<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inoperative Components or Visual Aids Table</td>
<td>A1</td>
</tr>
<tr>
<td>Explanation of Terms/Landing Minima Data</td>
<td>B1</td>
</tr>
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<td>General Information</td>
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<td>Abbreviations</td>
<td>D1</td>
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<tr>
<td>Legend—IAP Planview</td>
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<td>Legend—IAP Profile</td>
<td>F1</td>
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<td>Legend—Standard Terminal Arrival Charts</td>
<td>G1</td>
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<td>G2</td>
</tr>
<tr>
<td>Legend—Airport Diagram/Sketch</td>
<td>H1</td>
</tr>
<tr>
<td>Legend—Approach Lighting Systems</td>
<td>I1</td>
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<tr>
<td>Frequency Pairing</td>
<td>J1</td>
</tr>
<tr>
<td>Index of Terminal Charts and Minimums</td>
<td>K1</td>
</tr>
<tr>
<td>IFR Takeoff Minimums, Departure Procedures, and Diverse Vector Area</td>
<td>L1</td>
</tr>
<tr>
<td>IFR Alternate Airport Minimums</td>
<td>M1</td>
</tr>
<tr>
<td>Radar Minimums</td>
<td>N1</td>
</tr>
<tr>
<td>Land and Hold-Short Operations (LAHSO)</td>
<td>O1</td>
</tr>
<tr>
<td>Hot Spots</td>
<td>P1</td>
</tr>
<tr>
<td>Standard Terminal Arrival Charts</td>
<td>Z1</td>
</tr>
<tr>
<td>Terminal Charts</td>
<td>Page 1</td>
</tr>
<tr>
<td>Rate of Climb/Descent Table</td>
<td>Inside Back Cover</td>
</tr>
<tr>
<td>Area of Coverage</td>
<td>Back Cover</td>
</tr>
</tbody>
</table>

CORRECTIONS, COMMENTS AND/OR PROCUREMENT

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT:
FAA, Aeronautical Information Services
1305 East-West Highway
SSMC 4, Room 4531
Silver Spring, MD 20910-3281
Telephone: 1-800-638-8972
https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/

For inquiries regarding military charts, please contact aerohelp@nga.mil

FOR PROCUREMENT:
For digital products, visit our website at: https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/

For a list of approved FAA Print Providers, visit our website at: https://www.faa.gov/air_traffic/flight_info/aeronav/print_providers/

Frequently asked questions (FAQ) are answered on our website at: https://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
Straight-in and Sidestep landing minimums published on instrument approach procedure charts are based on full operation of all components and visual aids (see exception below for ALSF 1 & 2) associated with the particular 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 glideslope inoperative minimums are published on the instrument approach charts as localizer minimums. This table applies to approach categories A thru D and is to be used unless amended by notes on the approach chart. Such notes apply only to the particular approach category(ies) as stated. Category E inoperative notes will be specified when published on civil charts. The inoperative table does not apply to Circling minimums. See legend page for description of components indicated below.

Full Operation Exception: For ALSF 1 & 2 operated as SSALR, or when the sequenced flashing lights are inoperative, there is no effect on visibility for ILS lines of minima.

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ALS types (except ODALS)</td>
<td>¼ mile</td>
</tr>
</tbody>
</table>

(2) ILS, LPV, GLS with visibility minima of RVR 1800†/2000*/*/2200*

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALSF 1 &amp; 2, MALSR, SSALR</td>
<td>To RVR 4000†</td>
</tr>
<tr>
<td></td>
<td>To RVR 4500*</td>
</tr>
<tr>
<td>TDZL or RCLS</td>
<td>To RVR 2400#</td>
</tr>
<tr>
<td>RVR</td>
<td>To ½ mile</td>
</tr>
</tbody>
</table>

* For ILS, LPV, GLS procedures with a 200 foot HAT, RVR 1800 authorized with use of FD or AP or HUD to DA.

(3) All Approach Types and all lines of minima other than (1) & (2) above

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALSF 1 &amp; 2, MALSR, SSALR</td>
<td>½ mile</td>
</tr>
<tr>
<td>MALSF, MALS, SSALF, SSALS, SALSF, SALS</td>
<td>¼ mile</td>
</tr>
</tbody>
</table>

(4) Sidestep minima (CAT C-D)

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALSF 1 &amp; 2, MALSR, SSALR</td>
<td>½ mile</td>
</tr>
</tbody>
</table>

(5) All Approach Types, All lines of minima

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODALS (CAT A-B)</td>
<td>¼ mile</td>
</tr>
<tr>
<td>ODALS (CAT C-D)</td>
<td>½ mile</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-ILS 27</td>
<td>1352/24</td>
<td>200</td>
<td>(200-1/2)</td>
<td></td>
</tr>
<tr>
<td>S-LOC 27</td>
<td>1440/24</td>
<td>288</td>
<td>(300-1/2)</td>
<td>1440/50</td>
</tr>
<tr>
<td>CIRCLING</td>
<td>1540-1</td>
<td>1640-1</td>
<td>1640-1/2</td>
<td>1740-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MDA</th>
<th>HAA</th>
<th>Visibility in Statute Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>361 (400-1)</td>
<td>461 (500-1)</td>
<td>461 (500-1/2)</td>
</tr>
</tbody>
</table>

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

COPTER MINIMA ONLY

<table>
<thead>
<tr>
<th>C CATEGORY</th>
<th>HAT</th>
<th>C-LOC 27</th>
<th>C-ILS 27</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPTER</td>
<td>680-1/2</td>
<td>363</td>
<td></td>
</tr>
</tbody>
</table>

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 AIRPORTS

NOTE: The -12°C symbol indicates a cold temperature altitude correction is required at this airport when reported temperature is at or below the published temperature. See the following Cold Temperature Error Table to make manual corrections. Advise ATC with altitude correction. Advising ATC with altitude corrections is not required in the final segment. See Aeronautical Information Manual (AIM), Chapter 7, for guidance and additional information. For a complete list, see the "Cold Temperature Airports" link under the Additional Resources heading at the bottom of the following page:

http://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/

COLD TEMPERATURE ERROR TABLE

<table>
<thead>
<tr>
<th>HEIGHT ABOVE AIRPORT IN FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>+10</td>
</tr>
<tr>
<td>-10</td>
</tr>
<tr>
<td>-20</td>
</tr>
<tr>
<td>-30</td>
</tr>
<tr>
<td>-40</td>
</tr>
<tr>
<td>-50</td>
</tr>
</tbody>
</table>

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. When necessary to operate the aircraft at an airspeed in excess of the maximum airspeed of its certified aircraft approach category, pilots should use the applicable higher category minima. For additional options and to ensure the aircraft remains within protected airspace, consult the AIM. See following category limits:

MANEUVERING TABLE

<table>
<thead>
<tr>
<th>Speed (Knots)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-90</td>
<td>91-120</td>
<td>121-140</td>
<td>141-165</td>
<td>Abv 165</td>
<td></td>
</tr>
</tbody>
</table>
### 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 symbol on the circling line of minima.

<table>
<thead>
<tr>
<th>Circling MDA in feet MSL</th>
<th>Approach Category and Circling Radius (NM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAT A</td>
</tr>
<tr>
<td>All Altitudes</td>
<td>1.3</td>
</tr>
</tbody>
</table>

#### 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 symbol on the circling line of minima.

<table>
<thead>
<tr>
<th>Circling MDA in feet MSL</th>
<th>Approach Category and Circling Radius (NM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAT A</td>
</tr>
<tr>
<td>1000 or less</td>
<td>1.3</td>
</tr>
<tr>
<td>1001-3000</td>
<td>1.3</td>
</tr>
<tr>
<td>3001-5000</td>
<td>1.3</td>
</tr>
<tr>
<td>5001-7000</td>
<td>1.3</td>
</tr>
<tr>
<td>7001-9000</td>
<td>1.4</td>
</tr>
<tr>
<td>9001 and above</td>
<td>1.4</td>
</tr>
</tbody>
</table>

#### 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 4800 RVR, use 5000 RVR with the resultant visibility of 1 mile.

<table>
<thead>
<tr>
<th>RVR (feet)</th>
<th>Visibility (SM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600</td>
<td>1/2</td>
</tr>
<tr>
<td>1800</td>
<td>1/2</td>
</tr>
<tr>
<td>2000</td>
<td>3/4</td>
</tr>
<tr>
<td>2200</td>
<td>5/8</td>
</tr>
</tbody>
</table>

#### RADAR MINIMA

Radar 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 SM.

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

<table>
<thead>
<tr>
<th>RWY</th>
<th>GP/TCH/RPI</th>
<th>CAT</th>
<th>DA/MDA-VIS</th>
<th>HAT</th>
<th>CEIL-VIS</th>
<th>CAT</th>
<th>DA/MDA-VIS</th>
<th>HAT</th>
<th>CEIL-VIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAR</td>
<td>10 2.5°/42/1000</td>
<td>ABCDE</td>
<td>195/16</td>
<td>100</td>
<td>(100-1)</td>
<td>DE</td>
<td>560/50</td>
<td>463</td>
<td>(500-1)</td>
</tr>
<tr>
<td></td>
<td>28 2.5°/48/1068</td>
<td>ABCDE</td>
<td>187/16</td>
<td>100</td>
<td>(100-1)</td>
<td>DE</td>
<td>600/60</td>
<td>513</td>
<td>(600-1)</td>
</tr>
<tr>
<td>ASR</td>
<td>10 2.5°/48</td>
<td>ABC</td>
<td>560/40</td>
<td>463</td>
<td>(500-1)</td>
<td>DE</td>
<td>560/50</td>
<td>463</td>
<td>(500-1)</td>
</tr>
<tr>
<td></td>
<td>28 2.5°/48/1068</td>
<td>ABCDE</td>
<td>187/16</td>
<td>100</td>
<td>(100-1)</td>
<td>DE</td>
<td>600/60</td>
<td>513</td>
<td>(600-1)</td>
</tr>
<tr>
<td>CIR</td>
<td>10 2.5°/48</td>
<td>ABC</td>
<td>560/40</td>
<td>463</td>
<td>(500-1)</td>
<td>DE</td>
<td>560/50</td>
<td>463</td>
<td>(500-1)</td>
</tr>
<tr>
<td></td>
<td>28 2.5°/48/1068</td>
<td>ABCDE</td>
<td>187/16</td>
<td>100</td>
<td>(100-1)</td>
<td>DE</td>
<td>600/60</td>
<td>513</td>
<td>(600-1)</td>
</tr>
</tbody>
</table>
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 by an authorized non-FAA service provider. 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 contain information on civil operations at military airports.

The FAA uses an internal numbering system on all charts in the TPP. This Approach and Landing (AL) number is located on the top center margin of the chart followed by the organization responsible for the procedure in parentheses, e.g., AL-18 (FAA), AL-11919 (FAA-O). Military procedures do not show AL number, but do show the appropriate authority for the procedure, e.g., (USAF).

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.

FAA Procedure Amendment Number Orig. 31DEC09 Procedure Amendment Effective Date

Amdt 2B 12MAR09

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. On Departure Procedures and Standard Terminal Arrivals, procedural revisions to the current chart are indicated by an upnumber to the procedure title with the procedure amendment effective date following. On Radar Minimums, Takeoff Minimums and (Obstacle) Departure Procedures and Diverse Vector Areas, the FAA Procedure Amendment Number, Procedure Effective Date, and the Julian Date of Last Revision will be shown on the same line, e.g., AMDT 2 10DEC15 (15344).

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 are in nautical miles (except visibility in statute miles and Runway Visual Range in hundreds of feet). Runway dimensions are in feet. Elevations are in feet, Mean Sea Level (MSL). Ceilings are 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 with the neat lines (planview boundaries) and does not accurately underlie not-to-scale distance depictions or symbols.
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 online. 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 (FREH3.RBV), FREEHOLD THREE DEPARTURE, ELWOOD CITY TRANSITION, file (FREH3.EWC).

PROCEDURE PBN/EQUIPMENT REQUIREMENTS

Users will begin to see Performance-Based Navigation (PBN) Requirements and Equipment Requirements on Instrument Approach Procedures (IAPs), RNAV STARs and RNAV DPs prominently displayed in separate, standardized notes boxes. For procedures with PBN elements, the PBN box will contain the procedure’s navigation specification(s); and, if required: specific sensors or infrastructure needed for the navigation solution; any additional or advanced functional requirements; the minimum Required Navigation Performance (RNP) value and any amplifying remarks. Items listed in this PBN box are REQUIRED for the procedure’s PBN elements. The Equipment Requirements Box will list non-PBN requirements. On charts with both PBN elements and equipment requirements, the PBN requirements box will be listed first. The publication of these notes will continue incrementally until all charts have been amended to comply with the new standard.

IAP PBN/Equipment Requirements Notes Box

<table>
<thead>
<tr>
<th>PBN Requirements Box</th>
<th>Equipment Requirements Box</th>
<th>Standard Procedure Notes Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>From WINRZ, UJBE: RNAV-1 GPS, RNAV-1GPS from MAP to YARKU.</td>
<td>DME required for LOC only.</td>
<td>Circling to Rwy 25 NA at night.</td>
</tr>
<tr>
<td># For inop MALSR increase S-ILS 16R all cats visibility to 2½ SM.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RNAV STAR and DP PBN/Equipment Requirements Notes Box

<table>
<thead>
<tr>
<th>PBN Requirements Box</th>
<th>Equipment Requirements Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNAV 1 - DME/DME/IRU or GPS</td>
<td>RADAR required</td>
</tr>
</tbody>
</table>

PILOT CONTROLLED AIRPORT LIGHTING SYSTEMS

Reference the Chart Supplement for detailed information on pilot controlled lighting (PCL) systems.

Available FAA standard approach lighting systems are charted as a negative symbol to indicate pilot controlled lighting, e.g., 😌, 😐.

Available airport lighting systems that are charted as notes, e.g. REIL, MIRL, are shown with a negative "ⓐ" symbol beside the name to indicate pilot controlled lighting.

To activate lights, use frequency indicated in the communications section of the chart with a ⓐ.

KEY MIKE

<table>
<thead>
<tr>
<th>7 times within 5 seconds</th>
<th>Highest intensity available</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 times within 5 seconds</td>
<td>Medium or lower intensity (Lower REIL or REIL-off)</td>
</tr>
<tr>
<td>3 times within 5 seconds</td>
<td>Lowest intensity available (Lower REIL or REIL-off)</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>AAUP</td>
<td>Attention All Users Page</td>
</tr>
<tr>
<td>ADF</td>
<td>Automatic Direction Finder</td>
</tr>
<tr>
<td>ADIZ</td>
<td>Air Defense Identification Zone</td>
</tr>
<tr>
<td>AFIS</td>
<td>Automatic Flight Information Service</td>
</tr>
<tr>
<td>ALS</td>
<td>Approach Light System</td>
</tr>
<tr>
<td>ALSF</td>
<td>Approach Light System with Sequenced Flashing Lights</td>
</tr>
<tr>
<td>AOB</td>
<td>At or Below</td>
</tr>
<tr>
<td>AP</td>
<td>Autopilot System</td>
</tr>
<tr>
<td>APCH</td>
<td>Approach</td>
</tr>
<tr>
<td>APP CON</td>
<td>Approach Control</td>
</tr>
<tr>
<td>AR</td>
<td>Authorization Required</td>
</tr>
<tr>
<td>ASOS</td>
<td>Automated Surface Observing System</td>
</tr>
<tr>
<td>ASR/PAR</td>
<td>Published Radar Minimums at this Airport</td>
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<td>ASSC</td>
<td>Airport Surface Surveillance Systems</td>
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<td>ATIS</td>
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<td>AUNICOM</td>
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<td>AWOS</td>
<td>Automated Weather Observing System</td>
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<td>CNF</td>
<td>Computer Navigation Fix</td>
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<tr>
<td>CPDLC</td>
<td>Controller Pilot Data Link</td>
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<td>Digital-Automated Terminal Information Service</td>
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<tr>
<td>DA</td>
<td>Decision Altitude</td>
</tr>
<tr>
<td>DER</td>
<td>Departure End of Runway</td>
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<tr>
<td>DH</td>
<td>Decision Height</td>
</tr>
<tr>
<td>DME</td>
<td>Distance Measuring Equipment</td>
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<td>DTHR</td>
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<td>DVA</td>
<td>Diverse Vector Area</td>
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<td>ELEV</td>
<td>Elevation</td>
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<td>EMAS</td>
<td>Engineered Material Arresting System</td>
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<td>FAF</td>
<td>Final Approach Fix</td>
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<td>FD</td>
<td>Flight Director System</td>
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<td>Fan Marker</td>
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<td>Flight Management System</td>
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<td>GBAS</td>
<td>Ground Based Augmentation System</td>
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<td>GCO</td>
<td>Ground Communications Outlet</td>
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<td>GLS</td>
<td>Ground based Augmentation System Landing System</td>
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<td>GP</td>
<td>Glidepath</td>
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<td>GPI</td>
<td>Ground Point of Interception</td>
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<td>HAL</td>
<td>Height above Landing</td>
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<td>Height above Touchdown</td>
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<td>Height above Threshold</td>
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<td>Heliport Crossing Height</td>
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<td>HGS</td>
<td>Heads-up Guidance System</td>
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<td>High Intensity Runway Lights</td>
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<td>Head-up Display</td>
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<td>Initial Approach Fix</td>
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<td>Inner Marker</td>
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<td>INOP</td>
<td>Inoperative</td>
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<tr>
<td>INT</td>
<td>Intersection</td>
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<td>Knots Indicated Airspeed</td>
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<td>Localizer Type Directional Aid</td>
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<td>Landing</td>
</tr>
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<td>Low Intensity Runway Lights</td>
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<tr>
<td>LNAV</td>
<td>Lateral Navigation</td>
</tr>
<tr>
<td>LOC</td>
<td>Localizer</td>
</tr>
<tr>
<td>LP</td>
<td>Localizer Performance</td>
</tr>
<tr>
<td>LPV</td>
<td>Localizer Performance with Vertical Guidance</td>
</tr>
<tr>
<td>LR</td>
<td>Lead Radial. Provides at least 2 NM (Copter 1 NM) of lead to assist in turning onto the intermediate/final course.</td>
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<td>Maximum Authorized Altitude</td>
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<tr>
<td>MALS</td>
<td>Medium Intensity Approach Light System</td>
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<td>MALSF</td>
<td>Medium Approach Lighting System with Sequenced Flashers</td>
</tr>
<tr>
<td>MALSR</td>
<td>Medium Intensity Approach Light System with RAIL</td>
</tr>
<tr>
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<td>Minimum Descent Altitude</td>
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<td>Non-directional Radio Beacon</td>
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<td>No Procedure Turn Required (Procedure Turn shall not be executed without ATC clearance)</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
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<td>--------------</td>
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<td>ODALS</td>
<td>Omnidirectional Approach Light System</td>
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<td>Obstacle Departure Procedure</td>
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<td>Precision Runway Monitor</td>
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<td>RAIL</td>
<td>Runway Alignment Indicator Lights</td>
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<tr>
<td>RCLS</td>
<td>Runway Centerline Light System</td>
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<td>REIL</td>
<td>Runway End Identifier Lights</td>
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<td>RF</td>
<td>Radius-to-Fix</td>
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<td>RLLS</td>
<td>Runway Lead-in Light System</td>
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<td>RNAV</td>
<td>Area Navigation</td>
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<td>Required Performance Navigation</td>
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<td>RPI</td>
<td>Runway Point of Intercept(ion)</td>
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<td>S</td>
<td>Straight-in</td>
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<td>Short Approach Light System</td>
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<td>Short Approach Lighting System with Sequenced Flashing Lights</td>
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<td>Simplified Short Approach Lighting System with Sequenced Flashers</td>
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<td>Simplified Directional Facility</td>
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<td>Simultaneous Offset Instrument Approach</td>
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<td>Sunrise-Sunset</td>
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<td>TAA</td>
<td>Terminal Arrival Area</td>
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<td>TACAN</td>
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<tr>
<td>TCH</td>
<td>Threshold Crossing Height (height in feet above ground level)</td>
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<tr>
<td>TDZ</td>
<td>Touchdown Zone</td>
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<tr>
<td>TDZE</td>
<td>Touchdown Zone Elevation</td>
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<td>TDZ/CL</td>
<td>Touchdown Zone and Runway Centerline Lighting</td>
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<td>TDZL</td>
<td>Touchdown Zone Lights</td>
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<td>THR</td>
<td>Threshold</td>
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<td>Takeoff Distance Available</td>
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<td>TORA</td>
<td>Takeoff Run Available</td>
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<td>TR</td>
<td>Track</td>
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<tr>
<td>VASI</td>
<td>Visual Approach Slope Indicator</td>
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<td>VCOA</td>
<td>Visual Climb over Airport</td>
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<td>VDA</td>
<td>Vertical Descent Angle</td>
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<td>VDP</td>
<td>Visual Descent Point</td>
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<td>VGSI</td>
<td>Visual Glide Slope Indicator</td>
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<td>Vertical Navigation</td>
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<td>Wide Area Augmentation System</td>
</tr>
<tr>
<td>WP/WPT</td>
<td>Waypoint (RNAV)</td>
</tr>
</tbody>
</table>
**Markers beacons that are not specifically part of LEGEND**

### INSTRUMENT APPROACH PROCEDURES (CHARTS)

#### PLANVIEW SYMBOLS

- **Procedures Track**
- **Feeder Route**
- **Missed Approach**
- **Visual Flight Path**
- **Minimum Route Altitude**
- **3100 NoPT to LOM**
- **045° (14.2)**
- **165° 345°**
- **Procedure Turn**
  - (Type degree and point of turn optional)
- **Procedure Track**
- **Missed Approach**
- **Visual Flight Path**
- **3100 NoPT to LOM**
- **045° (14.2)**
- **165° 345°**
- **Procedure Turn**
  - (Type degree and point of turn optional)

#### HOLDING PATTERNS

<table>
<thead>
<tr>
<th>Hold-in-lieu of Procedure Turn</th>
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<tbody>
<tr>
<td>HOLD 10000 8000</td>
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<tr>
<td>HOLD 10000 8000</td>
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</tbody>
</table>

**Holding pattern with maximum restricted airspeed:**

- (175K) applies to all altitudes.
- (210K) applies to altitudes above 6000' to and including 14000'.

### FIXES/ATC REPORTING REQUIREMENTS

- **Reporting Point**
- **Waypoint**
- **MAP WP (Flyby)**
- **MAP WP (Flyover)**
- **Flyover Point**

#### RADIO AIDS TO NAVIGATION

- **VOR**
- **VOR/DME**
- **DME**
- **NDB**
- **NDB/DME**
- **LOM**
- **Marker Beacon**
- **Marker beacons that are not specifically part of the procedure.**

**Localizer Front Course (LOC/LDA)**
- Right side shading: Front course

**Localizer Back Course**
- Left side shading: Back course

**SDF Course**

**LOC/LDA/SDF Transmitter**
- **LOC/DME**

### ALTITUDES

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<th>3000</th>
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<td><strong>Minimum Altitude</strong></td>
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<td>4300</td>
<td><strong>Maximum Altitude</strong></td>
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### INDICATED AIRSPEED

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<th>120K</th>
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<tr>
<td><strong>Mandatory Airspeed</strong></td>
<td><strong>Minimum Airspeed</strong></td>
<td><strong>Maximum Airspeed</strong></td>
<td><strong>Recommended Airspeed</strong></td>
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### ALTIMETRIC AIRSPEED

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<tr>
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<td><strong>Minimum Airspeed</strong></td>
<td><strong>Maximum Airspeed</strong></td>
<td><strong>Recommended Airspeed</strong></td>
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### COMPUTER NAVIGATION FIX (CNF): NO ATC FUNCTION

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<td>R-198</td>
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<td>LR-198</td>
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<td>LB-198</td>
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### PRIMARY NAVIAD

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<td>114.5 LIM</td>
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<td>Chan 92</td>
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### SECONDARY NAVIAD

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<tr>
<td>AKRON</td>
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<tr>
<td>362 AK</td>
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### TACAN or DME NAVIAD

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<tr>
<td>SCOTT</td>
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<tr>
<td>Chan 59</td>
</tr>
<tr>
<td>SKE</td>
</tr>
<tr>
<td>(112.2)</td>
</tr>
<tr>
<td>VHF Paired Frequency</td>
</tr>
</tbody>
</table>
LEGEND 22251  INSTRUMENT APPROACH PROCEDURES (CHARTS)

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°. 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°. 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: 3.00°. On Copter procedures this is depicted in the following format: 7.30°. TCH 55

ILS or LOC APPROACH

RNAV and GLS PROCEDURES WITH VERTICAL GUIDANCE

NON-VERTICALLY GUIDED CONVENTIONAL PROCEDURES

AND RNAV PROCEDURES WITH MDA ONLY

RNP APPROACH WITH TF AND RF SEGMENTS

ALTIMETRY

PROFILE SYMBOLS

LEGEND 22251
### RADIO AIDS TO NAVIGATION
- **Compulsory:**
  - VOR
  - VORTAC
  - DME
  - NDB
  - VOR/DME
- **Non-Compulsory:**
  - VOR
  - VORTAC
  - DME
  - NDB
  - VOR/DME

- **OML** (Compass locator at outer marker)
- **Localizer Front Course**
- **Localizer Back Course (Shading on left)**
- **TACAN or DME NAVAID Box**
- **SCOTT Chan 59**
- **SKE Chan 59**
- **(112.2)**
- **VHF Paired Frequency**

- **Underline indicates no voice transmitted on this frequency**
- **(Y) TACAN must be placed in "Y" mode to receive distance information**

### FIXES/ATC REPORTING REQUIREMENTS
- **Reported Point (Compulsory)**
- **Reported Point (Non-Compulsory)**
- **Obvious DME**
  - DME mileage matches route mileage
- **Waypoint (Compulsory)**
- **Waypoint (Non-Compulsory)**
- **Flyover Point**
- **Computer Navigation Fix (CNF) - No ATC Function**

### AIRPORTS
- **Civil**
- **Military**
- **Joint (Civil-Military)**
- **Airports not served by the procedure shown in screened color**

### ROUTES
- **MAA FL200 Maximum Authorized Altitude**
- **4500 MEA-Minimum Enroute Altitude**
- **3500 MOCA-Minimum Obstruction Clearance Altitude**
- **270° Arrival Route**
- **(65) Mileage between Radio Aids, Reporting Points, and Route Breaks**
- **R-275 Transition Route**
- **Radial line and value**
- **Lost Communications Track**
- **V12**
- **J80 Airway/Jet Route Identification**

### SPECIAL USE AIRSPACE
- **R-Restricted**
- **W-Warning**
- **P-Prohibited**
- **A-Alert**
- **MOA-Military Operations Area**

### ALTIMETRICAL
- **Mandatory Altitude**
- **Minimum Altitude**
- **Maximum Altitude**
- **Altitude change at other than Radio Aids to Navigation**

### INDICATED AIRSPEED
- **Mandatory Airspeed**
- **Minimum Airspeed**
- **Maximum Airspeed**

### MISCELLANEOUS
- **Changeover Point**
- **Air Defense Identification Zone**
- **Ldg KLAS and KHND Terminal identifier**
- **Ldg Rwys 16L/C/R**

### LEGEND
- **Civil**
- **Military**
- **Joint (Civil-Military)**
- **Unscreened color**
- **Screened color**
- **Shading on left**
- **True North is not aligned to the top of the page**

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**
AIRPORT DIAGRAM/AIRPORT SKETCH

Runways

- Hard Surface
- Other Than Hard Surface
- Stopways, Taxiways, Parking Areas
- Metal Surface
- Not Applicable to Civil Pilots

ARRESTING SYSTEM

- Uni-directional
- Bi-directional
- Jet Barrier
- EMAS

REFERENCE FEATURES

- Displaced Threshold
- Hot Spot
- Runway Holding Position Markings
- Buildings
- Self-Serve Fuel
- Tanks
- Obstructions
- Airport Beacon
- Runway Radar Reflectors
- Bridges
- Control Tower

Wind Cone

Landing Tee

Tetrahedron

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

# See appropriate Chart Supplement for information.

Runway Weight Bearing Capacity or Pavement Classification Number (PCN)/Pavement Classification Rating (PCR) is shown as a codified expression. Refer to the appropriate Supplement/Directory for applicable codes e.g., RWY 14-32 PCR 560 R/B/W/T; S-75, D-185, 2D-325, 2D/2D2-1120

NOTE:

Landmark features depicted on Copter Approach insets and sketches are provided for visual reference only.

Runway TDZ elevation (TDZE) 123

Runway Slope ........ 0.3% Down ...... 0.8% UP

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 one or two 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.

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

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 DoD FLIP.

The airport sketch box includes the final approach course or final approach course extended.

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.

LEGEND

INSTRUMENT APPROACH PROCEDURES (CHARTS)

Runway

Surface

Hard

Hard Surface

Other Than

Surface

Metal

Other Than

Surface

Non-Movement

Under

Construction

Water Runway

LEGEND
Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, e.g., \(\mathcal{A}\), \(\mathcal{V}\), etc.

A dot \(\bullet\) portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., \(\mathcal{A}\). Negative symbology, e.g., \(\mathcal{O}\), \(\mathcal{V}\), indicates Pilot Controlled Lighting (PCL).

### Category I
**Approach Lighting System**

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<thead>
<tr>
<th>ALSF-1</th>
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<tbody>
<tr>
<td>RED</td>
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<tr>
<td>2000</td>
</tr>
<tr>
<td>WHITE</td>
</tr>
<tr>
<td>2400/3000</td>
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<tr>
<td>GREEN</td>
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### Category II
**Approach Lighting System**

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<td>(High Intensity) LENGTH 2400/3000 FEET</td>
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### Short Approach Lighting System

**SALS/SALSF**

| RED    |
| 1000   |
| RED    |
| GREEN  |
| WHITE  |

(1000-1500 FEET)

### Simplified Short Approach Lighting System

**SSALR**

| GREEN  |
| 1000   |
| WHITE  |

(1000-1500 FEET)

### Medium Intensity Approach Lighting System

**MALS/MA SF** or Simplified Short Approach Lighting Systems

**APPROACH LIGHTING SYSTEMS**

### Medium Intensity Approach Lighting System

**MALS/MA SF** or Simplified Short Approach Lighting Systems

| GREEN  |
| 1000   |
| WHITE  |
| 2400'  |
| SEQUENCED FLASHING LIGHTS |
|       |
|       |
|       |
|       |
|       |
| LENGTH 2400 FEET |

**OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM**

**ODALS**

| WHITE  |
| 500    |
| OMNI-DIRECTIONAL FLASHING LIGHTS |
|       |
|       |
|       |
|       |
| LENGTH 1500 FEET |

### Runway Touchdown Zone and Centerline Lighting Systems

**TDZ/CL**

| TDZL   |
| CL     |
| TDZL   |

**AVAILABLE of TDZ/CL will be shown by NOTE in SKETCH e.g. "TDZ/CL Rwy 15"**
Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, \( \bigcirc \), \( \triangle \), etc. A dot "*" portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., \( \bigcirc \). Negative symbology, e.g., \( \triangle \), \( \bigcirc \) indicates Pilot Controlled Lighting (PCL).

**LEGEND 22195**

**INSTRUMENT APPROACH PROCEDURES (CHARTS)**

**APPROACH LIGHTING SYSTEM - UNITED STATES**

**PRECISION APPROACH PATH INDICATOR**

- **PAPI**
  - Too low
  - Slightly low
  - On correct approach path
  - Slightly high
  - Too high

Legend: \( \bigcirc \) White \( \triangle \) Red

**VISUAL APPROACH SLOPE INDICATOR**

- **VASI**
  - Visual approach slope indicator with standard threshold clearance provided.
  - All lights white — too high
  - Far lights red near lights white — on glide slope
  - All lights red — too low

**VASI 2**

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**VASI 4**

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**VASI 12**

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**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.

**TRI-COLOR VISUAL APPROACH SLOPE INDICATOR**

- **TRCV**

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<th>Above glide path</th>
<th>On glide path</th>
<th>Below glide path</th>
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<tr>
<td>Amber</td>
<td>Green</td>
<td>Red</td>
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**CAUTION:** When the aircraft descends from green to red, the pilot may see a dark amber color during the transition from green to red.

**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.
## FREQUENCY PAIRING TABLE

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See the Chart Supplement for a complete listing.
## INDEX OF TERMINAL CHARTS AND MINIMUMS

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<th>SECT PG</th>
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**NOTE:** The above text is a representation of the index page of a terminal chart and minimums guide, listing various airports with their respective minimums and procedures. The text includes abbreviations and references to navigation aids such as VORs and RNAVs. Each entry provides information about takeoff and alternate minimums, as well as specific runway identifiers and navigation procedures. The document structure is tabular, with columns for Name, PROC, and SECT PG, indicating the section pages for each entry.
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## 24193

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

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. An entry may also be listed that contains only Takeoff Obstacle Notes. 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 Visual Climb 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.

ADRIAN, MI
LENAWEE COUNTY (ADG)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 10MAY07 (07130) (FAA)

TAKEOFF MINIMUMS:

Rwys 11, 29, NA-ATC.

TAKEOFF OBSTACLE NOTES:

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 FLD (35D)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 11FEB10 (21224) (FAA)

TAKEOFF MINIMUMS:

Rwys 15, 33, NA-Environmental.

DEPARTURE PROCEDURE:

Rwy 11, climb heading 103° to 1200 before turning right.

TAKEOFF OBSTACLE NOTES:

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

ALMA, MI
GRATIOT COMMUNITY (AMN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 11FEB10 (10042) (FAA)
TAKEOFF MINIMUMS:
Rwy 9, 400-3 or std. w/min. climb of 251’ per NM to 1400.
TAKEOFF OBSTACLE NOTES:
Rwy 9, multiple trees beginning 841’ from DER, 438’ right of centerline, up to 58’ AGL/817’ MSL.
Multiple trees beginning 1383’ from DER, 272’ right of centerline, up to 81’ AGL/840’ 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 71’ AGL/820’ 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.

ALPENA, MI
ALPENA COUNTY RGNL (APN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 15JAN09 (09015) (FAA)
TAKEOFF OBSTACLE NOTES:
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.
Multiple 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 9A 24MAY18 (18144) (FAA)
TAKEOFF MINIMUMS:
Rwys 12, 30, NA - environmental.
TAKEOFF OBSTACLE NOTES:
Rwy 6, building 98’ from DER, 351’ left of centerline, 21’ AGL/849’ MSL.
Building 312’ from DER, 478’ right of centerline, 17’ AGL/838’ MSL.
Transmission line 442’ from DER, 394’ right of centerline, 29’ AGL/850’ MSL.
Tree, transmission line beginning 538’ from DER, 145’ right of centerline, up to 878’ MSL.
Trees beginning 887’ from DER, 662’ left of centerline, up to 877’ MSL.
Trees beginning 1057’ from DER, 183’ left of centerline, up to 887’ MSL.
Trees beginning 1478’ from DER, 46’ right of centerline, up to 887’ MSL.
Tree 2040’ from DER, 181’ right of centerline, 888’ MSL.
Trees beginning 2122’ from DER, 148’ right of centerline, up to 899’ MSL.
Rwy 24, terrain 137’ from DER, 475’ right of centerline, 837’ MSL.
Trees beginning 1461’ from DER, 286’ right of centerline, up to 879’ MSL.
Tree 79’ from DER, 580’ right of centerline, 867’ MSL.
Tree 822’ from DER, 559’ right of centerline, 885’ MSL.
Tree 1679’ from DER, 682’ left of centerline, 901’ MSL.
Tree 2187’ from DER, 686’ left of centerline, 902’ MSL.
EC-1, 11 JUL 2024 to 05 SEP 2024

BAD AXE, MI
HURON COUNTY MEML (BAX)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4 20DEC07 (22083) (FAA)
TAKEOFF OBSTACLE NOTES:
   Rw 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.
   Rw 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.
   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.
   Rw 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.
   Rw 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, up to 100’ 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.

Baldwin, MI
BALDWIN MUNI (7D3)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 03JAN19 (19003) (FAA)
TAKEOFF OBSTACLE NOTES:
   Rw 5, 23, NA-Environmental.

   Rw 9, vehicles on road beginning abeam DER, 99’ left of centerline, up to 15’ AGL/844’ MSL.
   Trees beginning abeam DER, 392’ left of centerline, up to 60’ AGL/889’ MSL.
   Trees beginning abeam DER, 390’ right of centerline, up to 60’ AGL/879’ MSL.
   Trees beginning 1187’ from DER, on centerline and left and right of centerline, up to 60’ AGL/879’ MSL.
   Trees beginning 1569’ from DER, on centerline and left and right of centerline, up to 60’ AGL/879’ MSL.
   Trees beginning 3078’ from DER, on centerline, and left and right of centerline, up to 60’ AGL/899’ MSL.

   Rw 27, vehicles on road beginning 194’ from DER, 372’ left of centerline, up to 15’ AGL/844’ MSL.
   Vehicles on road beginning 757’ from DER, 412’ right of centerline, up to 60’ 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.

BATTLE CREEK, MI
BATTLE CREEK EXEC AT KELLOGG FLD (BTL)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3A 10SEP20 (21112) (FAA)
TAKEOFF OBSTACLE NOTES:
   Rw 5R, 23L, NA - Environmental.

   Rw 5, trees beginning 1590’ from DER, 484’ right of centerline, up to 80’ AGL/999’ MSL.
   Trees beginning 899’ from DER, left and right of centerline, 17’ AGL/899’ MSL.
   Trees beginning 1187’ from DER, on centerline and left and right of centerline, up to 60’ AGL/899’ MSL.
   Trees beginning 2065’ from DER, 25’ left of centerline, up to 80’ AGL/1049’ MSL.
   Trees 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.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

BAY CITY, MI
JAMES CLEMENTS MUNI (3CM)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 6B  10OCT19  (19283)  (FAA)
TAKEOFF MINIMUMS:

DEPARTURE PROCEDURE:
- Rwy 18, climb heading 183° to 2000 before turning left.
- Rwy 23, climb heading 232° to 1200 before turning left.

TAKEOFF OBSTACLE NOTES:
- Rwy 5, road 260' from DER, left and right of centerline, up to 15' AGL/604' MSL.
- Trees beginning 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/621' MSL.
- Trees beginning 1856' from DER, 17' left of centerline, up to 87' AGL/681' MSL.

BEAVER ISLAND, MI
BEAVER ISLAND (SJX)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG  01JAN98  (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  03AUG06  (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.

TAKEOFF OBSTACLE NOTES:
- 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 7A  07OCT21  (21280)  (FAA)
TAKEOFF MINIMUMS:
Rwy 28, 300-1½ or std. w/min. climb of 205' per NM to 900.
Rwy 32, 300-1½ or std. w/min. climb of 283' per NM to 900.

TAKEOFF OBSTACLE NOTES:
- Rwy 10, tree 1456' from DER, 844' left of centerline, 704' MSL.
- Tree 1819' from DER, 791' right of centerline, 697' MSL.
- Trees beginning 2023' from DER, 822' left of centerline, up to 720' MSL.
- Tree 2539' from DER, 1003' left of centerline, 731' MSL.
- Trees beginning 2983' from DER, 975' left of centerline, up to 734' MSL.
- Tree 3363' from DER, 295' left of centerline, 738' MSL.
- Tree 3686' from DER, 259' left of centerline, 747' MSL.
- Tree, transmission line beginning 3860' from DER, 232' left of centerline, up to 762' MSL.
- Rwy 14, lighting 9' from DER, 71' left and 69' right of centerline, up to 3' AGL/632' MSL.
- Tree, pole, transmission line beginning 978' from DER, 192' right of centerline, up to 695' MSL.
- Tree 1185' from DER, 64' left of centerline, 662' MSL.
- Catenary 1317' from DER, 233' left of centerline, 30' AGL/670' MSL.
- Tree, pole, transmission line beginning 1347' from DER, 123' left of centerline, up to 695' MSL.
- Tree, catenary, pole, transmission line beginning 1400' from DER, 114' right of centerline, up to 699' MSL.
- Tree 1451' from DER, 375' left of centerline, 700' MSL.
BENTON HARBOR, MI (CON’T)
SOUTHWEST MICHIGAN RGNL (BEH) (CON’T)

Rwy 14 (CON’T), tree, tower beginning 1497' from DER, 8' left of centerline, up to 717' MSL.
Trees beginning 1622' from DER, 23' right of centerline, up to 708' MSL.
Trees beginning 2035' from DER, 98' right of centerline, up to 713' MSL.
Trees beginning 2228' from DER, 51' right of centerline, up to 719' MSL.
Trees beginning 2449' from DER, 21' right of centerline, up to 730' MSL.
Trees beginning 2637' from DER, 120' left of centerline, up to 732' MSL.
Trees beginning 2736' from DER, 61' left of centerline, up to 740' MSL.
Trees beginning 2955' from DER, 69' left of centerline, up to 744' MSL.
Trees beginning 3257' from DER, 35' left of centerline, up to 748' MSL.

Rwy 28, tree 582' from DER, 589' right of centerline, 645' MSL.
Tree 882' from DER, 595' right of centerline, 654' MSL.
Tree 907' from DER, 629' right of centerline, 662' MSL.

Vertical structure 955' from DER, 312' left of centerline, 662' MSL.

