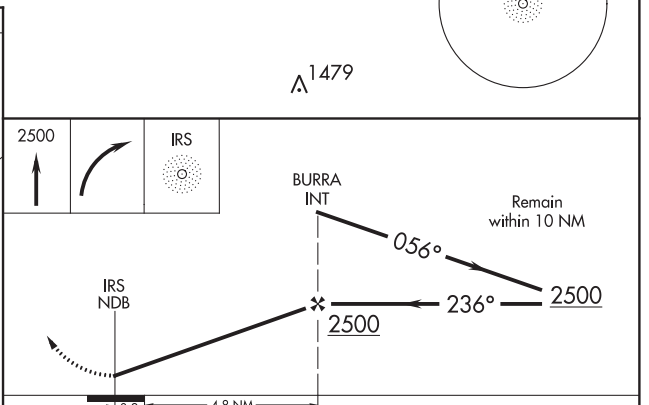
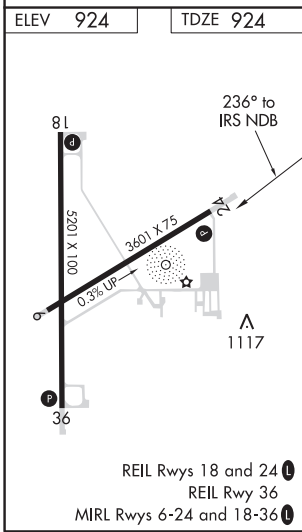
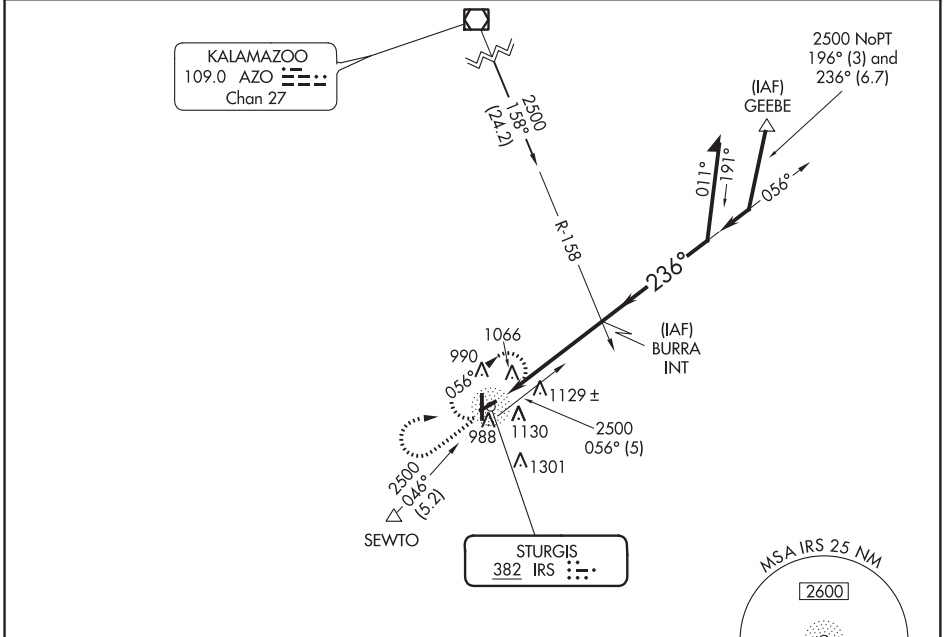
NDB RWY 24

KIRSCH MUNI (IRS)

▼ When local altimeter setting not received, use Three Rivers altimeter setting and increase all MDA 40 feet.
▲ NA Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 2500 then right turn direct IRS NDB and hold.

| | | | |
|--------------------------|--|----------------------------|---|
| AWOS-3 121.325 | KALAMAZOO APP CON * 121.2 239.25 | CLNC DEL 118.325 | UNICOM 123.05 (CTAF) 1 |
|--------------------------|--|----------------------------|---|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| S-24 | 1480-1 | 556 (600-1) | 1480-1½ 556 (600-1½) | 1480-1¾ 556 (600-1¾) |
| CIRCLING | 1480-1 | 556 (600-1) | 1480-1½ 556 (600-1½) | 1620-2¼ 696 (700-2¼) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

TECUMSEH, MICHIGAN

AL-5499 (FAA)

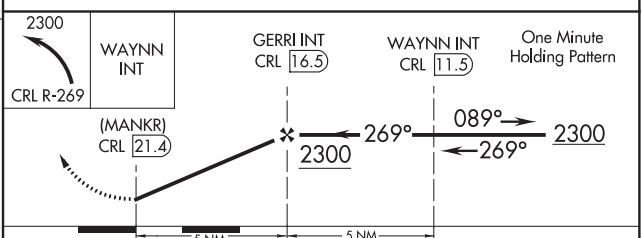
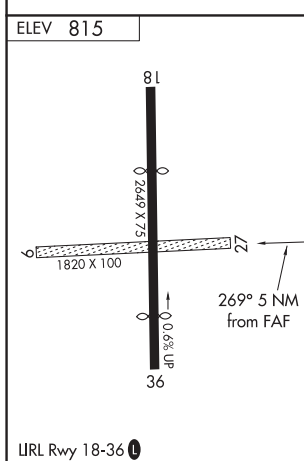
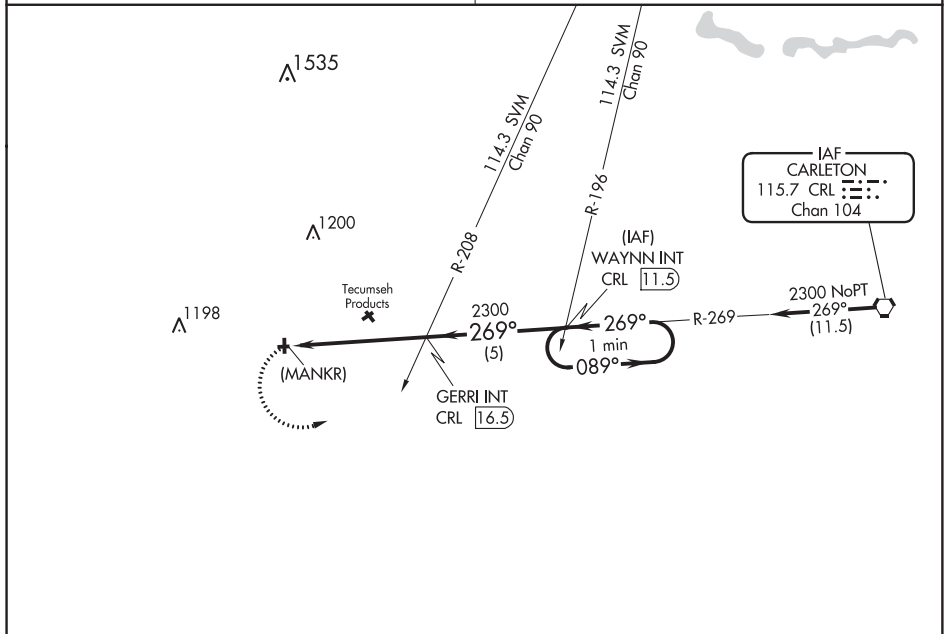
13346

| | | | |
|---|------------------------|-----------------------------|--|
| VORTAC CRL 115.7 Chan 104 | APP CRS 269° | Rwy Idg TDZE Apt Elev | N/A N/A 815 |
|---|------------------------|-----------------------------|--|

VOR or GPS-A

MEYERS-DIVERS (3TE)

| | |
|--|--|
| <p>▼ Use Detroit Willow Run altimeter setting.</p> <p>▲ NA</p> | <p>MISSED APPROACH: Climbing left turn to 2300 via CRL R-269 to WAYNN 11.5 DME and hold.</p> |
| <p>DETROIT METROPOLITAN WAYNE COUNTY APP CON 118.95 363.2</p> | <p>CTAF 1 122.9</p> |



| | | | | | | |
|-----------------|-----------------------|------|-------------------------|------|------|---|
| FAF to MAP 5 NM | | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 | |
| Min:Sec | 5:00 | 3:20 | 2:30 | 2:00 | 1:40 | |
| CATEGORY | A | | B | | C | D |
| CIRCLING | 1420-1 605 (700-1) | | 1420-1¼ 605 (700-1¼) | | NA | |

TECUMSEH, MICHIGAN
Amdt 7A 06MAY10

42°02'N-83°56'W

VOR or GPS-A

MEYERS-DIVERS (3TE)

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|------------------------|-----------------------------|---|
| APP CRS 274° | Rwy ldg TDZE Apt Elev | 3999 823 824 |
|------------------------|-----------------------------|---|