Trees beginning 1149' from DER, 635' left of centerline, up to 698' MSL.

Trees beginning 2230' from DER, 997' left of centerline, 665' MSL.

Trees beginning 840' from DER, 380' left of centerline, up to 669' MSL.

Trees beginning 1054' from DER, 106' right of centerline, up to 674' MSL.

Tree 1262' from DER, 389' right of centerline, 679' MSL.

Trees beginning 1265' from DER, 253' right of centerline, up to 685' MSL.

Tree 1307' from DER, 163' left of centerline, 673' MSL.

Trees beginning 1413' from DER, 424' left of centerline, up to 685' MSL.

Tree 2094' from DER, 520' right of centerline, 690' MSL.

Transmission line 2368' from DER, 107' left of centerline, 64' AGL/703' MSL.
Transmission line 2425' from DER, 389' right of centerline, 74' AGL/694' MSL.

Tree 2513' from DER, 756' left of centerline, 720' MSL.

Trees beginning 3083' from DER, 62' right of centerline, up to 746' MSL.

BERRIEN SPRINGS, MI
ANDREW UNIVERSITY AIRPARK (C20)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 08NOV18 (18312) (FAA)

TAKEOFF MINIMUMS:

Rwys 3, 21, NA- environmental, obstacles.

Rwy 13, NA- obstacles.

Rwys 31, 300-1 or std. w/min. climb of 328' per NM to 900. Procedure NA at night.

TAKEOFF OBSTACLE NOTES:

Rwy 31, trees beginning 28' from DER, 49' right of centerline, up to 756' MSL.

Tree, terrain, vehicle on road, sign, pole beginning 53' from DER, 14' left of centerline, up to 747' MSL.

Trees beginning 165' from DER, 24' right of centerline, up to 758' MSL.

Tree, terrain, traverse way, sign, pole beginning 396' from DER, 51' right of centerline, up to 761' MSL.

Tree, pole beginning 1880' from DER, 243' right of centerline, up to 769' MSL.

Tree, pole beginning 1927' from DER, 264' left of centerline, up to 750' MSL.

Pole, tree beginning 2045' from DER, 130' left of centerline, 752' MSL.

Trees beginning 2102' from DER, 258' right of centerline, up to 774' MSL.

Tree, pole beginning 2190' from DER, 6' right of centerline, up to 782' MSL.

Tree 2237' from DER, 29' left of centerline, 769' MSL.

Trees beginning 2413' from DER, 414' right of centerline, up to 806' MSL.

Tree, pole beginning 2519' from DER, 127' left of centerline, up to 775' MSL.

Tree, pole beginning 2598' from DER, 628' right of centerline, up to 807' MSL.

Tree, vehicle on road, pole beginning 2739' from DER, 716' right of centerline, up to 809' MSL.

Tree, pole, building beginning 2919' from DER, 128' left of centerline, up to 780' MSL.

Trees beginning 3132' from DER, 178' left of centerline, up to 801' MSL.

Tree, pole beginning 3210' from DER, 344' left of centerline, up to 809' MSL.

Tree, pole, building beginning 3616' from DER, 962' left of centerline, up to 820' MSL.

Tree, pole beginning 4031' from DER, 1031' left of centerline, up to 834' MSL.

Tree 4636' from DER, 1662' left of centerline, 828' MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

BIG RAPIDS, MI
ROBEN-HOOD (RQB)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 6A  21JUN18  (18172)  (FAA)

TAKEOFF MINIMUMS:

Rwy 14, 200-1 1/2 or std. w/ min. climb of 210' per NM to 1200.
Rwy 27, 300-1 1/2 or std. w/ min. climb of 400' per NM to 1200.
Rwy 32, 200-1 1/2 or std. w/ min. climb of 300' per NM to 1200.

TAKEOFF OBSTACLE NOTES:

Rwy 9, lighting 39' from DER, 77' right of centerline, 946' MSL.
Lighting 40' from DER, 77' left of centerline, 5' AGL/946' MSL.
Tree 1880' from DER, 714' left of centerline, 992' MSL.
Tree 4536' from DER, 1640' left of centerline, 1060' MSL.
Tree 4611' from DER, 1567' left of centerline, 1063' MSL.
Tree 4652' from DER, 1724' left of centerline, 1072' MSL.
Tree 4738' from DER, 1523' left of centerline, 1074' MSL.

CON'T
BIG RAPIDS, MI (CON’T)
ROBEN-HOOD (RQB) (CON’T)

Rwy 27 (CON’T), trees beginning 4817’ from DER, 93’ right of centerline, up to 1155’ MSL.
Trees beginning 5498’ from DER, 42’ left of centerline, up to 1171’ MSL.
Tree 5546’ from DER, 636’ right of centerline, 1156’ MSL.
Trees beginning 5627’ from DER, 202’ right of centerline, up to 1162’ MSL.
Trees beginning 5716’ from DER, 2’ left of centerline, up to 1176’ MSL.
Trees beginning 5854’ from DER, 258’ left of centerline, up to 1183’ MSL.
Trees beginning 6036’ from DER, 70’ right of centerline, up to 1168’ MSL.
Vertical structure 1.2 NM from DER, 1391’ right of centerline, 100’ AGL/1196’ MSL.

Rwy 32, terrain 20’ from DER, 242’ right of centerline, 933’ MSL.
Trees, terrain beginning 28’ from DER, 342’ left of centerline, up to 936’ MSL.
Tree 196’ from DER, 225’ left of centerline, 5’ AGL/938’ MSL.
Tree 347’ from DER, 563’ left of centerline, 942’ MSL.
Lighting 469’ from DER, 387’ right of centerline, 946’ MSL.
Lighting 668’ from DER, 6’ right of centerline, 950’ MSL.
Tree 696’ from DER, 676’ left of centerline, 951’ MSL.
Wind indicator 993’ from DER, 519’ left of centerline, 11’ AGL/958’ MSL.
Tree 2117’ from DER, 658’ right of centerline, 1002’ MSL.
Trees beginning 2244’ from DER, 548’ right of centerline, up to 1012’ MSL.
Trees beginning 2329’ from DER, 346’ right of centerline, up to 1030’ MSL.
Trees beginning 2436’ from DER, 409’ right of centerline, up to 1031’ MSL.
Trees beginning 2529’ from DER, 125’ right of centerline, up to 1035’ MSL.
Pole 2659’ from DER, 1104’ left of centerline, 1000’ MSL.
Trees, pole beginning 2666’ from DER, 44’ left of centerline, up to 1026’ MSL.
Lighting, trees beginning 2979’ from DER, 613’ left of centerline, up to 59’ AGL/1027’ MSL.
Trees beginning 3269’ from DER, 401’ left of centerline, up to 1033’ MSL.
Tree 4265’ from DER, 756’ left of centerline, 1041’ MSL.
Trees beginning 4273’ from DER, 318’ left of centerline, up to 1053’ MSL.
Tree 4503’ from DER, 703’ right of centerline, 1053’ MSL.
Trees beginning 4558’ from DER, 418’ left of centerline, up to 1088’ MSL.
Trees beginning 4774’ from DER, 372’ left of centerline, up to 1092’ MSL.
Trees beginning 4825’ from DER, 461’ left of centerline, up to 1096’ MSL.
Tree 4929’ from DER, 117’ right of centerline, 1067’ MSL.
Trees beginning 4930’ from DER, 65’ left of centerline, up to 91’ AGL/1103’ MSL.
Trees beginning 5038’ from DER, 277’ left of centerline, up to 92’ AGL/1107’ MSL.
Tree 5057’ from DER, 367’ right of centerline, 1073’ MSL.
Tree 5084’ from DER, 521’ right of centerline, 1075’ MSL.
Tree 5096’ from DER, 165’ left of centerline, 88’ AGL/1110’ MSL.
Trees beginning 5102’ from DER, 15’ left of centerline, up to 92’ AGL/1118’ MSL.
Trees beginning 5103’ from DER, 13’ right of centerline, up to 1100’ MSL.
Tree 5375’ from DER, 279’ right of centerline, 1111’ MSL.
Trees beginning 5393’ from DER, 50’ right of centerline, up to 99’ AGL/1113’ MSL.
Trees beginning 5704’ from DER, 177’ left of centerline, up to 1119’ MSL.
Tree 5862’ from DER, 142’ left of centerline, 1121’ MSL.
Trees beginning 5886’ from DER, 37’ left of centerline, up to 1122’ MSL.
Trees beginning 5997’ from DER, 126’ left of centerline, up to 1127’ MSL.
Trees beginning 6045’ from DER, 19’ left of centerline, up to 104’ AGL/1128’ MSL.
Tree 1.2 NM from DER, 1914’ left of centerline, 1119’ MSL.

BOIS BLANC ISLAND, MI

BOIS BLANC ISLAND (6Y1)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES ORIG 13NOV14 (14317) (FAA)

TAKEOFF OBSTACLE NOTES:  

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 abeam DER, 15’ left 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.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

BOYNE CITY, MI
BOYNE CITY MUNI (N98)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 20JUN19 (19171) (FAA)
TAKEOFF MINIMUMS:
Rwy 9, 600-2½ or std. w/min. climb of 503' per NM to 1300.
Rwy 27, std. w/min. climb of 238' per NM to 1800 or 1200-2½ for VCOA.

DEPARTURE PROCEDURE:
Rwy 9, climb heading 098° to 1200 before proceeding on course.
Rwy 27, climb heading 278° to 1900 before turning left.

VCOA
Rwy 27, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Boyne City Muni at or above 1700 before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 9, tree 10' from DER, 180' right of centerline, 681' MSL.
NAVAID 13' from DER, 112' left of centerline, 8' AGL/661' MSL.

Tree, vehicles on road beginning 98' from DER, 246' right of centerline, up to 704' MSL.
Tree 125' from DER, 486' left of centerline, 722' MSL.
Tree, pole, transmission line beginning 143' from DER, 18' left of centerline, up to 739' MSL.
Tree, sign, vehicles on road beginning 175' from DER, 145' right of centerline, up to 709' MSL.

Tree, vehicles on road, transmission line, pole beginning 431' from DER, 176' right of centerline, up to 731' MSL.

Trees beginning 893' from DER, 22' right of centerline, up to 732' MSL.
Trees beginning 2479' from DER, 55' left of centerline, up to 740' MSL.
Tree 2594' from DER, 296' right of centerline, 733' MSL.
Tree 2602' from DER, 124' right of centerline, 745' MSL.
Trees beginning 2612' from DER, 82' right of centerline, up to 755' MSL.
Trees beginning 2621' from DER, 83' left of centerline, 751' MSL.

Trees beginning 2621' from DER, 32' left of centerline, up to 755' MSL.
Tree 2654' from DER, 187' left of centerline, 759' MSL.

Trees beginning 2654' from DER, 58' right of centerline, up to 762' MSL.
Trees beginning 2655' from DER, 128' left of centerline, up to 760' MSL.

Trees beginning 2681' from DER, 53' left of centerline, up to 761' MSL.
Trees beginning 2682' from DER, 35' right of centerline, up to 763' MSL.

Trees beginning 2709' from DER, 158' left of centerline, up to 766' MSL.

Trees beginning 2753' from DER, 4' left of centerline, up to 768' MSL.

Trees beginning 2820' from DER, 2' left of centerline, up to 773' MSL.
Trees beginning 3881' from DER, 1083' left of centerline, up to 823' MSL.

Trees beginning 3974' from DER, 473' left of centerline, up to 846' MSL.

Trees beginning 4075' from DER, 32' left of centerline, up to 861' MSL.

Trees beginning 4481' from DER, 849' left of centerline, 868' MSL.

Trees beginning 4502' from DER, 459' left of centerline, up to 869' MSL.

Trees beginning 4641' from DER, 443' left of centerline, up to 879' MSL.

Trees beginning 4727' from DER, 467' left of centerline, up to 886' MSL.

Trees beginning 4834' from DER, 691' left of centerline, up to 887' MSL.

Trees beginning 4854' from DER, 395' left of centerline, up to 892' MSL.

Trees beginning 4935' from DER, 286' left of centerline, up to 909' MSL.

Trees beginning 5063' from DER, 266' left of centerline, up to 923' MSL.

Trees beginning 5086' from DER, 299' left of centerline, up to 936' MSL.

Trees beginning 5157' from DER, 227' right of centerline, up to 939' MSL.

Tree 5189' from DER, 178' left of centerline, 940' MSL.

Trees beginning 5197' from DER, 271' left of centerline, up to 962' MSL.

Trees beginning 5292' from DER, 213' left of centerline, up to 988' MSL.
Tree beginning 5371' from DER, on centerline, up to 997' MSL.

Tree 5605' from DER, 1019' right of centerline, 805' MSL.

Trees beginning 5812' from DER, 11' right of centerline, up to 814' MSL.

Trees beginning 5912' from DER, 227' right of centerline, up to 823' MSL.

Trees beginning 5933' from DER, 307' right of centerline, up to 831' MSL.

Trees beginning 5972' from DER, 14' right of centerline, up to 838' MSL.

Tree, terrain beginning 6023' from DER, 14' left of centerline, up to 1027' MSL.

Trees beginning 6066' from DER, 2' right of centerline, up to 858' MSL.

Tree, terrain beginning 1 NM from DER, 9' left of centerline, up to 1036' MSL.

Trees beginning 1 NM from DER, 133' right of centerline, up to 873' MSL.

Trees beginning 1.1 NM from DER, 151' right of centerline, up to 894' MSL.

Trees beginning 1.1 NM from DER, 360' right of centerline, up to 898' MSL.

Trees beginning 1.1 NM from DER, 1802' left of centerline, up to 1050' MSL.

Tree 1.1 NM from DER, 540' right of centerline, 912' MSL.

Trees beginning 1.1 NM from DER, 336' right of centerline, up to 931' MSL.

Tree, terrain beginning 1.1 NM from DER, 224' left of centerline, up to 1061' MSL.

Trees beginning 1.1 NM from DER, 139' right of centerline, up to 954' MSL.

Trees beginning 1.1 NM from DER, 495' left of centerline, up to 1074' MSL.

Tree, terrain beginning 1.2 NM from DER, 197' left of centerline, up to 1087' MSL.

Tree 1.2 NM from DER, 339' right of centerline, 972' MSL.

Tree, pole, transmission line, catenary beginning 1.2 NM from DER, 4' right of centerline, up to 1007' MSL.

Tree, terrain, transmission line, pole beginning 1.2 NM from DER, 19' left of centerline, up to 1127' MSL.

CONT'T
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

BOYNE CITY, MI (CON’T)
BOYNE CITY MUNI (N98) (CON’T)

**Rwy 9 (CON’T)**, trees beginning 1.3 NM from DER, 320’ right of centerline, up to 1011’ MSL.

Trees beginning 1.3 NM from DER, 174’ right of centerline, up to 1027’ MSL.

Trees beginning 1.3 NM from DER, 117’ right of centerline, up to 1036’ MSL.

Trees beginning 1.3 NM from DER, 12’ left of centerline, up to 1141’ MSL.

Trees beginning 1.4 NM from DER, 301’ right of centerline, up to 1040’ MSL.

Trees beginning 1.4 NM from DER, 361’ left of centerline, up to 1146’ MSL.

Trees beginning 1.4 NM from DER, 63’ right of centerline, up to 1051’ MSL.

Trees beginning 1.4 NM from DER, 119’ left of centerline, up to 1147’ MSL.

Tree 1.4 NM from DER, 289’ right of centerline, 1055’ MSL.

Trees beginning 1.4 NM from DER, 30’ left of centerline, up to 1149’ MSL.

Trees beginning 1.4 NM from DER, 2’ right of centerline, up to 1080’ MSL.

Trees beginning 1.4 NM from DER, 70’ right of centerline, up to 1101’ MSL.

Tree beginning 1.5 NM from DER, 786’ left of centerline, up to 1151’ MSL.

Tree, terrain beginning 1.5 NM from DER, 47’ left of centerline, up to 1157’ MSL.

Trees beginning 1.5 NM from DER, 700’ left of centerline, up to 1161’ MSL.

Tree, terrain beginning 1.5 NM from DER, 13’ left of centerline, up to 1167’ MSL.

Trees beginning 1.5 NM from DER, 52’ right of centerline, up to 1132’ MSL.

Trees beginning 1.5 NM from DER, 8’ right of centerline, up to 1142’ MSL.

Tree 2.2 NM from DER, 2497’ right of centerline, 1025’ MSL.

**Rwy 27**, building 30’ from DER, 437’ right of centerline, 27’ AGL/678’ MSL.

Tree 30’ from DER, 311’ right of centerline, 703’ MSL.

Tree, building, pole, transmission line beginning 45’ from DER, 1’ right of centerline, up to 725’ MSL.

Vehicles on road 64’ from DER, 203’ left of centerline, 672’ MSL.

Pole 113’ from DER, 515’ left of centerline, 31’ AGL/890’ MSL.

Building, pole, fence beginning 118’ from DER, 67’ left of centerline, up to 37’ AGL/694’ MSL.

Tree, pole, building, transmission line beginning 244’ from DER, 13’ left of centerline, up to 728’ MSL.

Tree, pole, transmission line, building beginning 435’ from DER, 19’ right of centerline, up to 726’ MSL.

Trees beginning 649’ from DER, 24’ right of centerline, up to 739’ MSL.

Tree, building, pole, fence beginning 118’ from DER, 1’ right of centerline, up to 743’ MSL.

Tree, pole, building, transmission line beginning 1056’ from DER, 7’ left of centerline, up to 734’ MSL.

Trees beginning 2774’ from DER, 58’ left of centerline, up to 743’ MSL.

**BOYNE FALLS, MI**

BOYNE MOUNTAIN (BFA)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4A 11AUG22 (22223) (FAA)

TAKEOFF MINIMUMS:

**Rwy 17**, std. w/min. climb of 490’ per NM to 1400 or 1300-3 for climb in visual conditions.

**Rwy 35**, std. w/min. climb of 310’ per NM to 1400 or 1300-3 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.

TAKEOFF OBSTACLE NOTES:

**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.

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

CADILLAC, MI
WEXFORD COUNTY (CAD)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 7 02JUL09 (09183) (FAA)
TAKEOFF MINIMUMS:
Rwys 18, 36, NA-Environmental.
DEPARTURE PROCEDURE:
Rwy 25, climb heading 250° to 1800 before turning left.
TAKEOFF OBSTACLE NOTES:
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/1337' MSL.

CARO, MI
TUSCOLA AREA (CFS)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 08SEP22 (22251) (FAA)
TAKEOFF MINIMUMS:
Rwys 13, 31, NA-Environmental.
DEPARTURE PROCEDURE:
Rwy 24, climb on heading 238° to 1200 before turning right.
TAKEOFF OBSTACLE NOTES:
Rwy 6, NAVAID 41' from DER, 84' left of centerline, 702' MSL.
Vegetation, tree, pole beginning 152' from DER, 239' right of centerline, up to 715' MSL.
Trees beginning 666' from DER, 225' left of centerline, up to 724' MSL.
Tree 697' from DER, 673' right of centerline, 753' MSL.
Trees beginning 819' from DER, 21' right of centerline, up to 759' MSL.
Tree 825' from DER, 366' left of centerline, 725' MSL.
Tree 944' from DER, 419' left of centerline, 766' MSL.
Trees beginning 990' from DER, 98' left of centerline, up to 774' MSL.
Trees beginning 1069' from DER, 341' right of centerline, up to 773' MSL.
Tree, transmission lines, poles, tank beginning 1242' from DER, 397' left of centerline, up to 775' MSL.
Trees, buildings, transmission line, pole beginning 1278' from DER, 203' right of centerline, up to 778' MSL.
Trees beginning 1615' from DER, 96' right of centerline, up to 791' MSL.
Trees beginning 2075' from DER, 78' left of centerline, up to 789' MSL.
Trees beginning 2202' from DER, 19' right of centerline, up to 793' MSL.
Tree 3612' from DER, 796' right of centerline, 800' MSL.
Rwy 24, pole 21' from DER, 330' left of centerline, 6' AGL/687' MSL.
Tree, NAVAID, pole beginning 36' from DER, 76' left of centerline, up to 703' MSL.
NAVAID 40' from DER, 78' right of centerline, 5' AGL/688' MSL.
Pole 84' from DER, 240' right of centerline, 9' AGL/693' MSL.
Trees beginning 179' from DER, 472' left of centerline, up to 714' MSL.
Trees beginning 724' from DER, 565' left of centerline, up to 730' MSL.
Trees, transmission line, pole, catenary beginning 948' from DER, 167' left of centerline, up to 737' MSL.
Trees, catenary, pole, transmission line 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.
Trees beginning 1586' from DER, 28' left of centerline, up to 765' MSL.
Trees, poles, transmission lines beginning 2360' from DER, 108' right of centerline, up to 808' MSL.

CHARLEVOIX, MI
CHARLEVOIX MUNI (CVX)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5 15JUN23 (23166) (FAA)
TAKEOFF MINIMUMS:
Rwys 4, 22, NA-Environmental.
TAKEOFF OBSTACLE NOTES:
Rwy 9, buildings beginning 963' from DER, 607' right of centerline, up to 679' MSL.
Tree, transmission line, pole beginning 1093' from DER, 103' left of centerline, up to 691' MSL.
Trees beginning 1483' from DER, 309' left of centerline, up to 697' MSL.
Building 1501' from DER, 594' right of centerline, 56' AGL/689' MSL.
Trees beginning 1748' from DER, 86' left of centerline, up to 700' MSL.
Trees beginning 1992' from DER, 86' left of centerline, up to 710' MSL.
Tree 2097' from DER, 129' right of centerline, 705' MSL.
Pole beginning 2736' from DER, 95' left of centerline, up to 81' AGL/713' MSL.
Rwy 27, tree 2' from DER, 295' right of centerline, 3' AGL/681' MSL.
Fence 154' from DER, 536' left of centerline, 674' MSL.
Tree 231' from DER, 527' left of centerline, 680' MSL.
Terrain 407' from DER, 572' left of centerline, 681' MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

CHARLOTTE, MI
FITCH H BEACH (FPK)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 22JUN17 (17173) (FAA)
TAKEOFF MINIMUMS:
Rwys 15, 33, NA - Environmental.

TAKEOFF OBSTACLE NOTES:
Rwy 3, tree 21’ from DER, 482’ left of centerline, 14’ AGL/899’ MSL.
REILs and electrical system 35’ from DER, 77’ left and right of centerline, 4’ AGL/894’ MSL.
Tree and vehicles on road 248’ from DER, 337’ right of centerline, 909’ MSL.
Vehicles on road 367’ from DER, 516’ left of centerline, 911’ MSL.
Vehicles on road 457’ from DER, 461’ left of centerline, 912’ MSL.
Power lines, pole and vehicles on road beginning 520’ from DER, 298’ left of centerline, up to 40’ AGL/936’ MSL.
Trees, vehicles on road, building, pole, beginning 746’ from DER, 101’ left of centerline, up to 970’ MSL.
Trees and OL pole 1108’ from DER, 10’ left of centerline, 973’ MSL.
Trees, pole, OL pole, vehicles on road, building, and power lines beginning 1223’ from DER, 14’ left of centerline, up to 74’ AGL/1000’ MSL.

Trees beginning 2366’ from DER, 58’ left of centerline, up to 1008’ MSL.
Tree 4540’ from DER, 23’ left of centerline, 87’ AGL/1021’ MSL.
Tree 298’ from DER, 328’ right of centerline, 911’ MSL.
Pole and tree 465’ from DER, 264’ right of centerline, 935’ MSL.
Pole 637’ from DER, 546’ right of centerline, 936’ MSL.
Pole and trees beginning 676’ from DER, 137’ right of centerline, up to 38’ AGL/936’ MSL.
Pole and tree 841’ from DER, 79’ right of centerline, 36’ AGL/939’ MSL.
Poles and tree, beginning 969’ from DER, 476’ right of centerline, up to 35’ AGL/940’ MSL.
Pole 1003’ from DER, 436’ right of centerline, 35’ AGL/941’ MSL.

Pole, building and vehicles on road beginning 1135’ from DER, 108’ right of centerline, up to 944’ MSL.
Pole, tree and vehicles on road beginning 1235’ from DER, 16’ right of centerline, up to 35’ AGL/948’ MSL.
Sign and pole 1332’ from DER, 119’ right of centerline, 949’ MSL.

Pole, building, power lines and vehicles on road beginning 1430’ from DER, 13’ right of centerline, up to 35’ AGL/953’ MSL.
Sign, vehicles on road and building beginning 1642’ from DER, 105’ right of centerline, up to 37’ AGL/958’ MSL.
Building, pole, power lines and vehicles on road beginning 1721’ from DER, 72’ right of centerline, up to 35’ AGL/959’ MSL.
Pole and building 1814’ from DER, 500’ right of centerline, 43’ AGL/968’ MSL.

Sign, vehicles on road, pole, tree and power lines beginning 1842’ from DER, 185’ right of centerline, up to 971’ MSL.
Tree and pole 2181’ from DER, 119’ right of centerline, 991’ MSL.
Tree and pole 2292’ from DER, 105’ right of centerline, 993’ MSL.

Trees beginning 2426’ from DER, 88’ right of centerline, up to 1000’ MSL.
Trees beginning 2487’ from DER, 836’ right of centerline, up to 1008’ MSL.

Rwy 21, trees beginning 17’ from DER, 427’ right of centerline, up to 53’ AGL/929’ MSL.
REILs and electrical system 33’ from DER, 77’ left and right of centerline, 5’ AGL/884’ MSL.

Trees beginning 941’ from DER, 182’ right of centerline, up to 935’ MSL.
Trees beginning 1046’ from DER, 25’ right of centerline, up to 1010’ MSL.

Trees, antenna and tower beginning 2663’ from DER, 35’ right of centerline, up to 94’ AGL/1026’ MSL.

Tower, airport beacon, pole, powerlines and tree beginning 489’ from DER, 553’ left of centerline, up to 80’ AGL/964’ MSL.
CHEBOYGAN, MI
CHEBOYGAN COUNTY (SLH)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3A 13SEP18 (18256) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 10, tree 96’ from DER, 379’ left of centerline, 643’ MSL.
Tree beginning 409’ from DER, 429’ left of centerline, up to 662’ MSL.
Tree 961’ from DER, 598’ right of centerline, 670’ MSL.
Tree 1180’ from DER, 503’ left of centerline, 663’ MSL.
Tree 1221’ from DER, 431’ left of centerline, 667’ MSL.
Tree 1268’ from DER, 357’ left of centerline, 669’ MSL.
Trees beginning 1300’ from DER, 288’ right of centerline, up to 673’ MSL.
Tree 1451’ from DER, 295’ left of centerline, 675’ MSL.
Rwy 17, trees beginning 77’ from DER, 47’ right of centerline, up to 100’ AGL/750’ MSL.
Trees beginning 167’ from DER, 31’ left of centerline, up to 100’ AGL/747’ MSL.
Trees beginning 1417’ from DER, 19’ left of centerline, up to 100’ AGL/750’ MSL.
Trees beginning 1838’ from DER, 28’ right of centerline, up to 100’ AGL/753’ MSL.
Trees beginning 3306’ from DER, 10’ right of centerline, up to 100’ AGL/757’ MSL.
Rwy 28, tree, vehicles on traverse way beginning 74’ from DER, 407’ left of centerline, up to 670’ MSL.
Tree 443’ from DER, 429’ right of centerline, 680’ MSL.
Tree 479’ from DER, 389’ left of centerline, 702’ MSL.
Tree 548’ from DER, 400’ right of centerline, 693’ MSL.
Trees beginning 1212’ from DER, 570’ left of centerline, up to 711’ MSL.
Trees beginning 1534’ from DER, 184’ left of centerline, up to 724’ MSL.
Trees beginning 1561’ from DER, 93’ right of centerline, up to 718’ MSL.
Trees beginning 2059’ from DER, 354’ right of centerline, up to 727’ MSL.
Tree 2826’ from DER, 769’ right of centerline, 732’ MSL.
Trees beginning 2980’ from DER, 22’ left of centerline, up to 734’ MSL.
Tree 3901’ from DER, 506’ right of centerline, 745’ MSL.
Rwy 35, tree 47’ from DER, 454’ right of centerline, 100’ AGL/704’ MSL.
Tree 103’ from DER, 249’ right of centerline, 100’ AGL/707’ MSL.
Trees beginning 158’ from DER, 24’ right of centerline, up to 100’ AGL/711’ MSL.
Tree 213’ from DER, 162’ left of centerline, 100’ AGL/714’ MSL.
Trees beginning 268’ from DER, 5’ left of centerline, up to 100’ AGL/717’ MSL.

CLARE, MI
CLARE MUNI (48D)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 19SEP13 (13262) (FAA)
TAKEOFF MINIMUMS:
Rwy 9, 300-1 or std. w/min. climb of 371’ per NM to 1100.
TAKEOFF OBSTACLE NOTES:
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, 431’ right of centerline, up to 55’ AGL/906’ MSL.
Tree 1158’ from DER, 166’ left of centerline, 48’ AGL/889’ MSL.
Trees beginning 1683’ 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/823’ 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 1817’ 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.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

COLDWATER, MI
BRANCH COUNTY MEML (OEB)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4  10APR08  (21224)  (FAA)
TAKEOFF MINIMUMS:
Rwys 16, 34, NA-Environmental.
TAKEOFF OBSTACLE NOTES:
Rwy 4, vehicles on road and trees beginning 5' from DER, 92' right of centerline, up to 100' AGL/1059' MSL.
Rwy 7, trees beginning 347' from DER, 430' left of centerline, up to 100' AGL/1059' 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/1059' MSL. Trees beginning 732' from DER, 95' right of centerline, up to 100' AGL/1034' MSL.

DETROIT, MI
COLEMAN A YOUNG MUNI (DET)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 7A  24MAY18  (18144)  (FAA)
TAKEOFF MINIMUMS:
Rwy 25, std. w/ min. climb of 210' per NM to 1000, or alternatively, with std. takeoff minimums and a 200' per NM climb gradient, takeoff must occur no later than 1400' prior to DER.
DEPARTURE PROCEDURE:
Rwy 33, climb heading 328° to 1800 before turning left.
TAKEOFF OBSTACLE NOTES:
Rwy 7, building, pole, tree, transmission line, stack beginning 290' from DER, 65' right of centerline, up to 77' AGL/695' MSL.
Pole 459' from DER, 138' left of centerline, 31' AGL/654' MSL.
Tree, lighting beginning 909' from DER, 96' left of centerline, up to 680' MSL.
Rwy 15, building 449' from DER, 317' left of centerline, 16' AGL/637' MSL.
Building, trees beginning 662' from DER, 220' left of centerline, up to 77' AGL/695' MSL.
Building 803' from DER, 521' right of centerline, 656' MSL.
Tree 1058' from DER, 367' right of centerline, 659' MSL.
Tree 1527' from DER, 445' right of centerline, 669' MSL.
Tree 1990' from DER, 492' right of centerline, 679' MSL.
Pole 3401' from DER, 1110' right of centerline, 106' AGL/722' MSL.
Rwy 25, vehicle on road 1' from DER, 125' left of centerline, 650' MSL.
Building, vehicles on road, stack, beginning 48' from DER, 39' left of centerline, up to 36' AGL/662' MSL.
Tree, pole beginning 456' from DER, 132' right of centerline, up to 658' MSL.
Tree, stack beginning 908' from DER, 11' left of centerline, up to 683' MSL.
Tree 1109' from DER, 325' left of centerline, 685' MSL.
Trees beginning 1294' from DER, 132' left of centerline, up to 703' MSL.
Tree 2828' from DER, 1224' left of centerline, 141' AGL/677' MSL.
Stack 1.5 NM from DER, 2412' left of centerline, 241' AGL/871' MSL.

DETROIT METRO WAYNE COUNTY (DTW)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A  24MAY18  (21112)  (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 3R, terrain 14' from DER, 332' left of centerline, 633' MSL.
Vehicle on road 358' from DER, 522' right of centerline, up to 652' MSL.
Vehicle on road, wall, fence beginning 361' from DER, 387' right of centerline, up to 652' MSL.
Vehicle on roads beginning 421' from DER, 394' left of centerline, up to 653' MSL.
Rwy 4L, terrain 179' from DER, 78' left of centerline, 647' MSL.
Vehicle on roads beginning 302' from DER, 514' right of centerline, up to 655' MSL.
Vehicle on roads beginning 403' from DER, 546' left of centerline, up to 656' MSL.
Tree 996' from DER, 743' right of centerline, 29' AGL/668' MSL.
Tree, pole beginning 1183' from DER, 765' left of centerline, up to 43' AGL/682' MSL.
Tree 1345' from DER, 787' right of centerline, 42' AGL/682' MSL.
Transmission line 1515' from DER, 826' left of centerline, 47' AGL/685' MSL.
Transmission line 1595' from DER, 876' left of centerline, 52'A GL/690' MSL.
Tower, antenna beginning 2694' from DER, 757' right of centerline, up to 78' AGL/716' MSL.
Tower, antenna beginning 2858' from DER, 852' right of centerline, up to 79' AGL/717' MSL.

CON'T
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

DETROIT, MI (CON’T)
DETROIT METRO WAYNE COUNTY (DTW) (CON’T)

**Rwy 4R**, lighting, NAVAID beginning 9’ from DER, 10’ right of centerline, up to 3’ AGL/638’ MSL.
Vehicle on roads beginning 94’ from DER, 618’ left of centerline, up to 664’ MSL.
Building beginning 334’ from DER, 1302’ left of centerline, up to 98’ AGL/736’ MSL.

**Rwy 9L**, vehicle on roads beginning 292’ from DER, 342’ left of centerline, up to 652’ MSL.
Vehicle on roads beginning 601’ from DER, 354’ right of centerline, up to 652’ MSL.
Tree 1699’ from DER, 882’ right of centerline, 59’ AGL/687’ MSL.

Tree 1804’ from DER, 936’ right of centerline, 63’ AGL/690’ MSL.

Trees beginning 2043’ from DER, 970’ right of centerline, up to 73’ AGL/699’ MSL.
Trees beginning 2424’ from DER, 937’ left of centerline, up to 77’ AGL/704’ MSL.

Tree 2461’ from DER, 1056’ right of centerline, 77’ AGL/705’ MSL.

Tree 2519’ from DER, 1168’ right of centerline, 84’ AGL/710’ MSL.

Tree 2632’ from DER, 1163’ left of centerline, 81’ AGL/708’ MSL.

Tree 2788’ from DER, 1050’ left of centerline, 85’ AGL/711’ MSL.

Tree 2891’ from DER, 1065’ left of centerline, 90’ AGL/716’ MSL.

**Rwy 9R**, sign 60’ from DER, 288’ left of centerline, 5’ AGL/631’ MSL.

Tree 538’ from DER, 618’ right of centerline, 19’ AGL/645’ MSL.

Tree 1836’ from DER, 940’ right of centerline, 71’ AGL/695’ MSL.

Tree 1121’ from DER, 738’ left of centerline, 39’ AGL/674’ MSL.

Tree 1763’ from DER, 906’ right of centerline, 59’ AGL/687’ MSL.

Tree 2160’ from DER, 982’ left of centerline, 68’ AGL/693’ MSL.

Tree 2256’ from DER, 1040’ left of centerline, 67’ AGL/696’ MSL.

Tree 2408’ from DER, 1050’ left of centerline, 76’ AGL/707’ MSL.

Tree 2548’ from DER, 1077’ left of centerline, 84’ AGL/715’ MSL.

Trees beginning 2619’ from DER, 867’ left of centerline, up to 90’ AGL/723’ MSL.

Trees beginning 2726’ from DER, 1172’ right of centerline, up to 83’ AGL/714’ MSL.

Tree 2809’ from DER, 1245’ right of centerline, 85’ AGL/716’ MSL.

Tree 2907’ from DER, 1174’ right of centerline, 86’ AGL/718’ MSL.

Trees beginning 2933’ from DER, 1133’ right of centerline, up to 95’ AGL/728’ MSL.

Tree 3275’ from DER, 1222’ left of centerline, 99’ AGL/727’ MSL.

Trees beginning 3412’ from DER, 1161’ left of centerline, up to 107’ AGL/735’ MSL.

Trees beginning 3687’ from DER, 1169’ right of centerline, up to 100’ AGL/733’ MSL.

Tree 3921’ from DER, 1229’ right of centerline, 103’ AGL/734’ MSL.

Trees beginning 3926’ from DER, 1351’ right of centerline, up to 109’ AGL/739’ MSL.

**Rwy 21R**, pole 322’ from DER, 570’ right of centerline, 28’ AGL/655’ MSL.
Pole, fence, sign, vehicle on roads beginning 450’ from DER, 570’ right of centerline, up to 29’ AGL/657’ MSL.

Pole building 533’ from DER, 571’ right of centerline, up to 29’ AGL/658’ MSL.

Building 1092’ from DER, 773’ right of centerline, 58’ AGL/670’ MSL.

Building 1237’ from DER, 773’ right of centerline, 58’ AGL/671’ MSL.

Building beginning 1311’ from DER, 829’ right of centerline, up to 71’ AGL/677’ MSL.

**Rwy 22L**, lighting 10’ from DER, 5’ left of centerline, 1’ AGL/638’ MSL.

NAVAID 79’ from DER, 412’ left of centerline, 4’ AGL/640’ MSL.

Tree 3681’ from DER, 1384’ left of centerline, 103’ AGL/738’ MSL.

**Rwy 22R**, terrain 19’ from DER, 438’ left of centerline, 649’ MSL.

Terrain 150’ from DER, 86’ left of centerline, 650’ MSL.

Terrain 1102’ from DER, 734’ right of centerline, 37’ AGL/681’ MSL.

Terrain 1859’ from DER, 854’ right of centerline, 60’ AGL/702’ MSL.

Terrain 1979’ from DER, 942’ right of centerline, 66’ AGL/706’ MSL.

Tree 2386’ from DER, 892’ left of centerline, 75’ AGL/715’ MSL.

Tree 3343’ from DER, 1361’ left of centerline, 97’ AGL/735’ MSL.

Tree 3727’ from DER, 1351’ left of centerline, 103’ AGL/741’ MSL.

**Rwy 27L**, vehicle on road 491’ from DER, 600’ left of centerline, 650’ MSL.
Pole 1011’ from DER, 698’ left of centerline, 27’ AGL/662’ MSL.

**Rwy 27R**, NAVAID 11’ from DER, 55’ right of centerline, 2’ AGL/639’ MSL.

NAVAID 11’ from DER, 54’ left of centerline, 2’ AGL/639’ MSL.
Pole 14’ from DER, 441’ left of centerline, 19’ AGL/696’ MSL.

Tower 4460’ from DER, 462’ left of centerline, 106’ AGL/756’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

DETROIT, MI (CON’T)
WILLOW RUN (YIP)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 11 14JUL22 (22195) (FAA)
TAKEOFF MINIMUMS:
Rwy 27, 300-1 1/2 or std. w/min. climb or 209’ per NM to 1000, or alternatively, with std. takeoff minimums and a normal 200’ per NM climb gradient, takeoff must occur no later than 1300’ prior to departure end of runway
TAKEOFF OBSTACLE NOTES:
Rwy 5, electrical systems, beginning 5’ from DER, 56’ right of centerline, up to 3’ AGL/703’ MSL.
Electrical system 5’ from DER, 56’ left of centerline, 3’ AGL/703’ MSL.
Transmission line 1070’ from DER, 593’ left of centerline, 34’ AGL/731’ MSL.
Transmission line 1180’ from DER, 492’ left of centerline, 36’ AGL/732’ MSL.
Trees 1406’ from DER, 799’ left of centerline, 42’ AGL/741’ MSL.
Trees 1593’ from DER, 900’ left of centerline, 764’ MSL.
Trees beginning 2193’ from DER, 1037’ right of centerline, up to 69’ AGL/762’ MSL.
Rwy 23, electrical system, sign beginning 4’ from DER, 69’ left of centerline, up to 3’ AGL/716’ MSL.
Electrical system 5’ from DER, 89’ right of centerline, 2’ AGL/716’ MSL.
Sign 33’ from DER, 501’ right of centerline, 3’ AGL/717’ MSL.
Tree 813’ from DER, 702’ left of centerline, 28’ AGL/739’ MSL.
Electrical system 835’ from DER, 3’ right of centerline, 24’ AGL/738’ MSL.
Pole 866’ from DER, 710’ left of centerline, 38’ AGL/750’ MSL.
Tree 1360’ from DER, 763’ right of centerline, 54’ AGL/781’ MSL.
Tree 1406’ from DER, 817’ right of centerline, 49’ AGL/781’ MSL.
Tree 1760’ from DER, 883’ left of centerline, 56’ AGL/761’ MSL.
Trees beginning 1785’ from DER, 975’ left of centerline, up to 70’ AGL/774’ MSL.
Tree 2137’ from DER, 916’ left of centerline, 75’ AGL/775’ MSL.
Trees beginning 2378’ from DER, 924’ left of centerline, up to 75’ AGL/784’ MSL.
Trees beginning 2422’ from DER, 607’ left of centerline, up to 82’ AGL/790’ MSL.
Rwy 27, terrain 468’ from DER, 545’ left of centerline, 729’ MSL.
Tree 706’ from DER, 624’ right of centerline, 16’ AGL/734’ MSL.
Trees beginning 713’ from DER, 491’ right of centerline, up to 21’ AGL/739’ MSL.
Pole beginning 1534’ from DER, 412’ right of centerline, up to 53’ AGL/770’ MSL.
Pole beginning 1558’ from DER, 418’ left of centerline, 54’ AGL/772’ MSL.
Tree 2869’ from DER, 984’ right of centerline, 75’ AGL/794’ MSL.
Trees beginning 2910’ from DER, 1006’ right of centerline, up to 76’ AGL/795’ MSL.
Transmission line 3709’ from DER, 390’ right of centerline, 90’ AGL/812’ MSL.
Transmission lines, catenaries beginning 3961’ from DER, 776’ left of centerline, up to 101’ AGL/825’ MSL.
Trees beginning 4001’ from DER, 371’ right of centerline, up to 832’ MSL.
Transmission line, trees beginning 4076’ from DER, 119’ left of centerline, up to 104’ AGL/830’ MSL.
Tree 4397’ from DER, 302’ right of centerline, 834’ MSL.
Tree 4449’ from DER, 523’ right of centerline, 835’ MSL.
Tree 4486’ from DER, 459’ right of centerline, 846’ MSL.
Tower 1.1 NM from DER, 469’ left of centerline, 165’ AGL/903’ MSL.
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 5A 24MAY18 (18144) (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.