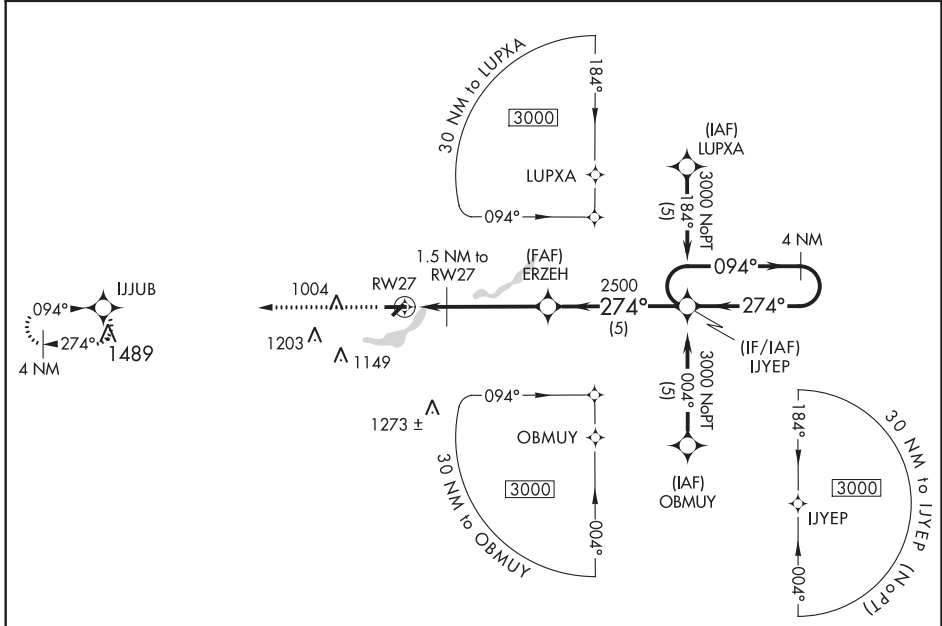
RNAV (GPS) RWY 27

THREE RIVERS MUNI DR. HAINES (HAI)

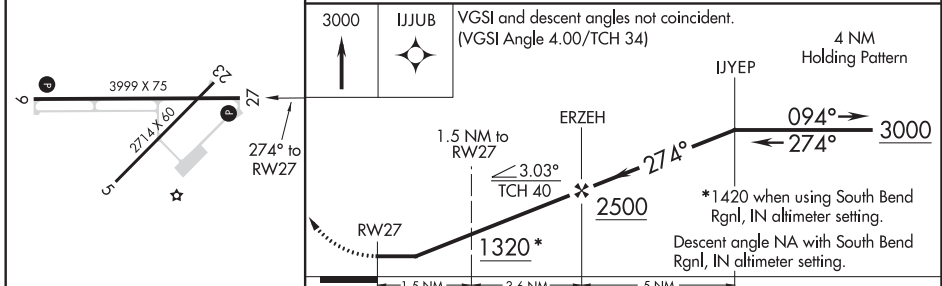
⚠ DME/DME RNP-0.3 NA. When local altimeter setting not received, use South Bend altimeter setting and increase all MDA 100 feet; increase LNAV Cat C visibility 1/8 mile and increase Circling Cat C visibility 1/2 mile. Procedure NA at night. Helicopter visibility reduction below 1 SM NA.

⚠ MISSED APPROACH: Climb to 3000 direct IJJUB WP and hold.

| | | |
|--------------------------|---|---------------------------------|
| AWOS-3 119.975 | KALAMAZOO APP CON★ 121.2 239.25 | UNICOM 122.8 (CTAF) 0 |
|--------------------------|---|---------------------------------|



| | |
|-----------------|-----------------|
| ELEV 824 | TDZE 823 |
|-----------------|-----------------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------------|----|
| LNAV MDA | 1200-1 | 377 (400-1) | 1200-1 1/4 377 (400-1 1/4) | NA |
| C CIRCLING | 1320-1 496 (500-1) | 1420-1 596 (600-1) | 1560-2 736 (800-2) | NA |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

THREE RIVERS, MICHIGAN

AL-5119 (FAA)

15204

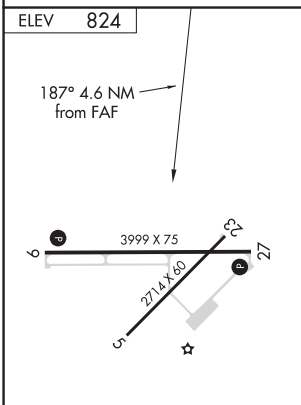
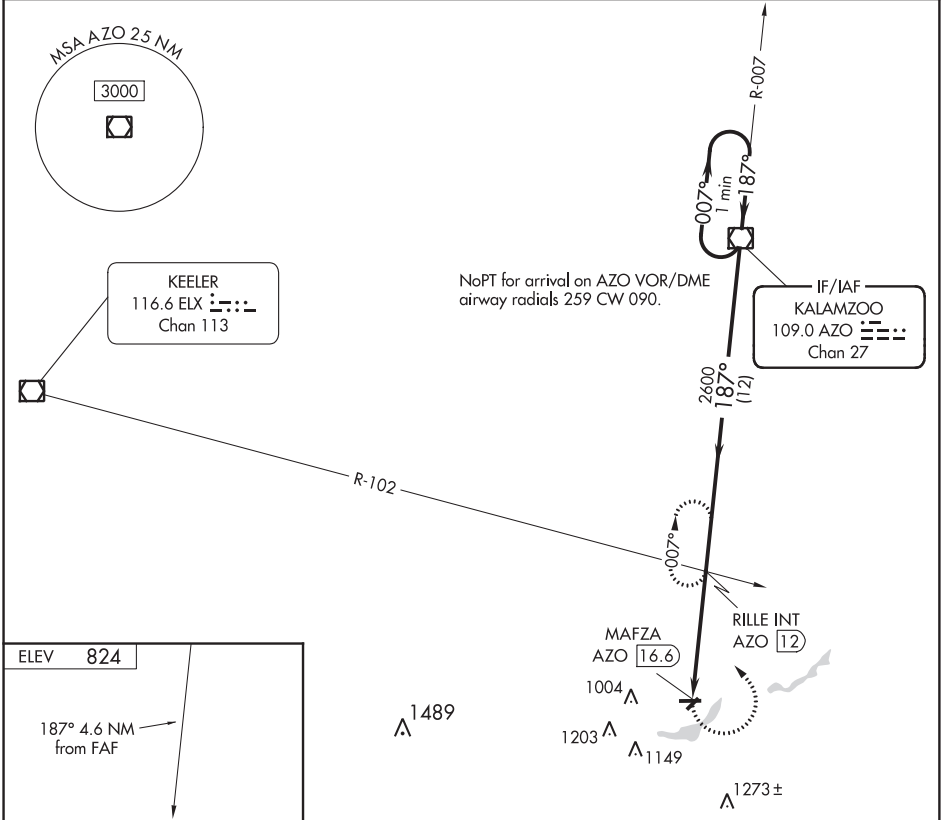
| | | | |
|---|------------------------|-----------------------------|--|
| VOR/DME AZO 109.0 Chan 27 | APP CRS 187° | Rwy Idg TDZE Apt Elev | N/A N/A 824 |
|---|------------------------|-----------------------------|--|

VOR-A
THREE RIVERS MUNI DR. HAINES (HAI)

⚠ When local altimeter setting not received, use South Bend altimeter setting and increase all MDA 100 feet, and increase Cat C visibility 1/2 mile. Procedure NA at night. Helicopter visibility reduction below 1 SM NA.

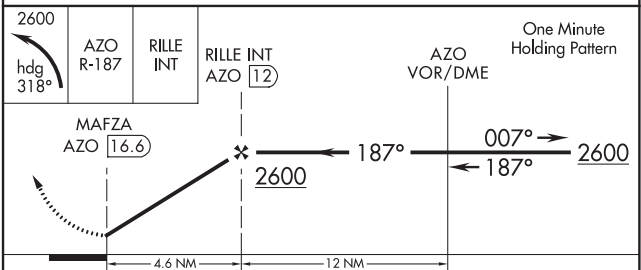
MISSED APPROACH: Climbing left turn to 2600 on heading 318° and AZO VOR/DME R-187 to RILLE INT/12 DME and hold.

| | | |
|--------------------------|--|---------------------------------|
| AWOS-3 119.975 | KALAMAZOO APP CON ★ 121.2 239.25 | UNICOM 122.8 (CTAF) 0 |
|--------------------------|--|---------------------------------|



REIL Rwys 9 and 27
MIRL Rwys 5-23 and 9-27 0

| | | | | | |
|-------------------|------|------|------|------|------|
| FAF to MAP 4.6 NM | | | | | |
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:36 | 3:04 | 2:18 | 1:50 | 1:32 |



| | | | | |
|-------------------|-----------------------|-----------------------|-----------------------|----|
| CATEGORY | A | B | C | D |
| C CIRCLING | 1320-1 496 (500-1) | 1420-1 596 (600-1) | 1560-2 736 (800-2) | NA |

THREE RIVERS, MICHIGAN
Amdt 10A 23JUL15

41°58'N-85°36'W

THREE RIVERS MUNI DR. HAINES (HAI)
VOR-A

EC-1, 10 NOV 2016 to 05 JAN 2017


EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|---------------------------|------------------------|------------------------|
| LOC I-TVC 110.7 | APP CRS 279° | Rwy Idg 6901 |
| | | TDZE 616 |
| | | Apt Elev 624 |

ILS or LOC RWY 28

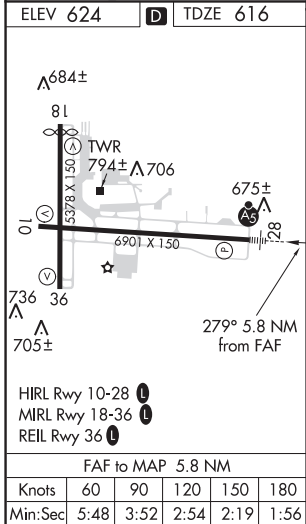
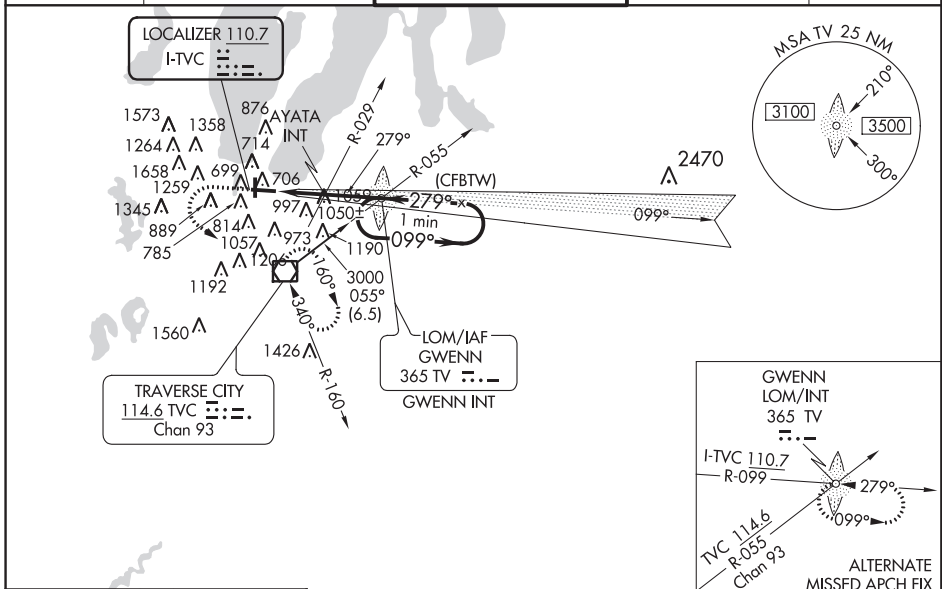
CHERRY CAPITAL (TVC)

⚠ AYATA fix minimums: For inop MALSRL, increase S-LOC 28 Cat C, D visibility to 2 miles. AYATA fix minimums: For inop MALSRL when using Bellaire altimeter setting, increase S-LOC 28 Cat C, D visibility to 2½ miles. Circling to Rwy 18 NA at night. When local altimeter setting not received, use Bellaire altimeter setting and increase all DA 51 feet and all MDA 60 feet, increase S-LOC 28 Cat A and Circling Cat C visibility ¼ mile; increase AYATA fix minimums S-LOC 28 Cats C, D visibility ½ mile and Circling Cat C visibility ¼ mile.

MALSRL 

MISSED APPROACH: Climb to 1100 then climbing left turn to 3000 direct TVC VOR/DME and hold, continue climb-in-hold to 3000.

| | | | | |
|------------------------|--|--|-------------------------------|-------------------------|
| ATIS 119.175 | MINNEAPOLIS CENTER 132.9 338.3 | TRAVERSE CITY TOWER * 124.2 (CTAF) 348.6 | GND CON 121.8 348.6 | UNICOM 122.95 |
|------------------------|--|--|-------------------------------|-------------------------|



| | | | | | | |
|---|---------|--------------|--|----------------------------|----------------------|-----------------|
| 1100 | 3000 | TVC | *1540 when using Bellaire altimeter setting *LOC only | | | |
| VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 45). | | AYATA INT | GWENN LOM/INT | One Minute Holding Pattern | | |
| 2.8 NM | | 3 NM | 2525 | 099° | 2600 | GS 3.00° TCH 52 |
| *1480 | | 2600 | | | | |
| CATEGORY | A | B | C | D | | |
| S-ILS 28 | 816-½ | | | | | 200 (200-½) |
| S-LOC 28 | 1480-¾ | 864 (900-¾) | 1480-2 | 864 (900-2) | | |
| C CIRCLING | 1480-1¼ | 856 (900-1¼) | 1500-2½ | 876 (900-2½) | 1720-3 | |
| AYATA FIX MINIMUMS | | | | | | |
| S-LOC 28 | 1360-½ | 744 (800-½) | 1360-¾ | 744 (800-¾) | 1360-1¾ 744 (800-1¾) | |
| C CIRCLING | 1360-1 | 736 (800-1) | 1360-1¼ | 736 (800-1¼) | 1500-2½ | 876 (900-2½) |
| | | | | | 1096 (1100-3) | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

TRAVERSE CITY, MICHIGAN

AL-425 (FAA)

16091

| | | | |
|--|------------------------|---|-------------|
| WAAS CH 42610 W10A | APP CRS 099° | Rwy Idg TDZE 624 Apt Elev 624 | 6901 |
|--|------------------------|---|-------------|

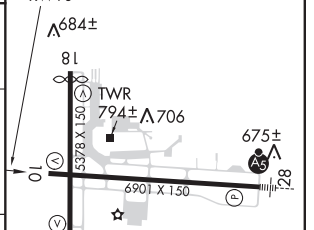
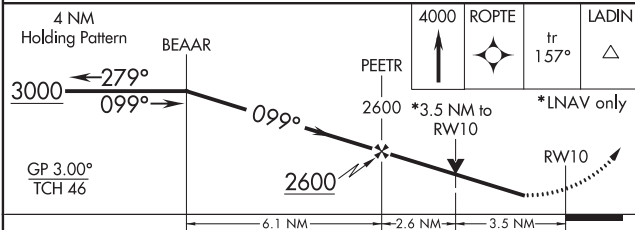
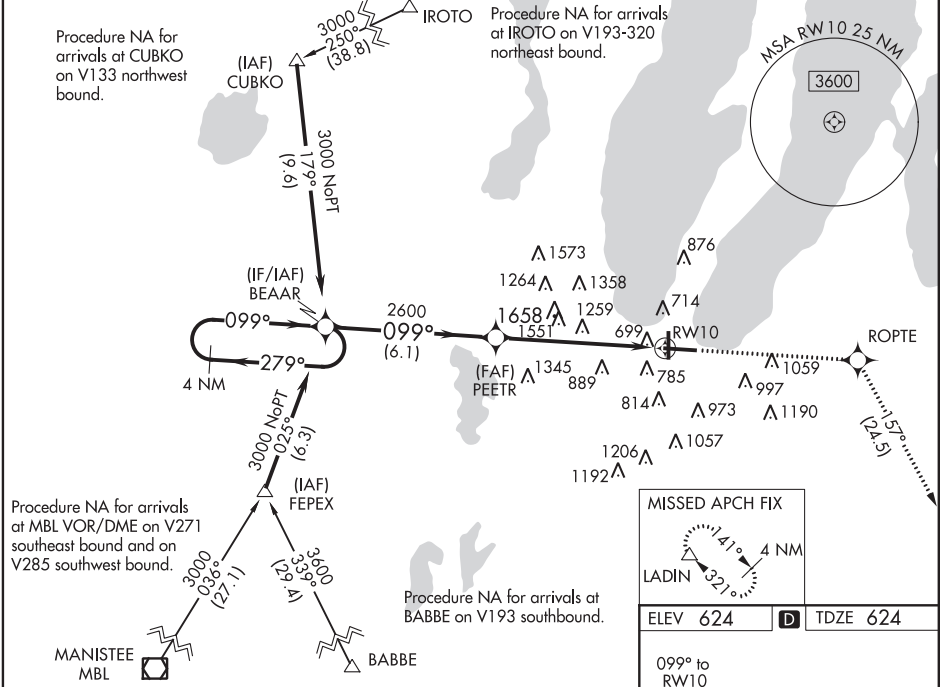
RNAV (GPS) RWY 10

CHERRY CAPITAL (TV'C)

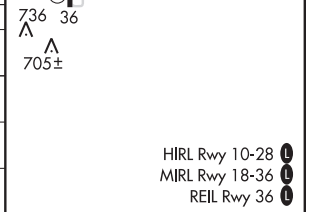
⚠ Baro-VNAV NA when using Bellaire altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (2°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. VDP NA with Bellaire altimeter setting. When local altimeter not received, use Bellaire altimeter setting and increase all DA 51 feet and all MDA 60 feet, increase LPV all Cals visibility ¼ mile. Circling to Rwy 18 NA at night. Helicopter visibility reduction below ¼ SM NA.