TAKEOFF OBSTACLE NOTES:

**Rwy 4**, tree 12’ from DER, 390’ left of centerline, 615’ MSL.

Tree, vegetation beginning 94’ from DER, 192’ right of centerline, up to 620’ MSL.

Tree 106’ from DER, 497’ left of centerline, 629’ MSL.

Tree, transmission line, pole beginning 137’ from DER, 350’ right of centerline, up to 655’ MSL.

Tree 191’ from DER, 422’ left of centerline, 642’ MSL.

Trees beginning 256’ from DER, 376’ left of centerline, up to 653’ MSL.

Tree, building beginning 410’ from DER, 164’ left of centerline, up to 672’ MSL.

Trees beginning 720’ from DER, 279’ right of centerline, up to 660’ MSL.

Trees beginning 903’ from DER, 20’ right of centerline, up to 661’ MSL.

Trees beginning 974’ from DER, 148’ left of centerline, up to 673’ MSL.

Trees beginning 1189’ from DER, 55’ right of centerline, up to 667’ MSL.

Trees beginning 1490’ from DER, 38’ right of centerline, up to 676’ MSL.

Trees beginning 1492’ from DER, 37’ left of centerline, up to 679’ MSL.

Trees beginning 2083’ from DER, 155’ left of centerline, up to 697’ MSL.

Trees beginning 2088’ from DER, 179’ right of centerline, up to 685’ MSL.

Tree 3459’ from DER, 210’ right of centerline, 687’ MSL.

Trees beginning 3492’ from DER, 255’ left of centerline, up to 698’ MSL.

Trees beginning 4123’ from DER, 611’ left of centerline, up to 700’ MSL.

Tree 4453’ from DER, 411’ left of centerline, 702’ MSL.

Tree 4610’ from DER, 877’ left of centerline, 713’ MSL.

**Rwy 17**, tree 44’ from DER, 378’ right of centerline, 621’ MSL.

Tree, fence beginning 64’ from DER, 218’ right of centerline, up to 622’ MSL.

Tree 164’ from DER, 540’ left of centerline, 595’ MSL.

Trees beginning 275’ from DER, 395’ right of centerline, up to 643’ MSL.

Tree 2311’ from DER, 991’ left of centerline, 651’ MSL.

Tree 2497’ from DER, 1103’ left of centerline, 671’ MSL.

Trees beginning 2515’ from DER, 740’ left of centerline, up to 672’ MSL.

Tree, fence beginning 14’ from DER, 350’ left of centerline, up to 583’ MSL.

Tree, fence beginning 369’ from DER, 517’ right of centerline, up to 607’ MSL.

Trees beginning 516’ from DER, 385’ right of centerline, up to 621’ MSL.

Tree 548’ from DER, 485’ right of centerline, 622’ MSL.

Tree 765’ from DER, 407’ right of centerline, 643’ MSL.

Trees beginning 787’ from DER, 180’ right of centerline, up to 653’ MSL.

Trees beginning 903’ from DER, 563’ right of centerline, up to 662’ MSL.

Trees beginning 1083’ from DER, 413’ right of centerline, up to 665’ MSL.

Tree 1382’ from DER, 614’ right of centerline, 667’ MSL.

Trees beginning 1545’ from DER, 624’ right of centerline, up to 683’ MSL.

Trees beginning 1907’ from DER, 763’ right of centerline, up to 691’ MSL.

**Rwy 22**, trees beginning 14’ from DER, 350’ left of centerline, up to 583’ MSL.

Tree, building, fence beginning 26’ from DER, 165’ left of centerline, up to 663’ MSL.

Terrain 158’ from DER, 227’ right of centerline, 586’ MSL.

Building 450’ from DER, 515’ right of centerline, 9’ AGL/595’ MSL.

Tree 519’ from DER, 591’ right of centerline, 612’ MSL.

Tree, building beginning 663’ from DER, 144’ right of centerline, up to 615’ MSL.

Tree, building beginning 684’ from DER, 224’ left of centerline, up to 668’ MSL.

Tree, pole, transmission line, building beginning 823’ from DER, 15’ left of centerline, up to 675’ MSL.

Transmission line, pole beginning 934’ from DER, 508’ right of centerline, up to 38’ AGL/627’ MSL.

Pole, transmission line beginning 1004’ from DER, 379’ right of centerline, up to 628’ MSL.

Tree, transmission line, pole beginning 1073’ from DER, 135’ right of centerline, up to 635’ MSL.

Tree, pole, transmission line beginning 1083’ from DER, 14’ right of centerline, up to 636’ MSL.

Trees beginning 1149’ from DER, 127’ right of centerline, up to 641’ MSL.

Trees beginning 1215’ from DER, 35’ right of centerline, up to 658’ MSL.

Trees beginning 1362’ from DER, 236’ right of centerline, up to 683’ MSL.

Trees beginning 2148’ from DER, 62’ right of centerline, up to 688’ MSL.

Trees beginning 3337’ from DER, 467’ right of centerline, up to 678’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

DOWAGIAC, MI
DOWAGIAC MUNI (C91)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5A 26MAR20 (20086) (FAA)
TAKEOFF MINIMUMS:
Rwy 4, 22, NA-Environmental.
TAKEOFF OBSTACLE NOTES:
Rwy 9, building, 258' from DER, 549' right of centerline, 26' AGL/778' MSL.
Antenna, 459' from DER, 367' right of centerline, 35' AGL/787' MSL.
Antenna, 615' from DER, 341' right of centerline, 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.

DRUMMOND ISLAND, MI
DRUMMOND ISLAND (DRM)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 31MAY12 (12152) (FAA)
TAKEOFF MINIMUMS:
Rwy 1,19, NA - environmental.
Rwy 8, 300-1 or std. w/min. climb of 449'per NM to 1000.
TAKEOFF OBSTACLE NOTES:
Rwy 8, fence beginning 72' from DER, left and right of centerline, up to 5' AGL/664' MSL.
Vehicle on roadway 17' from DER, 306' left of centerline, up to 15' AGL/689' 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.

EAST TAWAS, MI
IOSCO COUNTY (6D9)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 25JUL13 (13206) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 8, trees beginning at DER, 400' left and right of centerline, up to 100' AGL/704' MSL.
Vehicles on roadway 17' from DER, 272' right 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
AMDT 2 03NOV22 (22307) (FAA)
TAKEOFF MINIMUMS:
Rwy 1, 400-2¼ or std. w/min. climb of 220' per NM to 1100, or alternatively, with std. takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1900 prior to DER
TAKEOFF OBSTACLE NOTES:
Rwy 1, vehicle on road beginning 40' from DER, 40' right of centerline, up to 621' MSL.
Tower 1.8 NM from DER, 2363' left of centerline, 293' AGL/915' MSL.
Rwy 10, vehicle on road beginning 1' from DER, 272' right of centerline, up to 607' MSL.
Trees beginning 1760' from DER, 417' right of centerline, up to 642' MSL.
Tree 1859' from DER, 561' right of centerline, 654' MSL.
Trees beginning 321' from DER, 54' right of centerline, up to 656' MSL.
Tree 2024' from DER, 444' left of centerline, 646' MSL.
Rwy 19, fence beginning 131' from DER, 402' right of centerline, up to 9' AGL/599' MSL.
Pole 247' from DER, 562' right of centerline, 28' AGL/618' MSL.
Tree 321' from DER, 350' left of centerline, 606' MSL.
Trees beginning 367' from DER, 524' right of centerline, up to 646' MSL.
Tree 374' from DER, 484' left of centerline, 643' MSL.
Trees beginning 447' from DER, 383' left of centerline, up to 650' MSL.
Trees beginning 463' from DER, 383' left of centerline, up to 660' MSL.
Trees beginning 543' from DER, 500' right of centerline, up to 652' MSL.
Trees beginning 640' from DER, 19' left of centerline, up to 664' MSL.
Trees beginning 671' from DER, 19' right of centerline, up to 673' MSL.

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

FLINT, MI
BISHOP INTL (FNT)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5  21FEB02  (02052)  (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 18, trees 1200’ from DER, 500’ right of centerline, 65’ AGL/863’ MSL.

FRANKFORT, MI
FRANKFORT DOW MEML FLD (FKS)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3  10MAR11  (21112)  (FAA)
TAKEOFF MINIMUMS:
Rwy 15, 400-2/3 or std. w/min. climb of 300’ per NM to 1100.
Rwy 33, 500-2/3 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.

TAKEOFF OBSTACLE NOTES:
Rwy 15, vehicles on roadway, beginning 13’ from DER, right and left of centerline, up to 15’ AGL/654’ MSL.
Rwy 33, vehicles on roadway, right and left of centerline, up to 15’ AGL/687’ MSL.

FREMONT, MI
FREMONT MUNI (FFX)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG A  08NOV18  (18312)  (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 1, lighting 40’ from DER, 90’ right of centerline, 4’ AGL/772’ MSL.
Lighting 40’ from DER, 89’ left of centerline, 4’ AGL/772’ MSL.
Terrain 78’ from DER, 483’ left of centerline, 774’ MSL.
Transmission line 1154’ from DER, 727’ left of centerline, 4’ AGL/817’ MSL.
Tree, catenary, pole, transmission line beginning 1157’ from DER, 41’ right of centerline, up to 843’ MSL.
Tree 1247’ from DER, 659’ left of centerline, 830’ MSL.

Rwy 10, lighting 6’ from DER, 19’ right of centerline, 2’ AGL/771’ MSL.
Lighting 7’ from DER, 19’ left of centerline, 2’ AGL/771’ MSL.
Trees beginning 910’ from DER, 399’ right of centerline, up to 839’ MSL.
Pole 1486’ from DER, 380’ right of centerline, 48’ AGL/812’ MSL.
Trees beginning 2254’ from DER, 485’ right of centerline, up to 841’ MSL.
Tree 2850’ from DER, 326’ right of centerline, 867’ MSL.

Rwy 19, lighting 39’ from DER, 124’ right of centerline, 4’ AGL/755’ MSL.
Lighting 40’ from DER, 125’ left of centerline, 4’ AGL/755’ MSL.
Transmission line 1139’ from DER, 616’ right of centerline, 30’ AGL/784’ MSL.
Trees beginning 1759’ from DER, 878’ left of centerline, up to 810’ MSL.

Rwy 28, tree 742’ from DER, 657’ left of centerline, 829’ MSL.
Trees beginning 951’ from DER, 652’ left of centerline, up to 838’ MSL.

EC-1, 11 JUL 2024 to 05 SEP 2024
GAYLORD, MI
GAYLORD RGNL (GLR)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 07MAY09 (09127) (FAA)
TAKEOFF OBSTACLE NOTES:

Rwy 9, trees beginning 81’ from DER, 318’ right of centerline, up to 57’ AGL/1387’ MSL.
Trees beginning 818’ 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 28’ 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 MEML (GDW)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 20OCT11 (21252) (FAA)
TAKEOFF MINIMUMS:
Rwy 27, 400-2 or std. w/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.

TAKEOFF OBSTACLE NOTES:

Rwy 9, trees beginning 42’ from DER left and right of centerline, up to 82’ AGL/850’ MSL.

Rwy 27, vehicle on road 108’ from DER, across centerline, 15’ AGL/789’ MSL.

Rwys 15, 33, 34, 36, NA - Environmental.

Rwy 27, building 7’ from DER, 472’ left of centerline, 18’ AGL/619’ MSL.

Rwy 36, stack 2732’ from DER, 430’ left of centerline, 128’ AGL/735’ MSL.

GRAND HAVEN, MI
GRAND HAVEN MEML AIRPARK (3GM)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5 09FEB12 (21280) (FAA)
TAKEOFF MINIMUMS:

Rwy 27, 300-1¼ or std. w/min. climb of 231’ per NM to 900.

TAKEOFF OBSTACLE NOTES:

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.

Rwy 36, stack 2732’ from DER, 430’ left of centerline, 128’ AGL/735’ MSL.

GRAND LEDGE, MI
ABRAMS MUNI (4D0)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 05APR12 (12096) (FAA)
TAKEOFF MINIMUMS:

Rwys 18, 36, NA, - ATC.

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

TAKEOFF OBSTACLE NOTES:

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.

Navaids beginning 30’ from DER, left and right of centerline, up to 2’ AGL/841’ MSL.
Fence 70’ from DER, 405’ left of centerline, 4’ AGL/836’ MSL.

Navaid 587’ from DER, 490’ left of centerline, 15’ AGL/846’ MSL.

Buildings beginning 740’ from DER, 430’ 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, 15’ AGL/866’ MSL.

Trees beginning 827’ from DER, left and right of centerline, up to 88’ AGL/932’ MSL.

Rwy 27, vehicle on road 59’ from DER, 359’ right of centerline, 15’ AGL/846’ 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/866’ 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, 470’ 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.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

GRAND RAPIDS, MI
GERALD R FORD INTL (GRR)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 02JUL09 (09183) (FAA)
TAKEOFF OBSTACLE NOTES:
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/879’ MSL.

GRAYLING, MI
GRAYLING AAF (GOV)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 03JUN10 (10154) (FAA)
TAKEOFF OBSTACLE NOTES:
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 161’ from DER, 50’ left of centerline, up to 66’ AGL/1216’ MSL.

GREENVILLE, MI
GREENVILLE MUNI (6D6)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2B 13SEP18 (18256) (FAA)
TAKEOFF MINIMUMS:
Rwys 18, 36, NA - environmental.
TAKEOFF OBSTACLE NOTES:
Rwy 10, trees 5’ from DER, 389’ right of centerline, 845’ MSL.
Trees beginning 42’ from DER, 141’ right of centerline, up to 858’ MSL.
Trees beginning 126’ from DER, 423’ left of centerline, up to 870’ MSL.
Trees 359’ from DER, 888’ left of centerline, 895’ MSL.
Trees, transmission line and poles beginning 474’ from DER, 25’ right of centerline, up to 911’ MSL.
Trees beginning 760’ from DER, 242’ right of centerline, up to 907’ MSL.
Trees, transmission line and poles beginning 1946’ from DER, 5’ right of centerline, up to 923’ MSL.
Trees beginning 2688’ from DER, 93’ left of centerline, up to 925’ MSL.
Rwy 28, building 34’ from DER, 309’ right of centerline, 22’ AGL/872’ MSL.
Trees beginning 87’ from DER, 254’ left of centerline, up to 897’ MSL.
Tree 282’ from DER, 534’ left of centerline, 907’ MSL.
Tree 326’ from DER, 507’ right of centerline, 879’ MSL.
Trees beginning 460’ from DER, 392’ left of centerline, up to 929’ MSL.
Tree 563’ from DER, 535’ right of centerline, 905’ MSL.
Trees beginning 616’ from DER, 474’ right of centerline, up to 926’ MSL.
Trees beginning 621’ from DER, 459’ left of centerline, up to 937’ MSL.
Trees beginning 730’ from DER, 456’ right of centerline, up to 909’ MSL.
Trees beginning 789’ from DER, 411’ left of centerline, up to 948’ MSL.
Tree 995’ from DER, 464’ right of centerline, 910’ MSL.
Trees beginning 1033’ from DER, 482’ right of centerline, up to 922’ MSL.
Trees beginning 1112’ from DER, 6’ left of centerline, up to 952’ MSL.
Trees beginning 1273’ from DER, 558’ right of centerline, up to 929’ MSL.
Trees beginning 1399’ from DER, 435’ right of centerline, up to 931’ MSL.
Tree 1532’ from DER, 460’ right of centerline, 932’ MSL.
Trees beginning 1555’ from DER, 400’ right of centerline, up to 939’ MSL.
Trees beginning 1706’ from DER, 26’ right of centerline, up to 942’ MSL.
Tree 3416’ from DER, 249’ left of centerline, 954’ MSL.
Trees beginning 3552’ from DER, 176’ left of centerline, up to 958’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

HANCOCK, MI
HOUGHTON COUNTY MEML (CMX)

AMDT 3B 30NOV23 (23334) (FAA)

TAKEOFF MINIMUMS:

Rwy 25, 400-2½ or std w/min climb of 215'/NM to 1600 or alternatively, with std takeoff minimums and a normal 200'/NM climb gradient, takeoff must occur no later than 1500' prior to DER.

Rwy 32, 300-1½ or std w/min climb of 245'/NM to 1400 or alternatively, with std takeoff minimums and a normal 200'/NM climb gradient, takeoff must occur no later than 2200' prior to DER.

TAKEOFF OBSTACLE NOTES:

Rwy 7, utility building 35' from DER, 126' right of centerline, 8' AGL/1077' MSL.
Utility building 35' from DER, 123' left of centerline, 7' AGL/1078' MSL.
Tree 407' from DER, 490' left of centerline, 1091' MSL.
Tree 580' from DER, 507' left of centerline, 1096' MSL.
Trees beginning 678' from DER, 631' left of centerline, up to 1098' MSL.
Tree 998' from DER, 516' left of centerline, 1108' MSL.
Tree 1064' from DER, 753' right of centerline, 1125' MSL.
Trees beginning 1131' from DER, 448' right of centerline, up to 1126' MSL.
Tree 1250' from DER, 699' left of centerline, 1129' MSL.
Trees beginning 1345' from DER, 494' right of centerline, up to 1142' MSL.
Tree 1630' from DER, 236' left of centerline, 1120' MSL.
Tree 1840' from DER, 917' left of centerline, 1137' MSL.
Trees beginning 1929' from DER, 865' left of centerline, up to 1139' MSL.
Tree 2084' from DER, 913' left of centerline, 1141' MSL.
Trees beginning 2178' from DER, 682' left of centerline, up to 1145' MSL.

Rwy 14, lighting 9' from DER, 54' left of centerline, 2' AGL/1062' MSL.
Lighting 9' from DER, 55' right of centerline, 2' AGL/1062' MSL.

Rwy 25, utility building 39' from DER, 124' left of centerline, 3' AGL/1062' MSL.
Utility building 39' from DER, 124' right of centerline, 3' AGL/1063' MSL.

Shrub 41' from DER, 285' right of centerline, 1070' MSL.
Shrubs, terrain beginning 105' from DER, 354' right of centerline, up to 1071' MSL.
Vehicles on road beginning 376' from DER, 441' right of centerline, up to 1081' MSL.
Trees beginning 381' from DER, 80' left of centerline, up to 1112' MSL.

Trees beginning 981' from DER, 430' right of centerline, up to 1089' MSL.
Trees beginning 1180' from DER, 23' right of centerline, up to 1114' MSL.
Tree 1764' from DER, 405' right of centerline, 1118' MSL.
Trees beginning 1985' from DER, 90' right of centerline, up to 1121' MSL.
Tree 2086' from DER, 636' left of centerline, 1113' MSL.

Tree 2147' from DER, 769' right of centerline, 1125' MSL.

Trees beginning 2149' from DER, 900' right of centerline, up to 1127' MSL.
Trees beginning 2192' from DER, 248' left of centerline, up to 1116' MSL.
Tree 2240' from DER, 207' left of centerline, 1117' MSL.

Trees beginning 2261' from DER, 136' left of centerline, up to 1119' MSL.

Tree 2279' from DER, 210' left of centerline, 1126' MSL.

Trees beginning 2302' from DER, 36' left of centerline, up to 1129' MSL.
Trees beginning 2328' from DER, 30' right of centerline, up to 1142' MSL.
Trees beginning 2497' from DER, 58' left of centerline, up to 1137' MSL.
Trees beginning 2533' from DER, 211' left of centerline, up to 1143' MSL.
Trees beginning 2603' from DER, 129' left of centerline, up to 1145' MSL.

Trees beginning 2670' from DER, 73' right of centerline, 1146' MSL.

Trees beginning 2903' from DER, 256' right of centerline, up to 1149' MSL.
Trees beginning 2932' from DER, 332' left of centerline, up to 1153' MSL.

Trees beginning 3001' from DER, 604' right of centerline, up to 1158' MSL.
Tree 3445' from DER, 745' left of centerline, 1156' MSL.

Trees beginning 3475' from DER, 896' right of centerline, up to 1164' MSL.

Trees beginning 3586' from DER, 924' right of centerline, up to 1166' MSL.

Trees beginning 3811' from DER, 419' left of centerline, up to 1160' MSL.

Trees beginning 3838' from DER, 966' right of centerline, up to 1170' MSL.

Trees beginning 3917' from DER, 475' right of centerline, up to 1173' MSL.

Tree 4063' from DER, 1048' right of centerline, 1174' MSL.

Trees beginning 4072' from DER, 356' left of centerline, up to 1164' MSL.

Tree 4074' from DER, 598' right of centerline, 1177' MSL.

Trees beginning 4094' from DER, 279' right of centerline, up to 1180' MSL.

Trees beginning 4137' from DER, 295' left of centerline, up to 1169' MSL.

Tree 4190' from DER, 465' right of centerline, 1182' MSL.

Trees beginning 4191' from DER, 6' right of centerline, up to 1188' MSL.

Trees beginning 4215' from DER, 223' left of centerline, up to 1170' MSL.

Trees beginning 4240' from DER, 204' left of centerline, up to 1173' MSL.

Trees beginning 4280' from DER, 242' right of centerline, up to 1174' MSL.

Trees beginning 4327' from DER, 95' left of centerline, up to 1180' MSL.

Trees beginning 4633' from DER, 51' right of centerline, up to 1193' MSL.

Trees beginning 4728' from DER, 181' left of centerline, up to 1183' MSL.

Trees beginning 4993' from DER, 40' left of centerline, up to 1190' MSL.

Trees beginning 1.1 NM from DER, 1163' left of centerline, up to 1242' MSL.

Trees beginning 1.2 NM from DER, 1060' left of centerline, up to 1259' MSL.

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

HANCOCK, MI
HOUGHTON COUNTY MEML (CMX)

TAKEOFF OBSTACLE NOTES:

Rwy 25 (CONT), trees beginning 1.3 NM from DER, 2139' left of centerline, up to 1278' MSL.

Rwy 25, trees beginning 1.4 NM from DER, 2563' left of centerline, 1265' MSL.

Rwy 32, light pole 40' from DER, 149' left of centerline, 9' AGL/1097' MSL.

Light pole 40' from DER, 150' right of centerline, 4' AGL/1097' MSL.

Trees beginning 139' from DER, 489' left of centerline, up to 1108' MSL.

Tree 226' from DER, 511' left of centerline, 1115' MSL.

Trees beginning 294' from DER, 282' left of centerline, up to 1131' MSL.

Tree 1313' from DER, 809' right of centerline, 1137' MSL.

Tree 1465' from DER, 808' right of centerline, 1146' MSL.

Trees beginning 1563' from DER, 304' right of centerline, up to 1151' MSL.

Trees beginning 1742' from DER, 815' right of centerline, up to 1155' MSL.

Trees beginning 1813' from DER, 373' left of centerline, up to 1177' MSL.

Trees beginning 1959' from DER, 120' right of centerline, up to 1177' MSL.

Trees beginning 2241' from DER, 322' right of centerline, up to 1190' MSL.

Trees beginning 2283' from DER, 576' left of centerline, up to 1181' MSL.

Trees beginning 2400' from DER, 382' right of centerline, up to 1192' MSL.

Tree 2535' from DER, 1116' right of centerline, 1193' MSL.

Trees beginning 2617' from DER, 142' right of centerline, up to 1195' MSL.

Trees beginning 3010' from DER, 275' right of centerline, up to 1196' MSL.

Trees beginning 3057' from DER, 195' right of centerline, up to 1203' MSL.

Trees beginning 3097' from DER, 4' right of centerline, up to 1205' MSL.

Tree 3411' from DER, 25' left of centerline, 1186' MSL.

Trees beginning 4129' from DER, 77' right of centerline, up to 1212' MSL.

Tree 4156' from DER, 527' left of centerline, 1202' MSL.

Tree 4503' from DER, 171' right of centerline, 1214' MSL.

Trees beginning 4508' from DER, 93' right of centerline, up to 1220' MSL.

Tree 4514' from DER, 68' left of centerline, 1209' MSL.

Trees beginning 4548' from DER, 48' left of centerline, up to 1212' MSL.

Trees beginning 4904' from DER, 236' left of centerline, 1218' MSL.

Trees beginning 5049' from DER, 344' right of centerline, up to 1223' MSL.

Tree 5172' from DER, 977' right of centerline, 1225' MSL.

HARBOR SPRINGS, MI
HARBOR SPRINGS (MGN)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 11OCT18 (18284) (FAA)

TAKEOFF MINIMUMS:

Rwy 28, 300-2 or std. w/ min. climb of 305 feet per NM to 1000, or alternatively, with std. takeoff minimums and a normal 200 feet per NM climb gradient, takeoff must occur no later than 2100 feet prior to DER.

DEPARTURE PROCEDURE:

Rwy 10, climb heading 101° to 1400 before proceeding on course.

Rwy 28, climb heading 281° to 2000 before turning right.

TAKEOFF OBSTACLE NOTES:

Rwy 10, terrain 20' from DER, 43' left of centerline, 687' MSL.

Tree 39' from DER, 299' right of centerline, 755' MSL.

Tree 69' from DER, 324' left of centerline, 752' MSL.

Tree 78' from DER, 498' right of centerline, 762' MSL.

Trees and pole beginning 108' from DER, 33' right of centerline, up to 83' AGL/766' MSL.

Trees, vehicles on roads, pole, terrain, buildings, and elevator beginning 164' from DER, 5' left of centerline, up to 74' AGL/782' MSL.

Trees, buildings and poles beginning 251' from DER, 34' right of centerline, up to 89' AGL/789' MSL.

Trees and pole beginning 1344' from DER, 37' right of centerline, up to 770' MSL.

Trees beginning 1596' from DER, 21' right of centerline, up to 772' MSL.

Trees beginning 1679' from DER, 10' right of centerline, up to 76' AGL/779' MSL.

Rwy 28, trees and vehicles on roads beginning abeam DER, 2' left of centerline, up to 718' MSL.

Tree and vehicles on road beginning 104' from DER, 52' right of centerline, up to 766' MSL.

Trees and pole beginning 164' from DER, 11' right of centerline, up to 99' AGL/791' MSL.

Trees beginning 600' from DER, 25' left of centerline, up to 113' AGL/727' MSL.

Trees and stack beginning 693' from DER, 26' right of centerline, up to 794' MSL.

Trees beginning 3761' from DER, 1159' right of centerline, up to 800' MSL.

Trees beginning 4723' from DER, 1577' right of centerline, up to 817' MSL.

Trees beginning 4971' from DER, 1545' right of centerline, up to 100' AGL/849' MSL.

Trees beginning 5106' from DER, 1546' right of centerline, up to 870' MSL.

Trees beginning 5854' from DER, 1788' right of centerline, up to 100' AGL/871' MSL.

Tree 1 NM from DER, 2007' right of centerline, 880' MSL.

Trees and buildings beginning 1 NM from DER, 1975' right of centerline, up to 100' AGL/898' MSL.

Trees beginning 1.2 NM from DER, 2286' right of centerline, up to 100' AGL/917' MSL.

Trees beginning 1.4 NM from DER, 2734' right of centerline, up to 917' MSL.

Trees beginning 1.5 NM from DER, 2843' right of centerline, up to 918' MSL.

Trees beginning 1.5 NM from DER, 2904' right of centerline, up to 923' MSL.

Tree 1.5 NM from DER, 3021' right of centerline, 920' MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

HART/SHELBY, MI
OCEANA COUNTY (C04)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 10DEC15 (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.
TAKEOFF OBSTACLE NOTES:
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 6  29MAR18  (18088) (FAA)
TAKEOFF MINIMUMS:
Rwys 9, 18, 27, 36 NA-Environmental.
TAKEOFF OBSTACLE NOTES:
Rwy 12, tree 18' from DER, 225' right of centerline, 826' MSL.
Trees 57' from DER, 419' right of centerline, up to 868' MSL.
Trees beginning 2086' from DER, 288' right of centerline, up to 884' MSL.
Trees, and terrain 80' from DER, 269' left of centerline, up to 851' MSL.
Rwy 30, trees 170' from DER, 452' left of centerline, up to 829' MSL.
Trees 602' from DER, 365' left of centerline, up to 848' MSL.
Trees beginning 712' from DER, 12' left of centerline, up to 867' MSL.
Traverse way 191' from DER, 491' right of centerline, 810' MSL.
Trees 245' from DER, 484' right of centerline, 851' MSL.
Trees beginning 1477' from DER, 90' right of centerline, up to 869' MSL.

HILLSDALE, MI
HILLSDALE MUNI (JYM)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1  25JUL13  (13206) (FAA)
TAKEOFF OBSTACLE NOTES:
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  02JUL09 (09183) (FAA)
TAKEOFF OBSTACLE NOTES:
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.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

HOUGHTON LAKE, MI
ROSCOMMON COUNTY/BLODGETT MEML (HTL)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 25OCT07 (23166) (FAA)
TAKEOFF MINIMUMS:
Rwy 9, 200-1½, 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.
TAKEOFF OBSTACLE NOTES:
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 103’ 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 3A 24MAY18 (18144) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 13, tree 1776’ from DER, 695’ right of centerline, 1009’ MSL.
Rwy 31, pole 138’ from DER, 407’ right of centerline, 1004’ MSL.
Trees beginning 914’ from DER, 725’ left of centerline, up to 1006’ MSL.
Tree 1234’ from DER, 582’ left of centerline, 1010’ MSL.

IONIA, MI
IONIA COUNTY (Y70)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG-B 02DEC21 (21336) (FAA)
TAKEOFF MINIMUMS:
Rwys 18, 36, NA-Environmental.
TAKEOFF OBSTACLE NOTES:
Rwy 10, trees beginning 11’ from DER, 320’ left of centerline, up to 825’ MSL.
NAVAID 39’ from DER, 77’ right of centerline, 804’ MSL.
Ground beginning 60’ from DER, 276’ right of centerline, up to 810’ MSL.
Trees beginning 101’ from DER, 344’ left of centerline, up to 836’ MSL.
Ground 258’ from DER, 333’ right of centerline, 811’ MSL.
Trees beginning 664’ from DER, 521’ right of centerline, up to 872’ MSL.
Trees beginning 1011’ from DER, 77’ right of centerline, up to 881’ MSL.
Tree 1530’ from DER, 834’ left of centerline, 845’ MSL.
Trees beginning 1538’ from DER, 289’ left of centerline, up to 848’ MSL.
Tree 1882’ from DER, 845’ left of centerline, 860’ MSL.
Tree 2507’ from DER, 302’ left of centerline, 870’ MSL.
Tree 2509’ from DER, 259’ left of centerline, 875’ MSL.
Trees beginning 2513’ from DER, 202’ left of centerline, up to 886’ MSL.
Trees beginning 2639’ from DER, 220’ left of centerline, up to 895’ MSL.
Tree 3036’ from DER, 691’ left of centerline, 898’ MSL.
Rwy 28, NAVAID 41’ from DER, 77’ right of centerline, 2’ AGL/815’ MSL.
Building 473’ from DER, 547’ right of centerline, 25’ AGL/837’ MSL.
Poles, building beginning 596’ from DER, 513’ left of centerline, up to 26’ AGL/839’ MSL.
Building 780’ from DER, 574’ right of centerline, 30’ AGL/841’ MSL.
Pole, transmission line beginning 816’ from DER, 680’ right of centerline, up to 845’ MSL.
Trees, poles, building, transmission lines beginning 890’ from DER, 137’ left of centerline, up to 888’ MSL.
Tree 1025’ from DER, 197’ right of centerline, 849’ MSL.
Poles, pole, transmission line beginning 1027’ from DER, 82’ right of centerline, up to 851’ MSL.
Tree 1608’ from DER, 698’ right of centerline, 859’ MSL.
Trees beginning 1614’ from DER, 466’ right of centerline, up to 877’ MSL.
Trees beginning 1635’ from DER, 439’ left of centerline, up to 892’ MSL.
Tree 3031’ from DER, 1294’ right of centerline, 891’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

IRON MOUNTAIN KINGSFORD, MI
FORD (IMT)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5 12MAR09 (23334) (FAA)
TAKEOFF MINIMUMS:
Rwy 13, 300-1 or std. w/min. climb of 590' per NM to 1400.
Rwy 31, 300-1½ 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.

TAKEOFF OBSTACLE NOTES:
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 31, trees 1711' from DER, 113' right of centerline, 86' 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 07MAY09 (21336) (FAA)
DEPARTURE PROCEDURE:
Rwy 9, climb heading 090° to 2300 before turning right.
Rwy 27, climb heading 270° to 1700 before turning left.

TAKEOFF OBSTACLE NOTES:
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 FLD (JXN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 6 01FEB18 (22251) (FAA)
DEPARTURE PROCEDURE:
Rwy 14, climb on heading 140° to 1500 before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 7, tree 3384' from DER, 723' right of centerline, 16' AGL/1094' MSL.

Rwy 14, building, vertical point, fence, pole, vehicle, light standard beginning 12' from DER, 101' right of centerline, up to 29' AGL/1032' MSL.
Sign 15' from DER, 124' left of centerline, 3' AGL/1001' MSL.
Tree 963' from DER, 102' right of centerline, 1036' MSL.
Tree 1136' from DER, 8' left of centerline, 1034' MSL.
Trees beginning 1436' from DER, 13' right of centerline, up to 1073' MSL.

Trees beginning 1469' from DER, 122' left of centerline, up to 1065' MSL.
Tree 1877' from DER, 143' left of centerline, 1067' MSL.
Tree 1936' from DER, 102' left of centerline, 1082' MSL.
Trees beginning 1972' from DER, 81' left of centerline, up to 1083' MSL.

Tree 1987' from DER, 566' right of centerline, 1075' MSL.
Trees beginning 2109' from DER, 208' left of centerline, up to 1094' MSL.

Trees beginning 2114' from DER, 28' right of centerline, up to 1083' MSL.
Trees beginning 2366' from DER, 477' right of centerline, up to 1088' MSL.
Tree 2522' from DER, 947' right of centerline, 1097' MSL.
Trees beginning 2617' from DER, 472' right of centerline, up to 1099' MSL.

Trees beginning 2656' from DER, 6' right of centerline, up to 1108' MSL.
Tank 2665' from DER, 359' left of centerline, 107' AGL/1107' MSL.
Trees beginning 3009' from DER, 233' right of centerline, up to 1111' MSL.
Antenna, tower beginning 3101' from DER, 596' left of centerline, up to 1111' MSL.

Trees beginning 3368' from DER, 57' right of centerline, up to 1113' MSL.
Trees beginning 3383' from DER, 233' right of centerline, up to 1121' MSL.

Rwy 25, tree, pole beginning 952' from DER, 710' left of centerline, up to 1046' MSL.
Tree 1400' from DER, 814' right of centerline, 1041' MSL.
Pole, tree beginning 1612' from DER, 103' left of centerline, up to 79' AGL/1057' MSL.
Tree 2870' from DER, 312' right of centerline, 1057' MSL.

CON’T
**JACKSON, MI (CON’T)**

**JACKSON COUNTY/REYNOLDS FLD (JXN) (CON’T)**

- **Rwy 32**, ground 3’ from DER, 483’ left of centerline, 977’ MSL.
- Bush 8’ from DER, 144’ right of centerline, 975’ MSL.
- Bush beginning 44’ from DER, 145’ right of centerline, up to 978’ MSL.
- Tree, bush beginning 73’ from DER, 172’ right of centerline, up to 991’ MSL.
- Tree, fence beginning 168’ from DER, 148’ left of centerline, up to 1022’ MSL.
- Fence beginning 278’ from DER, 367’ right of centerline, up to 10’ AGL/999’ MSL.
- Trees beginning 816’ from DER, 231’ left of centerline, up to 1062’ MSL.
- Tree 1117’ from DER, 233’ right of centerline, 1005’ MSL.
- Trees beginning 1214’ from DER, 651’ right of centerline, up to 1050’ MSL.
- Tree, t-l twr, pole beginning 1413’ from DER, 23’ right of centerline, up to 1058’ MSL.
- Trees beginning 1671’ from DER, 863’ left of centerline, up to 1068’ MSL.
- Trees beginning 1841’ from DER, 224’ left of centerline, up to 1071’ MSL.
- Tree 2875’ from DER, 1128’ left of centerline, 1081’ MSL.
- Trees beginning 2876’ from DER, 829’ left of centerline, up to 1094’ MSL.
- Tree 3126’ from DER, 207’ right of centerline, 1061’ MSL.
- Tree 3274’ from DER, 1241’ left of centerline, 1098’ MSL.
- Trees beginning 3285’ from DER, 37’ left of centerline, up to 1104’ MSL.
- Tree 3628’ from DER, 58’ right of centerline, 1065’ MSL.
- Trees beginning 3777’ from DER, 233’ right of centerline, up to 1085’ MSL.
- Tree 3900’ from DER, 45’ right of centerline, 1087’ MSL.

**KALAMAZOO, MI**

**KALAMAZOO/BATTLE CREEK INTL (AZO)**

- **TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES**
  - **AMDT 9  30AUG07 (07242) (FAA)**

**TAKEOFF OBSTACLE NOTES:**

- **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 2309’ 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.

**LAKEVIEW, MI**

**LAKEVIEW/GRIFFITH FLD (13C)**

- **TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES**
  - **ORIG  08OCT98 (22139) (FAA)**

**TAKEOFF MINIMUMS:**

- **Rwy 28**, 300-1 or std. w/min. climb of 400’ per NM to 1200.

**TAKEOFF OBSTACLE NOTES:**

- **Rwy 10**, 1018’ tree 50’ from DER, 490’ right of centerline.

**LAMBERTVILLE, MI**

**TOLEDO SUBURBAN (DUH)**

- **TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES**
  - **AMDT 1  25DEC80 (80360) (FAA)**

**TAKEOFF MINIMUMS:**

- **Rwys 9, 27**, 300-1.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

LANSE, MI
CAPITAL REGION INTL (LAN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 14 13NOV14 (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.

TAKEOFF OBSTACLE NOTES:

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 28L, trees 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 1688' 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.

MALS R 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.

Rwys 18, terrain, NAVAID beginning 13' from DER, 77' left of centerline, up to 831' MSL.

NAVAID 41' from DER, 77' right of centerline, 1' AGL/831' MSL.

Terrain 83' from DER, 356' left of centerline, 832' MSL.

Tree, catenary beginning 252' from DER, 27' right of centerline, up to 853' MSL.

Tree, catenary beginning 707' from DER, 10' left of centerline, up to 853' MSL.

Pole 744' from DER, 179' left of centerline, 855' MSL.

Transmission line, catenary, NAVAID beginning 744' from DER, 26' right of centerline, up to 26' AGL/856' MSL.

Pole, transmission line, catenary, NAVAID beginning 747' from DER, 11' left of centerline, up to 856' MSL.

Tree, pole beginning 772' from DER, 85' right of centerline, up to 884' MSL.

Tree, pole, transmission line beginning 858' from DER, 260' right of centerline, up to 891' MSL.

Tree 920' from DER, 244' left of centerline, 859' MSL.

Tree, pole, transmission line beginning 931' from DER, 232' left of centerline, up to 862' MSL.

Pole, transmission line, tree beginning 956' from DER, 253' left of centerline, up to 863' MSL.

Tree, pole, transmission line beginning 1059' from DER, 257' left of centerline, up to 888' MSL.

Trees beginning 1377' from DER, 818' left of centerline, up to 908' MSL.

Tree 1488' from DER, 890' right of centerline, 896' MSL.

Tree 1587' from DER, 693' right of centerline, 905' MSL.

Trees beginning 1711' from DER, 718' right of centerline, up to 909' MSL.

Trees beginning 1842' from DER, 694' left of centerline, up to 921' MSL.

Tree 2571' from DER, 1100' right of centerline, 943' MSL.

Trees beginning 2620' from DER, 577' right of centerline, up to 944' MSL.

Trees beginning 2704' from DER, 637' left of centerline, up to 930' MSL.

Trees beginning 3750' from DER, 856' right of centerline, up to 945' MSL.

Rwy 36, terrain, NAVAID beginning 31' from DER, 76' left of centerline, up to 836' MSL.

NAVAID 41' from DER, 77' right of centerline, 836' MSL.