⚠ MISSED APPROACH: Climb to 4000 direct ROPTe and on track 157° to LADIN and hold.

| | | | | |
|------------------------|--|---|-------------------------------|-------------------------|
| ATIS 119.175 | MINNEAPOLIS CENTER 132.9 338.3 | TRAVERSE CITY TOWER* 124.2 (CTAF) 0 348.6 | GND CON 121.8 348.6 | UNICOM 122.95 |
|------------------------|--|---|-------------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|-------------------|---------------------------------|---------------------------------|-----------------|---------------|
| LPV DA | | 968-1 1/8 | 344 (400-1 1/8) | |
| LNAV/VNAV DA | | 1983-5 | 1359 (1400-5) | |
| LNAV MDA | 1780-1 1/4 1156 (1200-1 1/4) | 1780-1 1/2 1156 (1200-1 1/2) | 1780-3 | 1156 (1200-3) |
| C CIRCLING | 1780-1 1/4 1156 (1200-1 1/4) | 1780-1 1/2 1156 (1200-1 1/2) | 1780-3 | 1156 (1200-3) |



TRAVERSE CITY, MICHIGAN
Amdt 1A 05MAR15

44°44'N-85°35'W

RNAV (GPS) RWY 10

CHERRY CAPITAL (TV'C)

HIRL Rwy 10-28
MIRL Rwy 18-36
REIL Rwy 36

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | |
|--|------------------------|---|
| WAAS CH 90335 W18A | APP CRS 185° | Rwy Idg 4838 TDZE 622 Apt Elev 624 |
|--|------------------------|---|

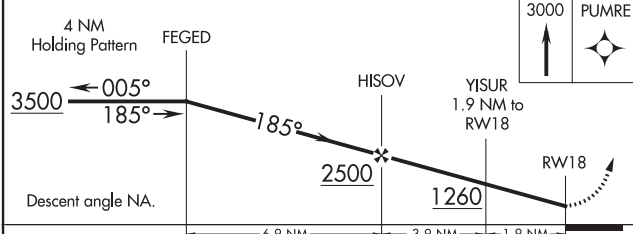
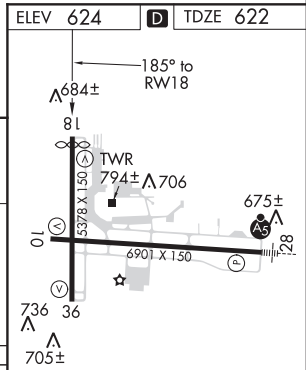
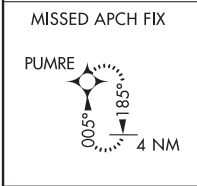
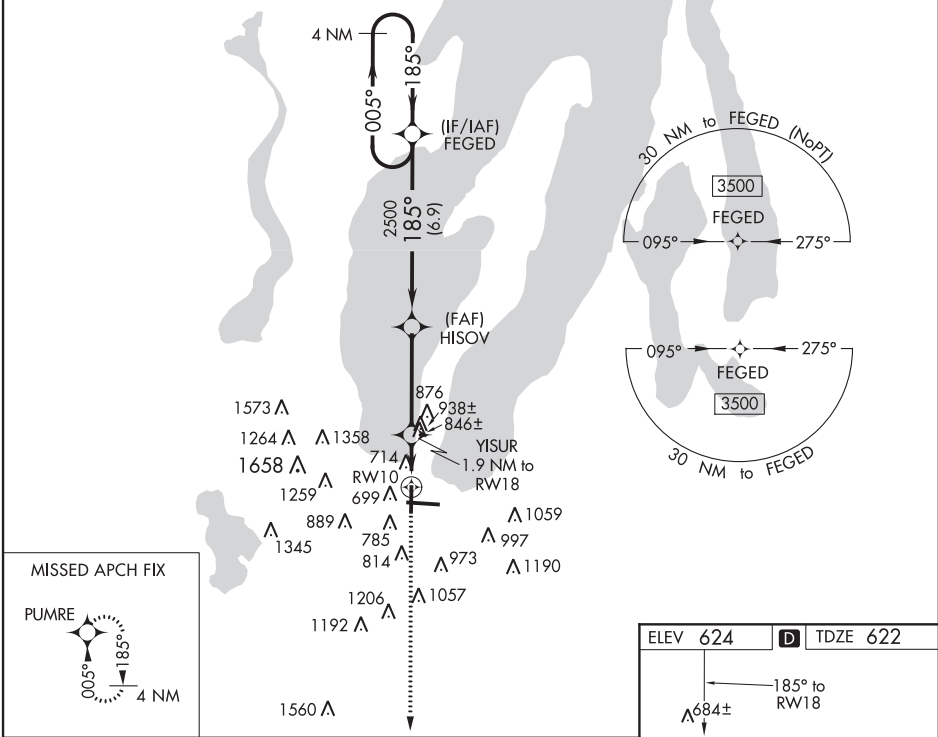
RNAV (GPS) RWY 18

CHERRY CAPITAL (TVC)

⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Rwy 18 Straight-in and Circling minima NA at night. When local altimeter setting not received, use Belleaire altimeter setting and increase all MDA 60 feet, increase LP Cat C and D visibility 1/4 mile, **⚠** -21°C/-6°F LNAV Cat C and D visibility 1/2 mile, and Circling Cat C visibility 1/4 mile.

MISSED APPROACH:
Climb to 3000 direct PUMRE and hold.

| | | | | |
|------------------------|--|---|-------------------------------|-------------------------|
| ATIS 119.175 | MINNEAPOLIS CENTER 132.9 338.3 | TRAVERSE CITY TOWER* 124.2 (CTAF) 348.6 | GND CON 121.8 348.6 | UNICOM 122.95 |
|------------------------|--|---|-------------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|-------------------|-----------------------|-----------------------|-------------------------------|-------------------------|
| LP MDA | 1100-1 | 478 (500-1) | 1100-1 3/8 | 478 (500-1 3/8) |
| LNAV MDA | 1200-1 | 578 (600-1) | 1200-1 3/4 | 578 (600-1 3/4) |
| C CIRCLING | 1200-1 576 (600-1) | 1260-1 636 (700-1) | 1500-2 1/2 876 (900-2 1/2) | 1720-3 1096 (1100-3) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

HIRL Rwy 10-28
MIRL Rwy 18-36
REIL Rwy 36

| | | | |
|--|------------------------|-----------------------------|---|
| WAAS CH 53733 W36A | APP CRS 005° | Rwy Idg TDZE Apt Elev | 5108 624 624 |
|--|------------------------|-----------------------------|---|

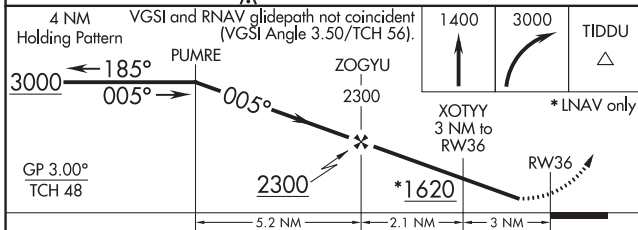
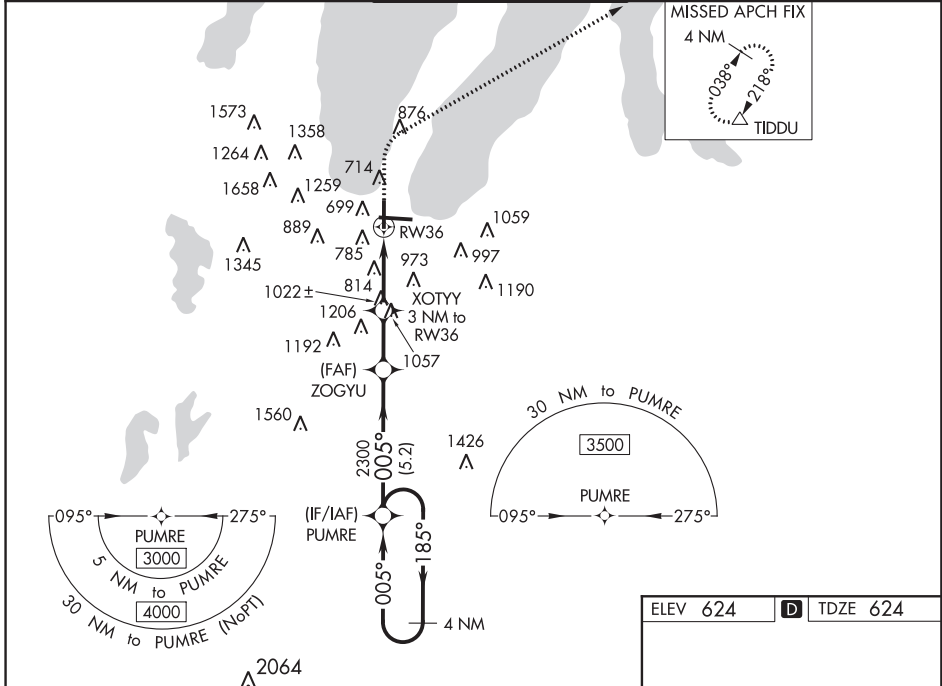
RNAV (GPS) RWY 36

CHERRY CAPITAL (TVC)

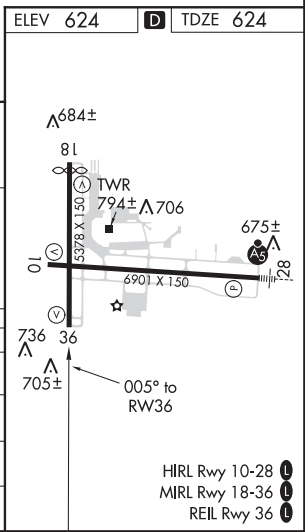
Baro-VNAV NA when using Antrim County altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received use Antrim County altimeter setting; increase all DA 51 feet and all MDA 60 feet, increase LNAV/VNAV all Cats and Circling Cat D visibilities ¼ mile, and increase LPV all Cats, LNAV Cat C/D and Circling Cat D visibilities ½ mile. Helicopter visibility reduction below ¾ SM NA. Night landing Rwy 18 NA.