Tree, terrain beginning 44' from DER, 287' left of centerline, up to 909' MSL.

Tree 237' from DER, 488' left of centerline, 911' MSL.

Building beginning 294' from DER, 520' right of centerline, up to 27' AGL/859' MSL.

Tree, pole, transmission line, vehicle on road beginning 379' from DER, 13' left of centerline, up to 914' MSL.

Tree, transmission line, tank beginning 579' from DER, 347' right of centerline, up to 891' MSL.

Tree 1999' from DER, 279' left of centerline, 917' MSL.

Tree 2020' from DER, 40' right of centerline, 905' MSL.

Trees beginning 2035' from DER, 50' left of centerline, up to 99' AGL/919' MSL.

Trees beginning 2201' from DER, 114' left of centerline, up to 920' MSL.

Trees beginning 2236' from DER, 48' right of centerline, up to 911' MSL.

CON'T
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

LAPEER, MI (CON’T)
DUPONT/LAPEER (D95) (CON’T)

Rwy 36 (CON’T), trees beginning 232’ from DER, 56’ left of centerline, up to 921’ MSL.
Trees beginning 2473’ from DER, 191’ left of centerline, up to 107’ AGL/923’ MSL.
Trees beginning 2541’ from DER, 46’ right of centerline, up to 913’ MSL.
Tree 3176’ from DER, 642’ left of centerline, 924’ MSL.
Tree 3241’ from DER, 742’ left of centerline, 926’ MSL.

LINDEN, MI
PRICES (9G2)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5  12DEC13  (13346)  (FAA)
TAKEOFF OBSTACLE NOTES:
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 7  19MAY22  (22139)  (FAA)
TAKEOFF MINIMUMS:
Rwy 26, 300-1 or std. w/min. climb of 480’ per NM to 1000.
TAKEOFF OBSTACLE NOTES:
Rwy 1, trees beginning 1’ from DER, 312’ left of centerline, up to 77’ AGL/715’ MSL.
Trees beginning 128’ from DER, 185’ left of centerline, up to 100’ AGL/747’ MSL.
Tree, beginning 140’ from DER, 7’ right of centerline, up to 100’ AGL/740’ MSL.
Tree, beginning 729’ from DER, 574’ left of centerline, up to 67’ AGL/712’ MSL.
Tree, building beginning 139’ from DER, 1’ left of centerline, up to 75’ AGL/718’ MSL.
Tree, building beginning 3915’ from DER, 1130’ left of centerline, up to 80’ AGL/729’ MSL.

Rwy 8, lighting 40’ from DER, 112’ right of centerline, 5’ AGL/649’ MSL.
Fence 91’ from DER, 497’ right of centerline, 7’ AGL/653’ MSL.
Trees 368’ from DER, 684’ left of centerline, 60’ AGL/706’ MSL.
Trees 375’ from DER, 574’ right of centerline, 30’ AGL/673’ MSL.
Trees beginning 418’ from DER, 574’ left of centerline, up to 67’ AGL/712’ MSL.
Trees beginning 582’ from DER, 596’ right of centerline, up to 68’ AGL/712’ MSL.
Trees, pole, beginning 896’ from DER, 294’ right of centerline, up to 81’ AGL/724’ MSL.
Tree 954’ from DER, 592’ left of centerline, 76’ AGL/724’ MSL.
Trees beginning 978’ from DER, 595’ left of centerline, up to 80’ AGL/728’ MSL.
Trees beginning 1343’ from DER, 594’ left of centerline, up to 80’ AGL/729’ MSL.
Trees beginning 1426’ from DER, 1’ left of centerline, up to 80’ AGL/736’ MSL.
Trees beginning 1712’ from DER, 279’ right of centerline, up to 78’ AGL/725’ MSL.
Trees beginning 1807’ from DER, 2’ right of centerline, up to 78’ AGL/726’ MSL.
Trees beginning 2333’ from DER, 3’ right of centerline, up to 79’ AGL/727’ MSL.
Trees beginning 2469’ from DER, 17’ right of centerline, up to 80’ AGL/730’ MSL.
Trees beginning 2518’ from DER, 7’ left of centerline, up to 90’ AGL/738’ MSL.
Trees beginning 2706’ from DER, 16’ right of centerline, up to 83’ AGL/732’ MSL.
Trees beginning 2824’ from DER, 11’ right of centerline, up to 88’ AGL/737’ MSL.
Trees beginning 2852’ from DER, 11’ left of centerline, up to 90’ AGL/739’ MSL.
Trees beginning 3047’ from DER, 142’ right of centerline, up to 83’ AGL/738’ MSL.
Trees beginning 3072’ from DER, 86’ right of centerline, up to 90’ AGL/741’ MSL.

Rwy 26, trees, terrain, roadway, fence, transmission line beginning 142’ from DER, 267’ right of centerline, up to 66’ AGL/706’ MSL.
Trees, building beginning 415’ from DER, 129’ right of centerline, up to 75’ AGL/718’ MSL.
Trees, transmission line beginning 957’ from DER, 543’ left of centerline, up to 62’ AGL/699’ MSL.
Tree 1922’ from DER, 80’ left of centerline, 712’ MSL.
Trees beginning 1927’ from DER, 588’ right of centerline, up to 89’ AGL/725’ MSL.
Trees beginning 2023’ from DER, 293’ right of centerline, up to 98’ AGL/734’ MSL.
Tree 2160’ from DER, 148’ left of centerline, 716’ MSL.
Tree 2184’ from DER, 279’ left of centerline, 717’ MSL.
Trees beginning 2220’ from DER, 195’ right of centerline, up to 93’ AGL/737’ MSL.
Tree 2952’ from DER, 1054’ right of centerline, 105’ AGL/740’ MSL.
Trees, building beginning 3036’ from DER, 937’ right of centerline, up to 94’ AGL/742’ MSL.
Tower 3990’ from DER, 1348’ left of centerline, 169’ AGL/799’ MSL.
EC-1, 11 JUL 2024 to 05 SEP 2024

MACKINAC ISLAND, MI
MACKINAC ISLAND (MCD)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 23AUG12 (12236) (FAA)
TAKEOFF MINIMUMS:
Rwy 8, 300-1 or std. w/min. climb of 608' per NM to 1000.
TAKEOFF OBSTACLE NOTES:
Rwy 8, trees and building beginning 69' from DER, 16' left of centerline, up to 100' AGL/841' 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.
Fence 29' from DER, 129' right of centerline, 15' AGL/727' MSL.
Vehicle on road 354' from DER, 20' right of centerline, 15' AGL/734' MSL.

MANISTEE, MI
MANISTEE COUNTY/BLacker (MBL)
TAKEOFF MINIMUM AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 8 18MAY23 (23138) (FAA)
TAKEOFF MINIMUMS:
Rwy 1, 300-1% or std. w/min. climb of 445' per NM to 900.
DEPARTURE PROCEDURE:
Rwy 1, climb on heading 007° to 1400 before turning right.
TAKEOFF OBSTACLE NOTES:
Rwy 1, vehicles on road 192' from DER, 491' right of centerline, 634' MSL.
Tree, vehicles on road beginning 383' from DER, 158' right of centerline, up to 658' MSL.
Tree 1000' from DER, 624' left of centerline, 672' MSL.
Trees beginning 1077' from DER, 21' right of centerline, up to 681' MSL.
Tree 1077' from DER, 754' left of centerline, 673' MSL.
Trees beginning 1096' from DER, 127' left of centerline, up to 691' MSL.
Tree 1645' from DER, 274' right of centerline, 684' MSL.
Trees beginning 2276' from DER, 798' right of centerline, up to 739' MSL.
Tree 2346' from DER, 654' right of centerline, up to 756' MSL.
Tree 2420' from DER, 803' right of centerline, 760' MSL.
Tree, building beginning 2426' from DER, 37' right of centerline, up to 769' MSL.
Trees beginning 2553' from DER, 933' left of centerline, up to 760' MSL.
Trees beginning 2608' from DER, 1030' left of centerline, up to 766' MSL.
Trees beginning 2762' from DER, 1075' left of centerline, up to 771' MSL.
Tree 2911' from DER, 1244' left of centerline, 772' MSL.
Tree 3559' from DER, 884' left of centerline, 791' MSL.
Trees beginning 3562' from DER, 664' left of centerline, up to 793' MSL.
Tree 3638' from DER, 708' left of centerline, 794' MSL.
Trees beginning 3639' from DER, 487' left of centerline, up to 797' MSL.
Tree 3824' from DER, 389' left of centerline, up to 811' MSL.
Trees 1 NM from DER, 2167' right of centerline, 794' MSL.
Tree, building beginning 2426' from DER, 37' right of centerline, up to 769' MSL.
Trees beginning 2553' from DER, 933' left of centerline, up to 760' MSL.
Trees beginning 2608' from DER, 1030' left of centerline, up to 766' MSL.
Trees beginning 2762' from DER, 1075' left of centerline, up to 771' MSL.
Tree 2911' from DER, 1244' left of centerline, 772' MSL.
Tree 3559' from DER, 884' left of centerline, 791' MSL.
Trees beginning 3562' from DER, 664' left of centerline, up to 793' MSL.
Tree 3638' from DER, 708' left of centerline, 794' MSL.
Trees beginning 3639' from DER, 487' left of centerline, up to 797' MSL.
Tree 3824' from DER, 389' left of centerline, up to 811' MSL.
Trees 1 NM from DER, 2167' right of centerline, 794' MSL.
Trees 2 NM from DER, 1940' left of centerline, up to 814' MSL.
Trees beginning 1.1 NM from DER, 1915' left of centerline, up to 821' MSL.
Trees 1.1 NM from DER, 2221' right of centerline, 809' MSL.
Tree 1.3 NM from DER, 751' right of centerline, 829' MSL.
Rwy 10, vehicles on road, vegetation beginning 101' from DER, 344' left of centerline, up to 636' MSL.
Tree 2679' from DER, 333' left of centerline, 693' MSL.
Trees beginning 2816' from DER, 299' left of centerline, up to 698' MSL.
Tree 3326' from DER, 1147' left of centerline, 712' MSL.
Rwy 19, trees beginning 9' from DER, 262' left of centerline, up to 653' MSL.
Trees beginning 79' from DER, 358' left of centerline, up to 659' MSL.
Tree 94' from DER, 301' right of centerline, 634' MSL.
Tree 103' from DER, 430' right of centerline, 653' MSL.
Tree 125' from DER, 462' left of centerline, 664' MSL.
Tree, vegetation beginning 152' from DER, 122' left of centerline, up to 667' MSL.
Trees beginning 171' from DER, 160' right of centerline, up to 656' MSL.
Trees beginning 259' from DER, 3' left of centerline, up to 678' MSL.
Trees beginning 346' from DER, 289' right of centerline, up to 666' MSL.
Tree 437' from DER, 553' right of centerline, 669' MSL.
Trees beginning 458' from DER, 99' right of centerline, up to 673' MSL.
Trees beginning 1004' from DER, 365' right of centerline, up to 675' MSL.
Trees beginning 4896' from DER, 1182' left of centerline, up to 769' MSL.
CON'T
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

MANISTEE, MI (CON’T)
MANISTEE COUNTY/BLACKER (MBL) (CON’T)

Rwy 28, tree 20’ from DER, 497’ left of centerline, 620’ MSL.
Sign 27’ from DER, 343’ right of centerline, 7’ AGL/622’ MSL.
Vehicles on road 146’ from DER, 357’ right of centerline, 630’ MSL.
Tree 611’ from DER, 595’ left of centerline, 641’ MSL.
Tree 1009’ from DER, 478’ left of centerline, 653’ MSL.
Tree 1276’ from DER, 354’ left of centerline, 655’ MSL.

Trees beginning 1327’ from DER, 203’ left of centerline, up to 667’ MSL.
Tree 1885’ from DER, 324’ left of centerline, 668’ MSL.
Tree 1972’ from DER, 86’ left of centerline, 671’ MSL.

Trees beginning 2002’ from DER, 65’ left of centerline, up to 672’ MSL.
Tree 2195’ from DER, 61’ right of centerline, 676’ MSL.

Tree 2276’ from DER, 125’ right of centerline, 677’ MSL.
Tree 2341’ from DER, 111’ right of centerline, 679’ MSL.
Tree 2362’ from DER, 151’ left of centerline, 682’ MSL.
Tree 2375’ from DER, 23’ right of centerline, 681’ MSL.
Tree 2390’ from DER, 229’ left of centerline, 684’ MSL.

Trees beginning 2462’ from DER, 126’ left of centerline, up to 687’ MSL.
Trees beginning 2563’ from DER, 176’ left of centerline, up to 697’ MSL.

MANISTIQUE, MI
SCHOOLCRAFT COUNTY (ISQ)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 15DEC11 (11349) (FAA)
TAKEOFF OBSTACLE NOTES:

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/703’ 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/894’ MSL.
Aircraft tail on taxiway abeam DER, 127’ right of centerline, up to 19’ AGL/898’ 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.
Transmission lines beginning 4758’ from DER, left and right of centerline, up to 114’ AGL/803’ MSL.

Rwy 28, trees beginning 41’ from DER, 376’ right of centerline, up to 100’ AGL/784’ MSL.

Trees 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.

MARLETTE, MI
MARLETTE TOWNSHIP (77G)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 24MAR22 (22083) (FAA)
TAKEOFF MINIMUMS:

Rwy 10, 28, NA-Environmental.

TAKEOFF OBSTACLE NOTES:

Rwy 1, trees beginning 8’ from DER, 168’ right of centerline, up to 908’ MSL.
Terrain and trees beginning 11’ from DER, 250’ left of centerline, up to 901’ MSL.
Tree 30’ from DER, 344’ left of centerline, 5’ AGL/904’ MSL.

Terrain beginning 49’ from DER, 305’ left of centerline, up to 905’ MSL.

Trees beginning 84’ from DER, 247’ right of centerline, up to 63’ AGL/934’ MSL.

Terrain and trees beginning 111’ from DER, 193’ left of centerline, up to 907’ MSL.
Tree 191’ from DER, 389’ right of centerline, 939’ MSL.

Trees beginning 222’ from DER, 14’ right of centerline, up to 80’ AGL/948’ MSL.

Trees beginning 321’ from DER, 1’ left of centerline, up to 953’ MSL.

Rwy 19, lighting 10’ from DER, 47’ left of centerline, 2’ AGL/872’ MSL.

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

MARQUETTE, MI
MARQUETTE/SAWYER RGNL (SAW)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 11OCT18 (23166) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 1, sign 15' from DER, 100' right of centerline, 3' AGL/1206' MSL.
Sign 113' from DER, 125' left of centerline, 4' AGL/1208' MSL.
Tree 407' from DER, 1540' left of centerline, 1326' MSL.
Trees beginning 4347' from DER, 1598' left of centerline, up to 1339' MSL.
Rwy 19, lighting 9' from DER, 55' right of centerline, 2' AGL/1180' MSL.
Lighting 10' from DER, 55' left of centerline, 2' AGL/1180' MSL.

MATHREAT, MI
BROOKS FLD (RMY)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 02MAY13 (21308) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 10, trees beginning 31' from DER, 37' right of centerline, up to 100' AGL/1012' MSL.
Trees beginning 169' 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 FLD (TEW)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2A 03JUN10 (22083) (FAA)
TAKEOFF OBSTACLE NOTES:
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.

MENOMINEE, MI
MENOMINEE RGNL (MNM)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3A 19JUL18 (18200) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 3, tree and bushes beginning 155' from DER, 488' left of centerline, up to 634' MSL.
Trees beginning 714' from DER, 459' left of centerline, up to 641' MSL.
Trees beginning 1064' from DER, 226' right of centerline, up to 651' MSL.
Rwy 14, vehicle on road, tree, power lines, and building beginning 379' from DER, 156' right of centerline, up to 619' MSL.
Power lines, vehicle on road, and trees beginning 403' from DER, 3' left of centerline, up to 33' AGL/635' MSL.
Trees, building, and power lines beginning 879' from DER, 4' right of centerline, up to 665' MSL.
Trees and power lines beginning 1061' from DER, 24' left of centerline, up to 654' MSL.
Trees beginning 1874' from DER, 86' left of centerline, up to 687' MSL.
Buildings beginning 5170' from DER, 1006' left of centerline, up to 135' AGL/735' MSL.
Rwy 21, NAVAID 15' from DER, 59' right of centerline, 1 foot AGL/615' MSL.
Trees beginning 581' from DER, 596' left of centerline, up to 645' MSL.
Tree 944' from DER, 751' right of centerline, 648' MSL.
Trees beginning 1403' from DER, 599' left of centerline, up to 666' MSL.
Trees beginning 1456' from DER, 700' right of centerline, up to 672' MSL.
Trees beginning 2007' from DER, 497' left of centerline, up to 677' MSL.
Rwy 32, trees and building beginning 1 foot from DER, 305' left of centerline, up to 683' MSL.
Fence and utilities beginning 178' from DER, 498' right of centerline, up to 6' AGL/626' MSL.
Trees beginning 354' from DER, 276' left of centerline, up to 691' MSL.
Trees beginning 615' from DER, 8' right of centerline, up to 682' MSL.
Trees and power lines beginning 702' from DER, 11' left of centerline, up to 694' MSL.
Trees beginning 1800' from DER, 58' right of centerline, up to 695' MSL.
Trees beginning 3194' from DER, 92' left of centerline, up to 711' MSL.
Trees beginning 3544' from DER, 154' right of centerline, up to 712' MSL.

EC-1, 11 JUL 2024 to 05 SEP 2024
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

MIDLAND, MI

JACK BARSTOW (IKW)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 02JUL09 (09183) (FAA)

TAKEOFF OBSTACLE NOTES:

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 6A 24MAY18 (18144)

TAKEOFF OBSTACLE NOTES:

Rwy 21, tree 80' from DER, 229' right of centerline, 627' MSL.
Pole 242' from DER, 379' left of centerline, 25' AGL/634' MSL.
Trees beginning 385' from DER, 193' right of centerline, up to 641' MSL.
Pole, transmission lines beginning 405' from DER, 505' left of centerline, up to 647' MSL.
Tree 418' from DER, 391' left of centerline, 652' MSL.
Pole 980' from DER, 703' left of centerline, 64' AGL/673' MSL.
Pole, trees beginning 982' from DER, 217' left of centerline, up to 64' AGL/674' MSL.

Rwy 21, trees beginning 1811' from DER, 9' right of centerline, up to 700' MSL.

Tree 2299' from DER, 969' right of centerline, 704' MSL.

Trees beginning 2765' from DER, 440' right of centerline, up to 736' MSL.

MOUNT PLEASANT, MI

MOUNT PLEASANT MUNI (MOP)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 6 08SEP22 (22251) (FAA)

TAKEOFF MINIMUMS:

Rwys 5, 23, NA-Environmental.

DEPARTURE PROCEDURE:

Rwy 27, climb on heading 276° to 1600 before turning right.

TAKEOFF OBSTACLE NOTES:

Rwy 9, trees beginning 32' from DER, 474' left of centerline, up to 806' MSL.
Transmission lines beginning 668' from DER, 663' right of centerline, up to 29' AGL/778' MSL.

Rwy 27, tree 1069' from DER, 247' left of centerline, 790' MSL.

Tree, transmission lines, pole beginning 1145' from DER, 270' left of centerline, up to 800' MSL.
Transmission line 1223' from DER, 72' right of centerline, 26' AGL/785' MSL.
Transmission line 1233' from DER, 374' right of centerline, 29' AGL/789' MSL.

Tree 1350' from DER, 722' right of centerline, 828' MSL.

Trees beginning 1686' from DER, 312' left of centerline, up to 828' MSL.

Trees beginning 1721' from DER, 155' right of centerline, up to 850' MSL.

Trees beginning 2070' from DER, 237' left of centerline, up to 836' MSL.

Trees beginning 2105' from DER, 21' right of centerline, up to 855' MSL.

Trees beginning 2349' from DER, 34' left of centerline, up to 861' MSL.

Trees beginning 3544' from DER, 158' left of centerline, up to 863' MSL.
Pole 3785' from DER, 1218' right of centerline, 85' AGL/687' MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

MUSKEGON, MI
MUSKEGON COUNTY (MKG)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 10 15JAN09 (09015) (FAA)
TAKEOFF OBSTACLE NOTES:
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 2A 13SEP18 (18256) (FAA)
TAKEOFF MINIMUMS:
Rwy 8, 300-2¼ or std. w/min. climb of 230' per NM to 1300.
TAKEOFF OBSTACLE NOTES:
Rwy 8, trees 27' from DER, 183' left of centerline, 100' AGL/1019' MSL.
Trees beginning 45' from DER, 32' right of centerline, up to 100' AGL/1022' MSL.
Trees beginning 124' from DER, 39' left of centerline, up to 100' AGL/1022' MSL.
Trees beginning 1207' from DER, 248' right of centerline, up to 100' AGL/1026' MSL.
Trees beginning 1420' from DER, 32' right of centerline, up to 100' AGL/1032' MSL.
Trees beginning 2216' from DER, 39' left of centerline, up to 100' AGL/1026' MSL.
Trees beginning 3706' from DER, 183' left of centerline, up to 100' AGL/1029' MSL.
Tree 4229' from DER, 687' left of centerline, 100' AGL/1032' MSL.
Rwy 26, trees 1' from DER, 32' left of centerline, 100' AGL/1013' MSL.
Trees beginning 98' from DER, 103' left of centerline, up to 100' AGL/1016' MSL.
Trees beginning 116' from DER, 39' right of centerline, up to 100' AGL/1016' MSL.
Trees 455' from DER, 40' right of centerline, up to 100' AGL/1039' MSL.
Trees beginning 931' from DER, 31' left of centerline, up to 100' AGL/1022' MSL.
Trees beginning 1976' from DER, 40' right of centerline, up to 100' AGL/1049' MSL.

NEWBERRY, MI
LUCE COUNTY (ERY)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 29JUL10 (10210) (FAA)
TAKEOFF MINIMUMS:
Rwys 4, 22, NA-Environmental.
TAKEOFF OBSTACLE NOTES:
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.

NILES, MI
JERRY TYLER MEML (3TR)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 6 05MAY11 (21196) (FAA)
TAKEOFF MINIMUMS:
Rwy 22, NA-Obstacles.
TAKEOFF OBSTACLE NOTES:
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 FLD (OGM)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 31MAY12 (24025) (FAA)
TAKEOFF MINIMUMS:
Rwy 17, 300-1 1/4 or std with a climb gradient of 390' per NM to 1000.
TAKEOFF OBSTACLE NOTES:
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.

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-A 08NOV18 (22251) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 7, trees beginning 3205' from DER, 37' left of centerline, up to 100' AGL/719' MSL.
Trees beginning 3292' from DER, 43' right of centerline, up to 100' AGL/719' MSL.

Rwy 25, trees beginning 1439' from DER, 558' left of centerline, 676' MSL.

Trees beginning 2076' from DER, 445' right of centerline, up to 698' MSL.
Trees beginning 2396' from DER, 631' left of centerline, up to 703' MSL.
Tree 2657' from DER, 664' left of centerline, 708' MSL.

OWOSSO, MI
OWOSSO COMMUNITY (RNP)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4 31JUL08 (08213) (FAA)
TAKEOFF OBSTACLE NOTES:
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/EMMET COUNTY (PLN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5 29DEC22 (22363) (FAA)
TAKEOFF MINIMUMS:
Rwy 23, 500-3 w/min. climb of 260' per NM to 1400, or std. w/min. climb of 280' per NM to 1400 or 1000-3 for VCOA.

Rwy 32, 300- 2 1/2 or std. w/min. climb of 355' per NM to 1000.

VCOA

Rwy 23, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Pellston Rgnl/Emmet County airport at or above 1600 before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 5, tree, vehicle on road beginning 58' from DER, 331' left of centerline, up to 756' MSL.
Trees beginning 1077' from DER, 525' right of centerline, up to 781' MSL.

Trees beginning 1201' from DER, 534' right of centerline, up to 787' MSL.

Tree 1272' from DER, 830' left of centerline, 799' MSL.

Trees beginning 1287' from DER, 413' right of centerline, up to 790' MSL.

Tree 1298' from DER, 800' right of centerline, 794' MSL.

Trees beginning 1321' from DER, 407' right of centerline, up to 797' MSL.

Tree 1324' from DER, 813' left of centerline, 806' MSL.

Trees beginning 1349' from DER, 757' left of centerline, up to 808' MSL.

Trees beginning 1445' from DER, 12' left of centerline, up to 816' MSL.

Trees beginning 2216' from DER, 135' right of centerline, up to 798' MSL.

Trees beginning 2273' from DER, 140' right of centerline, up to 801' MSL.

Trees beginning 2405' from DER, 123' right of centerline, up to 803' MSL.

Trees beginning 2559' from DER, 57' right of centerline, up to 810' MSL.

Rwy 14, light pole 8' from DER, 55' left of centerline, 2' AGL/709' MSL.

Light pole 9' from DER, 55' right of centerline, 2' AGL/709' MSL.

Tree 1093' from DER, 706' left of centerline, 749' MSL.
PELLSTON, MI (CON’T)
PELLSTON RGNL/EMMET COUNTY (PLN) (CON’T)

Tree 2855' from DER, 679' right of centerline, 780' MSL.
Trees, vegetation, terrain beginning 2634' from DER, 370' right of centerline, up to 780' MSL.

Tree 2501' from DER, 398' left of centerline, 778' MSL.
Trees beginning 2342' from DER, 696' right of centerline, up to 780' MSL.

Tree 2043' from DER, 44' left of centerline, 778' MSL.
Trees beginning 2016' from DER, 46' right of centerline, up to 780' MSL.

Tree 1760' from DER, 853' right of centerline, 786' MSL.
Trees, vegetation beginning 1607' from DER, 47' right of centerline, up to 777' MSL.

Trees vegetation beginning 1762' from DER, 6' AGL/722' MSL.
Pole 148' from DER, 324' left of centerline, 6' AGL/722' MSL.

Tree 1206' from DER, 1' right of centerline, up to 772' MSL.
Tree 1252' from DER, 54' left of centerline, 760' MSL.
Tree 1407' from DER, 67' left of centerline, 761' MSL.

Trees beginning 1439' from DER, 26' left of centerline, up to 772' MSL.
Trees vegetation beginning 1607' from DER, 47' right of centerline, up to 777' MSL.

Tree 1760' from DER, 853' right of centerline, 786' MSL.
Trees, vegetation beginning 1762' from DER, 632' right of centerline, up to 793' MSL.

Trees beginning 1806' from DER, 3' left of centerline, up to 775' MSL.
Trees, terrain, vegetation beginning 2016' from DER, 46' right of centerline, up to 803' MSL.

Tree 2023' from DER, 16' left of centerline, 777' MSL.
Trees beginning 2043' from DER, 44' left of centerline, 778' MSL.

Trees beginning 2053' from DER, 18' left of centerline, up to 780' MSL.
Trees, terrain, vegetation terrain 2342' from DER, 696' right of centerline, up to 805' MSL.

Tree 2501' from DER, 398' left of centerline, 783' MSL.
Trees, vegetation, terrain beginning 2634' from DER, 370' right of centerline, up to 806' MSL.
PELLSTON, MI (CON’T)
PELLSTON RGNL/EMMET COUNTY (PLN) (CON’T)

Rwy 32 (CON’T), tree 2877’ from DER, 628’ right of centerline, 813’ MSL.
Trees, terrain beginning 2944’ from DER, 771’ right of centerline, up to 823’ MSL.
Tree, vehicle on road beginning 3288’ from DER, 1104’ right of centerline, up to 845’ MSL.
Tree, pole beginning 3477’ from DER, 1299’ right of centerline, up to 871’ MSL.
Tree 3620’ from DER, 1431’ right of centerline, 875’ MSL.
Tree 3867’ from DER, 1’ left of centerline, 822’ MSL.
Trees beginning 4109’ from DER, 359’ right of centerline, up to 882’ MSL.
Trees beginning 4343’ from DER, 316’ right of centerline, up to 885’ MSL.
Trees beginning 4480’ from DER, 21’ left of centerline, up to 834’ MSL.
Tree 4567’ from DER, 295’ left of centerline, 844’ MSL.
Trees beginning 4577’ from DER, 9’ left of centerline, up to 858’ MSL.
Trees beginning 5183’ from DER, 370’ right of centerline, up to 889’ MSL.
Trees beginning 5409’ from DER, 901’ right of centerline, up to 895’ MSL.
Tree 5993’ from DER, 460’ left of centerline, 868’ MSL.
Trees beginning 1 NM from DER, 801’ left of centerline, up to 885’ MSL.
Trees beginning 1 NM from DER, 658’ left of centerline, up to 890’ MSL.
Trees beginning 1 NM from DER, 908’ left of centerline, up to 902’ MSL.
Trees beginning 1 NM from DER, 1395’ left of centerline, up to 909’ MSL.
Trees beginning 1 NM from DER, 1597’ left of centerline, up to 916’ MSL.
Trees beginning 1.1 NM from DER, 1577’ left of centerline, up to 921’ MSL.
Trees beginning 1.1 NM from DER, 1434’ left of centerline, up to 936’ MSL.
Trees beginning 1.1 NM from DER, 1457’ left of centerline, up to 944’ MSL.
Trees beginning 1.1 NM from DER, 31’ left of centerline, up to 946’ MSL.
Tree 1.1 NM from DER, 57’ right of centerline, 903’ MSL.
Trees beginning 1.2 NM from DER, 145’ left of centerline, up to 949’ MSL.
Trees beginning 1.2 NM from DER, 126’ left of centerline, up to 964’ MSL.
Trees beginning 1.2 NM from DER, 36’ left of centerline, up to 965’ MSL.
Tree 1.3 NM from DER, 150’ right of centerline, 935’ MSL.
Trees beginning 1.3 NM from DER, 3’ right of centerline, up to 936’ MSL.
Trees beginning 1.3 NM from DER, 165’ left of centerline, up to 968’ MSL.
Trees beginning 1.3 NM from DER, 27’ right of centerline, up to 939’ MSL.
Trees beginning 1.3 NM from DER, 1055’ right of centerline, up to 943’ MSL.
Trees beginning 1.3 NM from DER, 292’ left of centerline, up to 970’ MSL.
Trees beginning 1.4 NM from DER, 1’ right of centerline, up to 956’ MSL.
Trees beginning 1.4 NM from DER, 920’ right of centerline, up to 958’ MSL.
Trees beginning 1.4 NM from DER, 53’ left of centerline, up to 979’ MSL.
Trees beginning 1.4 NM from DER, 14’ right of centerline, up to 968’ MSL.
Trees beginning 1.4 NM from DER, 12’ left of centerline, up to 993’ MSL.
Trees beginning 1.5 NM from DER, 1062’ right of centerline, up to 976’ MSL.
Tree 1.5 NM from DER, 1265’ right of centerline, 981’ MSL.
Trees beginning 1.5 NM from DER, 1226’ right of centerline, up to 988’ MSL.
Trees beginning 1.6 NM from DER, 1205’ right of centerline, up to 89’ AGL/991’ MSL.
Trees beginning 1.6 NM from DER, 1393’ left of centerline, up to 86’ AGL/998’ MSL.
Trees beginning 1.7 NM from DER, 20’ right of centerline, up to 1012’ MSL.
Trees beginning 1.7 NM from DER, 16’ left of centerline, up to 1002’ MSL.
Trees beginning 1.7 NM from DER, 53’ left of centerline, up to 1009’ MSL.
Trees beginning 1.7 NM from DER, 47’ left of centerline, up to 1010’ MSL.
Trees beginning 1.8 NM from DER, 1008’ right of centerline, up to 1014’ MSL.

PLYMOUTH, MI
CANTON-PLYMOUTH-METTETAL (1D2)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 10DEC92 (92345) (FAA)
TAKEOFF MINIMUMS:
Rwys 18, 36, 300-1.
PONTIAC, MI
OAKLAND COUNTY INTL (PTK)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 6A 24MAY18 (18144) (FAA)
TAKEOFF MINIMUMS:
Rwy 18, 36, NA - environmental.
TAKEOFF OBSTACLE NOTES:
Rwy 9R, building 868’ from DER, 732’ right of centerline, 36’ AGL/1006’ MSL.
Tree 1381’ from DER, 645’ left of centerline, 1009’ MSL.
Tree 1554’ from DER, 687’ left of centerline, 1011’ MSL.
Rwy 27L, vehicle on road 401’ from DER, 537’ left of centerline, 991’ MSL.
Tree 564’ from DER, 587’ left of centerline, 1003’ MSL.
Tree 747’ from DER, 614’ left of centerline, 1012’ MSL.
Tree 823’ from DER, 588’ right of centerline, 1002’ MSL.
Tree 836’ from DER, 628’ left of centerline, 1013’ MSL.
Trees beginning 854’ from DER, 539’ left of centerline, up to 1016’ MSL.
Tree 1586’ from DER, 827’ left of centerline, 1024’ MSL.
Port Huron, MI
ST CLAIR COUNTY INTL (PHN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 6 25AUG11 (11237) (FAA)
TAKEOFF OBSTACLE NOTES:
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.
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-B 03NOV22 (22307) (FAA)
TAKEOFF MINIMUMS:
Rwys 1, 19, NA-ATC.
TAKEOFF OBSTACLE NOTES:
Rwy 10, road 60’ from DER, left to right of centerline, 15’ AGL/645’ MSL.
Trees beginning 353’ from DER, 181’ right of centerline, up to 100’ AGL/729’ MSL.
Trees beginning 2067’ from DER, 137’ left of centerline, up to 100’ AGL/729’ MSL.
Rwy 28, trees beginning 158’ from DER, 232’ right of centerline, up to 100’ AGL/729’ MSL.
Trees beginning 920’ from DER, 233’ right of centerline, up to 100’ AGL/729’ MSL.
ROGERS CITY, MI
PRESQUE ISLE COUNTY (PZQ)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 03MAY12 (12124) (FAA)
TAKEOFF OBSTACLE NOTES:
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.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

ROMEO, MI
ROMEO STATE (D98)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5 02MAY13 (13122) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 18, pole 239' from DER, 395' right of centerline, 30' AGL/760' MSL.
Tress along road 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.
Tress 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' right of centerline, 23' AGL/758' MSL.
Vehicles on road beginning 410' from DER, left and right of centerline, up to 15' AGL/760' MSL.
Tress beginning 639' from DER, 159' left of centerline, up to 25' AGL/766' MSL.

SAGINAW, MI
MBS INTL (MBS)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 01FEB18 (18032) (FAA)
TAKEOFF OBSTACLE NOTES:
Rwy 5, vegetation 85' from DER, 269' right of centerline, 654' MSL.
Rwy 23, transmission line, pole beginning 1259' from DER, 785' left of centerline, up to 29' AGL/698' MSL.
Tree 2169' from DER, 1071' right of centerline, 725' MSL.
Rwy 32, tree 1447' from DER, 706' left of centerline, 734' MSL.
Tree 3628' from DER, 650' left of centerline, 767' MSL.

SAGINAW COUNTY/H W BROWNE (HYX)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 9 07DEC17 (22307) (FAA)
DEPARTURE PROCEDURE:
Rwy 5, climb heading 052° to 1900 before turning left.
Rwy 10, climb heading 097° to 1600 before turning left.
Rwy 23, climb heading 232° to 1300 before proceeding on course.
Rwy 28, climb heading 277° to 1300 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 5, lighting 10' from DER, 20' right of centerline, 2' AGL/600' MSL.
Traverse way 18' from DER, 349' left of centerline, 606' MSL.
Antenna, pole, beginning 285' from DER, 173' right of centerline, up to 46' AGL/642' MSL.
Traverse way 345' from DER, 17' left of centerline, 607' MSL.
Tree 983' from DER, 365' right of centerline, 657' MSL.
Rwy 10, lighting 6' from DER, 9' right of centerline, 2' AGL/599' MSL.
Lighting 6' from DER, 9' left of centerline, 2' AGL/599' MSL.
Transmission line 1037' from DER, 641' left of centerline, 34' AGL/628' MSL.
Transmission line 1261' from DER, 632' left of centerline, 38' AGL/632' MSL.
Tree 23, lighting 10' from DER, 19' right of centerline, 3' AGL/603' MSL.
Tree, traverse way beginning 54' from DER, 162' left of centerline, up to 652' MSL.
Traverse way from DER, 414' right of centerline, 664' MSL.
Rwy 28, lighting 9' from DER, 30' left of centerline, 3' AGL/601' MSL.
Lighting 10' from DER, 30' right of centerline, 3' AGL/601' MSL.
Transmission line 3519' from DER, 239' right of centerline, 92' AGL/691' MSL.

ST. IGNACE
MACKINAC COUNTY (83D)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 05MAY11 (11125) (FAA)
TAKEOFF MINIMUMS:
Rwy 25, 300-1 or std. w/min. climb of 430' per NM to 900.
TAKEOFF OBSTACLE NOTES:
Rwy 7, vehicles on road beginning 10' from DER, 322' right of centerline, up to 15' AGL/627' MSL.
Tress 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 309' 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.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

SANDUSKY, MI
SANDUSKY CITY (Y83)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 05OCT23 (23278) (FAA)
TAKEOFF MINIMUMS:
- Rwys 18, 36, NA-Environmental.
TAKEOFF OBSTACLE NOTES:
- Rw 10, building 34' from DER, 328' right of centerline, 20' AGL/793' MSL.
  Building 41' from DER, 219' right of centerline, 23' AGL/797' MSL.
  Tree 418' from DER, 605' left of centerline, 61' AGL/836' MSL.
  Pole, vehicles on road beginning 440' from DER, 58' left of centerline, up to 798' MSL.
  Trees beginning 566' from DER, 415' right of centerline, up to 835' MSL.
  Trees beginning 674' from DER, 468' right of centerline, up to 65' AGL/838' MSL.
- Rw 28, vegetation 18' from DER, 152' left of centerline, 779' MSL.
  Vegetation 62' from DER, 288' right of centerline, 779' MSL.
  Tree 106' from DER, 427' left of centerline, 96' AGL/871' MSL.
  Trees, poles beginning 224' from DER, 192' left of centerline, up to 881' MSL.
  Trees, poles beginning 1175' from DER, 403' right of centerline, up to 847' MSL.
  Trees beginning 1473' from DER, 486' right of centerline, up to 864' MSL.

SAULT STE MARIE, MI
CHIPPEWA COUNTY INTL (CIU)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG-A 05MAR15 (15064) (FAA)
TAKEOFF OBSTACLE NOTES:
- Rw 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.
- Rw 16, trees beginning 3645' from DER, extending from 1018' right of centerline to 1221' left of centerline, up to 100' AGL/899' MSL.
  Rw 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 FLD (ANJ)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 25AUG11 (21224) (FAA)
TAKEOFF OBSTACLE NOTES:
- Rw 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.
- Rw 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.

SELFRIAGE ANGB (KMTC)
MT. CLEMENS, MI
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3A, 29MAY14 (14149)
TAKEOFF MINIMUMS:
- Rw 1, std.
- Rw 19, std. w/min. climb of 234' per NM to 1500.
TAKEOFF OBSTACLE NOTES:
- Rw 19, Numerous trees beginning 1872' from DER, 268' 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.
- Rw 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.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

SOUTH HAVEN, MI
SOUTH HAVEN AREA RGNL (LWA)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4A 08SEP22 (22251) (FAA)
TAKEOFF MINIMUMS:
Rwys 14, 32, NA-Environmental.
TAKEOFF OBSTACLE NOTES:
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 06MAY10 (22307) (FAA)
TAKEOFF OBSTACLE NOTES:
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 91' 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.

STURGIS, MI
KIRSCH MUNI (IRS)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4A 29DEC22 (23054) (FAA)
TAKEOFF MINIMUMS:
Rwy 1, 300-1 ⅛ or std. w/min. climb of 215' per NM to 1200, or alternatively, with std. takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1400' prior to DER.
Rwy 6, 300-1¼ or std. w/min. climb of 243' per NM to 1200, or alternatively, with std. takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 2100' prior to DER.
TAKEOFF OBSTACLE NOTES:
Rwy 1, vehicle on road 22' from DER, 188' left of centerline, 921' MSL.
NAVAID 39' from DER, 89'right of centerline, 3' AGL/910' MSL.
Terrain 73' from DER, 481' right of centerline, 920' MSL.
Fence beginning 78' from DER, 303' right of centerline, up to 2' AGL/921' MSL.
Tree, vehicle on road beginning 80' from DER, 222' left of centerline, up to 960' MSL.
Terrain beginning 167' from DER, 418' right of centerline, up to 924' MSL.
Trees beginning 464' from DER, 394' left of centerline, up to 963' MSL.
Tree 710' from DER, 355' right of centerline, 932' MSL.
Tree 801' from DER, 504' right of centerline, 951' MSL.
Trees beginning 979' from DER, 386' right of centerline, up to 957' MSL.
Trees beginning 1265' from DER, 475' right of centerline, up to 979' MSL.
Trees beginning 1341' from DER, 471' left of centerline, up to 967' MSL.
Tree 2359' from DER, 413' left of centerline, 969' MSL.
Trees beginning 2526' from DER, 1013' right of centerline, up to 995' MSL.
Tree 3034' from DER, 408' left of centerline, 985' MSL.
Tree 3120' from DER, 334' left of centerline, 992' MSL.
Tree 3235' from DER, 197' left of centerline, 996' MSL.
Tree 3356' from DER, 200' left of centerline, 1002' MSL.
Trees beginning 3379' from DER, 39' left of centerline, up to 1014' MSL.
Tree 3607' from DER, 1464' right of centerline, 1006' MSL.
Tree 3943' from DER, 1484' right of centerline, 1009' MSL.
Tree 4051' from DER, 96' right of centerline, 1013' MSL.
Tree 4344' from DER, 1118' right of centerline, 1019' MSL.
Tree 4347' from DER, 843' right of centerline, 1021' MSL.
Tree 4457' from DER, 1017' right of centerline, 1028' MSL.
Trees beginning 4507' from DER, 856' right of centerline, up to 1032' MSL.
Tree 4777' from DER, 1408' right of centerline, 1034' MSL.
Tree 4875' from DER, 1951' right of centerline, 1045' MSL.
Trees beginning 4885' from DER, 507' right of centerline, up to 1047' MSL.
Tree 5752' from DER, 810' right of centerline, 1061' MSL.
CONT
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

STURGIS, MI (CON’T)
KIRCH MUNI (IRS) (CON’T)

Rwy 6, NAVAID 39’ from DER, 112’ right of centerline, 3’ AGL/928’ MSL.
NAVAID 51’ from DER, 112’ left of centerline, 2’ AGL/928’ MSL.
Vehicle on road 139’ from DER, 511’ left of centerline, 938’ MSL.
Vehicle on road beginning 188’ from DER, 210’ left of centerline, up to 941’ MSL.
Vehicle on road beginning 339’ from DER, 302’ right of centerline, up to 941’ MSL.
Building 522’ from DER, 546’ right of centerline, 30’ AGL/954’ MSL.
Vehicle on road 667’ from DER, 189’ left of centerline, 942’ MSL.
Pole, transmission line beginning 971’ from DER, 956’ left of centerline, up to 960’ MSL.
Transmission line, pole beginning 973’ from DER, 564’ right of centerline, up to 35’ AGL/961’ MSL.
Pole, transmission line, tree beginning 1044’ from DER, 256’ left of centerline, up to 975’ MSL.
Tree, pole, transmission line beginning 1079’ from DER, 400’ right of centerline, up to 982’ MSL.
Tree, pole, transmission line beginning 1137’ from DER, 235’ right of centerline, up to 983’ MSL.
Tree, transmission line, pole beginning 1248’ from DER, on centerline, up to 997’ MSL.
Trees beginning 1488’ from DER, 122’ left of centerline, up to 998’ MSL.
Trees beginning 1586’ from DER, 50’ left of centerline, up to 992’ MSL.
Trees beginning 2425’ from DER, 347’ left of centerline, up to 997’ MSL.
Trees beginning 2794’ from DER, 962’ left of centerline, up to 1012’ MSL.
Trees beginning 3342’ from DER, 75’ left of centerline, up to 1043’ MSL.
Tree 3478’ from DER, 833’ right of centerline, 1026’ MSL.
Trees beginning 4230’ from DER, 1062’ left of centerline, up to 1045’ MSL.
Tree 4385’ from DER, 1633’ left of centerline, 1050’ MSL.
Tree 4540’ from DER, 1153’ left of centerline, 1052’ MSL.
Trees beginning 4668’ from DER, 1179’ left of centerline, up to 1060’ MSL.
Tree 4986’ from DER, 1332’ left of centerline, 100’ AGL/1075’ MSL.
Tree 5811’ from DER, 1170’ left of centerline, 1084’ MSL.
Trees beginning 5835’ from DER, 976’ left of centerline, up to 1102’ MSL.
Tree 1.0 NM from DER, 1339’ left of centerline, 1086’ MSL.
Rwy 19, NAVAID 38’ from DER, 90’ left of centerline, 2’ AGL/913’ MSL.
NAVAID 38’ from DER, 90’ right of centerline, 3’ AGL/914’ MSL.
Transmission line, pole beginning 1494’ from DER, 808’ left of centerline, up to 75’ AGL/979’ MSL.
Tree, pole, transmission line beginning 1866’ from DER, 598’ right of centerline, up to 960’ MSL.
Trees beginning 1989’ from DER, 77’ right of centerline, up to 963’ MSL.
Trees beginning 2031’ from DER, 152’ right of centerline, up to 968’ MSL.
Tree 2085’ from DER, 550’ right of centerline, 971’ MSL.
Rwy 24, vehicle on road, tree, transmission line beginning 29’ from DER, 17’ right of centerline, up to 100’ AGL/1016’ MSL.

THREE RIVERS, MI
THREE RIVERS MUNI/DR HAINES (HAI)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 15DEC11 (22363) (FAA)

TAKEOFF OBSTACLE NOTES:

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.
Vehicle 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 13 14JUL22 (22195) (FAA)

TAKEOFF MINIMUMS:
Rwy 10, 400-2 w/min. climb of 233’ per NM to 1300 or std. w/min. climb of 280’ per NM to 1100, or 1300-3 for VCOA.
Rwy 18, 400-2½ w/min. climb of 214’ per NM to 1400 or std. w/min. climb of 222’ per NM to 1200, or 1300-3 for VCOA.
Rwy 28, std. w/min. climb of 340’ per NM to 2000, or 1300-3 for VCOA.
Rwy 36, 400-2½ or std. w/min. climb of 203’ per NM to 1000 or alternatively, with std. takeoff minimums and normal 200’ per NM climb gradient, takeoff must occur no later than 1200’ prior to DER.

DEPARTURE PROCEDURE:
Rwy 10, climb heading 099° to 1100’ before turning right.
Rwy 18, climb heading 185° to 1100’ before turning.
Rwy 36, climb heading 005° to 1300’ before turning left.

CON’T

TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)
TRAVERSE CITY, MI (CON’T)

CHERRY CAPITAL (TVC) (CON’T)

VCOA:

**Rwys 10, 18, 28.** Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Cherry Capital airport at or above 1800 before proceeding on course.

**TAKEOFF OBSTACLE NOTES:**

- **Rwy 10,** tree 1284’ from DER, 739’ left of centerline, 662’ MSL.
- Trees beginning 1524’ from DER, 821’ left of centerline, up to 663’ MSL.
- Trees beginning 1822’ from DER, 916’ right of centerline, up to 669’ MSL.
- Tree 2242’ from DER, 963’ right of centerline, 671’ MSL.
- Trees beginning 2341’ from DER, 941’ right of centerline, up to 672’ MSL.
- Tree 2570’ from DER, 1169’ right of centerline, 679’ MSL.
- Tree 2996’ from DER, 1213’ right of centerline, 694’ MSL.
- Trees beginning 3091’ from DER, 1241’ right of centerline, up to 700’ MSL.
- Tree 3773’ from DER, 1270’ right of centerline, 705’ MSL.
- Trees beginning 1.3 NM from DER, 2444’ right of centerline, 822’ MSL.
- Trees beginning 1.4 NM from DER, 1356’ right of centerline, up to 922’ MSL.
- Trees beginning 1.5 NM from DER, 1795’ right of centerline, up to 930’ MSL.
- Tree 2.4 NM from DER, 3984’ right of centerline, 981’ MSL.
- Tree 2.5 NM from DER, 3987’ right of centerline, 1007’ MSL.

- **Rwy 18,** fence, buildings beginning 228’ from DER, 555’ left of centerline, up to 11’ AGL/636’ MSL.
- Transmission line 856’ from DER, 695’ right of centerline, 34’ AGL/660’ MSL.
- Transmission lines beginning 859’ from DER, 372’ right of centerline, up to 38’ AGL/664’ MSL.
- Transmission line 966’ from DER, 654’ left of centerline, 34’ AGL/655’ MSL.
- Transmission lines beginning 1086’ from DER, 414’ right of centerline, up to 41’ AGL/667’ MSL.
- Tree 1930’ from DER, 410’ right of centerline, 677’ MSL.
- Transmission lines, trees beginning 1.2 NM from DER, 2679’ left of centerline, up to 942’ MSL.
- Trees beginning 2 NM from DER, 3609’ right of centerline, up to 951’ MSL.

- **Rwy 28,** poles, building beginning 963’ from DER, 584’ right of centerline, up to 28’ AGL/651’ MSL.
- Transmission line 1150’ from DER, 576’ right of centerline, 30’ AGL/654’ MSL.
- Transmission line 1160’ from DER, 633’ right of centerline, 32’ AGL/656’ MSL.
- Poles, transmission line beginning 1163’ from DER, 726’ left of centerline, up to 663’ MSL.
- Tree 1181’ from DER, 755’ left of centerline, 688’ MSL.
- Trees, pole, transmission line beginning 1226’ from DER, 734’ left of centerline, up to 695’ MSL.
- Transmission lines beginning 1251’ from DER, 625’ right of centerline, up to 35’ AGL/658’ MSL.
- Trees beginning 1325’ from DER, 763’ left of centerline, up to 78’ AGL/703’ MSL.
- Pole 1355’ from DER, 823’ left of centerline, 36’ AGL/659’ MSL.
- Trees, transmission line beginning 1421’ from DER, 7’ left of centerline, up to 80’ AGL/705’ MSL.
- Tree 1457’ from DER, 611’ right of centerline, 675’ MSL.
- Trees beginning 1495’ from DER, 604’ right of centerline, up to 694’ MSL.
- Trees beginning 1664’ from DER, 617’ right of centerline, up to 699’ MSL.
- Trees beginning 1708’ from DER, 603’ right of centerline, up to 701’ MSL.
- Trees beginning 2275’ from DER, 3’ right of centerline, up to 708’ MSL.
- Trees beginning 2960’ from DER, 82’ left of centerline, up to 80’ AGL/706’ MSL.
- Trees beginning 3033’ from DER, 69’ left of centerline, up to 707’ MSL.
- Tree 3597’ from DER, 278’ left of centerline, 88’ AGL/714’ MSL.

- **Rwy 36,** poles, trees, transmission line beginning 734’ from DER, 62’ left of centerline, up to 37’ AGL/655’ MSL.
- Trees, buildings, transmission line, sign beginning 803’ from DER, 247’ right of centerline, up to 657’ MSL.
- Trees, pole, transmission line beginning 936’ from DER, 107’ right of centerline, up to 664’ MSL.
- Trees beginning 974’ from DER, 488’ right of centerline, up to 684’ MSL.
- Trees, transmission line beginning 1028’ from DER, 16’ right of centerline, up to 685’ MSL.
- Trees beginning 1234’ from DER, 34’ left of centerline, up to 671’ MSL.
- Trees beginning 1322’ from DER, 91’ left of centerline, up to 673’ MSL.
- Trees beginning 1350’ from DER, 12’ right of centerline, up to 682’ MSL.
- Trees beginning 1405’ from DER, 115’ right of centerline, up to 688’ MSL.
- Trees beginning 1420’ from DER, 71’ right of centerline, up to 689’ MSL.
- Trees beginning 1460’ from DER, 120’ left of centerline, up to 685’ MSL.
- Trees beginning 1511’ from DER, 355’ right of centerline, up to 690’ MSL.
- Trees beginning 1514’ from DER, 52’ right of centerline, up to 691’ MSL.
- Trees, transmission lines, pole beginning 1517’ from DER, 23’ left of centerline, up to 692’ MSL.
- Trees beginning 1754’ from DER, 87’ right of centerline, up to 704’ MSL.
- Trees beginning 1809’ from DER, 7’ right of centerline, up to 706’ MSL.
- Trees, pole, transmission line beginning 1866’ from DER, 59’ left of centerline, up to 693’ MSL.
- Trees, pole, transmission line beginning 2246’ from DER, 141’ left of centerline, up to 695’ MSL.
- Tree 2407’ from DER, 310’ left of centerline, 696’ MSL.
- Trees beginning 2425’ from DER, 48’ left of centerline, up to 697’ MSL.
- Trees beginning 2595’ from DER, 102’ left of centerline, up to 714’ MSL.
- Trees beginning 1.5 NM from DER, 2547’ right of centerline, up to 919’ MSL.
- Trees beginning 2 NM from DER, 1898’ right of centerline, up to 937’ MSL.

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

TROY, MI
OAKLAND/TROY (VLL)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4B 14JUL22 (22195) (FAA)
TAKEOFF MINIMUMS:
- RwY 28, std. w/min. climb of 476’ per NM to 1500.
DEPARTURE PROCEDURE:
- RwY 10, climb on heading 096° to 1400 before turning right.
- RwY 28, climb on heading 276° to 1500 before turning left.
TAKEOFF OBSTACLE NOTES:
- RwY 10, building 78’ from DER, 370’ left 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 28, 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/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.
- Powerline 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 1.1 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 10MAR11 (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.
TAKEOFF OBSTACLE NOTES:
- RwY 27, trees beginning 42’ from DER, 7’ right of centerline, up to 100’ AGL/984’ MSL.
- Trees beginning 536’ 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.
I.FR ALTERNATE AIRPORT MINIMUMS

Pilots must review the IFR Alternate Minimums Notes to determine alternate airport suitability. Designation on the approach chart means that pilots may not use that approach as an alternate due to unmonitored facility, absence of weather reporting service, or lack of adequate navigation coverage. Approaches with the designation are not listed in this section. Designation on the approach chart indicates that the approach procedure has non-standard minimums (for aircraft other than helicopters) or restrictions (for all users) for its use as an alternate.

Alternate Minima (ref: 14 CFR 91.169)

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1EC-1, 11 JUL 2024 to 05 SEP 2024
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<td>&lt;sup&gt;1&lt;/sup&gt;Na when local weather not available.</td>
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<td>&lt;sup&gt;7&lt;/sup&gt;Categories A, B, 900-2; Category C, 900-2½; Category D, 1100-3.</td>
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<td>&lt;sup&gt;2&lt;/sup&gt;Na when local weather not available.</td>
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<tr>
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<td>&lt;sup&gt;3&lt;/sup&gt;Category C, 800-2½; Category D, 900-2¾.</td>
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<td>&lt;sup&gt;4&lt;/sup&gt;Category D, 900-2¾.</td>
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THERE ARE NO RADAR PROCEDURES
FOR EAST CENTRAL (EC-1)
**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.

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

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<tr>
<th>CITY/AIRPORT</th>
<th>HOT SPOT</th>
<th>DESCRIPTION*</th>
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<td>ANN ARBOR, MI</td>
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<td>Int of Twy A1/A not visible from the control twr.</td>
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<td>HS 2</td>
<td>Twy A crosses turf Rwy 12-30.</td>
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<tr>
<td>DETROIT, MI</td>
<td>HS 1</td>
<td>Int of Rwy 09L and Rwy 03L-21R.</td>
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<tr>
<td>FLINT, MI</td>
<td>HS 1</td>
<td>Int of Twy C and Rwy 18-36.</td>
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<td></td>
<td>HS 2</td>
<td>Deicing Pad. Twy C and Rwy 09-27.</td>
</tr>
<tr>
<td>GRAND RAPIDS, MI</td>
<td>HS 1</td>
<td>Pilot confusion risk int Twy A, Twy M Twy A2 near Rwy 08R-26L.</td>
</tr>
<tr>
<td></td>
<td>HS 2</td>
<td>Pilot confusion risk int Twy A, Twy F, Twy B, Twy A1 near Rwy 08R-26L.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Pilot confusion risk int Twy B, Twy V, Twy B4 near Rwy 17-35</td>
</tr>
<tr>
<td>KALAMAZOO, MI</td>
<td>HS 1</td>
<td>Complex rwy/twy int.</td>
</tr>
<tr>
<td>LANSING, MI</td>
<td>HS 1</td>
<td>Twy C intersecting Twy B; and Rwy 10R-28L.</td>
</tr>
<tr>
<td></td>
<td>HS 2</td>
<td>Twy M intersecting Twy B; and Rwy 10R-28L.</td>
</tr>
<tr>
<td>MUSKEGON, MI</td>
<td>HS 1</td>
<td>Twy A at Rwy 14-32.</td>
</tr>
</tbody>
</table>

*See appropriate Chart Supplement HOT SPOT table for additional information.
NOTE: Chart not to scale.

JAMOX TRANSITION (JAMOX.BONZZ2)
KOZAR TRANSITION (KOZAR.BONZZ)

(CONTINUED ON FOLLOWING PAGE)
ARRIVAL ROUTE DESCRIPTION

From BONZZ on track 319° to cross KLYNK between 12000 and 15000, then on track 319° to cross TMBIT between 10000 and 11000 and at 250K, then on track 320° to cross FFORK at or above 9000.

LANDING RWYS 22L, 21L/R: From FFORK on track 037° to cross TBRRD at 8000 and at 210K, then on track 036°. Expect RADAR vectors to final approach course.

LANDING RWY 22R: From FFORK on track 308° to TRPRS, then on track 035° to cross DZMND at 8000 and at 210K, then on track 033°. Expect RADAR vectors to final approach course.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect Rwy 3R.
NOTE: Jet aircraft descend via Mach number until intercepting 280K. Maintain 280K until slowed by the STAR.
NOTE: For use when DTW landing north or west. When DTW landing south, file and expect the HTROD RNAV STAR.

ARRIVAL ROUTE DESCRIPTION

SUBWY TRANSITION (SUBWY.CRAKN2)

From CRAKN on track 331° to cross CLDON between 9000 and 10000, then on track 284° to cross MERCA at 7000 and at 210K, then on track 284°. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS:
From MERCA, execute ILS Rwy 3R approach.
NOTE: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

BOBTA TRANSITION (BOBTA.CUUGR2)
DONEO TRANSITION (DONEO.CUUGR2)
GGUCE TRANSITION (GGUCE.CUUGR2)

From TPGUN on track 253° to cross HHUNT between 12000 and 15000, then on track 253° to cross CUUGR between 10000 and 11000 and at 250K.

LANDING RWYS 3L/R, 4R: From CUUGR on track 214° to ROOAD, then on track 214° to cross ROYYY at 8000 and at 210K, then on track 216°. Expect RADAR vectors to final approach course.

LANDING RWY 4L: From CUUGR on track 267° to ZUBBY, then on track 267° to cross SKRUG at 8000 and at 210K, then on track 218°. Expect RADAR vectors to final approach course.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect Rwy 21L.
NOTE: Jet aircraft descend via Mach number until intercepting 280K. Maintain 280K until slowed by the STAR.
NOTE: For use when DTW landing south or west. When DTW landing north, file and expect the WNGNT RNAV STAR.

From WNGNT on track 268° to cross FERRL between 8000 and 10000, then on track 268° to cross GMOTR at 7000, then on track 306° to cross CHEWZ at 6000 and at 210K, then on track 306° to cross FERRL between 8000 and at 210K, then on track 306°. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS:
From COBBO, execute ILS Rwy 21L approach.
ARRIVAL ROUTE DESCRIPTION

LANDING ALL AIRPORTS: From FOREY on track 003° to VRNRS, then on track 341° to cross SWETY at or above 4000, then on track 300°. Expect RADAR vectors to final approach course.

NOTE: Chart not to scale.
NOTE: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

COLTS TRANSITION (COLTS.GIGGY2)
PICUP TRANSITION (PICUP.GIGGY2)

LANDING ALL AIRPORTS: From AXXIS on track 231° to AUTTO, then on track 230° to cross GIGGY at or above 4000, then on track 230°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Use Rwy 4L transition or as assigned by ATC.
Expect runway assignment from Detroit APP CON no later than 10 NM from MERFI.
NOTE: For use when DTW landing north or west.
When DTW landing south, file and expect the LAYKS RNAV STAR.

LEFSA

DAGGGY

PNNTO

WLEYE
FL240 280K

YUUPR
FL230

10 NM

THEEE

GRAYT
FL220 17000 280K

HYPED
15000 12000 250K

MERFI 12000

TUUBR 12000 210K

KDTW Ldg Rwy 27L/R

KDTW Ldg Rwy 3L/R

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

From GRAYT on track 162° to cross HYPED between 12000 and 15000 and at 250K, then on track 173° to cross MERFI at 12000.

LANDING RWY 3L/R: From MERFI on track 173° to QWYNN, then on track 214° to cross SPRTS at 12000 and at 210K, then on track 216°. Expect RADAR vectors to final approach course.

LANDING RWY 4L/R: From MERFI on track 216° to ZUBBY, then on track 216° to cross CADLC at 12000 and at 210K, then on track 218°. Expect RADAR vectors to final approach course.

LANDING RWY 27L/R: From MERFI on track 173° to TMTOM, then on track 096° to cross TUUBR at 12000 and at 210K, then on track 096°. Expect RADAR vectors to final approach course.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Use Runway 22R transition or as assigned by ATC. Expect runway assignment from Detroit APP CON no later than 10 NM from HEMIE.
NOTE: For use when DTW landing south or west. When DTW landing north, file and expect the LECTR RNAV STAR.
NOTE: TORRR Transition for use by CVG/DAY/SDF/LEX terminal area departures at or below FL210 only and ATC use as assigned.

(NARRATIVE ON FOLLOWING PAGE)
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Use Runway 22R transition or as assigned by ATC. Expect runway assignment from Detroit APP CON no later than 10 NM from HEMIE.
NOTE: For use when DTW landing south or west. When DTW landing north, file and expect the LECTR RNAV STAR.
NOTE: TORRR Transition for use by CVG/DAY/SDF/LEX terminal area departures at or below FL210 only and ATC use as assigned.

ARRIVAL ROUTE DESCRIPTION

From HANBL on track 054° to cross PRWLR between 12000 and 15000, then on track 054° to cross HEMIE between 10000 and 11000 and at 250K.

LANDING RUNWAY 21L/R: From HEMIE on track 084° to RAAMM, then on track 037° to cross TBRRD at 8000 and at 210K, then on track 036°. Expect RADAR vectors to final approach course.

LANDING RUNWAY 22L/R: From HEMIE on track 052° to cross TRPRS at or above 8000, then on track 035° to cross DZMND at 8000 and at 210K, then on track 033°. Expect RADAR vectors to final approach course.

LANDING RUNWAY 27L/R: From HEMIE on track 090° to cross WUDSN at 8000 and at 210K, then on track 096° to cross BRDDY at 8000, then on track 096°. Expect RADAR vectors to final approach course.
From HAYLL on track 090° to cross VCTRZ between 8000 and 10000, then on track 074° to MAAZE, then on track 141° to cross GRBAC at 10000 and at 210K.

NOTE: For use by flights departing MDW, SBN, and expect the VCTRZ RNAV STAR.

NOTE: SNA airports only, or as assigned by ATC.

NOTE: For use when DTW landing north.

NOTE: Expect Rwy 4L.

NOTE: DME/DME/IRU or GPS required.

NOTE: RNAV 1.

NOTE: RADAR required.

NOTE: For use by flights departing MDW, SBN, AZO, MCI, JAX, PHX, SAN, SNA airports only, or as assigned by ATC.

NOTE: EC-1, 11 JUL 2024 to 05 SEP 2024

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

SUBWY TRANSITION (SUBWY HTROD2)

From CRAKN on track 326° to cross BEERR between 12000 and 15000, then on track 327° to cross HTROD at 12000 and at 250K.

LANDING RUNWAY 22L, 21L/R: From HTROD on track 038° to FFORK, then on track 037° to cross MODLT at 12000 and at 210K, then on track 036°. Expect RADAR vectors to final approach course.

LANDING RUNWAY 22R: From HTROD on track 326° to TRPRS, then on track 036° to cross SEEGR at 12000 and at 210K, then on track 033°. Expect RADAR vectors to final approach course.

NOTE: Chart not to scale.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Use Rwy 4L transition or as assigned by ATC. Expect runway assignment from Detroit APP CON no later than 10 NM from ZUBBY.
NOTE: For use when DTW landing north or west. When DTW landing south, file and expect the RKCTY RNAV STAR.
NOTE: ENGRM TRANSITION: For use by GRR area departures only, or as assigned by ATC.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

From RKCTY on track 141° to cross KKISS between 12000 and 15000, then on track 140° to cross STLEY between 10000 and 11000 and at 250K, then on track 140° to ZUBBY.

LANDING RWY 3L/R: From ZUBBY on track 144° to QWYNN, then on track 214° to cross ROYYY at 8000 and at 210K, then on track 216°. Expect RADAR vectors to final approach course.

LANDING RWY 4L/R: From ZUBBY on track 216° to cross SKRUG at 8000 and at 210K, then on track 218°. Expect RADAR vectors to final approach course.

LANDING RWY 27L/R: From ZUBBY on track 112° to cross TMTOM at 8000 and at 210K, then on track 096° to cross TUUBR at 8000, then on track 096°. Expect RADAR vectors to final approach course.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

JAMOX TRANSITION (JAMOX.KLYNK3)
KOZAR TRANSITION (KOZAR.KLYNK3)

From BONZZ on track 319° to cross KLYNK between 9000 and 10000, then on track 281° to cross BRDER at 6000 and at 210K, then on track 281°. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS
From BRDER, execute ILS Rwy 3R approach.
ATTENTION: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

DAYYY TRANSITION (DAYYY.LAYKS2)

LEFSA TRANSITION (LEFSA.LAYKS2)

From GRAYT on track 155° to cross LAYKS at or above 10000, then on track 155° to cross STAAT at or above 9000, then on track 158° to MCHGN at 6000, then on track 118° to cross HRRON at 6000 and at 210K, then on track 118°. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: From HRRON, execute RNAV (GPS) Y RWY 22R or ILS Y RWY 22R approach.

EC-1, 11 JUL 2024 to 05 SEP 2024
**ARRIVAL ROUTE DESCRIPTION**

**SWAYD TRANSITION (SWAYD.LECTR3)**

**TORRR TRANSITION (TORRR.LECTR3)**

**WWOIDD TRANSITION (WWOIDD.LECTR3)**

From HANBL on track 040° to cross LECTR between 8000 and 10000, then on track 074° to cross FAAVA at 6000, then on track 112° to cross SIZOR at 6000 and at 210K, then on track 123°.

Expect RADAR vectors to final approach course.

**LOST COMMUNICATIONS**

From SIZOR, execute RNAV (GPS) Y Rwy 4L or ILS Y Rwy 4L approach.
ARRIVAL ROUTE DESCRIPTION

COLTS TRANSITION (COLTS.OKLND1):
PICUP TRANSITION (PICUP.OKLND1):

LANDING ALL AIRPORTS: From AXXIS on track 272° to FAEGO, then on track 272° to RIPPY, then on track 272° to cross OKLND at or above 4000, then on track 272°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.
ARIVAL ROUTE DESCRIPTION

HOSSA TRANSITION (HOSSA.PETTE2):

QBURT TRANSITION (QBURT.PETTE2):

TORRR TRANSITION (TORRR.PETTE2):

WWODD TRANSITION (WWODD.PETTE2):

LANDING CYQG, KONZ, KARB, KYIP, KITF, KDET: From PETTE on track 072° to cross SYREN at or above 4000, then on track 071°. Expect RADAR vectors to final approach course.

LANDING PTK, KMTC, KOZW, KVLL: From PETTE on track 072° to cross SYREN at or above 4000, then on track 025°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Caution: Parachute jumping 6 NM northeast of PETTE WAYPOINT, 3 NM radius of NAPOLEON AIRPORT (3NP) at or below 17999 (SR-SS).
NOTE: QBURT TRANSITION: Do not file, to be assigned by ATC only.

NOTE: Chart not to scale.
From RKCTY on track 111° to cross DREME between 8000 and 10000 and at 230K, then on track 113° to cross VALI at 6000 and at 210K, and at 230K, then on track 113° to cross VALI at 6000 and at 210K, then on track 113°. Expect RADAR vectors to final approach course.

NOTE: For use when DTW landing north or west.

NOTE: ENGRM TRANSITION: For use by GRR area departures only, or as assigned by ATC.

NOTE: ENGRM TRANSITION: For use when DTW landing south. When DTW landing north or west,NOTE: DME/DME/IRU or GPS required.

NOTE: RADAR required.

NOTE: For use when DTW landing south. When DTW landing north or west, expect Rwy 22R.

NOTE: ENGRM TRANSITION: For use by GRR area departures only, or as assigned by ATC.

NOTE: RADAR required.

NOTE: DME/DME/IRU or GPS required.

NOTE: RADAR required.
ARRIVAL ROUTE DESCRIPTION

CLLEM TRANSITION (CLLEM.RRALF3)
OREYO TRANSITION (OREYO.RRALF3)
WEBOR TRANSITION (WEBOR.RRALF3)

LANDING ALL AIRPORTS: From RRALF on track 102° to cross PICTR at or above 4000, then on track 085°. Expect RADAR vectors to final approach course.

NOTE: Chart not to scale.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect Rwy 21L.
NOTE: Jet aircraft descend via Mach number until intercepting 280K. Maintain 280K until slowed by the STAR.
NOTE: For use when DTW landing south or west. When DTW landing north, file and expect the CUUGR RNAV STAR.
NOTE: GGUCE TRANSITION: Except for flights originating in Canada, do not file, to be assigned by ATC.
NOTE: Expect Rwy 21L.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect Rwy 21L.
NOTE: Jet aircraft descend via Mach number until intercepting 280K. Maintain 280K until slowed by the STAR.
NOTE: For use when DTW landing south or west. When DTW landing north, file and expect the CUUGR RNAV STAR.
NOTE: GGUCE TRANSITION: Except for flights originating in Canada, do not file, to be assigned by ATC.

ARRIVAL ROUTE DESCRIPTION

BOBTA TRANSITION (BOBTA.TPGUN2)
DONEO TRANSITION (DONEO.TPGUN2)
GGUCE TRANSITION (GGUCE.TPGUN2)

From TPGUN on track 254° to cross HLIWD between 8000 and 10000, then on track 254° to CHZTR at 7000, then on track 306° to cross GOHST at 7000 and at 210K, then on track 306° to cross RYEDR at 7000 and at 210K, then on track 306°. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS:
From RYEDR, execute ILS Rwy 21L approach.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Use Runway 22R transition or as assigned by ATC. Expect runway assignment from Detroit APP CON no later than 10 NM from UUOFM.
NOTE: For use when DTW landing south or west. When DTW landing north, file and expect the HAYLL RNAV STAR.
NOTE: For use by flights departing KMDW, KSBN, KAZO, KMCJ, KLAS, KLAS, KPHX, KSAN, AND KSNA area airports only, or as assigned by ATC.

ARRIVAL ROUTE DESCRIPTION

From HAYLL on track 090° to VCTRZ, then on track 080° to cross HYSMN between 12000 and 15000, then on track 055° to cross UUOFM at 12000 and at 250K.

LANDING RUNWAY 21L/R: From UUOFM on track 093° to RAAMM, then on track 037° to cross MODLT at 12000 and at 210K, then on track 036°. Expect RADAR vectors to final approach course.

LANDING RUNWAY 22L/R: From UUOFM on track 078° to TRPRS, then on track 036° to cross SEEGR at 12000 and at 210K, then on track 033°. Expect RADAR vectors to final approach course.

LANDING RUNWAY 27L/R: From UUOFM on track 099° to WUDSN, then on track 096° to cross BRDDY at 12000 and at 210K, then on track 096°. Expect RADAR vectors to final approach course.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Use Rwy 3R transition or as assigned by ATC.
Expect runway assignment from Detroit APP CON no later than 10 NM from ROOAD.

ARRIVAL ROUTE DESCRIPTION

From WNGNT on track 267° to cross BOUTU between 12000 and 15000, then on track 257° to cross ROOAD at 12000 and at 250K.

LANDING RUNWAYS 3L/R, 4R: From ROOAD on track 214° to cross SPRTS at 12000 and at 210K, then on track 216°. Expect RADAR vectors to final approach course.

LANDING RUNWAY 4L: From ROOAD on track 272° to CADLC, then on track 218° to cross YNDER at 12000 and at 210K, then on track 218°. Expect RADAR vectors to final approach course.
RNAV (GPS) RWY 5
LENAWEE COUNTY (ADG)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 54°C. When local altimeter setting not received, use Ann Arbor Muni altimeter setting; increase LPV all Cats DA to 1114 feet and all visibilities ½ SM; increase LNAV/VNAV all Cats DA to 1185 feet; increase all MDA 80 feet and visibility LNAV Cats C/D ½ SM. Baro-VNAV and VDP NA when using Ann Arbor Muni altimeter setting.

MISSED APPROACH:
Climb to 3000 direct EZHAF and hold.

ADRIAN, MICHIGAN
AL-5555 (FAA)

RNAV APCH - GPS.

ASOS 118.375
TOLEDO APP CON 134.35 317.55

UNICOM 122.8 (CTAF)

EC-1, 11 JUL 2024 to 05 SEP 2024

ADRIAN, MICHIGAN
Amdt 1D 19MAY22

41°52’N 84°05’W
RNAV (GPS) RWY 23
LENAWEE COUNTY (ADG)

RNP APCH - GPS.

W Rwy 23 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Ann Arbor Muni altimeter setting: increase all MDA 80 feet and visibility LNAV Cats C/D and Circling Cats C/D ¾ SM. Circling NA to Rwy 11 and 29.

MISSED APPROACH: Climb to 3000 direct OBIHI and hold.

ASOS
118.375

TOLEDO APP CON
134.35 317.55

UNICOM
122.8 (CTAF)

ADRIAN, MICHIGAN
Orig-D 19MAY22

ELEV 802
TDZE 798

Rwy Idg
TDZE
Apt Elev

5001
798
802

APP CRS
233°

LNAV MDA
1260-1

1260-1 1/2

1260-1 1/2

CIRCLING
1300-1

1320-1

1340-1 1/2

1440-2

802

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 11
PADGHAM FLD (35D)

ALLEGAN, MICHIGAN

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

RNP APCH - GPS.

NA

- RNAV (GPS) RWY 11
- RNAV (GPS) RWY 11

MISSED APPROACH: Climb to 3000 direct WILAG and on track 013° to CEXED and track 326° to SAMME and hold, continue climb-in-hold to 3000.

Procedure NA for arrival on PMM VOR/DME airway radials 303 CW 091.

EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024

ALLEGAN, MICHIGAN

Orig D 23FEB23

42°32'N-85°49'W
RNAV (GPS) RWY 29
PADGHAM FLD (35D)

Circling NA to Rwy 15 and 33, Rwy 29 helicopter visibility reduction below ¾ SM NA. Use Holland altimeter setting; when not received, use Grand Rapids altimeter setting and increase all MDAs 40 feet and LNAV CAT C visibility ¾ SM.

SAFETY ALERT!

NA

BIV ASOS
119.025

GREAT LAKES APP CON *
128.4 257.6

UNICOM
122.8 (CTAF)

HEDUT

SAMME

ITIKE

PULLMAN

PMM

ELEV 706

TDZE 705

Procedure NA for arrival on PMM VOR/DME airway radials 029 CW 182.

MISSED APPROACH: Climb to 3000 and hold.

UNICOM 122.8 (CTAF)

EC-1, 11 JUL 2024 to 05 SEP 2024

RNP APCH - GPS.

LC-1, 11 JUL 2024 to 05 SEP 2024

LNAV Cat C visibility SM.
RNAV (GPS) RWY 9

GRATIOT COMMUNITY (AMN)

RNP APCH.

Boro-VNA NA when using Mount Pleasant altimeter setting. For uncompensated Boro-VNA systems, LNAV/VNAV NA below -16°C or above 39°C. Rw 9
helicopter visibility reduction below ¾ SM NA. When local altimeter setting not
received, use Mount Pleasant altimeter setting and increase all DA 42 feet and VNAV
all Cats visibility ¼ mile, increase all MDA 60 feet, and LNAV Cat C and D visibility
¼ mile. VDP NA when using Mount Pleasant altimeter setting.

MISSED APPROACH: Climb to
2600 direct CEGEE and hold.

**AWOS-3P**
124.175

**GREAT LAKES APP CON**
126.45 235.625

**UNICOM**
122.8 (CTAF)

Procedure NA for arrivals at MOP VOR/DME on airway radial 271.

---

MT PLEASANT
MOP

Rwy Idg 5004
Apt Elev 753

---

2600 direct CEGEE and hold.

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**

---

GRATIOT COMMUNITY (AMN)

RNAV (GPS) RWY 9

---

ALMA, MICHIGAN

Amdt 18 18JUL19

43°19'N-84°41'W
RNAV (GPS) RWY 18
ALMA, MICHIGAN
Orig-A 18JUL19

EC-1, 11 JUL 2024 to 05 SEP 2024

AWOS-3P
124.175

GREAT LAKES APP CON
126.45 235.625

UNICOM
122.8 (CTAF)

Procedure NA at night.

Procedure NA for arrivals on MOP VOR/DME airway radials 106 CW 183.

Procedure NA for arrivals on MBS VOR/DME airway radials 212 CW 320.

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

AWOS-3P
3198
36
5004 X 75

RNAV (GPS) RWY 18
GRATIOT COMMUNITY (AMN)

ALMA, MICHIGAN
AL-5620 (FAA)
24137

Category
A
1160-1
1160-1
B
406 (500-1)
500 (500-1¼)
C
D

LNAV MDA
1160-1
1160-1¼

MBS VOR/DME airway radials
airway radials 106 CW 183.

185°

MT PLEASANT MOP

OREYO WP and hold.

OREYO

PAYOT

KAYEL

185°

1.1 NM to RW18

1.1 NM to RW18

3.04°

TDZE 754

ELEV 754

MBS VOR/DME airway radials 212 CW 320.

Procedure NA at night.

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

ALMA, MICHIGAN

AWOS-3P
124.175

GREAT LAKES APP CON*
126.45 235.625

UNICOM
122.8 (CTAF) 0

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrival on MBS VOR/DME airway radials 238 CW 320.

AWOS-3P
124.175

GREAT LAKES APP CON*
126.45 235.625

UNICOM
122.8 (CTAF) 0

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrival on MBS VOR/DME airway radials 238 CW 320.

AWOS-3P
124.175

GREAT LAKES APP CON*
126.45 235.625

UNICOM
122.8 (CTAF) 0

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrival on MBS VOR/DME airway radials 238 CW 320.
### Night landing: Rwy 18, 36 NA. DME required.
Straight-in Rwy 18 NA at night, Circling Rwy 18, 36 NA at night. Rwy 18 helicopter visibility reduction below 1 SM NA.

### MISSED APPROACH: Climb to 1200 then climbing right turn to 2600 on MOP VOR/DME R-178 direct FIKKO/MOP VOR/DME 7 DME and hold.

### AWOS-3P
| 124.175 |

### GREAT LAKES APP CON
| 126.45 | 235.625 |

### UNICOM
| 122.8 (CTAF) |

---

### VOR/DME MOP
- **VOR**: 110.6 MOP 43° (Chan 43)
- **APP CRS**: 178°
- **Rwy Idg**: 3198
- **TDZE**: 753
- **Apt Elev**: 754

### Category
- **S-18**: 1140-1 (387-400)
- **Circling**: 1180-1 (426-500) / 1220-1 (466-500)

---

**ALMA, MICHIGAN**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
**RNAV (GPS) RWY 1**

**ALPENA COUNTY RGNL (APN)**

**ATIS** 120.675 327.05 **ALPENA APP CON** 128.425 379.3

**ALPENA TOWER** 121.35 (CTAF) 318.1 **GND CON** 121.9 275.8 **UNICOM** 122.95

---

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**

---

**RNP APCH.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 48°C. When local altimeter setting not received, use Rogers City altimeter setting; increase all LPV DAs to 1029 feet, LNAV/VNAV DAs to 1084 feet and all MDAs 60 feet; increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats C and D visibility 1/4 SM. Baro-VNAV and VDP NA when using Roger City altimeter setting. For inop ALS, increase LPV all Cats visibility to 1 SM.

**ALPENA, MICHIGAN**

**ALPENA COUNTY RGNL (APN)**

**Orig-D 13AUG20**
RNAV (GPS) RWY 19
ALPENA COUNTY RGNL (APN)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrivals at APN VORTAC on V78 southeast bound.