MISSED APPROACH: Climb to 1400 then climbing right turn to 3000 direct TIDDU and hold.

| | | | | |
|------------------------|--|---|-------------------------------|-------------------------|
| ATIS 119.175 | MINNEAPOLIS CENTER 132.9 338.3 | TRAVERSE CITY TOWER * 124.2(CTAF) 0 348.6 | GND CON 121.8 348.6 | UNICOM 122.95 |
|------------------------|--|---|-------------------------------|-------------------------|



| CATEGORY | A | B | C | D |
|-------------------|--------|-------------|-------------------------------|-------------------------|
| LPV DA | | 899-7/8 | 275 (300-7/8) | |
| LNAV/VNAV DA | | 1146-1 3/4 | 522 (600-1 3/4) | |
| LNAV MDA | 1280-1 | 656 (700-1) | 1280-1 7/8 | 656 (700-1 7/8) |
| C CIRCLING | 1280-1 | 656 (700-1) | 1500-2 1/2 876 (900-2 1/2) | 1720-3 1096 (1100-3) |



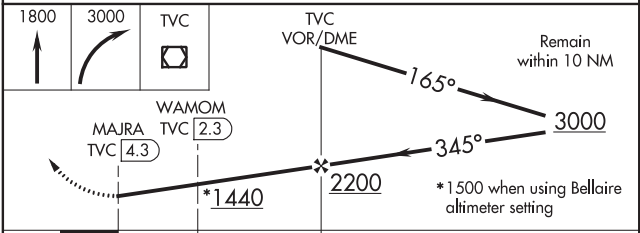
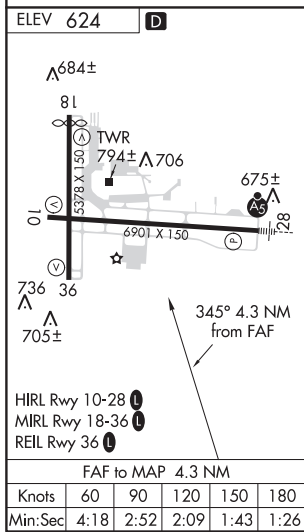
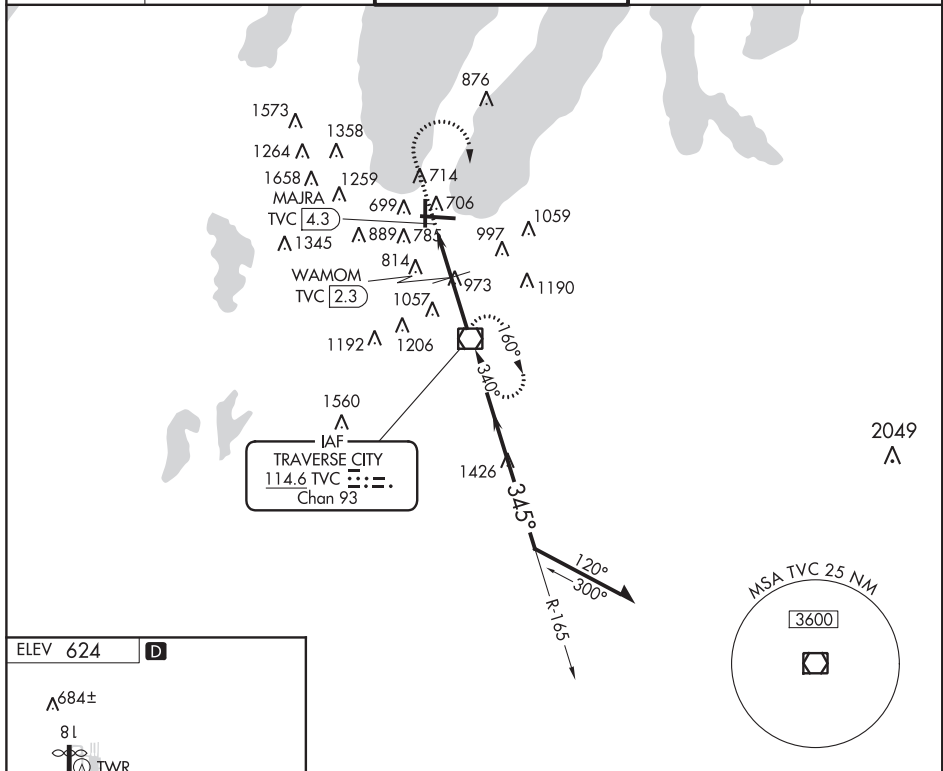
EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|---|--|
| VOR/DME TVC 114.6 Chan 93 | APP CRS 345° | Rwy Idg TDZE Apt Elev 624 | N/A N/A 624 |
|---|------------------------|---|--|

VOR-A
CHERRY CAPITAL (TVC)

| | | | | |
|------------------------------------|---|--|-------------------------------|-------------------------|
| ⚠ ⚠ -21°C/-6°F | When local altimeter setting not received, use Bellaire altimeter setting and increase all MDA 60 feet and all Cat C visibility ¼ mile. Circling to Rwy 18 NA at night. | MISSED APPROACH: Climb to 1800 then climbing right turn to 3000 direct TVC VOR/DME and hold. | | |
| ATIS 119.175 | MINNEAPOLIS CENTER 132.9 338.3 | TRAVERSE CITY TOWER * 124.2 (CTAF) 0 348.6 | GND CON 121.8 348.6 | UNICOM 122.95 |



| CATEGORY | A | B | C | D |
|-----------------------------------|---------|--------------|-------------------------|-------------------------|
| C CIRCLING | 1440-1¼ | 816 (900-1¼) | 1500-2½ 876 (900-2½) | 1720-3 1096 (1100-3) |
| WAMOM FIX MINIMUMS (DME REQUIRED) | | | | |
| C CIRCLING | 1300-1 | 676 (700-1) | 1500-2½ 876 (900-2½) | 1720-3 1096 (1100-3) |

TROY, MICHIGAN

AL-5293 (FAA)

15344

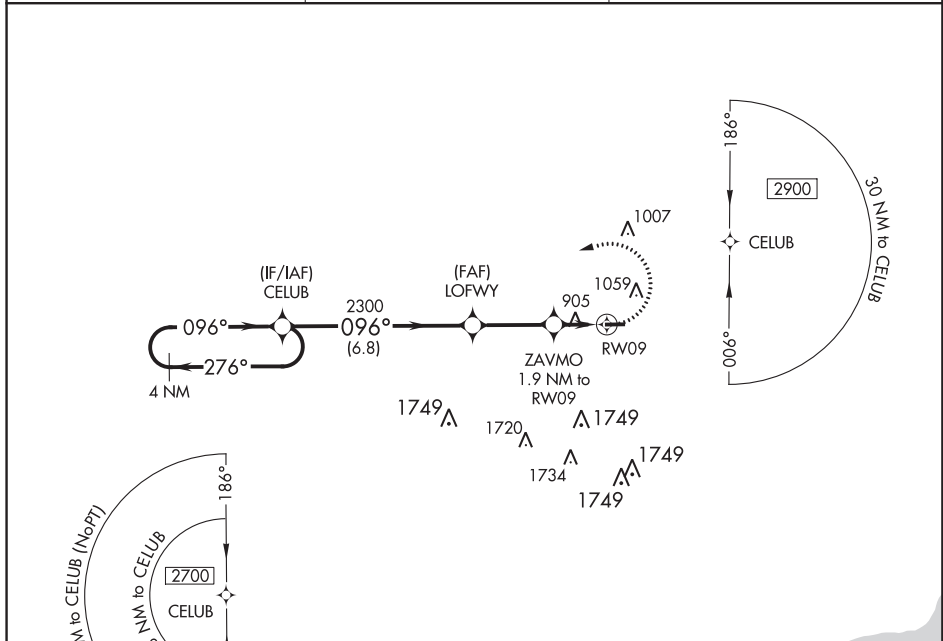
| | | |
|------------------------|-----------------------------|---|
| APP CRS 096° | Rwy Idg TDZE Apt Elev | 3549 727 727 |
|------------------------|-----------------------------|---|