RAP CH 53717

ATIS 120.675 327.05
ALPENA APP CON 128.425 379.3
ALPENA TOWER 121.35 (CTAF) 318.1
GND CON 121.9 275.8
UNICOM 122.95

UNICOM
122.95
ALPENA APP CON
128.425 379.3
ATIS 120.675 327.05
ALPENA TOWER 121.35 (CTAF)

**MISSED APPROACH**: Climb to 2800 direct JEGOB and hold.

**MISSED APCH FIX**

**JEGOB**

**RNP APCH.**
RNAV (GPS) RWY 6
ANN ARBOR MUNI (ARB)

ATIS 134.55  DETROIT APP CON 118.95 284.0  ANN ARBOR TOWER 120.3 (CTAF)  GND CON 121.6  CLNC DEL 121.6  UNICOM 123.0

ANN ARBOR, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024
### RNAV (GPS) RWY 24

#### ANN ARBOR MUNI (ARB)

**MAP**

- **Rwy Idg**: TDZE
- **Apt Elev**: 831
- **WAAS CH**: 61120
- **W24A**: 3505
- **App Crs**: 240°

**ATIS**

- **ANN ARBOR TOWER** *(CTAF)* 120.3
- **DETROIT APP CON** 118.95
- **ANN ARBOR TOWER** *(CTAF)* 121.6

**GND CON** 121.6

**CLNC DEL** 121.6

**UNICOM** 123.0

**ELEV** 839

**TDZE** 831

**APRT ELEV** 831

**MAP**

- **YACNU**
- **VAQOL**
- **ISPIW**
- **WUVRU**

**HOLD** 8000

**5 NM**

**1750°**

**1338°**

**1351°**

**1147°**

**240°**

**2.6 NM**

**6.9 NM**

**5 NM**

**TWR** 6

**ISPIW**

- **2.5 NM to RW24**
- **2500**

**GP 3.00° TCH 40**

- **VAQOL**
- **240°**
- **8000**

**MISSED APPROACH**

- **Climb to 3000**
- **direct YACNU and hold.**

**וצה**

- **Circular NA to Rwys 12 and 30. Rwy 24 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 38°C.**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**ANN ARBOR, MICHIGAN**

**AL-5506 (FAA)**

**RNP APCH - GPS.**

**MISSING APCH FIX**

**YACNU**

**VAQOL**

**TWR** 6

**MISSED APPROACH**

- **Climb to 3000**
- **direct YACNU and hold.**

- **Circular NA to Rwys 12 and 30. Rwy 24 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 38°C.**

**LNAV/ VNAV**

- **DA**: 1170-1
- **MN**: 339 (400-1)

**LNAV MDA**

- **1300-1**
- **469 (500-1)**

- **1300-1 ¾**
- **469 (500-1¾)**

**VNAV**

- **LNAV**
- **5 NM**

- **1750°**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**ANN ARBOR, MICHIGAN**

**Amdt 2F 11 AUG 2022**

**ANN ARBOR MUNI (ARB)**

**RNAV (GPS) RWY 24**

**42°13'N - 83°45"W**
VOR RWY 6
ANN ARBOR MUNI (ARB)

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

When local altimeter setting not received, use Willow Run altimeter setting and increase all MDA 40 feet and Cat C/D visibility ½ mile and Circling Cat C/D visibility ¼ mile.
Rwy 6 helicopter visibility reduction below ¾ SM NA. Circling NA to Rwys 12 and 30.

Missed Approach: Climb to 3000 direct SVM VORTAC and hold.

ATIS
134.55
DETOIT APP CON
118.95 284.0
ANN ARBOR TOWER *
120.3 (CTAF)
GND CON
121.6
CLNC DEL
121.6
UNICOM
123.0

\( \triangle 1987 \)

\( \triangle 1338 \)

\( \triangle 1138 \)

\( \triangle 1147 \)

\( \triangle 1149 \)

\( \triangle 1351 \)

HARTZ INT
SWM 18.3

\( \triangle 2600 \)

215°

035°

2400

2.84°

TCH 55

5 NM

VGS and descent angles not coincident (VGS Angle 3.00/TCH 20).

Remain within 10 NM

3000 SVM

GND CON
121.6

R-055

SALEM
114.3 SVM

Chann 90

\( \triangle 1187 \)

\( \triangle 1157 \)

\( \triangle 104 \)

MISSED APPROACH: Climb to 3000 direct SVM VORTAC and hold.
**ANN ARBOR, MICHIGAN**

VOR RWY 24

ANN ARBOR MUNI (ARB)

---

**VOR TAC SVM**

114.3

**APP CRS**

131°

**Rwy Idg**

1187

**TDZE**

831

**Apt Elev**

839

**AMDT 13G 15JUL21**

Inop table does not apply. Rwy 24 helicopter visibility reduction below ½ SM NA.

When local altimeter setting not received, use Willow Run altimeter setting and increase all MDAs 40 feet and increase visibility S-24 Cat C/D visibility ½ SM and Circling Cat C/D visibility ¼ SM. Circling NA to Rwy 12 and 30.

**ATTIS**

134.55

**DETROIT APP CON**

118.95

**284.0**

**ANN ARBOR TOWER**

120.3 (CTAF) a

**GND CON**

121.6

**CLNC DEL**

121.6

**UNICOM**

123.0

---

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

---

**VOR RWY 24**

Ann Arbor Muni (ARB)

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**EC-1, 11 JUL 2024 to 05 SEP 2024**

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**ANN ARBOR, MICHIGAN**

Amdt 13G 15JUL21
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.

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

AIRPORT DIAGRAM

20086

CRYPTO: 6384
ANN ARBOR MUNI (ARB)
ANN ARBOR, MICHIGAN

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

AIRPORT DIAGRAM

20086

CRYPTO: 6384
ANN ARBOR MUNI (ARB)
ANN ARBOR, MICHIGAN

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

AIRPORT DIAGRAM

20086

CRYPTO: 6384
ANN ARBOR MUNI (ARB)
ANN ARBOR, MICHIGAN

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

AIRPORT DIAGRAM

20086

CRYPTO: 6384
ANN ARBOR MUNI (ARB)
ANN ARBOR, MICHIGAN

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

AIRPORT DIAGRAM

20086

CRYPTO: 6384
ANN ARBOR MUNI (ARB)
ANN ARBOR, MICHIGAN

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

AIRPORT DIAGRAM

20086

CRYPTO: 6384
ANN ARBOR MUNI (ARB)
ANN ARBOR, MICHIGAN

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

AIRPORT DIAGRAM

20086

CRYPTO: 6384
ANN ARBO
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 060° or as assigned by ATC, thence....
TAKEOFF RUNWAY 24: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to HUUTZ, then on track 213° to BARII, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SINKR TRANSITION (BARII3.SINKR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 060° or as assigned by ATC, thence....
TAKEOFF RUNWAY 24: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to BROZZ, then on track 279° to CCOBB, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

ZEGBI TRANSITION (CCOBB3.ZEGBI):

NOTE: Chart not to scale.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: For use by aircraft filed at or below FL220, or as assigned by ATC.
NOTE: CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP) at or below 17999 (SR-SS).
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

**TAKEOFF RUNWAY 6:** Climb on heading 060° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 24:** Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to cross MALTB at or above 2200, then on track 094° to HHOWE, then on (transition).

Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**BROKK TRANSITION (HHOWE4.BROKK):**

**LNCN TRANSITION (HHOWE4.LNCON):**
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 060° or as assigned by ATC, thence....
TAKEOFF RUNWAY 24: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to MTRCT, then on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3.SMUUV):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 060° or as assigned by ATC, thence....
TAKEOFF RUNWAY 24: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.

NOTE: Chart not to scale.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 060° or as assigned by ATC, thence....
TAKEOFF RUNWAY 24: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 111° to LIDDS, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GRIVY TRANSITION (LIDDS3.GRIVY):

NOTE: Chart not to scale.
NOTE: For use by non-RNAV equipped aircraft only.

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

SPECIAL INSTRUCTIONS:
When using this departure, file the appropriate depicted departure fix and route. Aircraft over HARWL must file FL220 and below. PROP AIRCRAFT departing KDTW Rwy 21L/R and 22L/R westbound, cross DXO 3.5 DME at or above 2500 MSL. Aircraft landing Cleveland (CLE) must file MAARS transition. Turbojet departures at/above 10000, maintain 280K until advised by ATC. If unable, advise ATC prior to departure.

TOP ALTITUDE: 3000

NOTE: DME required.
NOTE: RADAR required.

EC-1, 11 JUL 2024 to 05 SEP 2024
DEPARTURE ROUTE DESCRIPTION

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

..... maintain ATC assigned altitude for RADAR vectors to intercept filed/assigned transition or enroute fix/navaid. When 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 within ten (10) minutes after departure.

DUNKS TRANSITION (METRO3.DUNKS): From over DXO VOR/DME on DXO R-296 to DUNKS.
HARWL TRANSITION (METRO3.HARWL): From over DXO VOR/DME on DXO R-281 to HARWL.
ILLIE TRANSITION (METRO3.ILLIE): From over DXO VOR/DME on DXO R-217 to ILLIE.
MAARS TRANSITION (METRO3.MAARS): From over DXO VOR/DME on DXO R-106 to MAARS.
PISTN TRANSITION (METRO3.PISTN): From over DXO VOR/DME on DXO R-020 to PISTN.
NOTE: Chart not to scale.

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 6:** Climb on heading 060° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 24:** Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to JAXII, then on track 323° to MIGGY, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

**GETCH TRANSITION (MIGGY3.GETCH):**

**HUBBY TRANSITION (MIGGY3.HUBBY):**

**SLLAP TRANSITION (MIGGY3.SLLAP):**

**NOTE:** Jet departures at/above 10000, maintain 280K until advised by ATC.

**NOTE:** GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.

**TAKEOFF MINIMUMS:**

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

**TOP ALTITUDE: ASSIGNED BY ATC**

RNAV 1 - DME/DME/IRU or GPS.
RADAR required.
NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 060° or as assigned by ATC, thence....
TAKEOFF RUNWAY 24: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to SLVVA, then on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3.ESSBE):  
MRDOC TRANSITION (PAVYL3.MRDOC):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 060° or as assigned by ATC, thence....

TAKEOFF RUNWAY 24: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to JWELS, then on track 218° to SNDRS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):

TORRR TRANSITION (SNDRS3.TORRR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.

TOP ALTITUDE: ASSIGNED BY ATC

RNAV-1 DME/DME/IRU or GPS.

RADAR required.

NOTE: Chart not to scale.
**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 6**: Climb on heading 060° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 24**: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to LOALA, then on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**GNZOE TRANSITION (TRMML4.GNZOE):**

*NOTE:* Turbojet departures at/above 10000, maintain 280K until advised by ATC.

*NOTE:* Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 060° or as assigned by ATC, thence....
TAKEOFF RUNWAY 24: Climb on heading 240° or as assigned by ATC, thence....

....for RADAR vectors to FLOKA, then on track 049° to ZETTR, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

DUTEL TRANSITION (ZETTR4.DUTEL):
ETBOX TRANSITION (ZETTR4.ETBOX):
KELTI TRANSITION (ZETTR4.KELTI):
SIKBO TRANSITION (ZETTR4.SIKBO):
TANKO TRANSITION (ZETTR4.TANKO):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TANKO Transition: For use by CYYZ area arrivals only, or as assigned by ATC.

NOTE: Chart not to scale.
RNAV (GPS) RWY 4
HURON COUNTY MEML (BAX)

When local altimeter setting not received, use MBS Intl altimeter setting and increase all MDA 1/40 foot increase LNAV Cat C visibility 1/2 mile. Helicopter visibility reduction below 1 SM NA. Procedure NA at night.

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

Category

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNAV MDA</td>
<td>1140-1</td>
<td>377 (400-1)</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>
RNAV (GPS) RWY 22
HURON COUNTY MEML (BAX)

RNP APCH.

When local altimeter setting not received, use MBS Intl altimeter setting and increase all MDA 140 feet; increase LNAV Cat C visibility 1/2 SM. Procedure NA at night. RWy 22 helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 3000 direct CASKU and hold.

Procedure NA for arrivals at MBS VOR/DME on V216-337 westbound.

Radar required for procedure entry at HALNA.

Missed APCH Fix
CASKU

Visual Segment - Obstacles.

Holding Pattern

EC-1, 11 JUL 2024 to 05 SEP 2024
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. 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 ¾ mile. Rwy 35 helicopter visibility reduction below ¾ SM NA. VDP and Baro/VNAV NA when using MBS Intl altimeter setting.

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

**Route NA for departures from MBS VOR/DME on V320 northwest bound.**

**MISSED APPROACH: Climb to 3000 direct ELARE and hold.**
**RNAV (GPS)-A**

**Baldwin Muni (7D3)**

**APP CRS**
- 280°

**Rwy Idg**
- N/A

**TDZE**
- N/A

**Apt Elev**
- 828

**Circling**
- NA

**RNAV (GPS)-A**
- 43°53'N-85°51'W

**NA**
- BALDWIN, MICHIGAN

**AL-6787 (FAA)**

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**CTAF**
- 1661

**MINNEAPOLIS CENTER**
- 118.775

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**Circling NA to Rwys 5 and 23. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Use Fremont Muni altimeter setting. Procedure NA at night.**

**MISSED APPROACH: Climbing left turn to 3600 direct WELKO and hold.**

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**Circling NA to Rwys 5 and 23. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Use Fremont Muni altimeter setting. Procedure NA at night.**

**MISSED APPROACH: Climbing left turn to 3600 direct WELKO and hold.**

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9

**FFX AWOS-3**
- 118.775

**MINNEAPOLIS CENTER**
- 120.85 322.35

**CTAF**
- 122.9
**BATTLE CREEK, MICHIGAN**

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

---

**A**

**CATEGORY**

**B**

**C**

**D**

---

**ILS or LOC RWY 23R**

BATTLE CREEK EXEC AT KELLOGG FLD (BTL)

ADF required. RADAR required for procedure entry. RNP APCH - GPS.

- **Circling NA to Rwys 5R and 23L. Circling Rwy 31 NA at night.**
- For inop ALS increase S-LOC 23R Cat C/D visibility to 1 1/2 SM.

- **RVR 1800 authorized with use of FD or AP or HUD to DA (NA when using Grand Rapids altimeter setting).**

---

**ATIS**  128.325
**GREAT LAKES APP CON**  119.2  239.25
**BATTLE CREEK TOWER**  126.825 (CTAF)
**GND CON**  121.7
**UNICOM**  122.95

---

**ELEV**  952
**TDZE**  929

---

**LOCALIZER 110.5**

**I-BTL**

---

**MALSR**

---

**MISSED APPROACH:** Climb to 1400 then climbing left turn to 3000 direct VVTEN and hold, continue climb-in-hold to 3000.

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 23R

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C or above 54°C.

Circling to Rwy 5R, 23L and 31 NA at night. When local altimeter setting not received, use Grand Rapids altimeter setting: increase all LPV DA to 1236 feet and LNAV/VNAV DA to 1365 feet and visibility to RVR 5000 all Cats; increase all MDA 120 feet, LNAV Cats C and D visibility to 1 1/2 SM and Circling Cat C visibility to 2 SM and Cat D visibility to 2 1/2 SM. For inop ALS when using Grand Rapids altimeter setting, increase LPV all Cats visibility to RVR 5000 and LNAV Cats C and D to visibility 1 1/2 SM. Baro-VNAV and VDP NA when using Grand Rapids altimeter setting. * RVR 1800 authorized with use of FD or AP or HUD to DA.

Procedure NA for arrivals at VIO VOR/DME on V274 southwest bound.

HOLD 2500

RNAV (GPS) RWY 23R

BATTLE CREEK EXEC AT KELLOGG FLD (BTL)

ATIS
128.325

GREAT LAKES APP CON
119.2 239.25

BATTLE CREEK TOWER
126.825

GND CON
121.7

UNICOM
122.95

VICTORY VIOR

4 NM

HOLD

2500

6000

2500

6000

047°

227°

4 NM

2200

2500

WIPI

2200

2500

WIPI

227°

047°

6000

2500

GP 300°

TCH 49

1.3 NM to RW23R

1096

1.3 NM to RW23R

1441

1169

1103

1203

227°

2500

WEVSO

12.5°

144°

3000

126.825

CTAF

121.7

UNICOM

122.95

128.325

ATIS

WEVSO

HOLD 2500

MISSED APPROACH:
Climb to 2500 direct WEVSO and hold.

We recommend using GPS RNP 0.3 APCH - GPS.

EC-1, 11 JUL 2024 to 05 SEP 2024

11°19°9°24’N-85°15’W
RNAV (GPS) RWY 31
BATTLE CREEK EXEC AT KELLOGG FLD (BTL)

ATIS 128.325
GREAT LAKES APP CON 119.2 239.25
BATTLE CREEK TOWER 126.825 (CTAF)
GND CON 121.7
UNICOM 122.95

Circling NA to Rwy 5R and 23L. Rwy 31 helicopter visibility reduction below 1 SM NA. Procedure NA at night.

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

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

RNAV (GPS) RWY 31
BATTLE CREEK EXEC AT KELLOGG FLD (BTL)

BATTLE CREEK, MICHIGAN
Amdt 1A: 10SEP20

EC-1, 11 JUL 2024 to 05 SEP 2024
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

128.325
BATTLE CREEK TOWER
126.825
GND CON
121.7

ATIS

AIRPORT DIAGRAM

23334

BATTLE CREEK EXEC AT KELLOGG FLD (BTL)

AL-41 (FAA)

BATTLE CREEK, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024

AIRPORT DIAGRAM

23334

BATTLE CREEK, MICHIGAN

BATTLE CREEK EXEC AT KELLOGG FLD (BTL)
Circling NA to Rwy 18W, 36W, 13W, 31W, 9W and 27W. Circling NA southeast of Rwys 23 and 36. Rwy 18 helicopter visibility reduction below 1 SM NA. Use Saginaw County H W Browne altimeter setting. Straight-in Rwy 18 NA at night, Circling Rwy 18, 23, 36 NA at night.

Procedure NA for arrivals at BENNY on V78-609 northbound.

MISSED APPROACH: Climbing left turn to 3000 direct REESE and hold.
RNAV (GPS) RWY 9

BEAVER ISLAND (SJX)

**AL-9136 (FAA)**

**RNP APCH - GPS**

1. Circling NA to Rwy 5-23 and 14-32. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

**AWOS-3**

**MINNEAPOLIS CENTER**

**UNICOM**

**122.8 (CTAF)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**BEAVER ISLAND, MICHIGAN**

**Orig 23FEB23**

**45°42'N-85°34'W**
RNAV (GPS) RWY 27
BEAVER ISLAND (SJX)

AWOS-3
118.075

MINNEAPOLIS CENTER
134.6 354.05

UNICOM
122.8 (CTAF)

ELEV 670
TDZE 669

RNAV (GPS) RWY 27
BEAVER ISLAND (SJX)

MISSED APPROACH: Climbing right turn to 2600 direct BODAY and hold.

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 Rwys 5, 14, 23, 32.

46
RNAV (GPS) RWY 2
ANTRIM COUNTY (ACB)

AWOS-3P
MINNEAPOLIS CENTER
UNICOM
119.275
132.9 338.3
122.7 (CTAF) 0

Procedure NA for arrivals at POXOE via V193-320 southwest bound.

Procedure NA for arrivals at SKIPR via V197-320 southwest bound.

Procedure NA for arrivals at IROTO and hold.

VDP NA when using Cherry Capital altimeter setting. When local altimeter setting not received, use Cherry Capital altimeter setting and increase all DAs/MDAs 60 feet and Circling visibilities Cat B and C 1/4 SM.

MISSING APCH FIX
4 NM

RNAV (GPS) RWY 2
ANTRIM COUNTY (ACB)

BELLAIRE, MICHIGAN
AL-5131 (FAA)

WAAS
CH 56301
W02A
APP CRS
022°
Rwy ldg
5003
TDZE
623
Apt Elev
623

RNP ACH-PGS.

MINNEAPOLIS CENTER
132.9 338.3
UNICOM
122.7 (CTAF) 0

Procedure NA for arrivals at POXOE and V420 northeast bound.

Procedure NA for arrivals at IROTO via VOR/DME via V215-233 and V420 northeast bound.

VNAV
LNAV/DA

 CATEGORY
LPV DA

LNAV/ VNAV DA

LNAV MDA

CIRCLING

Bellevue, Michigan
Orig-A 30DEC21

44°59'N-85°12'W

RNAV (GPS) RWY 2
ANTRIM COUNTY (ACB)

UNICOM
119.275
MINNEAPOLIS CENTER
132.9 338.3
UNICOM
122.7 (CTAF) 0

Procedure NA for arrivals at POXOE via V193-320 southwest bound.

Procedure NA for arrivals at SKIPR via V197-320 southwest bound.

Procedure NA for arrivals at IROTO and hold.

VDP NA when using Cherry Capital altimeter setting. When local altimeter setting not received, use Cherry Capital altimeter setting and increase all DAs/MDAs 60 feet and Circling visibilities Cat B and C 1/4 SM.

MISSING APCH FIX
4 NM

RNAV (GPS) RWY 2
ANTRIM COUNTY (ACB)

BELLAIRE, MICHIGAN
AL-5131 (FAA)

WAAS
CH 56301
W02A
APP CRS
022°
Rwy ldg
5003
TDZE
623
Apt Elev
623

RNP ACH-PGS.

MINNEAPOLIS CENTER
132.9 338.3
UNICOM
122.7 (CTAF) 0

Procedure NA for arrivals at POXOE via VOR/DME via V215-233 and V420 northeast bound.

Procedure NA for arrivals at IROTO via VOR/DME via V215-233 and V420 northeast bound.

VNAV
LNAV/DA

 CATEGORY
LPV DA

LNAV/ VNAV DA

LNAV MDA

CIRCLING

Bellevue, Michigan
Orig-A 30DEC21

44°59'N-85°12'W

RNAV (GPS) RWY 2
ANTRIM COUNTY (ACB)

UNICOM
119.275
MINNEAPOLIS CENTER
132.9 338.3
UNICOM
122.7 (CTAF) 0

Procedure NA for arrivals at POXOE via V193-320 southwest bound.

Procedure NA for arrivals at SKIPR via V197-320 southwest bound.

Procedure NA for arrivals at IROTO and hold.

VDP NA when using Cherry Capital altimeter setting. When local altimeter setting not received, use Cherry Capital altimeter setting and increase all DAs/MDAs 60 feet and Circling visibilities Cat B and C 1/4 SM.

MISSING APCH FIX
4 NM

RNAV (GPS) RWY 2
ANTRIM COUNTY (ACB)

BELLAIRE, MICHIGAN
AL-5131 (FAA)

WAAS
CH 56301
W02A
APP CRS
022°
Rwy ldg
5003
TDZE
623
Apt Elev
623

RNP ACH-PGS.

MINNEAPOLIS CENTER
132.9 338.3
UNICOM
122.7 (CTAF) 0

Procedure NA for arrivals at POXOE via V193-320 southwest bound.

Procedure NA for arrivals at SKIPR via V197-320 southwest bound.

Procedure NA for arrivals at IROTO and hold.

VDP NA when using Cherry Capital altimeter setting. When local altimeter setting not received, use Cherry Capital altimeter setting and increase all DAs/MDAs 60 feet and Circling visibilities Cat B and C 1/4 SM.

MISSING APCH FIX
4 NM

RNAV (GPS) RWY 2
ANTRIM COUNTY (ACB)

BELLAIRE, MICHIGAN
AL-5131 (FAA)

WAAS
CH 56301
W02A
APP CRS
022°
Rwy ldg
5003
TDZE
623
Apt Elev
623

RNP ACH-PGS.

MINNEAPOLIS CENTER
132.9 338.3
UNICOM
122.7 (CTAF) 0

Procedure NA for arrivals at POXOE via V193-320 southwest bound.

Procedure NA for arrivals at SKIPR via V197-320 southwest bound.

Procedure NA for arrivals at IROTO and hold.

VDP NA when using Cherry Capital altimeter setting. When local altimeter setting not received, use Cherry Capital altimeter setting and increase all DAs/MDAs 60 feet and Circling visibilities Cat B and C 1/4 SM.

MISSING APCH FIX
4 NM

RNAV (GPS) RWY 2
ANTRIM COUNTY (ACB)

BELLAIRE, MICHIGAN
AL-5131 (FAA)

WAAS
CH 56301
W02A
APP CRS
022°
Rwy ldg
5003
TDZE
623
Apt Elev
623

RNP ACH-PGS.

MINNEAPOLIS CENTER
132.9 338.3
UNICOM
122.7 (CTAF) 0

Procedure NA for arrivals at POXOE via V193-320 southwest bound.

Procedure NA for arrivals at SKIPR via V197-320 southwest bound.

Procedure NA for arrivals at IROTO and hold.

VDP NA when using Cherry Capital altimeter setting. When local altimeter setting not received, use Cherry Capital altimeter setting and increase all DAs/MDAs 60 feet and Circling visibilities Cat B and C 1/4 SM.

MISSING APCH FIX
4 NM
For inop ALS, increase S-LOC 28 Cat C/D visibility to 1 1/2 SM.

Missed Approach:
Climb to 1300 then climbing right turn to 3000 direct WOVKA and hold.

For more information, see the document pages.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 39°C (102°F).
Circling Rwy 14, 32 NA at night.
Circling Rwy 14, 32 NA at night. For inop ALS, increase S-28 Cats A and B visibility to 1 SM. ZEVMA fix minimums: for inop ALS, increase S-28 Cats A and B visibility to 1 SM and Cats C and D visibility to 1\(^\frac{1}{2}\) SM.

**ZEVMA**

**IF/IAF**

KEELER

116.6 ELX  

Chan 113

**HOLD**

6000

2500

**R-086**

086°

266°

**3.06°**

TCH 45°

**1300**

2300

NoPT for arrival on ELX VOR/DME airway radials 002 CW 149.

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

**ASOS**

121.55

**SOUTH BEND APP CON**

118.55

**SOUTH BEND CLNC DEL**

119.7

**UNICOM**

123.0 (CTAF)
Rwy 13 helicopter visibility reduction below 1 SM NA. DME/DME RNP-0.3 NA. Procedure NA at night. Use Benton Harbor altimeter setting; when not received, use South Bend Int altimeter setting and increase all MDA 40 feet. Increase LP and LNAV Cats C/D visibility 1/8 SM and Circling Cats B/C 1/4 SM.

**Missed Approach:** Climb to 3000 direct AUSTJ and hold.

| Unicom | 122.7 (CTAF) |

**South Bend App Con**

118.55 257.8

**Unicom**

122.7 (CTAF)

**Elev**

674

**Tdze**

669

**LNav MDa**

1280-1 611 (700-1) 1280-1 1/4 611 (700-1 1/4)

**Category**

A 1100-1 431 (500-1) 1100-1 1/4 431 (500-1 1/4)

B 1280-1 611 (700-1) 1280-1 1/4 611 (700-1 1/4)

C 1620-1 1/4 946 (1000-1 1/4) 1620-2 3/4 946 (1000-2 3/4) 1620-3 946 (1000-3)

**Jabda**

(IAP) JABDA

**Toyped**

(IAP) TOYED

**SOGS**

2.8 NM to RW13

**Allii**

SOGS 2.8 NM to RW13

**Slogging**

1224 to RW13

**Allii**

LNAV MDa

**Apt Elev**

314°

**Tch 40**

3000 AO

**3000 Aoustj**

**Austj**

134°
RNAV (GPS) RWY 31
ANDREWS UNIVERSITY AIRPARK (C20)

SAFETYts: Rwy 31 helicopter visibility reduction below 1 SM NA. DME/DME RNP-0.3 NA. Procedure NA at night. Use Benton Harbor altimeter setting; when not received, use South Bend Intl altimeter setting and increase all MDA 40 feet. Increase LP and LNAV Cats C/D visibility ½ SM and circling Cats B/C ½ SM.

MISSED APPROACH: Climb to 3000 direct STNGG and hold.

SOUTH BEND APP CON  *
118.55  257.8

UNICOM
122.7 (CTAF)  

Procedure NA for arrivals at LINGS on V277 southeast bound and V10 eastbound.

BERRIEN SPRINGS, MICHIGAN
AL-10238 (FAA) 23110
RNAV (GPS) RWY 27
ROBEN-HOOD (RQB)

Circling Rwy 32 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrival on MOP VOR/DME airway
radials 336 CW 106.

EC-1, 11 JUL 2024 to 05 SEP 2024
### RNAV (GPS) RWY 10

**Bois Blanc Island (6Y1)**

<table>
<thead>
<tr>
<th>Category</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>LNAV MDA</td>
<td>1060-1</td>
<td>396 (400-1)</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>CIRCLING</td>
<td>1120-1</td>
<td>456 (500-1)</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Amdt 1 05JAN17**

*Procedure NA for arrival on PLN VORTAC airway radials 295 CW 023.*

**Use Cheboygan altimeter setting.**

**MISSED APPROACH:** Climb to 4000 direct WEVNU and hold, continue climb-in-hold to 4000.

**EC-1, 11 JUL 2024 to 05 SEP 2024**
Use Cheboygan altimeter setting; when not received, Mackinac Island altimeter setting. DME/DME RNP-0.3 NA.

Procedure NA for arrivals on PLN VORTAC airway radials 023 CW 131.

VGS I and descent angles not coincident (VGS Angle 4.0°/TCH 33).

LP MDA 1040-1 376 (400-1) NA
LNAV MDA 1060-1 396 (400-1) NA
CIRCLING 1120-1 456 (500-1) NA

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 27
BOYNE CITY MUNI (N98)

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

NoPT for arrival at WOMOP on V233 southbound.

Visual Segment - Obstacles.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<td>LP MDA</td>
<td>1460-1</td>
<td>1460-1</td>
<td>NA</td>
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<td></td>
<td>800 (800-1)</td>
<td>800 (800-1½)</td>
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<tr>
<td>LNAV MDA</td>
<td>1480-1</td>
<td>1480-1</td>
<td>NA</td>
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<tr>
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<td>820 (900-1)</td>
<td>820 (900-1½)</td>
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<tr>
<td>CIRCLING</td>
<td>1480-1½</td>
<td>1500-1½</td>
<td>NA</td>
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<td>820 (900-1½)</td>
<td>840 (900-1½)</td>
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</tbody>
</table>
RNAV (GPS) RWY 35
BOYNE MOUNTAIN (BFA)

**BOYNE FALLS, MICHIGAN**

**AL-6027 (FAA)**

**APP CRS**
- Rwy Idg: 4687
- TDZE: 719
- Apt Elev: 719

**RNAV (GPS) RWY 35**

**BOYNE MOUNTAIN (BFA)**

**AWOS-3PT**
- 118.675

**MINNEAPOLIS CENTER**
- 134.6 354.05

**UNICOM**
- 122.8 (CTAF)

**122.85°**

**MISSING APCH FIX**
- 4 NM
- 355°
- CEDOS

**Procedure NA for arrivals at CARGA on V233 and T265 southwest.**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**355°**

**59**
**ILS or LOC RWY 7**  
**WEXFORD COUNTY (CAD)**

**Aircraft**
- **Circling NA** to Rwys 18 and 36. Inop table does not apply to S-ILS 7 all Cats.
- For inop ALS, increase S-LOC 7 Cat C/D visibility to 1½ SM.

**AWOS-3P**  
- **NWA MA LOM 25 NM**
  - 4000

**MINNEAPOLIS CENTER**  
- **128.325**
- **338.3**

**UNICOM**  
- **122.8 (CTAF)**

**COORDINATES**
- **1353**
- **1307**
- **1307**

**ADJACENT AIRPORTS**
- **MINNEAPOLIS CENTER**

**Chart Information**
- **LOCALIZER 108.55**  
  - I-MAY [22 (Y)]
- **LOM/IAF**
  - **WEXOR**
  - **LOM/IAF** I-MAY 6.5
- **MA**
  - **LOM/I-MAY** 6.5 DME and turn to 3200 direct WEXOR to 2400 then climbing right
- **MA**
  - **LOM/I-MAY** 6.5 DME and hold.

**MISSED APPROACH**
- **Climb** to 2400 then climbing right turn to 3200 direct WEXOR LOM/I-MAY 6.5 DME and hold.

**REMARKS**
- **EC-1, 11 JUL 2024 to 05 SEP 2024**
  - For inop ALS, increase S-LOC 7 Cat C/D visibility to 1½ SM.

**AIRSPACE**
- **1.3 NM**
- **4.2 NM**

**DATUM**
- **44°17'N-85°25'W**

**TDZE**
- **1307**

**ELEV**
- **1307**

**APP CRS**
- **108.55**

**TDZE**
- **1307**

**Apt Elev**
- **1307**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
Circling NA to Rwy 18 and 36. Inop table does not apply to LPV all Cats.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -24°C or above 54°C. For inop ALS, increase LNAV/VNAV visibility all Cats to 1½ SM.
RNAV (GPS) RWY 6
TUSCOLA AREA (CFS)

Circling NA to Rwys 13 and 31. Rwy 6 helicopter visibility reduction below 1 SM NA. Procedure NA at night.

Misplaced Approach: Climb to 1100 then climbing left turn to 3100 direct BIRRS and hold.

Procedure NA for arrival on FNT VORTAC airway radials 076 CW 097.

Great Lakes App Con* 119.275 120.95 235.625

Unicom 123.0 (CTAF)
CIRCLING NA to Rwy 13 and 31.
Helicopter visibility reduction below 1 SM NA.
DME/DME RNP-0.3 NA. Procedure NA at night.

MISSING APPROACH: Climbing right turn to 3100
direct BIRRS and hold.

AWOS-3
119.275

GREAT LAKES APP CON *
120.95  235.625

UNICOM
123.0 (CTAF)

RNAV (GPS) RWY 24
TUSCOLA AREA (CFS)

Procedure NA for arrival on MBS VOR/DME
airway radials 016 CW 163.
Circling NA to Rwys 13 and 31. DME required. Procedure NA at night.

**Procedure NA at night.**

**Misssed Approach:** Climbing right turn to 3000 on heading 220° and on MBS VOR/DME R-108 to REESE INT/15.2 DME and hold.

**DME REQUIRED**

**Great Lakes APP CON**

**UNICOM 123.0 (CTAF)**

**MBS 112.9**

**VOR/DME 112.9**

**APP CRS 102°**

**Rwy Idg N/A**

**TDZE N/A**

**Apt Elev 704**

**Area: Tuscola Area (CFS)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**Great Lakes APP CON**

**UNICOM 123.0 (CTAF)**

**MBS 112.9**

**VOR/DME 112.9**

**APP CRS 102°**

**Rwy Idg N/A**

**TDZE N/A**

**Apt Elev 704**

**Area: Tuscola Area (CFS)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**Great Lakes APP CON**

**UNICOM 123.0 (CTAF)**

**MBS 112.9**

**VOR/DME 112.9**

**APP CRS 102°**

**Rwy Idg N/A**

**TDZE N/A**

**Apt Elev 704**

**Area: Tuscola Area (CFS)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**Great Lakes APP CON**

**UNICOM 123.0 (CTAF)**

**MBS 112.9**

**VOR/DME 112.9**

**APP CRS 102°**

**Rwy Idg N/A**

**TDZE N/A**

**Apt Elev 704**

**Area: Tuscola Area (CFS)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
Circling NA to Rwys 4 and 22. Baro-VNAV NA when using Pellston altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. When local altimeter setting not received, use Pellston altimeter setting: increase LPV DA to 986 feet and all visibilities ½ SM; increase LNAV/VNAV DA to 1270 feet and all visibilities ¼ SM; increase all MDA 80 feet and visibility Cats C and D ½ SM.

**AWOS-3P**

- 120.0

**MINNEAPOLIS CENTER**

- 134.6
- 354.05

**UNICOM**

- 122.8 (CTAF)

---

**RNAV (GPS) RWY 9**

**CHARLEVOIX MUNI (CVX)**

**TRVERSE CITY**

**ELEV 669**

**TDZE 669**

---

**AVS**

- Ch 97708
- Ch 97708
- Ch W09A

**APP CRS**

- 090°

**TDZE**

- 669

**Apt Elev**

- 669

**APP CRS Rwy ldg**

- 4549

**Rwy MDA**

- 63

**Rwy 9-27**

**APPR CRS**

- 090°

**Rwy MDA**

- 63

**CIRCLING NA to Rwy**

- 45°18'N-85°17'W

**LNAV/VNAV DA**

- 1160-1 491 (500-1)
- 1160-1 491 (500-1)

**LNAV MDA**

- 1280-1 611 (700-1)
- 1280-1 611 (700-1)

**CIRCLING Rwy**

- 1280-1 611 (700-1)
- 1280-1 611 (700-1)

**MIRL Rwy 9-27**

- 090°

**VGSI and RNAV glidepath not coincident**

- [VGSI Angle 3.00/TCH 39]

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**AMDT 1B 06OCT22**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 27
CHARLEVOIX MUNI (CVX)

**APP CRS**
- RWy Idg: 1270
- TDZE: 662
- Apt Elev: 669

**RNAV (GPS) RWY 27**

**CATEGORY A**

**AWOS-3P** 120.0

**MINNEAPOLIS CENTER** 134.6 354.05

**UNICOM** 122.8 (CTAF)

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**RNP APCH - GPS.**

- Circling NA to Rwys 4 and 22.
- Rwy 27 helicopter visibility reduction below 1/4 SM NA.

**Holding Pattern**

- RW27
  - 1.3 NM to RW27
  - 1.9 NM to RW27
- COKOS
  - 1.3 NM to RW27
  - 1.9 NM to RW27
- HISUM
  - 1.3 NM to RW27
  - 1.9 NM to RW27
- COKOS
  - Holding Pattern

**ADVISORY**

- When using RNAV (GPS) RWY 27, pilots should be aware of the following:
  - Climbing left turn to 3000 direct COKOS and hold.
  - DGPS navigation is required.
  - MIRL Rwy 9-27
  - REIL Rwys 9 and 27
  - EC-1, 11 JUL 2024 to 05 SEP 2024

**MISSED APPROACH:** Climbing left turn to 3000 direct COKOS and hold.

**NOTE:**
- VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 31).
**RNAV (GPS) RWY 21**

**FITCH H BEACH (FPK)**

**APP CRS**
- **Rwy Idg:** 3510
- **TDZE:** 891
- **Apt Elev:** 891

**RNP APCH - GPS**
- Circling NA to Rwys 15 and 33.
- Rwy 21 helicopter visibility reduction below 1 SM NA. Procedure NA at night.

**AWOS-3P**
- **118.075**

**GREAT LAKES APP CON**
- **118.65**
- **226.4**

**UNICOM**
- **123.0 (CTAF)**

**MISSED APPROACH:** Climb to 1300 then climbing left turn to 3000 direct LESSY and hold.

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**CATEGORY**
- **A**
- **B**
- **C**
- **D**

**LNAV MDA**
- **1300-1**
- **409 (500-1)**
- **NA**

**CIRCLING**
- **1400-1**
- **509 (600-1)**
- **1480-1**
- **589 (600-1)**
- **NA**

**CHARLOTTE, MICHIGAN**

**AL-5627 (FAA)**

**24025**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**RNP APCH - GPS**
- Circling NA to Rwys 15 and 33.
- Rwy 21 helicopter visibility reduction below 1 SM NA. Procedure NA at night.

**AWOS-3P**
- **118.075**

**GREAT LAKES APP CON**
- **118.65**
- **226.4**

**UNICOM**
- **123.0 (CTAF)**

**MISSED APPROACH:** Climb to 1300 then climbing left turn to 3000 direct LESSY and hold.

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**CATEGORY**
- **A**
- **B**
- **C**
- **D**

**LNAV MDA**
- **1300-1**
- **409 (500-1)**
- **NA**

**CIRCLING**
- **1400-1**
- **509 (600-1)**
- **1480-1**
- **589 (600-1)**
- **NA**

**CHARLOTTE, MICHIGAN**

**AL-5627 (FAA)**

**24025**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 28
CHEBOYGAN COUNTY (SLH)

WAAAS
CH 99727
W28A
APP CRS 277°
Rwy Idg 4004
TDZE 637
Apt Elev 640

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). Helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Pellston altimeter setting; increase all DA 41 feet and all MDA 60 feet and increase LNAV/VNAV all Cats visibility ¾ SM and LNAV Cat C visibility ¾ SM.

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)

Procedure NA for arrivals at REEFY on V45 northbound.

Procedure NA for arrivals on PLN VORTAC airway radials 023 CW 170.

VGSi and RNAV glidepath not coincident (VGSi Angle 4.00/TCH 25). 4 NM Holding Pattern

LPV DA  887-1  250 (300-1)  NA
LNAV/ VNAV DA  953-1  316 (400-1)  NA
LNAV MDA  1060-1  423 (500-1)  1060-1¼  423 (500-1¼)  NA
CIRCLING  1140-1  500 (500-1)  1140-1½  500 (500-1½)  NA
Helicopter visibility reduction below 1 SM NA. Night landing Rwy 10, 17, 35 NA. When local altimeter setting not received, use Pellston altimeter setting; increase all MDA 60 feet; increase S-10 Cat B visibility ½ SM, S-10 Cat C visibility ½ SM; Circling Cat B visibility ½ SM and Circling Cat C visibility ½ SM; increase CUTUP fix minimums S-10 Cat C visibility ½ SM.

CUTUP MINIMUMS

<table>
<thead>
<tr>
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<th>A</th>
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<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-10</td>
<td>1360-1</td>
<td>720 (800-1)</td>
<td>1360-2</td>
<td>720 (800-2)</td>
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<tr>
<td>CIRCLING</td>
<td>1360-1</td>
<td>720 (800-1)</td>
<td>1360-2</td>
<td>720 (800-2)</td>
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<tr>
<td>S-10</td>
<td>1100-1</td>
<td>460 (500-1)</td>
<td>1100-1½</td>
<td>460 (500-1½)</td>
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<tr>
<td>CIRCLING</td>
<td>1140-1</td>
<td>500 (500-1)</td>
<td>1140-1½</td>
<td>500 (500-1½)</td>
</tr>
</tbody>
</table>

Revert to 3200 MSA PLN 25 NM.

When using Pellston altimeter setting, increase all MDA 60 feet. Night landing Rwy 10, 17, 35 NA.

\[45°39′N-84°31′W\]

\[EC-1, 11 JUL 2024 to 05 SEP 2024\]
Use Mount Pleasant altimeter setting; when not received, use Midland altimeter setting and increase all MDA 60 feet. Rwy 4 helicopter visibility reduction below \(\frac{3}{4}\) SM NA. Circling Rwy 9, 27 NA at night.

**Missed Approach:** Climb to 1300, then climbing right turn to 2800 direct MOP VOR/DME and hold.

**App Crs TDZE**

<table>
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<tr>
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<th>A</th>
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<tr>
<td>LP MDA</td>
<td>1240-1</td>
<td>386 (400-1)</td>
<td>NA</td>
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<tr>
<td>LNAV MDA</td>
<td>1260-1</td>
<td>406 (500-1)</td>
<td>NA</td>
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<tr>
<td>CIRCLING</td>
<td>1380-1</td>
<td>524 (600-1)</td>
<td>1420-1</td>
<td>1440</td>
</tr>
</tbody>
</table>

**MOP VOR/DME and hold.**
RNAV (GPS) RWY 7
BRANCH COUNTY MEML (OEB)

Rwy 7 helicopter visibility reduction below 7/8 SM NA. Baro-VNAV NA when using Sturgis altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. Circling NA to Rwys 16 and 34. When local altimeter setting not received, use Sturgis altimeter setting and increase all DAs 48 feet and LPV visibility 1/2 mile and all MDAs 60 feet and LNAV Cat C visibility 1/4 mile.

MISSING APPROACH: Climb to 3000 direct CATU and hold.
MISSED APPROACH: Climb to 3000 direct OBZOF and hold.
RNAV (GPS) RWY 15
COLEMAN A YOUNG MUNI (DET)

Circling to Rwy 7, 25 NA at night. Rwy 15 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

MISSED APPROACH: Climb to 3000 direct OBZOF and hold.

ATIS
124.875

DETROIT APP CON
134.3 284.0

DETROIT CITY TOWER
121.3 257.8

GND CON
121.85

RNP APCH - GPS.

EC-1, 11 JUL 2024 to 05 SEP 2024

DETROIT, MICHIGAN
AL-118 (FAA)

24081

RNAV (GPS) RWY 15
COLEMAN A YOUNG MUNI (DET)

Missed Approach Fix: Climb to 3000 direct OBZOF and hold.

Holding Pattern at IHIDE for 4NM.
CROSSING INSTRUCTIONS.

CAUTION: BE ALERT TO RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence....
TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to HUUTZ, then on track 213° to BARII, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SINKR TRANSITION (BARI3.SINKR):

NOTE: Chart not to scale.
NOTE:  Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TOP ALTITUDE:  RNAV 1 - DME/DME/IRU or GPS.
ASSIGNED BY ATC:  RADAR required.

NOTE:  Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE:  For use by aircraft filed at or below FL220, or as assigned by ATC.
NOTE:  CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP) at or below 17999 (SR-SS).
NOTE:  Chart not to scale.

TAKEOFF RUNWAY 15:  Climb on heading 148° or as assigned by ATC, thence....
TAKEOFF RUNWAY 33:  Climb on heading 328° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to BROZZ, then on track 279° to CCOBB, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

ZEGBI TRANSITION (CCOBB3.ZEGBI):
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence....

TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to cross PHAUL at or above 3100, then on track 206° to CLVIN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

STAZE TRANSITION (CLVIN3.STAZE):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC thence....
TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned thence....

....For RADAR vectors to cross MALTB at or above 2200, then on track 094° to HHOWE, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE4.BROKK):

LNCON TRANSITION (HHOWE4.LNCON):
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence....
TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to MTRCT, then on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3.SMUUV):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence....

TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence...

TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned by ATC, thence....

.... for RADAR vectors to KZLOV, then on track 111° to LIDDS, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GRIVY TRANSITION (LIDDS3.GRIVY):

NOTE: Chart not to scale.
**NOTE:** Chart not to scale.

**METRO THREE DEPARTURE**

**DETROIT, MICHIGAN**

**COLEMAN A YOUNG MUNI (DET)**

**TOP ALTITUDE:**

- **DEP CON** 3000
- **DETROIT DEP CON** 257.8
- **ATIS** 124.875
- **GND CON** 121.85
- **DETROIT CITY TOWER** 121.3
- **DETROIT DEP CON** 284.0

### TAKEOFF MINIMUMS

Rws 7, 15, 33: Standard.

Rwy 25: Standard with a minimum climb of 210’ 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 departure end of runway.

### SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted departure fix and route.

- **NOTE:** RADAR required.
- **NOTE:** DME required.
- **NOTE:** For use by non-RNAV equipped aircraft only.

**MAARS**

**PISTN**

**DUNTS**

**HARWL**

**MAARS**

**ANNTS**

**ILLI**

**NOTE:** Chart not to scale.

- **EC-1**, 11 JUL 2024 to 05 SEP 2024
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 7, 15, 25: Climb on assigned heading, thence...
TAKEOFF RUNWAY 33: Climb heading 328° to 1800, then on assigned heading, thence....

......maintain ATC assigned altitude for RADAR vectors to intercept filed/assigned transition or enroute fix/navaid. When 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 within ten (10) minutes after departure.

DUNKS TRANSITION (METRO3.DUNKS): From over DXO VOR/DME on DXO R-296 to DUNKS.
HARWL TRANSITION (METRO3.HARWL): From over DXO VOR/DME on DXO R-281 to HARWL.
ILLIE TRANSITION (METRO3.ILLIE): From over DXO VOR/DME on DXO R-217 to ILLIE.
MAARS TRANSITION (METRO3.MAARS): From over DXO VOR/DME on DXO R-106 to MAARS.
PISTN TRANSITION (METRO3.PISTN): From over DXO VOR/DME on DXO R-020 to PISTN.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence....

TAKEOFF RUNWAY 33: Climb on heading 328° or as assigned ATC, thence....

....for RADAR vectors to JAXII, then on track 323° to MIGGY, then on (transition).
Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

GETCH TRANSITION (MIGGY3.GETCH):

HUBBY TRANSITION (MIGGY3.HUBBY):

SLLAP TRANSITION (MIGGY3.SLLAP):

NOTE: Chart not to scale.

TOP ALTITUDE:
ASSIGNED BY ATC

NOTE: Jet departures at/above 10000,
maintain 280K until advised by ATC.
NOTE: GETCH TRANSITION: For use by KMKE area
arrivals only, or as assigned by ATC.

TAKEOFF MINIMUMS:
Rwys 15, 33: Standard.
NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence....
TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned by ATC, thence....

.... for RADAR vectors to SLVVA, then on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3.ESSBE):
MRDOC TRANSITION (PAVYL3.MRDOC):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence....
TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to JWELS, then on track 218° to SNDRS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):
TORRR TRANSITION (SNDRS3.TORRR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.

TAKEOFF MINIMUMS:
Rwys 15, 33: Standard.

NOTE: Chart not to scale.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb on heading 148° or as assigned by ATC, thence....

TAKEOFF RUNWAY 33: Climb on heading 328° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to LOALA, then on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GNZOE TRANSITION (TRMML4.GNZOE):
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TANKO Transition: For use by CYZZ area arrivals only, or as assigned by ATC.

TAKEOFF MINIMUMS:
Rwys 15, 33: Standard.

NOTE: Chart not to scale.
ILS or LOC RWY 3R
DETROIT METRO WAYNE COUNTY (DTW)

**LOC/DME**
- **I-HUU**
  - **Chan 52**

**APP CRS**
- **036°**
  - **Rwy Idg 10001**
  - **TDZE 633**
  - **Apt Elev 645**

**RNAV 1-GPS.**
MERCA and BRDER: RNAV 1-DME/DME/IRU or GPS required. Aircraft not DME/DME/IRU or GPS equipped - RADAR required for procedure entry.

**Coast Guard**
Simultaneous approach authorized. DME required.

**ATIS**
- **133.675**
- **DETROIT ATM**
  - **284.0**

**METRO TOWER**
- **118.4 317.725**

**GND CON**
- **121.8** (NW)
- **119.45** (NE)
- **132.725** (SW)
- **119.25** (SE)

**CLNC DEL**
- **120.65**

**CPDLC**
**EC-1, 11 JUL 2024 to 05 SEP 2024**

**ILS or LOC RWY 3R**
**DETOUR METRO WAYNE COUNTY (DTW)**

**Category**
- **A**
- **B**
- **C**
- **D**

**CIRCLING**
- **1180-1 535 (600-1)**
- **1180-1/2 535 (600-1/2)**
- **1240-2 595 (600-2)**

**I-HUU 111.5**
- **Chan 52**

**ALSF-2**
**MISSING APPROACH:** Climb to 1100 then climbing right turn to 4000 on DXO VOR/DME R-122 to GAAGE/DXO 16.1 DME and hold.

**ALTERNATE MISSED APCH FIX**
**GAAGE**
**SVM 30.9**
**Chan 90**
**GAAG**
**R-122**

**ELEV 645**
**TDZE 633**

**HARLA**
**LEWUK**
**MPALA**
**ROLRR**
**HARLA**
**LEWUK**
**MPALA**
**ROLRR**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**DETOUR METRO WAYNE COUNTY (DTW)**

**AIR NAVIGATION**
**DEDROIT**
**APP CON**
**CLNC DEL**
**CPDLC**
**EC-1, 11 JUL 2024 to 05 SEP 2024**

**DETOUR METRO WAYNE COUNTY (DTW)**
**AIR NAVIGATION**
**DEDROIT**
**APP CON**
**CLNC DEL**
**CPDLC**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**DETOUR METRO WAYNE COUNTY (DTW)**
**AIR NAVIGATION**
**DEDROIT**
**APP CON**
**CLNC DEL**
**CPDLC**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
From RYEDR, COBBO: RNAV 1-DME/DME/IRU or GPS required. Aircraft not DME/DME/IRU or GPS equipped - RADAR required for procedure entry. DME or RADAR required.

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

** D-ATIS 133.675 DETROIT APP CON 125.15 284.0 METRO TOWER 118.4 317.725

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<thead>
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<th>A</th>
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<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>S-ILS 21L</td>
<td>832/24 200 (200-2)</td>
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<td>S-LOC 21L</td>
<td>1020/24 388 (400-3) 1020/35 388 (400-3)</td>
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<td>CIRCLING</td>
<td>1180-1 535 (600-1) 1180-1½ 535 (600-1½) 1240-2 595 (600-2)</td>
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</table>

** DETROIT 113.4 DXO CRL 115.7 Chan 104 ALTERNATE MISSED APCH FIX

** GAAGE DXO 16

** PUKLE INT I-EJR 5.9 RADAR

** ZITKA I-EJR 4.1 RADAR

** TIGRZ I-EJR 18.5 RADAR

** BALAS I-EJR 12.2 RADAR

** ROBBI I-EJR 15.4 RADAR

** NESBI I-EJR 9.1 RADAR

** GS 3.0° TCH 55

** HIRL all runways

** MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO R-122 to GAAGE/DXO 16 DME and hold, continue climb-in-hold to 4000.

** DETROIT, MICHIGAN

** Amdt 14 10OCT19

** EC-1, 11 JUL 2024 to 05 SEP 2024
From GRBAC, SIZOR: RNAV 1-DME/DME/IRU or GPS required. Aircraft not DME/DME/IRU or GPS equipped - RADAR required for procedure entry. DME or RADAR required.
DME or RADAR required. RNAV 1-DME/DME/IRU or RADAR required for procedure entry.

Simultaneous approach authorized.
Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.
DME or RADAR required. Simultaneous approach authorized.
SA Cat I: Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.
SA Cat II: Reduced lighting: Requires specific OPSPEC, MSPEC, or LOA approval and use of Autoland or HUD to touchdown.

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on heading 180° and CRL VOR/DME R-041 to CRL VOR/DME and hold, continue climb-in-hold to 4000.

SA CATEGORY I & II ILS SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

DETROIT, MICHIGAN
Ammdt 5A 24MAY18

DETROIT METRO WAYNE COUNTY (DTW)

ALS Rwy 27L (SA CAT I & II)
**ILS RWY 3R (CAT II & III)**

**DETROIT METRO WAYNE COUNTY (DTW)**

**LOCALIZER I-HUU**

**D-ATIS** 133.675  
**DETOUR APP CON** 125.15 284.0  
**METRO TOWER** 118.4 317.725  
**GND CON** 121.8 (NW) 119.45 (NE)  
**CLNC DEL** 120.65  
**CPDLC**

**RNAV 1-GPS.**

**Merca and Border: RNAV 1-DME/DME/IRU or GPS required. Aircraft not**
**DME/IRU or GPS equipped - RADAR required for procedure entry.**

**Simultaneous approach authorized. DME required. RVR 1000 authorized with specific**
**OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown.**

**D-ATIS** 133.675  
**DETOUR APP CON** 125.15 284.0  
**METRO TOWER** 118.4 317.725  
**GND CON** 121.8 (NW) 119.45 (NE)  
**CLNC DEL** 120.65  
**CPDLC**

**LOCALIZER I-HUU**

**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.**

**CAT II & III ILS - Special Aircrew & Aircraft Certification Required**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (RNP) U RWY 4L
DETROIT METRO WAYNE COUNTY (DTW)

Simultaneous approach authorized. For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C. For inop ALS, increase RNP 0.30 DA all Cats visibility to RVR 6000.

Final approach course offset 2.53°.

Final approach course offset 2.53°.

VGSi and RNAV glidepath not coincident (VGSi Angle 3.00/TCH 71).

GP 3.00°
TCH 55

RNP 0.30 DA

1058/40 413 (500-¾)

AUTHORIZATION REQUIRED
For uncompensated Baro-VNAV systems, procedure NA below -19°C (-2°F) or above 54°C (130°F). Simultaneous approach authorized.
AUTHORIZATION REQUIRED

RNP AR APCH.

Simultaneous approach authorized. For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C. For inop ALS, increase RNP 0.30 all Cats visibility to RVR 6000.

Category A

RNP 0.15 DA 970/26 325 (400-½)
RNP 0.30 DA 1058/40 413 (500-¾)

For inop ALS, increase RNP 0.30 all Cats visibility to RVR 6000. Baro-VNAV systems, procedure NA below -19°C or above 54°C. Simultaneous approach authorized. For uncompensated
RNAV (RNP) W RWY 21L

DETROIT METRO WAYNE COUNTY (DTW)

**For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C. Simultaneous approach authorized. Use of FD or AP providing RNAV track guidance required during simultaneous operations.**

**MISSING APPROACH:** Climb to 1100 then climbing left turn to 4000 direct GAAGE and hold.

**AUTHORIZATION REQUIRED**

- DETROIT, MICHIGAN
- Orig-A 28FEB19
- DETROIT METRO WAYNE COUNTY (DTW)
- 42°13'N-83°21'W
- 117
RNAV (RNP) W RWY 22R
DETROIT METRO WAYNE COUNTY (DTW)

For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C. Simultaneous approach authorized. For inop ALS, increase RNP 0.30 all Cats visibility to RVR 5500.

For VGSI and RNAV glidepath not coincident (VGSI Angle 3.00°/TCH 71). For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C. Simultaneous approach authorized. For inop ALS, increase RNP 0.30 all Cats visibility to RVR 5500.

MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 direct DOHNT and hold, continue climb-in-hold to 4000.

TDZ/CL Rwys 3R, 4L, 4R, and 22R
REIL Rwys 3L, 9L, 9R, and 21R
HIRL all runways

RNAV (RNP) W RWY 22R
DETROIT METRO WAYNE COUNTY (DTW)

AUTHORIZATION REQUIRED

Detroit, Michigan
Amdt 1 10OCT19
RNAV (RNP) X RWY 3R
DETOUR METRO WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 direct GAAGE and hold.

Simultaneous approach authorized. For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C.

HRL all runways
REIL Rwys 3L, 9L, 9R and 21R
TDZ/CL Rwys 3R, 4L, 4R and 22R

AUTHORIZATION REQUIRED
RNAV (RNP) X RWY 4L

FAR 91 APPROACH

RNAV (RNP) X RWY 4L DETROIT METRO WAYNE COUNTY (DTW)

ponents. For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C. For inop ALS, increase RNP 0.30 DA all Cats visibility to RVR 6000.

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 direct DOHNT and hold.

AIRSPACE

DETROIT, MICHIGAN

RNP AR APCH.

Simultaneous approach authorized. For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C. For inop ALS, increase RNP 0.30 DA all Cats visibility to RVR 6000.

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 direct DOHNT and hold.
RNAV (RNP) X RWY 4R

DETROIT METRO WAYNE COUNTY (DTW)

AUTHORIZATION REQUIRED

RNP 0.30 DA

1031/35  391 (400-55)

D-ATIS

MISSED APCH FIX:

CTA RW04R 2.5 NM

133.675

METRO TOWER

128.125  317.725

TDZE

640

APP CRS

036°

Rwy Idg  11494

Apt Elev  645

GND CON

121.8 (NW)  119.45 (NE)

132.725 (SW)  119.25 (SE)

CLNC DEL

120.65

CPDLC

RNAV (RNP) X RWY 4R

DETROIT, MICHIGAN

Orig 24MAY18

42°13'N-83°21'W

DETROIT, MICHIGAN

APP CRS

036°

Rwy Idg  11494

Apt Elev  645

GND CON

121.8 (NW)  119.45 (NE)

132.725 (SW)  119.25 (SE)

CLNC DEL

120.65

CPDLC

RNAV (RNP) X RWY 4R

DETROIT, MICHIGAN

Orig 24MAY18

42°13'N-83°21'W

DETROIT METRO WAYNE COUNTY (DTW)

AUTHORIZATION REQUIRED

RNP 0.30 DA

1031/35  391 (400-55)
Simultaneous approach authorized. Use of FD or AP providing RNAV track guidance required during simultaneous operations. For uncompensated Baro-VNAV systems, procedure NA below -19°C or above 54°C.

**Authorization Required**

**MISSED APPROACH:** Climb to 1100 then climbing left turn to 4000 direct GAAGE and hold, continue climb-in-hold to 4000.

**RNP AR APCH.**

**D-ATIS**

133.675

**DETROIT APP CON**

125.15 284.0

**METRO TOWER**

118.4 317.725

**GND CON**

121.8 (NW) 119.45 (NE) 132.725 (SW) 119.25 (SE)

**CLNC DEL**

120.65

**CPDLC**

**MALS**

**WIIV 5000 (3.2)**

**STRNG 6000 (3.1)**

**RYEDR (RF REQD)**

7000 210K

**COBO (RF REQD)**

4000 210K

**RNAV (RNP) X RWY 21L**

**DETOUR METRO WAYNE COUNTY (DTW)**

**ELEV 645 TDZE 632**

**GAAGE**

123° 4 NM

**NG**

**GP 3° TCH 80**

**HRL all runways**

**REL Rwys 3L, 9L, 9R, and 21R**

**TDZ/CI Rwys 3R, 4L, 4R, and 22R**

**RNP 0.30 DA**

1062/40 430 (500-3/4)

**AUTHORIZATION REQUIRED**

**Detroit, Michigan**

Amdt 1A 05DEC19

42°13'N-83°21'W

**RNAV (RNP) X RWY 21L**

**DETROIT METRO WAYNE COUNTY (DTW)**
RNAV (RNP) X RWY 22L
DETOUR METRO WAYNE COUNTY (DTW)

MISSED APPROACH:
Climb to 4000 direct HWLER and hold.

For uncompensated Baro-VNAV systems, procedure NA below -10°C (14°F) or above 54°C (130°F). Simultaneous approach authorized. For inop ALS, increase RNP 0.15 all Cats visibility to RVR 4500 and RNP 0.30 all Cats visibility to RVR 6000.

AUTHORIZATION REQUIRED

DETROIT, MICHIGAN
Orig 24MAY18

124.05 284.0
137.725 128.125

RNP 0.15 DA
941/24 304 (300-1/4)
RNP 0.30 DA
1040/40 403 (400-3/4)

CATEGORY
A  B  C  D

RNP 0.15 DA
941/24 304 (300-1/4)
RNP 0.30 DA
1040/40 403 (400-3/4)

APR CRS
216°

Rwy Idg  12003
TDZE  637
Apt Elev  645

MALSR

METRO TOWER 128.125 317.725

GND CON
121.8 (NW)  119.45 (NE)  119.25 (SE)  120.65 (SW)

TDZ/CL Rwys 3R, 9L, 9R and 21R
TDZ/CL Rwys 3R, 4L, 4R and 22R

HULKA
ROUGE
OSKER
LUPAY
BHOLD

GP 2.85° TCH 60

HIRL all runways

DETROIT METRO WAYNE COUNTY (DTW)
RNAV (RNP) X RWY 22L

123
For uncompensated Baro-VNAV systems, procedure NA below -19°C (-2°F) or above 54°C (130°F). Simultaneous approach authorized. For inop ALS, increase RNP 0.30 all Cats visibility to RVR 5500.

**RNAV (RNP) X RWY 22R**

**DETROIT METRO WAYNE COUNTY (DTW)**

**APPR CRS**
216°

**Rwy Idg**
10000

**TDZE**
642

**Apt Elev**
645

**GND CON**

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<thead>
<tr>
<th>D-ATIS</th>
<th>DETROIT APP CON</th>
<th>METRO TOWER</th>
<th>GND CON</th>
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<tr>
<td>133.675</td>
<td>124.05 284.0</td>
<td>135.0 317.725</td>
<td>121.8 (NW) 123.725</td>
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<td>119.45 (NE) 119.25 (SE)</td>
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**CDLC**

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<th>GND CON</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>120.65</td>
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</table>

**NAVIGATION**

**METRO TOWER**

**B**

**C**

**D**

**AUTHORIZATION REQUIRED**

**RNP 0.30 DA**

987/30 345 (400-5%)
RNAV (GPS) RWY 27L
DETROIT METRO WAYNE COUNTY (DTW)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP required during simultaneous operations. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 5000. ** RVR 1800 authorized with use of FD or AP or HUD to DA.

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

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

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

** RVR 1800 authorized with use of FD or AP or HUD to DA.
**RNAV (GPS) RWY 27R**

**DETOUR ANGLE**

- LNAV only.
- [GUGRE](https://example.com) to [DOTTI](https://example.com)
- AERIC to STANS
- HONOR to FRNDS

**VGS and RNAV glidepath not coincident (VGS Angle 3.00°/TCH 61).**

- *LNAV only.

**MALS R**

- MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 direct KUPNE and hold, continue climb-inhold to 4000.

**For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C (-4°F) or above 54°C (130°F). 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 required during simultaneous operations. RVR 1800 authorized with use of FD or AP or HUD to DA.
RNAV (GPS) Y RWY 4L

**RNAV (GPS) Y RWY 4L**

**Detroit Metro Wayne County (DTW)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**Category C**

**LNAV/ VNAV DA**

<table>
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<tr>
<th>Category</th>
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<th>B</th>
<th>C</th>
<th>D</th>
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<tr>
<td>LPV DA</td>
<td>895/24</td>
<td>250 (300-1/2)</td>
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<tr>
<td>LNAV/ VNAV DA</td>
<td>1068/45</td>
<td>423 (500-1/2)</td>
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<tr>
<td>LNAV MDA</td>
<td>1040/24</td>
<td>395 (400-1/2)</td>
<td>1040/35</td>
<td>395 (400-1/2)</td>
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<tr>
<td>CIRCLING</td>
<td>1180-1</td>
<td>535 (600-1)</td>
<td>1180-1/2</td>
<td>535 (600-1/2)</td>
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</table>

**Final approach course offset 2.53°.**

**MISSED APPROACH:** Climb to 1100 then climbing left turn to 4000 direct DOHNT and hold.

**Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP required during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C or above 54°C.**

**DOHNT and hold.**
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.

D-ATIS 133.675 DETROIT APP CON 124.05 284.0

METRO TOWER 135.0 317.725

GND CON 132.725 119.45

(NE) 132.725 119.25 (SE)

119.45 119.25 (SW)

121.8 (NW)

MALSR WAAS W22B 124939

CH 42939 P 642

APP CRS 213° TWR

Rwy ldg 10000

TDZE 642

Apt Elev 645

RNAV (GPS) Y RWY 22R

DETOIT METRO WAYNE COUNTY (DTW)

RAILR REQUIRED

<table>
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<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tr>
<td>LPV DA</td>
<td>892/24</td>
<td>250 (300-1/2)</td>
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<tr>
<td>LNAV/ VNAV DA</td>
<td>1050/45</td>
<td>408 (500-3/4)</td>
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<tr>
<td>LNAV MDA</td>
<td>1060/24</td>
<td>418 (500-1/2)</td>
<td>1060/40</td>
<td>418 (500-3/4)</td>
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<tr>
<td>CIRCLING</td>
<td>1180-1</td>
<td>535 (600-1)</td>
<td>1180-1/2</td>
<td>535 (600-1/2)</td>
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EC-1, 11 JUL 2024 to 05 SEP 2024

DETROIT, MICHIGAN

Orig 10NOV16
RNAV (GPS) Z RWY 3R
DETOUR METRO WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 direct GAAGE and hold, continue climb-in-hold to 4000.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP required during simultaneous operations.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F). Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP required during simultaneous operations.
RNAV (GPS) Z RWY 21L
DETOUR METRO WAYNE COUNTY (DTW)

**LNAV procedure NA during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C or above 54°C. For inop ALS increase LNAV Cats C and D visibility to RVR 6000. Simultaneous approach authorized.
Use of FD or AP required during simultaneous operations.**

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

**LNAV MDA
LPV DA
LNAV/ VNAV DA
LNAV MDA
**CIRCLING

DETOUR, MICHIGAN
Amdt 5 10OCT19
42°13'N-83°21'W
RNAV (GPS) Z RWY 22L
DETOUR METRO WAYNE COUNTY (DTW)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -10°C (14°F) or above 54°C (130°F). Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP required during simultaneous operations. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 4500 and LNAV Cat C/D visibility to 1½ SM. RVR 1800 authorized with use of FD or AP or HUD to DA.

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

MALS

MISSING APPROACH: Climb to 4000 direct HWLER and hold.

C L N C  D E L  1 2 0 . 6 5

CPDLC

RNP APCH

DETROIT, MICHIGAN
Amendments 3 24MAY18

EC-1, 11 JUL 2024 to 05 SEP 2024
**RNAV (GPS) Z RWY 22R**

**DETROIT METRO WAYNE COUNTY (DTW)**

- **WAAAS CH 70642 W22D**
- **APP CRS 216°**
- **Rwy Idg 10000**
- **TDZE 642**
- **Apt Elev 645**

**RNP APCH.**

- Simultaneous approach authorized. Use of FD or AP required during simultaneous operations. LNAV procedure NA during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.

**D-ATIS**

- **133.675**
- **DETOIT APP CON 124.05 284.0**
- **METRO TOWER 128.125 317.725**
- **GND CON 121.8 (NW) 119.45 (NE) 132.725 (SW) 118.25 (SE)**
- **CLNC DEL 120.65**
- **CPDLC**

- **MALSR**

- **MISSING APPROACH: Climb to 1100 then climbing right turn 4000 direct DOHNT and hold, continue climb in hold to 4000.**

**ELEV 645 D TDZE 642**

- **1100**
- **4000**
- **DOHNT**
- **VGSI and RNAV glidepath not coincident**
  
  *(VGSI Angle 3.00/ TCH 71)*

- **LNAV only.**
  
  *(1 NM to RW22R)*

- **GEETR**
  
  **2000**

- **NUJNT**
  
  **JOYDD**

- **GUYVE TARA**
  
  **FUDD**

- **216°**
  
  **4000**

- **GP 3.00° TCH 55**

- **1 NM to RW22R**

- **298°**

- **4 NM**

- **2000**

- **1 NM**

- **3.1 NM**

- **3.1 NM**

- **3.1 NM**

- **2.1 NM**

- **1 NM CB**

- **A**

- **B**

- **C**

- **D**

- **LNAV/ VNAV DA 948/24**

- **LPV DA 842/18**

- **LNAV MDA 1040/24 398 (400-½)**

- **1040/35 398 (400-¾)**

- **CIRCLING 1180-1 535 (600-1)**

- **1180-1½ 535 (600-1½)**

- **1240-2 595 (600-2)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**UNDATED**

**UNITED STATES**

**CANADA**

**DETOIT, MICHIGAN**

**Orig-A 20JUN19**

**42°13'N-83°21'W**

**DETOIT METRO WAYNE COUNTY (DTW)**

**RNAV (GPS) Z RWY 22R**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
**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.

- ILS PRM Rwys 4R, 22L
- ILS PRM Y Rwys 4L, 22R
- ILS PRM (SA CAT I) Rwy 4R
- ILS PRM (CAT II & III) Rwy 4R
- RNAV (GPS) PRM Z Rwys 4R, 22L
- RNAV (GPS) PRM Y Rwys 4L, 22R

Review procedure for executing a climbing and descending PRM breakout

Breakout phraseology: "TRAFFIC ALERT (call sign) TURN (left/right) IMMEDIATELY HEADING (degrees) CLIMB/DESCEND AND MAINTAIN (altitude)."

All breakouts: Hand flown, initiate immediately.

Descending on the glideslope/glidepath ensures compliance with any charted crossing restrictions.

Dual VHF Comm.: When assigned or planning a specific PRM approach, tune a second receiver to the PRM monitor frequency or, if silent, another active frequency (i.e., ATIS), set the volume, retune the PRM frequency if necessary, then deselect the audio. When directed by ATC, immediately switch to the tower frequency and select the second receiver audio to ON.

If later assigned the same runway, non-PRM approach, consider it briefed provided the same minimums are utilized. PRM related chart notes and PRM frequency no longer apply.

TCAS during breakout: Follow TCAS climb/descend if it differs from ATC, while executing the breakout turn.

Runway Specific

**RWY 4L**
- Exit the runway as soon as practical; whenever possible, do not stop on taxiway A.
- ILS PRM Y 4L and RNAV (GPS) PRM Y 4L approaches offset 2.5 degrees.

**RWY 22R**
- Exit the runway as soon as practical; whenever possible, do not stop on taxiway A.
- ILS PRM Y 22R and RNAV (GPS) PRM Y 22R approaches offset 2.5 degrees.
ILS PRM Y RWY 4L (CLOSE PARALLEL)
DETROIT METRO WAYNE COUNTY (DTW)

Aircraft not DME/DME/IRU or GPS equipped - DME or RADAR required.
Aircraft not DME/DME/IRU or GPS equipped - RADAR required for procedure entry.

From GRBAC, SIZOR: RNAV 1-DME/DME/IRU or GPS required.

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

Dual VHF Comm required. See additional requirements on AAUP.

RADAR and hold.

From GRBAC, SIZOR: RNAV 1-DME/DME/IRU or GPS required.

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

Dual VHF Comm required. See additional requirements on AAUP.

TG-119 (FAA)

DETROIT, MICHIGAN

LOC/DME I-ALA
111.75
Chan 54 (Y)

APPL CRS
038°

Rwy Idg
10000

TDZE
645

Apt Elev
645

METRO TOWER
135.0 317.725

PRM 127.05

GND CON
121.8 (NW)

119.45 (NE)

132.725 (SW)

119.25 (SE)

CLINC DEL
120.65

CPDLC

DETROIT, MICHIGAN

APP CRS

Apt Elev

TDZE

Aphrase

REIL Rwys 3L, 9L, 9R and 21R

TDZ/CL Rwys 3R, 4L, 4R and 22R

REIL Rwys 3L, 9L, 9R and 21R

HIRL all runways

21168

EC-1, 11 JUL 2024 to 05 SEP 2024

138

ILS PRM Y RWY 4L (CLOSE PARALLEL)
DETROIT METRO WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

Dual VHF Comm required. See additional requirements on AAUP.

TG-119 (FAA)

DETROIT, MICHIGAN

LOC/DME I-ALA
111.75
Chan 54 (Y)

APPL CRS
038°

Rwy Idg
10000

TDZE
645

Apt Elev
645

METRO TOWER
135.0 317.725

PRM 127.05

GND CON
121.8 (NW)

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132.725 (SW)

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CLINC DEL
120.65

CPDLC

DETROIT, MICHIGAN

APP CRS

Apt Elev

TDZE

Aphrase

REIL Rwys 3L, 9L, 9R and 21R

TDZ/CL Rwys 3R, 4L, 4R and 22R

REIL Rwys 3L, 9L, 9R and 21R

HIRL all runways

21168

EC-1, 11 JUL 2024 to 05 SEP 2024

138

ILS PRM Y RWY 4L (CLOSE PARALLEL)
DETROIT METRO WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

Dual VHF Comm required. See additional requirements on AAUP.

TG-119 (FAA)

DETROIT, MICHIGAN

LOC/DME I-ALA
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120.65

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DETROIT, MICHIGAN

APP CRS

Apt Elev

TDZE

Aphrase

REIL Rwys 3L, 9L, 9R and 21R

TDZ/CL Rwys 3R, 4L, 4R and 22R

REIL Rwys 3L, 9L, 9R and 21R

HIRL all runways

21168

EC-1, 11 JUL 2024 to 05 SEP 2024

138

ILS PRM Y RWY 4L (CLOSE PARALLEL)
DETROIT METRO WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

Dual VHF Comm required. See additional requirements on AAUP.

TG-119 (FAA)

DETROIT, MICHIGAN

LOC/DME I-ALA
111.75
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Rwy Idg
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GND CON
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132.725 (SW)

119.25 (SE)

CLINC DEL
120.65

CPDLC

DETROIT, MICHIGAN

APP CRS

Apt Elev

TDZE

Aphrase

REIL Rwys 3L, 9L, 9R and 21R

TDZ/CL Rwys 3R, 4L, 4R and 22R

REIL Rwys 3L, 9L, 9R and 21R

HIRL all runways

21168

EC-1, 11 JUL 2024 to 05 SEP 2024

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DETROIT METRO WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

Dual VHF Comm required. See additional requirements on AAUP.

TG-119 (FAA)

DETROIT, MICHIGAN

LOC/DME I-ALA
111.75
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CLINC DEL
120.65

CPDLC

DETROIT, MICHIGAN

APP CRS

Apt Elev

TDZE

Aphrase

REIL Rwys 3L, 9L, 9R and 21R

TDZ/CL Rwys 3R, 4L, 4R and 22R

REIL Rwys 3L, 9L, 9R and 21R

HIRL all runways

21168

EC-1, 11 JUL 2024 to 05 SEP 2024

138

ILS PRM Y RWY 4L (CLOSE PARALLEL)
DETROIT METRO WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

Dual VHF Comm required. See additional requirements on AAUP.

TG-119 (FAA)

DETROIT, MICHIGAN

LOC/DME I-ALA
111.75
Chan 54 (Y)

APPL CRS
038°

Rwy Idg
10000

TDZE
645

Apt Elev
645

METRO TOWER
135.0 317.725

PRM 127.05

GND CON
121.8 (NW)

119.45 (NE)

132.725 (SW)

119.25 (SE)

CLINC DEL
120.65

CPDLC

DETROIT, MICHIGAN

APP CRS

Apt Elev

TDZE

Aphrase

REIL Rwys 3L, 9L, 9R and 21R

TDZ/CL Rwys 3R, 4L, 4R and 22R

REIL Rwys 3L, 9L, 9R and 21R

HIRL all runways

21168

EC-1, 11 JUL 2024 to 05 SEP 2024

138

ILS PRM Y RWY 4L (CLOSE PARALLEL)
DETROIT METRO WAYNE COUNTY (DTW)

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

Dual VHF Comm required. See additional requirements on AAUP.
From GRBAC, SIZOR: RNAV 1-DME/DME/IRU or GPS required. Aircraft not DME/DME/IRU or GPS equipped - RADAR required for procedure entry. DME or RADAR required.

Simultaneous approach authorized. Use of FD or AP required during simultaneous operations. Dual VHF Comm required. See additional requirements on AAUP.

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME/RADAR and hold.

D-ATIS 133.675

DETROIT APP CON 124.05 284.0

METRO TOWER 135.0 317.725

GND CON PRM 127.05

CLNC DEL 120.65

CPDLC

ALTERNATE MISSED APCH FIX

113.4 DXO Chan 81

DOHNT INT

DXO 15.5 RADAR

SIMPLIFIED APPROACH PROFESSIONAL (S-APPR)

EC-1, 11 JUL 2024 to 05 SEP 2024

DETROIT METRO WAYNE COUNTY (DTW)

DETROIT, MICHIGAN

 Rogers AFB

S-ILS 4L

845/18 200 (200-½)
**Category II & III ILS - Special Aircrew & Aircraft Certification Required**

- **S-ILS 4R**: 
  - **Category**: A
  - **Certification**: 104/12 100 DA 740

- **S-ILS 4R**: 
  - **Category**: B
  - **Certification**: RVR 06

**Type of Approach**

- ILS PRM RWY 4R (CAT II & III) (CLOSE PARALLEL)
- Detroit Metro Wayne County (DTW)

**RNAV (GPS)**

- Required: 1-GPS
- Optional: 1-DME/DME/IRU or GPS

**Missed Approach**

- Climb to 4000 on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME 15.6 DME and hold.

**Category II**

- RVR 6000
- CAT III RA 44/12 100 DA 740

**Category III**

- RVR 3000
- CAT III RVR 06

**Certification**

- Special Aircrew
- Aircraft Certification

**AVERTS**

- M-5 OXD 2800
- Amdt 3A 13SEP18

**AIDS-2**

- Simultaneous approach authorized. Use of FD or AP required during simultaneous operations. Dual VHF Comm required. See additional requirements on AAUP. Procedure NA when glideslope not available.

**I-DTW**

- Climb to 4000 on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME 15.6 DME and hold.

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**Diagram**

- Detroit, Michigan
- Detroit Metro Wayne County (DTW)
- LOC/DME 1-DTW 110.7
- APP CRS 036°
- Rwy Idg 11494
- TDZE 640
- Aft Elev 645

**METRO TOWER**

- 128.125
- 317.725
- PRM 135.775

**GND CON**

- 121.8 (NW)
- 119.45 (NE)
- 119.25 (SE)
- 120.65 (SW)

**CLNC DEL**

- 1304

**TDZE 640**

- 133.675
- 124.05 284.0

**MSA DXO 25 NM**

- 2800

**LOCAIZER 110.7 I-DTW**

- Chan 44

**ELEV 645**

- D

**LOCALIZER 113.4 DXO**

- Chan 81

---

**TCH 52**

- 3.1 NM
- 3.1 NM
- 3.1 NM
- 3.1 NM
- 3.2 NM
- 4.1 NM

**Category**

- A
- B
- C
- D

**ILS PRM RWY 4R (Cat II & III) (CLOSE PARALLEL)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**DXO**

- 9000 272
- 272 8000
- 8000 901
- 901 8000

**CLEVR (IAF)**

- 210K
- 9000
- CAATZ (IAF)
- 237°
- 8000

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**EC-1, 11 JUL 2024 to 05 SEP 2024**

**REIL**

- Rwys 3L, 9L, 9R and 21R
- TDZ/CL Rwys 3R, 4L, 4R and 22R

**HIRL all runways**

**THR**

- 21168

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**Navigational Aids**

- GPS required. Aircraft not DME/DME/IRU or GPS equipped - RADAR required for procedure entry.
- RNAV 1-GPS. DME or RADAR required. CLEVR, CAATZ and ELDNN: RNAV 1-DME/DME/IRU or GPS required. Aircraft not DME/DME/IRU or GPS equipped - RADAR required for procedure entry.

**Missed Approach**

- Climb to 4000 on DXO VOR/DME R-035 to LUPAY/DXO VOR/DME 15.6 DME and hold.

---

**Metropolitan Detroit Wayne County**

- DETROIT, MICHIGAN
- 42°13'N-83°21'W
- 110.7
- Chan 44
- LOCALIZER
- R-035
- SVM
- 114.3 SVM
- Chan 90

---

**AERONAUTICAL CHART**

- AL-119 (FAA)
- DETROIT METRO WAYNE COUNTY (DTW)

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**EC-1, 11 JUL 2024 to 05 SEP 2024**

**WATTS 2024**

- DETROIT METRO WAYNE COUNTY
- 42°13'N-83°21'W
- 110.7
- Chan 44
- LOCALIZER
- R-035
- SVM
- 114.3 SVM
- Chan 90

---

**APCH FIX**

- ALTERNATE MISSED APCH FIX
- (IF) SVM
- 114.3 SVM
- Chan 44

---

**AWACS**

- DETROIT APP CON
- 121.8 (NW)
- 119.45 (NE)
- 119.25 (SE)
- 120.65 (SW)

---

**METRO CRN**

- 133.675
- 124.05 284.0

---

**TDZE 640**

- 1304

---

**DETROIT, MICHIGAN**

- 42°13'N-83°21'W
- 110.7
- Chan 44
- LOCALIZER
- R-035
- SVM
- 114.3 SVM
- Chan 90

---

**AWACS**

- DETROIT APP CON
- 121.8 (NW)
- 119.45 (NE)
- 119.25 (SE)
- 120.65 (SW)

---

**METRO CRN**

- 133.675
- 124.05 284.0

---

**TDZE 640**

- 1304

---

**DETROIT, MICHIGAN**

- 42°13'N-83°21'W
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.

D-ATIS 133.675 DETROIT APP CON 124.05 284.0 METRO TOWER 135.0 317.725 PRM 127.05 GND CON 121.8 (NW) 119.45 (NE) CLNC DEL 132.725 (SW) 119.25 (SE) CPDLC

D-ATIS 133.675 DETROIT APP CON 124.05 284.0 METRO TOWER 135.0 317.725 PRM 127.05 GND CON 121.8 (NW) 119.45 (NE) CLNC DEL 132.725 (SW) 119.25 (SE) CPDLC

RADAR REQUIRED

Final approach course offset 2.5°.