RNAV (GPS) RWY 9

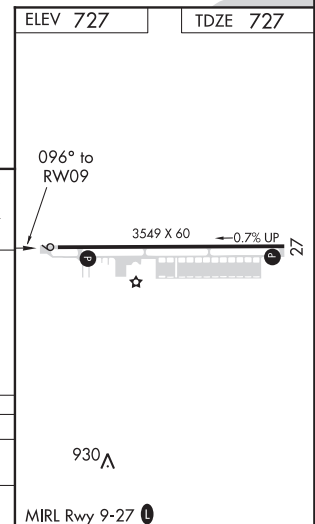
OAKLAND/TROY (VLL)

| | |
|---|--|
| <p>⚠ DME/DME RNP-0.3 NA. Procedure NA at night. When local altimeter setting not received, use Coleman A Young Muni altimeter setting and increase all MDA 40 feet and increase LNAV Cat C visibility 1/8 mile. Helicopter visibility reduction below 1 SM NA.</p> | <p>MISSED APPROACH: Climbing left turn to 2700 direct CELUB and hold.</p> |
|---|--|

| | | |
|--------------------------|--|----------------------------------|
| AWOS-3 119.475 | DETROIT APP CON 126.85 363.2 | UNICOM 123.05 (CTAF) 0 |
|--------------------------|--|----------------------------------|



| | | | | | | | | | |
|--|--------|-------------|-------------------------------|--------|--|----------------------|--|------|--|
| 4 NM Holding Pattern | | CELUB | | LOFWY | | ZAVMO 1.9 NM to RW09 | | RW09 | |
| 2700 ← 276° | | 096° → | | 3.00° | | TCH 40 | | 1360 | |
| 6.8 NM | | 2.9 NM | | 1.9 NM | | | | | |
| VGSI and descent angles not coincident (VGSI Angle 3.75/TCH 44). | | | | | | | | | |
| CATEGORY | A | B | C | D | | | | | |
| LNAV MDA | 1220-1 | 493 (500-1) | 1220-1 3/8 493 (500-1 3/8) | NA | | | | | |
| CIRCLING | 1400-1 | 673 (700-1) | 1400-2 673 (700-2) | NA | | | | | |



EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

TROY, MICHIGAN
Amdt 2A 26JUN14

42°33'N-83°11'W

RNAV (GPS) RWY 9

OAKLAND/TROY (VLL)

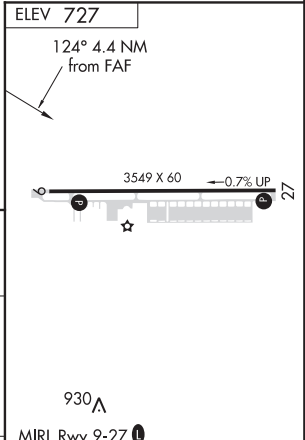
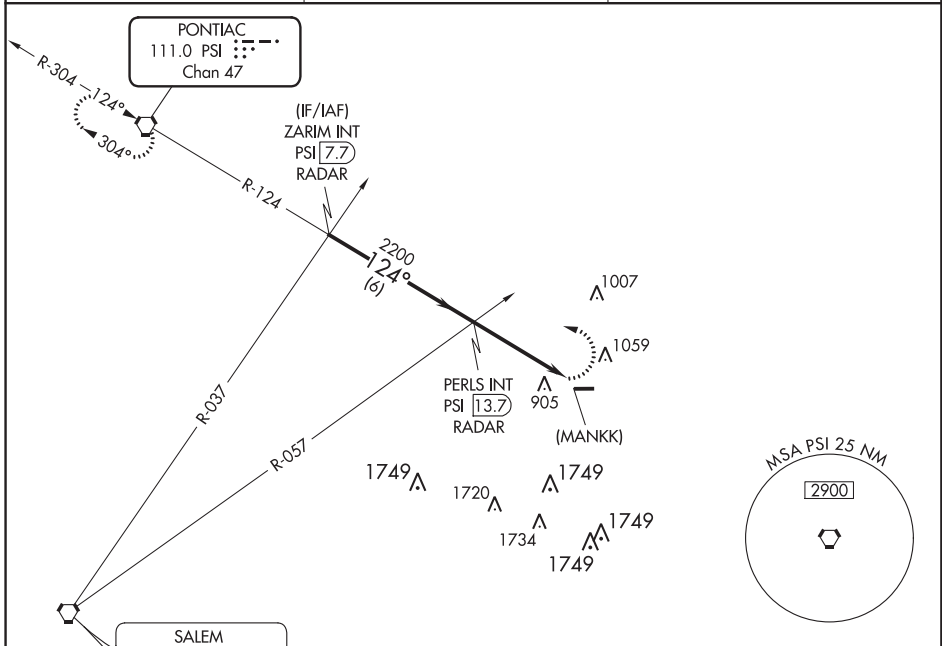
| | | |
|---------------------------------------|------------------------|---|
| VORTAC PSI 111.0 Chan 47 | APP CRS 124° | Rwy Idg TDZE Apt Elev N/A N/A 727 |
|---------------------------------------|------------------------|---|

VOR-A
OAKLAND/TROY (VLL)

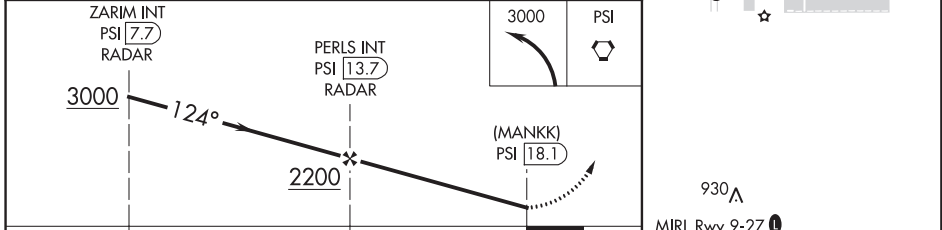
⚠ When local altimeter setting not received, use Coleman A Young Muni altimeter setting. Procedure NA at night. Visibility reduction by helicopters NA.

MISSED APPROACH: Climbing left turn to 3000 direct PSI VORTAC and hold.

| | | |
|--------------------------|--|---|
| AWOS-3 119.475 | DETROIT APP CON 126.85 363.2 | UNICOM 123.05 (CTAF) 0 |
|--------------------------|--|---|



RADAR REQUIRED



| | | | | | | | | | | | |
|----------|--------------------|---|--------------------|---|-------------------|---------|------|------|------|------|------|
| CATEGORY | A | B | C | D | FAF to MAP 4.4 NM | | | | | | |
| CIRCLING | 1400-1 673 (700-1) | | 1400-2 673 (700-2) | | NA | Knots | 60 | 90 | 120 | 150 | 180 |
| | | | | | | Min:Sec | 4:24 | 2:56 | 2:12 | 1:46 | 1:28 |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

WEST BRANCH, MICHIGAN

AL-5933 (FAA)

16259

| | | |
|-------------|----------|-------------|
| APP CRS | Rwy Idg | 5000 |
| 095° | TDZE | 877 |
| | Apt Elev | 882 |

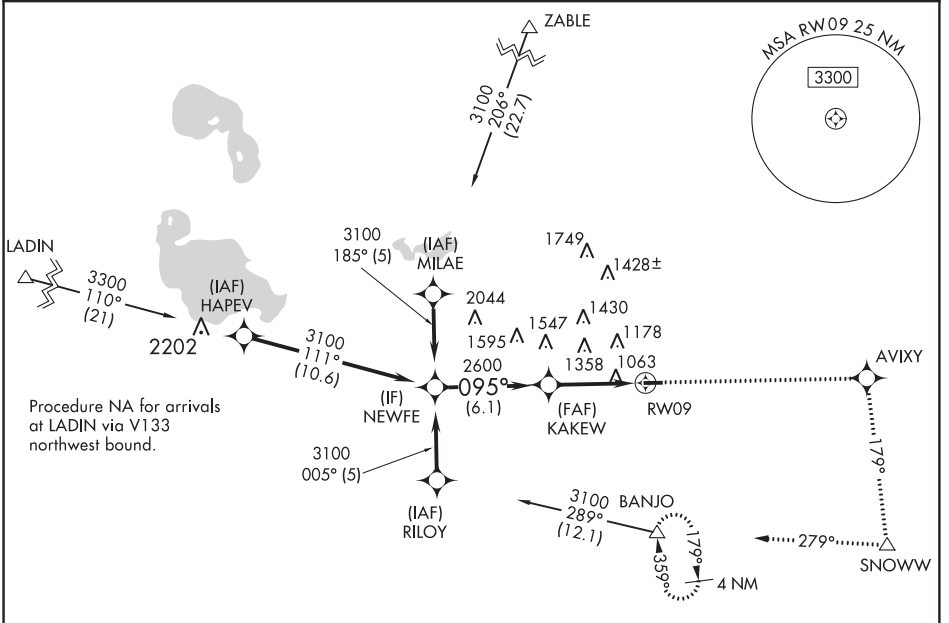
RNAV (GPS) RWY 9

WEST BRANCH COMMUNITY (Y31)

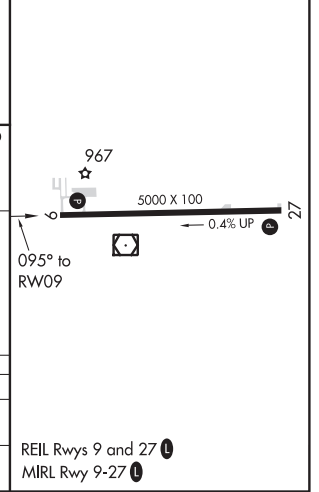
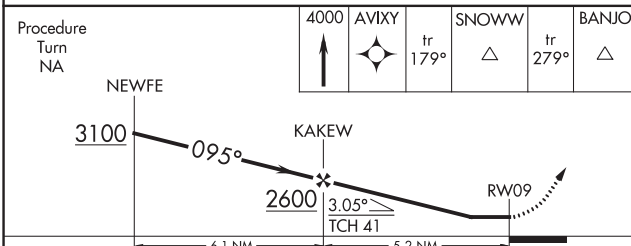
⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use MBS Intl altimeter setting and increase all MDA 140 feet, increase LNAV Cat A visibility ¼ mile and Cat C/D ½ mile, increase Circling Cat A visibility ¼ mile and Cat C/D ½ mile. Night landing: Rwy 9 NA.

⚠ MISSED APPROACH: Climb to 4000 direct AVIXY and via track 179° to SNOWW and via track 279° to BANJO and hold.

| | | |
|---------------------------|---|-------------------------------|
| AWOS-3P 119.575 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 122.8 (CTAF) |
|---------------------------|---|-------------------------------|



| | |
|----------|----------|
| ELEV 882 | TDZE 877 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|-----------------------|-------------------------|-------------------------|-------------------------|
| LNAV MDA | 1660-1 783 (800-1) | 1660-1¼ 783 (800-1¼) | 1660-2¼ 783 (800-2¼) | 1660-2½ 783 (800-2½) |
| CIRCLING | 1660-1 778 (800-1) | 1660-1¼ 778 (800-1¼) | 1660-2¼ 778 (800-2¼) | 1660-2½ 778 (800-2½) |

WEST BRANCH, MICHIGAN
Orig-A 12NOV15

44°15'N-84°11'W

WEST BRANCH COMMUNITY (Y31)

RNAV (GPS) RWY 9

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | |
|------------------------|------------------------|
| APP CRS 275° | Rwy Idg 5000 |
| | TDZE 877 |
| | Apt Elev 882 |

RNAV (GPS) RWY 27

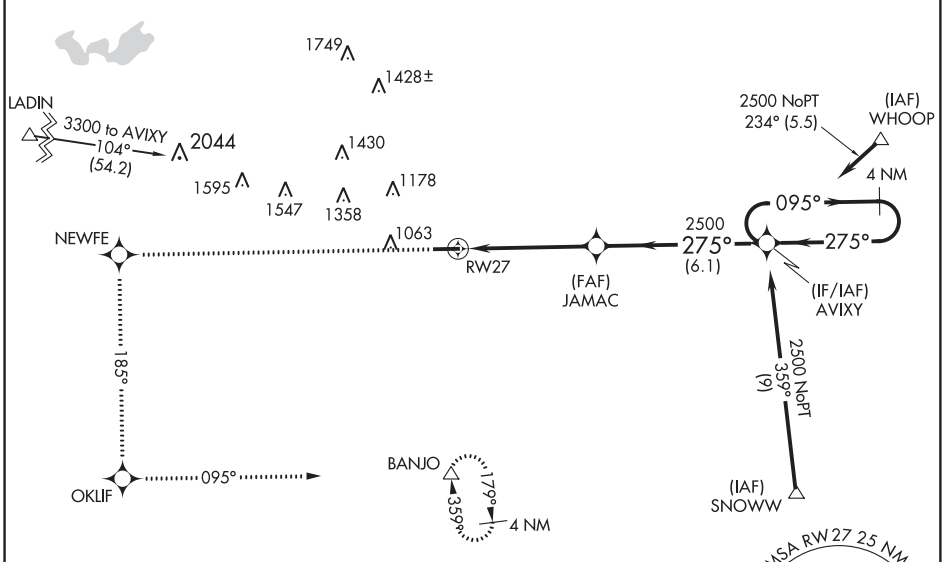
WEST BRANCH COMMUNITY (Y31)

⚠ DME/DME RNP-0.3 NA. Helicopter visibility reduction below $\frac{3}{4}$ SM NA. When local altimeter setting not received, use MBS Intl altimeter setting and increase all MDA **140 feet**, increase LNAV visibility Cat C/D $\frac{1}{4}$ mile and Circling Cat C/D visibility $\frac{1}{2}$ mile. Night landing: Rwy 9 NA. VDP NA when using Saginaw Intl altimeter setting.

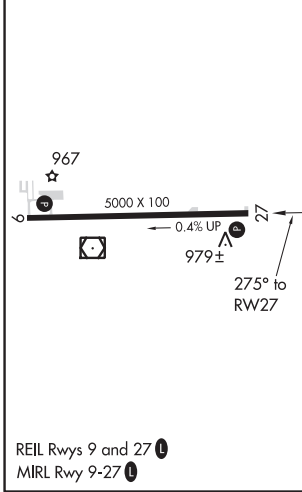
⚠ MISSED APPROACH: Climb to 4000 direct NEWFE and via track 185° to OKLIF and via track 095° to BANJO and hold.

| | | |
|---------------------------|---|-------------------------------|
| AWOS-3P 119.575 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 122.8 (CTAF) |
|---------------------------|---|-------------------------------|

Procedure NA for arrivals at LADIN via V133 northwest bound.



| | |
|----------|----------|
| ELEV 882 | TDZE 877 |
|----------|----------|



| | | | | |
|------------------|--------------------|---------|---|----------------------|
| 4000 | NEWFE | OKLIF | BANJO | 4 NM Holding Pattern |
| ↑ | tr 185° | tr 095° | △ | |
| JAMAC | | AVIXY | | |
| 1.1 NM to RWY 27 | | 2500 | | |
| 3.9 NM | | 6.1 NM | | |
| 3.04° TCH 41 | | | | |
| CATEGORY | A | B | C | D |
| LNAV MDA | 1240-1 363 (400-1) | | 1240-1½ 363 (400-1½) | |
| CIRCLING | 1480-1 598 (600-1) | | 1480-1½ 598 (600-1½) 1520-2 638 (700-2) | |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

| | | | |
|---|------------------------|-----------------------------|---|
| VOR/DME BXZ 113.2 Chan 79 | APP CRS 269° | Rwy Idg TDZE Apt Elev | 5000 877 883 |
|---|------------------------|-----------------------------|---|

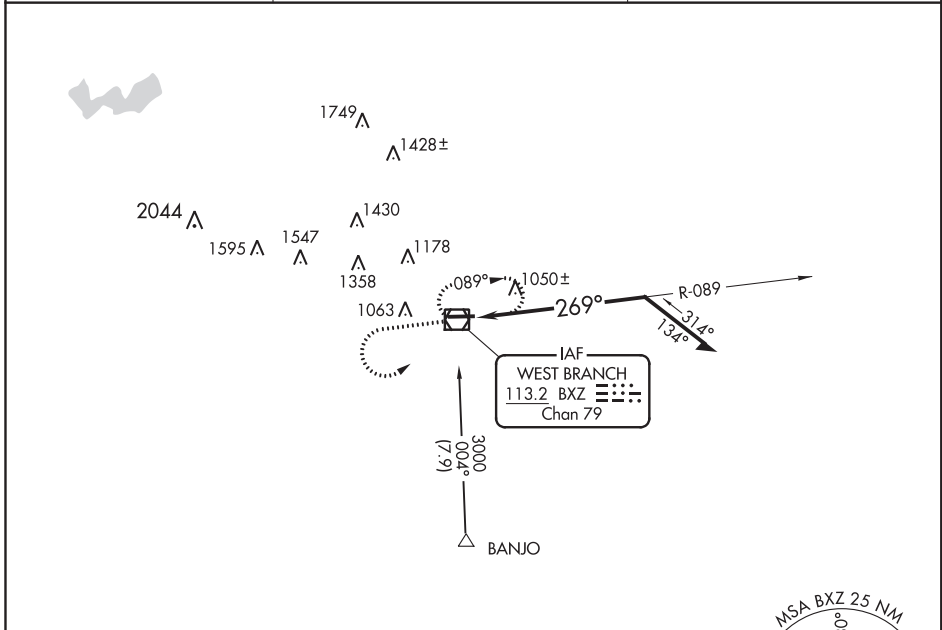
VOR RWY 27

WEST BRANCH COMMUNITY (Y31)

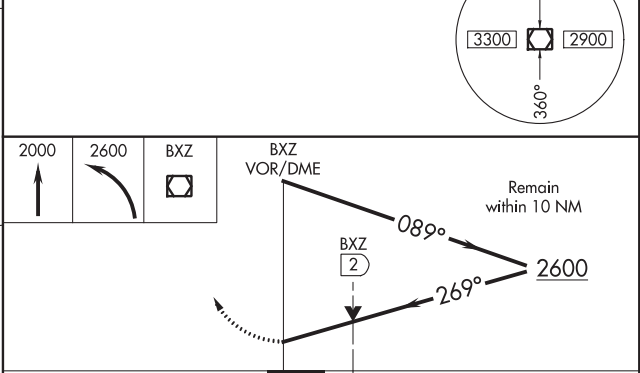
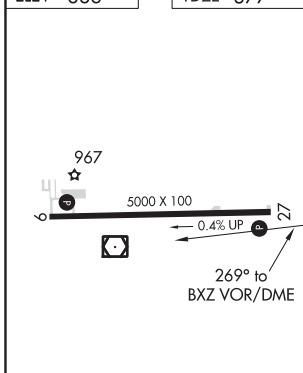
V When local altimeter setting not received, use MBS Intl altimeter setting and increase all MDA 140 feet, increase S-27 and Circling Cat C and D visibility ½ mile. Helicopter visibility reduction below ¾ SM NA. Night landing: Rwy 9 NA. VDP NA when using Saginaw Intl altimeter setting.

NA MISSED APPROACH: Climb to 2000 then climbing left turn to 2600 direct BXZ VOR/DME and hold.

| | | |
|---------------------------|---|---------------------------------|
| AWOS-3P 119.575 | MINNEAPOLIS CENTER 125.475 269.45 | UNICOM 122.8 (CTAF) 0 |
|---------------------------|---|---------------------------------|



| | |
|----------|----------|
| ELEV 883 | TDZE 877 |
|----------|----------|



| CATEGORY | A | B | C | D |
|----------|--------|-------------|-------------------------|-------------------------|
| S-27 | 1360-1 | 483 (500-1) | 1360-1¼ 483 (500-1¼) | 1360-1½ 483 (500-1½) |
| CIRCLING | 1480-1 | 597 (600-1) | 1480-1½ 597 (600-1½) | 1520-2 637 (700-2) |

EC-1, 10 NOV 2016 to 05 JAN 2017

EC-1, 10 NOV 2016 to 05 JAN 2017

CLIMB/DESCENT TABLE 10042

INSTRUMENT TAKEOFF OR APPROACH PROCEDURE CHARTS RATE OF CLIMB/DESCENT TABLE

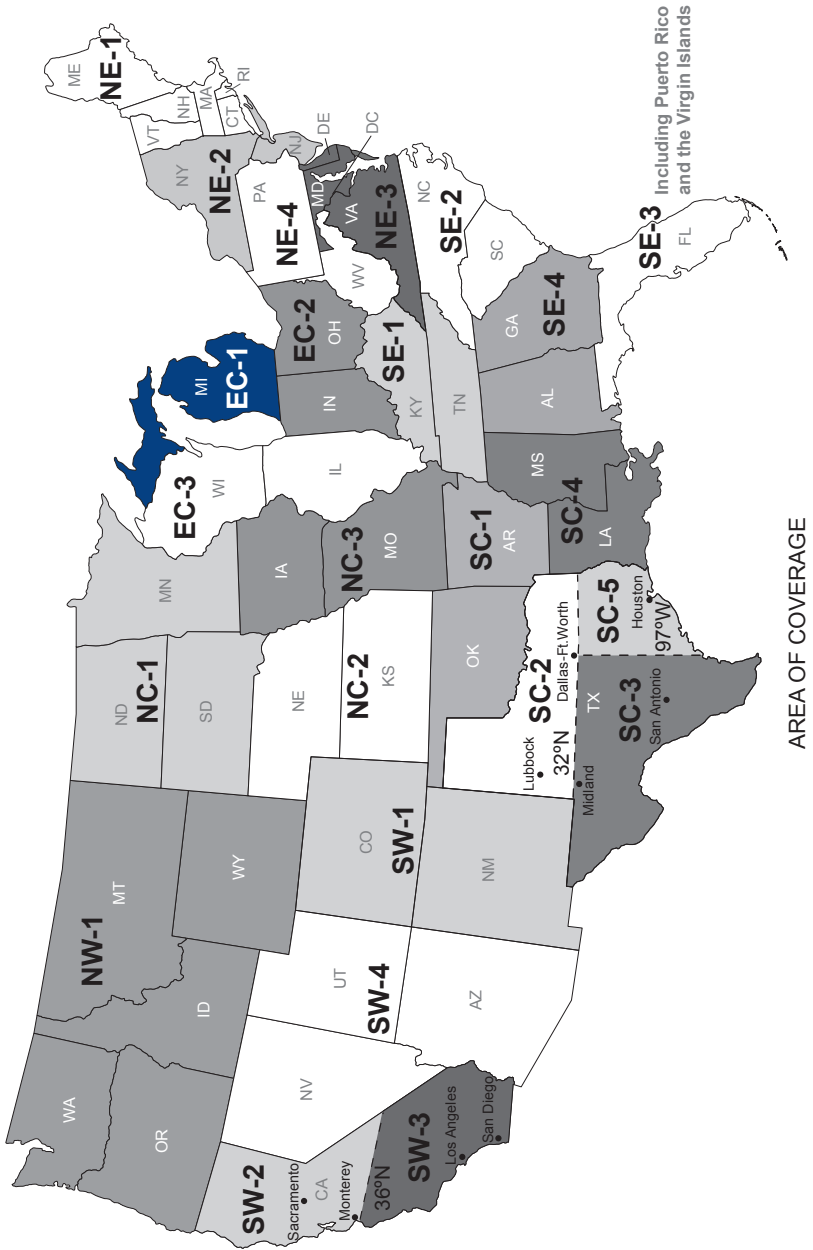
(ft. per min)

A rate of climb/descent table is provided for use in planning and executing climbs or descents under known or approximate ground speed conditions. It will be especially useful for approaches when the localizer only is used for course guidance. A best speed, power, altitude combination can be programmed which will result in a stable glide rate and altitude favorable for executing a landing if minimums exist upon breakout. Care should always be exercised so that minimum descent altitude and missed approach point are not exceeded.

| CLIMB/ DESCENT ANGLE (degrees and tenths) | ft/NM | GROUND SPEED (knots) | | | | | | | | | | | |
|--|-------|----------------------|------|------|------|------|------|------|------|------|------|------|------|
| | | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | |
| 2.0 | 210 | 210 | 320 | 425 | 530 | 635 | 743 | 850 | 955 | 1060 | 1165 | 1275 | |
| 2.5 | 265 | 265 | 400 | 530 | 665 | 795 | 930 | 1060 | 1195 | 1325 | 1460 | 1590 | |
| VERTICAL PATH ANGLE | 2.7 | 287 | 287 | 430 | 574 | 717 | 860 | 1003 | 1147 | 1290 | 1433 | 1576 | 1720 |
| | 2.8 | 297 | 297 | 446 | 595 | 743 | 892 | 1041 | 1189 | 1338 | 1486 | 1635 | 1783 |
| | 2.9 | 308 | 308 | 462 | 616 | 770 | 924 | 1078 | 1232 | 1386 | 1539 | 1693 | 1847 |
| | 3.0 | 318 | 318 | 478 | 637 | 797 | 956 | 1115 | 1274 | 1433 | 1593 | 1752 | 1911 |
| | 3.1 | 329 | 329 | 494 | 659 | 823 | 988 | 1152 | 1317 | 1481 | 1646 | 1810 | 1975 |
| | 3.2 | 340 | 340 | 510 | 680 | 850 | 1020 | 1189 | 1359 | 1529 | 1699 | 1869 | 2039 |
| | 3.3 | 350 | 350 | 526 | 701 | 876 | 1052 | 1227 | 1402 | 1577 | 1752 | 1927 | 2103 |
| | 3.4 | 361 | 361 | 542 | 722 | 903 | 1083 | 1264 | 1444 | 1625 | 1805 | 1986 | 2166 |
| 3.5 | 370 | 370 | 555 | 745 | 930 | 1115 | 1300 | 1485 | 1670 | 1860 | 2045 | 2230 | |
| 4.0 | 425 | 425 | 640 | 850 | 1065 | 1275 | 1490 | 1700 | 1915 | 2125 | 2340 | 2550 | |
| 4.5 | 480 | 480 | 715 | 955 | 1195 | 1435 | 1675 | 1915 | 2150 | 2390 | 2630 | 2870 | |
| 5.0 | 530 | 530 | 795 | 1065 | 1330 | 1595 | 1860 | 2125 | 2390 | 2660 | 2925 | 3190 | |
| 5.5 | 585 | 585 | 880 | 1170 | 1465 | 1755 | 2050 | 2340 | 2635 | 2925 | 3220 | 3510 | |
| 6.0 | 640 | 640 | 960 | 1275 | 1595 | 1915 | 2235 | 2555 | 2875 | 3195 | 3510 | 3830 | |
| 6.5 | 690 | 690 | 1040 | 1385 | 1730 | 2075 | 2425 | 2770 | 3115 | 3460 | 3805 | 4155 | |
| 7.0 | 745 | 745 | 1120 | 1490 | 1865 | 2240 | 2610 | 2985 | 3355 | 3730 | 4105 | 4475 | |
| 7.5 | 800 | 800 | 1200 | 1600 | 2000 | 2400 | 2800 | 3200 | 3600 | 4000 | 4400 | 4800 | |
| 8.0 | 855 | 855 | 1280 | 1710 | 2135 | 2560 | 2990 | 3415 | 3845 | 4270 | 4695 | 5125 | |
| 8.5 | 910 | 910 | 1360 | 1815 | 2270 | 2725 | 3180 | 3630 | 4085 | 4540 | 4995 | 5450 | |
| 9.0 | 960 | 960 | 1445 | 1925 | 2405 | 2885 | 3370 | 3850 | 4330 | 4810 | 5295 | 5775 | |
| 9.5 | 1015 | 1015 | 1525 | 2035 | 2540 | 3050 | 3560 | 4065 | 4575 | 5085 | 5590 | 6100 | |
| 10.0 | 1070 | 1070 | 1605 | 2145 | 2680 | 3215 | 3750 | 4285 | 4820 | 5355 | 5890 | 6430 | |

CLIMB/DESCENT TABLE 10042

U.S. TERMINAL PUBLICATION VOLUMES



FAA Product ID: BTPPEC1



NSN 7641015059760

NGA REF. NO. OK-10-2859 TERMXFAABTPPEC1



EFF. DATE 16315