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 71).

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) PRM Z RWY 4R
CLOSE PARALLEL

DETROIT METRO WAYNE COUNTY (DTW)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C or above 54°C. Simultaneous approach authorized.
Use of FD or AP required during simultaneous operations.
Dual VHF comm required. See additional requirements on AAUP.

RNAV (GPS) PRM Z RWY 4R
CLOSE PARALLEL

DETROIT METRO WAYNE COUNTY (DTW)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C or above 54°C. Simultaneous approach authorized.
Use of FD or AP required during simultaneous operations.
Due VHF comm required. See additional requirements on AAUP.

RNAV (GPS) PRM Z RWY 4R
CLOSE PARALLEL

DETROIT METRO WAYNE COUNTY (DTW)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C or above 54°C. Simultaneous approach authorized.
Use of FD or AP required during simultaneous operations.
Dual VHF comm required. See additional requirements on AAUP.
RNAV (GPS) PRM Z RWY 22L (CLOSE PARALLEL)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -10°C or above 54°C. Simultaneous approach authorized. Use of FD or AP required during simultaneous operations. Dual VHF comm required. See additional requirements on AAUP.

For inop ALS, increase LNAV/VNAV all Cat's visibility to RVR 4500.

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

MALSR

- climb to 4000 direct
- HMLER and hold.

D-ATIS

DETOUR APP CON

124.05 284.0

Metros Tower

128.125 317.725

135.775

GND CON

121.8 (NW) 119.45 (NE)

119.25 (SE)

119.25 (SW)

CLNC DEL

120.65

CPDLC

216°

TWR

12003 637

Apt Elev

645

12003

TDZE

637

WAAS CH 99601

APP CRS

216°

Rwy Idg

12003

TDZE

637

Apt Elev

645

DETOUR, MICHIGAN

AL-119 (FAA)

RNAV (GPS) PRM Z RWY 22L (CLOSE PARALLEL)

DETOUR METRO WAYNE COUNTY (DTW)

UNITED STATES

CANADA

EC-1, 11 JUL 2024 to 05 SEP 2024

AMENDMENT 1A

28FEB19

LPV

DA*

837/24 200 (200-1/2)

LNAV/VNAV

938/24 301 (300-1/2)

TDZ/CL Rwys 3R, 4L, 4R, and 22R

REIL Rwys 3L, 9L, 9R, and 21R

HMLR all runways

EC-1, 11 JUL 2024 to 05 SEP 2024

ALTITUDE

645

D

TDZE

637

DETOUR, MICHIGAN

Amdt 1A 28FEB19

42°13'N 83°21'W

DETOUR METRO WAYNE COUNTY (DTW)

RNAV (GPS) PRM Z RWY 22L (CLOSE PARALLEL)

149

DETOUR, MICHIGAN

Amdt 1A 28FEB19

42°13'N 83°21'W

DETOUR METRO WAYNE COUNTY (DTW)

RNAV (GPS) PRM Z RWY 22L (CLOSE PARALLEL)

149

DETOUR, MICHIGAN

Amdt 1A 28FEB19

42°13'N 83°21'W

DETOUR METRO WAYNE COUNTY (DTW)

RNAV (GPS) PRM Z RWY 22L (CLOSE PARALLEL)

149

DETOUR, MICHIGAN

Amdt 1A 28FEB19

42°13'N 83°21'W

DETOUR METRO WAYNE COUNTY (DTW)

RNAV (GPS) PRM Z RWY 22L (CLOSE PARALLEL)

149

DETOUR, MICHIGAN

Amdt 1A 28FEB19

42°13'N 83°21'W

DETOUR METRO WAYNE COUNTY (DTW)

RNAV (GPS) PRM Z RWY 22L (CLOSE PARALLEL)

149
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.

8500' x 150' 8770' x 200' 12000' x 150' 10000' x 150'

Lights in operation.

ASDE-X in use. Operate transponders with altitude reporting mode and ADSB (if equipped) enabled on all airport surfaces.

ANNUAL RATE OF CHANGE JANUARY 2020

FIELD ELEV

DETROIT, MICHIGAN

DETROIT METRO WAYNE COUNTY (DTW)

EC-1, 11 JUL 2024 to 05 SEP 2024
ATTENTION ALL USERS PAGE (AAUP)

SIMULTANEOUS RNAV DEPARTURES

The purpose of this briefing is to provide guidance, safe operating practices, and phraseology that will help ensure heightened awareness when conducting parallel RNAV departures at the Detroit Metro Wayne County Airport (DTW). Where applicable, pilots should comply with established company procedures for RNAV operations.

1. PREFLIGHT: Expect clearance for RNAV Standard Instrument Departure (SID), if capable of terminal RNAV procedures. If unable to accept the assigned RNAV SID, advise Clearance Delivery on initial contact. Upon assignment of an RNAV SID, crosscheck the charted RNAV SID with the aircraft navigation system against the ATC clearance. Consider the following cross items:
   - Ensure correct departure runway is loaded
   - Ensure all transitions are loaded correctly
   - Ensure sequence of waypoints match the appropriate charts
   - Use the LEGS page to verify routing (for navigation systems with ROUTE and LEGS pages)
   - Ensure altitude set in the altitude window matches the TOP ALTITUDE of the SID (unless amended by ATC)
   - Do not modify or manually construct RNAV procedures
   - Advise ATC prior to takeoff if unable verify correct loading or if unable to comply with the SID

2. BEFORE TAKEOFF: Ensure the departure runway assigned on taxi is depicted by the navigation system.
   - Verify all modifications, including runway changes, in the navigation system with the RNAV SID
   - Verify aircraft symbol relative to the runway symbol, lateral track, and depicted route agree with the ATC clearance (electronic navigation map displays)

3. LINE UP/TAKEOFF: Expect a takeoff clearance that will include "RNAV to" the first waypoint on the SID, or a heading. If issued a heading, do not delete the SID from the navigation system.
   - Clearance: "Delta 123, RNAV to SAAMS, Runway 22L, Cleared for Takeoff"
   - Response: "Delta 123, RNAV to SAAMS, Runway 22L, Cleared for Takeoff"
   - Verify the correct runway and SID are loaded and the correct lateral navigation mode is available and ready for use after takeoff
   - If the takeoff clearance does not match the planned/loaded procedure, request an initial heading from tower or refuse the takeoff clearance until the discrepancy is resolved.

4. AFTER TAKEOFF: Unless issued a heading, engage lateral navigation flight guidance as soon as practical and fly the departure precisely.
   - Parallel RNAV departures must not encroach on the airspace between parallel runway centerlines without specific ATC clearance
   - When possible, track the runway centerline until reaching the departure end of runway
   - When possible, track the runway centerline until reaching the departure end of runway
   - Strict compliance with the lateral and vertical tracks and charted speed restrictions is imperative
   - Once established on the procedure, maintain route centerline, as depicted by onboard lateral navigation indicators and/or flight guidance
   - Manually intervene if necessary, to stay on track to avoid transgressing in the direction of a parallel runway, track, or aircraft
   - If unable to comply with the SID profile, either laterally or vertically, immediately notify ATC

(CONTINUED ON FOLLOWING PAGE)
5. SPECIFIC INFORMATION: Runway assignments will be issued on initial contact with Ground Control and will be based on traffic conditions, runway closures, and other operational requirements.

For planning purposes, pilots can anticipate a runway assignment based upon the information below.

Runway Assignment for Dual Departure Operations

Departing Runways 22L/R, 21L/R
SNDRS, CCOBB, KAYLN, MIGGY, TRMML, ZETTR - Expect Runway 22L
HHOWE, PAVYL, LIDDS, BARI, CLVIN - Expect Runway 21R

Departing Runways 4L/R, 3L/R
SNDRS, CCOBB, KAYLN, MIGGY, TRMML, ZETTR - Expect Runway 04R
HHOWE, PAVYL, LIDDS, BARI, CLVIN - Expect Runway 03L

Departing Runways 27L/R (not depicted below)
KAYLN, MIGGY, TRMML, ZETTR, HHOWE - Expect Runway 27R
CCOB, SNDRS, BARI, CLVIN, LIDDS, PAVYL - Expect Runway 27L
DETROIT METRO WAYNE COUNTY (DTW) DETROIT, MICHIGAN

TOP ALTITUDE: 17000

RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

(CONTINUED ON FOLLOWING PAGE)
DEPARTURE ROUTE DESCRIPTION

SEE ADDITIONAL REQUIREMENTS ON AAUP

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 070° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 212° to WERKN, then on track 232° to HUUTZ, thence . . . .

TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 064° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 212° to WERKN, then on track 232° to HUUTZ, thence . . . .

TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 347° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then on track 199° to OGEEZ, then on track 173° to HUUTZ, thence . . . .

TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 339° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then on track 199° to OGEEZ, then on track 173° to HUUTZ, thence . . . .

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 204° to SERGY, then on track 201° to cross FDROV at or below 7000, then on track 210° to HUUTZ, thence . . . .

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 203° to SERGY, then on track 201° to cross FDROV at or below 7000, then on track 210° to HUUTZ, thence . . . .

TAKEOFF RUNWAY 22L: Climb on heading 216° to 1146, then direct BOOSE, then on track 226° to cross RATIO at or below 7000, then on track 189° to HUUTZ, thence . . . .

TAKEOFF RUNWAY 22R: Climb on heading 216° to 1146, then direct EEERI, then on track 224° to cross RATIO at or below 7000, then on track 189° to HUUTZ, thence . . . .

TAKEOFF RUNWAYS 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to HUUTZ, thence . . . .

. . . . on track 213° to BARI, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

SINKR TRANSITION (BARI3.SINKR)
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: For use by aircraft filed at or below FL220, or as assigned by ATC.
NOTE: CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP) at or below 17999 (SR-SS).
DEPARTURE ROUTE DESCRIPTION
SEE ADDITIONAL REQUIREMENTS ON AAUP

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 335° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then on track 262° to BROZZ, thence....

TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 336° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then on track 262° to BROZZ, thence....

TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 347° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then on track 262° to BROZZ, thence....

TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 339° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then on track 262° to BROZZ, thence....

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 243° to cross SAAMS at or below 7000, then on track 313° to cross BSLNE at or below 9000, then on track 313° to FDRCH, then on track 279° to BROZZ, thence....

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 240° to cross SAAMS at or below 7000, then on track 313° to cross BSLNE at or below 9000, then on track 313° to FDRCH, then on track 279° to BROZZ, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 239° to cross SAAMS at or below 7000, then on track 313° to cross BSLNE at or below 9000, then on track 313° to FDRCH, then on track 279° to BROZZ, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 238° to cross SAAMS at or below 7000, then on track 313° to cross BSLNE at or below 9000, then on track 313° to FDRCH, then on track 279° to BROZZ, thence....

TAKEOFF RUNWAYS 27L/27R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to BROZZ, thence....

....on track 279° to CCOBB, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

ZEGBI TRANSITION (CCOBB3.ZEGBI):
CLVIN THREE DEPARTURE (RNAV) Departure Routes

TOP ALTITUDE: 17000
RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

TAKEOFF MINIMUMS:
Rwys 27L/R: Standard.
Rwys 3L/R, 4L/R, 21L/R, 22L/R:
Standard with minimum climb of 500'/NM to 1146.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

(CONTINUED ON FOLLOWING PAGE)
CLVIN THREE DEPARTURE (RNAV) Transition Routes

Top Altitude: 17000

RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

NOTE: Chart not to scale.

CLVIN THREE DEPARTURE (RNAV)

CONTINUED ON FOLLOWING PAGE

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

DETROIT METRO WAYNE COUNTY (DTW)
DETROIT, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024
DEPARTURE ROUTE DESCRIPTION

SEE ADDITIONAL REQUIREMENTS ON AAUP

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 070° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 212° to WERKN, then on track 215° to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 064° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 212° to WERKN, then on track 215° to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 347° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then on track 199° to OGEEZ, then on track 155° to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 339° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then on track 199° to OGEEZ, then on track 155° to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 204° to SERGY, then on track 201° to cross FDROV at or below 7000, then on track 181° to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 203° to SERGY, then on track 201° to cross FDROV at or below 7000, then on track 181° to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to 1146, then direct BOOSE, then on track 226° to cross RATIO at or below 7000, then on track 165° to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to 1146, then direct EEERI, then on track 224° to cross RATIO at or below 7000, then on track 165° to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAYS 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to cross PHAUL at or above 3100, thence....

....on track 206° to CLVIN, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

STAZE TRANSITION (CLVIN3.STAZE):

STAZE TRANSITION (CLVIN3.STAZE):
NOTE: Chart not to scale.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

TAKEOFF MINIMUMS:
Rwy 27L/R: Standard

(Continued on following page)
DEPARTURE ROUTE DESCRIPTION
SEE ADDITIONAL REQUIREMENTS ON AAUP.

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 057° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 054° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 062° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 061° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 173° to cross WINRS at or above 2500 and at or below 230K, then on track 084° to cross USSIE at or below 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 175° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 094° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 166° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 094° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 161° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAYS 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to cross MALTB at or above 2200, thence....

....on track 094° to HHOWE, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE4.BROKK):
LINCON TRANSITION (HHOWE4.LINCON):
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS
Rwy 27L/R: Standard.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION
SEE ADDITIONAL REQUIREMENTS ON AAUP.

TAKEOFF RUNWAYS 3L/R: Climb on heading 036° to intercept course 349° to SHEVY, then on track 315° to cross BUIKK at or below 7000, then on track 274° to cross DDOGE at or below 9000, then on track 274° to MTRCT, thence....

TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 357° to SHEVY, then on track 315° to cross BUIKK at or below 7000, then on track 274° to cross DDOGE at or below 9000, then on track 274° to MTRCT, thence....

TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 352° to SHEVY, then on track 315° to cross BUIKK at or below 7000, then on track 274° to cross DDOGE at or below 9000, then on track 274° to MTRCT, thence....

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 243° to cross SAAMS at or below 7000, then on track 313° to cross BSLNE at or below 9000, then on track 313° to FDRCH, then on track 313° to MTRCT, thence....

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 240° to cross SAAMS at or below 7000, then on track 313° to cross BSLNE at or below 9000, then on track 313° to FDRCH, then on track 313° to MTRCT, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 239° to cross SAAMS at or below 7000, then on track 313° to cross BSLNE at or below 9000, then on track 313° to FDRCH, then on track 313° to MTRCT, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 238° to cross SAAMS at or below 7000, then on track 313° to cross BSLNE at or below 9000, then on track 313° to FDRCH, then on track 313° to MTRCT, thence...

TAKEOFF RUNWAYS 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to MTRCT, thence....

....on track 279° to KAYLN, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3.SMUUV):
NOTE: Chart not to scale.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC. 
NOTE: For use by Cleveland terminal arrivals only.

TAKEOFF MINIMUMS:
Rwy 27L/R: Standard.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 070° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 126° to KZLOV, thence....

TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 064° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 126° to KZLOV, thence....

TAKEOFF RUNWAYS 4L/R: Climb on heading 036° to intercept course 074° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 126° to KZLOV, thence....

TAKEOFF RUNWAYS 21L/R: Climb on heading 216° to intercept course 185° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 087° to KZLOV, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 179° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 087° to KZLOV, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 176° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 087° to KZLOV, thence....

TAKEOFF RUNWAYS 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to KZLOV, thence....

...on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
Rwys 27L/R: Standard.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

SEE ADDITIONAL REQUIREMENTS ON AAUP.

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 070° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 126° to KZLOV, thence....

TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 064° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 126° to KZLOV, thence....

TAKEOFF RUNWAYS 4L/R: Climb on heading 036° to intercept course 074° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 126° to KZLOV, thence....

TAKEOFF RUNWAYS 21L/R: Climb on heading 216° to intercept course 185° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 087° to KZLOV, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 179° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 087° to KZLOV, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 176° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 087° to KZLOV, thence....

TAKEOFF RUNWAY 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to KZLOV, thence....

....on track 111° to LIDDS, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

GRIVY TRANSITION (LIDDS3.GRIVY):
NOTE: RADAR required.
NOTE: DME required.
NOTE: For use by non-RNAV equipped aircraft only.

SPECIAL INSTRUCTIONS:
When using this departure, file the appropriate depicted departure fix and route. Aircraft over HARWL must file FL220 and below. PROP AIRCRAFT departing KDTW Rwys 21L/R and 22L/R westbound, cross DXO 3.5 DME at or above 2500 MSL. Aircraft landing Cleveland (CLE) must file MAARS transition. Turbojet departures at/above 10000, maintain 280K until advised by ATC. If unable, advise ATC prior to departure.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading, thence....

.....maintain ATC assigned altitude for RADAR vectors to intercept filed/assigned transition or enroute fix/navaid. When 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 within ten (10) minutes after departure.

DUNKS TRANSITION (METRO3.DUNKS): From over DXO VOR/DME on DXO R-296 to DUNKS.
HARWL TRANSITION (METRO3.HARWL): From over DXO VOR/DME on DXO R-281 to HARWL.
ILLIE TRANSITION (METRO3.ILLIE): From over DXO VOR/DME on DXO R-217 to ILLIE.
MAARS TRANSITION (METRO3.MAARS): From over DXO VOR/DME on DXO R-106 to MAARS.
PISTN TRANSITION (METRO3.PISTN): From over DXO VOR/DME on DXO R-020 to PISTN.
**TOP ALTITUDE:**

17000

**NOTE:** Jet departures at/above 10000, maintain 280K until advised by ATC.

**NOTE:** GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.

**TAKEOFF MINIMUMS:**

Rwys 27L/R: Standard.


**DETROIT METRO WAYNE COUNTY (DTW)**

**MIGGY THREE DEPARTURE (RNAV)**

**RNAV 1 - DME/DME/IRU or GPS.**

**Radar required.**

**NOTE:** Chart not to scale.

**EC-1, 11 JUL 2024 to 05 SEP 2024**
DEPARTURE ROUTE DESCRIPTION
SEE ADDITIONAL REQUIREMENTS IN RNAV DEPARTURE AAUP.

TAKEOFF RUNWAYS 3L/R: Climb on heading 036° to intercept course 004° to cross LLOUU at or below 7000, then on track 315° to cross THEJO at or below 11000, then on track 314° to JAXII, thence....

TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 009° to cross LLOUU at or below 7000, then on track 315° to cross THEJO at or below 11000, then on track 314° to JAXII, thence....

TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 006° to cross LLOUU at or below 7000, then on track 315° to cross THEJO at or below 11000, then on track 314° to JAXII, thence....

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 256° to cross FORDZ at or above 4000, then on track 314° to cross CORVE at or below 7000, then on track 357° to cross VESSA at or above 15000, then on track 354° to JAXII, thence....

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 252° to cross FORDZ at or above 4000, then on track 314° to cross CORVE at or below 7000, then on track 357° to cross VESSA at or above 15000, then on track 354° to JAXII, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 251° to cross FORDZ at or above 4000, then on track 314° to cross CORVE at or below 7000, then on track 357° to cross VESSA at or above 15000, then on track 354° to JAXII, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 250° to cross FORDZ at or above 4000, then on track 314° to cross CORVE at or below 7000, then on track 357° to cross VESSA at or above 15000, then on track 354° to JAXII, thence....

TAKEOFF RUNWAY 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to JAXII, thence....

....on track 323° to MIGGY, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

GETCH TRANSITION (MIGGY3.GETCH);
HUBBY TRANSITION (MIGGY3.HUBBY);
SLLAP TRANSITION (MIGGY3.SLLAP):
NOTE: Chart not to scale.

NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
Rwys 27L/R: Standard.
DEPARTURE ROUTE DESCRIPTION

SEE ADDITIONAL REQUIREMENTS IN RNAV DEPARTURE AAUP.

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 057° to WNNGZ, then on track 120° to cross DATSK at or below 7000, then on track 123° to SLVVA, thence....

TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 054° to WNNGZ, then on track 120° to cross DATSK at or below 7000, then on track 123° to SLVVA, thence....

TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 062° to WNNGZ, then on track 120° to cross DATSK at or below 7000, then on track 123° to SLVVA, thence....

TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 061° to WNNGZ, then on track 120° to cross DATSK at or below 7000, then on track 123° to SLVVA, thence....

TAKEOFF RUNWAYS 21L/R: Climb on heading 216° to intercept course 185° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 078° to SLVVA, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 179° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 078° to SLVVA, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 176° to JOELU, then on track 108° to cross YIMMY at or below 7000, then on track 086° to cross HWARD at or below 9000, then on track 078° to SLVVA, thence....

TAKEOFF RUNWAYS 27L/27R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to SLVVA, thence....

....on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3.ESSBE): MRDOC TRANSITION (PAVYL3.MRDOC):
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.
DETROIT DEP CON
125.525 284.0 (Rwys 4L/R, 22L/R)
132.025 284.0 (Rwys 3L/R, 21L/R, 27L/R)
D-ATIS 118.125
CLNC DEL 120.65
CPDLC
GND CON
121.8 (NW)  119.45 (NE)
132.725 (SW)  119.25 (SE)
METRO TOWER
118.4  317.725 (Rwys 3L/R, 21L/R, 27R)
128.75  317.725 (Rwy 27L)
135.0  317.725 (Rwys 4L/R, 22L/R)

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.

TAKEOFF MINIMUMS:
Rwys 27L/R: Standard

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION
SEE ADDITIONAL REQUIREMENTS IN RNAV DEPARTURE AAUP.

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 070° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 212° to WERKN, then on track 243° to JWELS, thence...

TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 064° to cross BESST at or above 2500 and at or below 230K, then on track 128° to cross SWNDL at or below 7000, then on track 212° to WERKN, then on track 243° to JWELS, thence...

TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 347° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then or track 199° to OGEEZ, then on track 196° to JWELS, thence...

TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 339° to cross NITRN at or above 2500 and at or below 230K, then on track 304° to FERRM, then on track 259° to cross AVERL at or below 7000, then or track 199° to OGEEZ, then on track 196° to JWELS, thence....

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 204° to SERGY, then on track 223° to cross HOPPZ at or below 7000, then on track 225° to JWELS, thence....

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 203° to SERGY, then on track 223° to cross HOPPZ at or below 7000, then on track 225° to JWELS, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to 1146, then direct BOOSE, then on track 226° to cross RATIO at or below 7000, then on track 215° to JWELS, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to 1146, then direct EEERI, then on track 224° to cross RATIO at or below 7000, then on track 215° to JWELS, thence....

TAKEOFF RUNWAYS 27L/27R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to JWELS, thence....

....on track 218° to SNDRS, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION [SNDRS3.BGHT]:
TORRR TRANSITION [SNDRS3.TORRR]:

...
NOTE: Chart not to scale.

TRMML FOUR DEPARTURE (RNAV) Departure Routes

DETROIT, MICHIGAN

TOP ALTITUDE: 17000

RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

TAKEOFF MINIMUMS:
Rwys 27L/R: Standard.
Rwys 3L/R, 4L/R, 21L/R, 22L/R: Standard
with minimum climb of 500' per NM to
1146.

NOTE: Turbojet departures at/above
10000, maintain 280K until
advised by ATC.

EC-1, 11 JUL 2024 to 05 SEP 2024
DEPARTURE ROUTE DESCRIPTION

SEE ADDITIONAL REQUIREMENTS IN RNAV DEPARTURE AAUP.

TAKEOFF RUNWAY 3L: Climb on heading 036° to 1146, then direct to cross DCATS at or below 7000, then on track 348° to cross EERNY at or below 11000, then on track 349° to LOALA, thence....

TAKEOFF RUNWAY 3R: Climb on heading 036° to 1146, then direct BURPZ, then on track 034° to cross DCATS at or below 7000, then on track 348° to cross EERNY at or below 11000, then on track 349° to LOALA, thence....

TAKEOFF RUNWAY 4L: Climb on heading 036° to 1146, then direct MINDY, then on track 038° to cross KKELL at or below 7000, then on track 350° to cross EERNY at or below 11000, then on track 349° to LOALA, thence....

TAKEOFF RUNWAY 4R: Climb on heading 036° to 1146, then direct to cross KKELL at or below 7000, then on track 350° to cross EERNY at or below 11000, then on track 349° to LOALA, thence....

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 173° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 036° to TUURF, then on track 345° to LOALA, thence....

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 175° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 036° to TUURF, then on track 345° to LOALA, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 251° to cross FORDZ at or above 4000, then on track 314° to cross CORVE at or below 7000, then on track 027° to LOALA, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 250° to cross FORDZ at or above 4000, then on track 314° to cross CORVE at or below 7000, then on track 027° to LOALA, thence....

TAKEOFF RUNWAY 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to LOALA, thence....

....on track 352° to TRMML, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

GNZOE TRANSITION (TRMML4.GNZOE)
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: TANKO TRANSITION: For use by CYYZ area arrivals only, or as assigned by ATC.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: TANKO Transition: For use by CYYZ area arrivals only, or as assigned by ATC.
DEPARTURE ROUTE DESCRIPTION
SEE ADDITIONAL REQUIREMENTS IN RNAV DEPARTURE AAUP.

TAKEOFF RUNWAY 3L: Climb on heading 036° to 1146, then direct to cross DCATS at or below 7000, then on track 034° to cross NILSN at or below 11000, then on track 043° to FLOKA, thence....

TAKEOFF RUNWAY 3R: Climb on heading 036° to 1146, then direct BURPZ, then on track 034° to cross DCATS at or below 7000, then on track 034° to cross NILSN at or below 11000, then on track 043° to FLOKA, thence....

TAKEOFF RUNWAY 4L: Climb on heading 036° to 1146, then direct MINDY, then on track 038° to cross KKELL at or below 7000, then on track 039° to cross NILSN at or below 11000, then on track 043° to FLOKA, thence....

TAKEOFF RUNWAY 4R: Climb on heading 036° to 1146, then direct to cross KKELL at or below 7000, then on track 039° to cross NILSN at or below 11000, then on track 043° to FLOKA, thence....

TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 173° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 036° to TUURF, then on track 019° to FLOKA, thence....

TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 175° to cross WINRS, at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 036° to TUURF, then on track 019° to FLOKA, thence....

TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 251° to cross FORDZ at or above 4000, then on track 314° to cross CORVE at or below 7000, then on track 026° to FRBRD, then on track 049° to DINL, then on track 063° to FLOKA, thence....

TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 250° to cross FORDZ at or above 4000, then on track 314° to cross CORVE at or below 7000, then on track 026° to FRBRD, then on track 049° to DINL, then on track 063° to FLOKA, thence....

TAKEOFF RUNWAYS 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to FLOKA, thence....

....on track 049° to ZETTR, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

DUTEL TRANSITION (ZETTR4.DUTEL):
ETBOX TRANSITION (ZETTR4.ETBOX):
KELTI TRANSITION (ZETTR4.KELTI):
SIKBO TRANSITION (ZETTR4.SIKBO):
TANKO TRANSITION (ZETTR4.TANKO):

ZETTR FOUR DEPARTURE (RNAV)
DETROIT, MICHIGAN

ILS or LOC RWY 23
WILLOW RUN (YIP)

ATIS
127.425

DETROIT APP CON
118.95 284.0

WILLOW RUN TOWER
125.275 256.9

GND CON
119.975

---

RNP APCH-GPS from KUPNE. RADAR or GPS required.

MALSR

1140 - 2400

MISSSED APPROACH: Climb to 1400 then climbing right turn to 3000 direct SVM VORTAC and hold.

---

DETROIT, MICHIGAN

Orig 14JUL22

EC-1, 11 JUL 2024 to 05 SEP 2024
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 6000, LNAV Cats C/D visibility to 1% SM.

MISSED APPROACH: Climb to 1200 then climbing left turn to 3000 direct SVM VORTAC and hold.
For uncompensated Baro-VNAV systems, procedure NA below.

-19°C or above 54°C. For inop ALS, increase LNAV/VNAV all
Cats visibility to ¾ SM, LNAV Cats C/D visibility to 1 SM.

### ATIS
- DETROIT APP CON 127.425
- WILLOW RUN TOWER 125.275
- GND CON 119.975

### RNAV (GPS) RWY 23
**WILLOW RUN (YIP)**

**WAAS**
- Ch 65744
- W23A

**APP CRS**
- 233°

**Rwy Ldg**
- 7543
- 710

**Apt Elev**
- 716

**ATIS**
- DETROIT 127.425

**DETOUR**
- 822

**GND CON**
- 119.975

**MALSR**
- ZAVEX

**ZAVEX**
- 1.6 NM

**ATC COM**
- 1249°

**ATC COM**
- 1118°

**ATC COM**
- 903°

**ATC COM**
- RW23

**ATC COM**
- FELUS

**ATC COM**
- GAFFY

**ATC COM**
- RW23

**ATC COM**
- 832

**ATC COM**
- 851

**ATC COM**
- 853

**ATC COM**
- RW23

**ATC COM**
- 2400

**ATC COM**
- 1.3 NM

**ATC COM**
- 1.6 NM

**ATC COM**
- 6 NM

**MISSED APPROACH:**
- Climb to 3000 direct
- ZAVEX and hold,
- continue climb-in-hold
- to 3000.

**CAT**
- A
- B
- C
- D

**LPV**
- DA
- 910-½
- 200 (200-½)

**LNAV/VNAV**
- DA
- 982-½
- 272 (300-½)

**LNAV MDA**
- 1080-½
- 370 (400-½)
- 1080-½
- 370 (400-½)

**CIRCLING**
- 1220-1
- 504 (600-1)
- 1220-1
- 504 (600-1)
- 684 (700-2°)

**AL-467 (FAA)**

**DETROIT, MICHIGAN**

**Orig. 14 JUL 22**
Missed Approach: Climbing right turn to 2600 direct SVM VORTAC and hold.

Helicopter visibility reduction below 3/4 SM NA.

Remain within 10 NM

ATIS 127.425
DETROIT APP CON 118.95 284.0
WILLOW RUN TOWER 125.275 256.9
GND CON 119.975
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to HUUTZ, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to HUUTZ, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to HUUTZ, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to HUUTZ, thence....

....on track 213° to BARI, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SINKR TRANSITION (BARI3.SINKR):

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to BROZZ, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to BROZZ, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to BROZZ, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to BROZZ, thence....

....on track 279° to CCOBB, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

ZEGBI TRANSITION (CCOBB3.ZEGBI):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to cross PHAUL at or above 3100, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to cross PHAUL at or above 3100, thence....

....on track 206° to CLVIN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

STAZE TRANSITION (CLVIN3.STAZE):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to cross MALTB at or above 2200, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to cross MALTB at or above 2200, thence....

....on track 094° to HHOWE, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE4.BROKK):

LNCON TRANSITION (HHOWE4.LNCON):
NOTE: Chart not to scale.

KAYLN THREE DEPARTURE (RNAV)
(KAYLN3.KAYLN)

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to MTRCT, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to MTRCT, thence....

TAKEOFF RUNWAY 23: Climb on heading 233°, or as assigned by ATC, for RADAR vectors to MTRCT, thence....

TAKEOFF RUNWAY 27: Climb on heading 275°, or as assigned by ATC, for RADAR vectors to MTRCT, thence....

....on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3.SMUUV):

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to KZLOV, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to KZLOV, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to KZLOV, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to KZLOV, thence....

....on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.
TAKEOFF MINIMUMS:
Rwy 23: Standard.
Rwys 5, 9: Standard with minimum climb of 500’ per NM to 1220.
Rwy 27: Standard with minimum climb of 209’ per NM to 1000.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: RADAR required.
NOTE: DME required.
NOTE: For use by non-RNAV equipped aircraft only.

SPECIAL INSTRUCTIONS:
When using this departure, file the appropriate depicted departure fix and route. Aircraft over HARWL must file FL220 and below. PROP AIRCRAFT departing KDTW Rwys 21L/R and 22L/R westbound, cross DXO 3.5 DME at or above 2500 MSL. Aircraft landing Cleveland (CLE) must file MAARS transition. Turbojet departures at/above 10000, maintain 280K until advised by ATC. If unable, advise ATC prior to departure.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF ALL RUNWAYS: Climb on assigned heading, thence....

.....maintain ATC assigned altitude for RADAR vectors to intercept filed/assigned transition or enroute fix/navaid. When 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 within ten (10) minutes after departure.

DUNKS TRANSITION (METRO3.DUNKS): From over DXO VOR/DME on DXO R-296 to DUNKS.
HARWL TRANSITION (METRO3.HARWL): From over DXO VOR/DME on DXO R-281 to HARWL.
ILLIE TRANSITION (METRO3.ILLIE): From over DXO VOR/DME on DXO R-217 to ILLIE.
MAARS TRANSITION (METRO3.MAARS): From over DXO VOR/DME on DXO R-106 to MAARS.
PISTN TRANSITION (METRO3.PISTN): From over DXO VOR/DME on DXO R-020 to PISTN.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to JAXII, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to JAXII, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to JAXII, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to JAXII, thence....

....on track 323° to MIGGY, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

GETCH TRANSITION (MIGGY3.GETCH):
HUBBY TRANSITION (MIGGY3.HUBBY):
SLLAP TRANSITION (MIGGY3.SLLAP):

NOTE: Chart not to scale.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to SLVVA, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to SLVVA, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to SLVVA, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to SLVVA, thence....

....on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3.ESSBE):

MRDOC TRANSITION (PAVYL3.MRDOC):

NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to JWELS, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to JWELS, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to JWELS, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to JWELS, thence....

....on track 218° to SNDRS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):

TORRR TRANSITION (SNDRS3.TORRR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.

TOP ALTITUDE: ASSIGNED BY ATC

RNAV-1 DME/DME/IRU or GPS.
RADAR required.

TAKEOFF MINIMUMS:
Rwy 23: Standard.
Rwys 5, 9: Standard with minimum climb of 500’ per NM to 1220.
Rwy 27: Standard with minimum climb of 209’ per NM to 1000.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to LOALA, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to LOALA, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to LOALA, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to LOALA, thence....

....on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GNZOE TRANSITION (TRMML4.GNZOE):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to LOALA, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to LOALA, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to LOALA, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to LOALA, thence....

....on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GNZOE TRANSITION (TRMML4.GNZOE):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.
ZETTR FOUR DEPARTURE (RNAV) (ZETTR4,ZETTR) 16MAY24

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climb on heading 053° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to FLOKA, thence....

TAKEOFF RUNWAY 9: Climb on heading 095° to 1220, then on heading 300° or as assigned by ATC, for RADAR vectors to FLOKA, thence....

TAKEOFF RUNWAY 23: Climb on heading 233° or as assigned by ATC, for RADAR vectors to FLOKA, thence....

TAKEOFF RUNWAY 27: Climb on heading 275° or as assigned by ATC, for RADAR vectors to FLOKA, thence....

....on track 049° to ZETTR, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

DUTEL TRANSITION (ZETTR4.DUTEL):
ETBOX TRANSITION (ZETTR4.ETBOX):
KELTI TRANSITION (ZETTR4.KELTI):
SIKBO TRANSITION (ZETTR4.SIKBO):
TANKO TRANSITION (ZETTR4.TANKO):
### RNAV (GPS) RWY 4

**GROSSE ILE MUNI (ONZ)**

**DETROIT/GROSSE ILE, MICHIGAN**

<table>
<thead>
<tr>
<th>Category</th>
<th>A</th>
<th>B (400-1)</th>
<th>C</th>
<th>D (400-1½)</th>
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<tbody>
<tr>
<td>LNAV MDA</td>
<td>960-1</td>
<td>372</td>
<td>960-1½</td>
<td>372-1½</td>
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<tr>
<td>CIRCLING</td>
<td>1460-1½</td>
<td>869</td>
<td>1460-2½</td>
<td>869-2½</td>
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</tbody>
</table>

**DETROIT APP CON**

- **AWOS-3**: 119.675
- **UNICOM**: 123.0 (CTAF)

**MISSED APPROACH**: Climb to 2400 direct UFDIV and hold.

Rwy 4 helicopter visibility reduction below ¾ SM NA.

**RNAV (GPS) RWY 4**

- **TDZE**: 588
- **ELEV**: 591

**Optional EC-1, 11 JUL 2024 to 05 SEP 2024**

**MONLE**
- AMXUX
- 037°
- Holding Pattern
- 2200
- 2400

**RW04**
- 037°
- 2400
- 1.8 NM to RW04

**STRGN**
- 037°
- 1.8 NM to RW04

**MONLE**
- 217°
- 2200
- 1200

**RW04**
- 037°
- 2400
- 1.8 NM to RW04

**MISSED APCH FIX**
- UNICOM 119.675 (CTAF)
- AWOS-3 114.675
- DETROIT APP CON 134.3 284.0

**Restrictions**

- RNAV (GPS) RWY 4
- Rwy 4 helicopter visibility reduction below ¾ SM NA.

**UFDIV and hold.**
**RNAV (GPS) RWY 22**

**GROSSE ILE MUNI (ONZ)**

**AWOS-3**
119.675

**DETOUR APP CON**
134.3 284.0

**UNICOM**
123.0 [CTAF]

**NOTE:** Rwy 22 helicopter visibility reduction below 3/4 SM NA.

**MISSED APPROACH:** Climb to 2400 direct AMXUX and hold.

<table>
<thead>
<tr>
<th>CATEGORY</th>
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<th>B</th>
<th>C</th>
<th>D</th>
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<tr>
<td>LNAV MDA</td>
<td>980-1</td>
<td>389 (400-1)</td>
<td>980-1/8</td>
<td>980-1/4</td>
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<td>869 (900-1/8)</td>
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**DETROIT/GROSSE ILE, MICHIGAN**

**Rwy 22**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**ATIS**

**119.675**

**RNP APCH.**

**APP CRS**

217°

**Rwy Idg**

TDZE 591

**Apt Elev**

591

**RNAV (GPS) RWY 22**

**GROSSE ILE MUNI (ONZ)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
Radar Required

IF/IAF
CARLETON
115.7 CRL
Chan 104

Procedure NA for arrivals at CRL VORTAC via V10-176-188 westbound.
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.

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<tr>
<th>CATEGORY</th>
<th>A</th>
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<th>C</th>
<th>D</th>
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<tr>
<td>S-4</td>
<td>1500-1¼</td>
<td>910 (1000-1¼)</td>
<td>1500 - 2³⁄₄</td>
<td>1500 - 3</td>
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<tr>
<td>CIRCLING</td>
<td>1500-1¼</td>
<td>909 (1000-1¼)</td>
<td>1500 - 2³⁄₄</td>
<td>1500 - 3</td>
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**AHLES FIX MINIMUMS**

<table>
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<th>A</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td>S-4</td>
<td>1140 - 1</td>
<td>550 (600-1)</td>
<td>1140 - 1¹⁄₂</td>
<td>1140 - 1¾</td>
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<tr>
<td>CIRCLING</td>
<td>1460 - 1</td>
<td>869 (900-1)</td>
<td>1460 - 2¹⁄₂</td>
<td>1460 - 2¾</td>
</tr>
</tbody>
</table>

**AWOS-3** 119.675  **DETROIT APP CON** 134.3 284.0  **UNICOM** 123.0 (CTAF)
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....

TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....

TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....

TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to HUUTZ, then on track 213° to BARII, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SINKR TRANSITION (BARII3.SINKR):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....
TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....
TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....
TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to BROZZ, then on track 279° to CCOBB, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

ZEGBI TRANSITION (CCOBB3.ZEGBI):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: For use by aircraft filed at or below FL220, or as assigned by ATC.
NOTE: CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP) at or below 17999 (SR-SS).
NOTE: Chart not to scale.
CLVIN THREE DEPARTURE (RNAV)  

Top Altitude: Assigned by ATC

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

Takeoff Minimuts:
Rwys 4, 17, 22: Standard.
Rwy 35: Standard with minimum climb of 500’ per NM to 1100.

Takeoff Runway 35: Climb on heading 006° to 1800 assigned by ATC, thence....
TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....
TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....
TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....
TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to cross PHAUL at or above 3100, then on track 206° to CLVIN, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

STAZE TRANSITION (CLVIN3.STAZE):

DEPARTURE ROUTE DESCRIPTION

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

hhowe four departure (rnav)

Top Altitude: Assigned by ATC

RNAV-1 DME/DME/IRU or GPS
Radar required.

NOTE: Chart not to scale.

Takeoff Minums:
Rwy 4, 17, 22: Standard.
Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Takeoff Runway 4:
Climb on heading 037° to 1200 then as assigned by ATC, thence...

Takeoff Runway 17:
Climb on heading 174° or as assigned by ATC, thence...

Takeoff Runway 22:
Climb on heading 217° or as assigned by ATC, thence...

Takeoff Runway 35:
Climb on heading 006° to 1800 then as assigned by ATC, thence....

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Brokk transition: For use by flights filed on or below FL270, or as assigned by ATC.

...for radar vectors to cross Maltb at or above 2200, then on track 094° to HHOWE, then on (transition).

Takeoff minimums: 1200 then as assigned by ATC, thence.

Brokk transition: (hhowe4.brokk)
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

hhowe four departure (rnav)

hhowe four departure (rnav)

hhowe four departure (rnav)

hhowe four departure (rnav)
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
Rwy 4, 17, 22: Standard.
Rwy 35: Standard with minimum climb of 500’ per NM to 1100.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....
TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....
TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....
TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to MTRCT, then on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3.SMUUV):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....
TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....
TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....
TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.

NOTE: Chart not to scale.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: For use by Cleveland terminal arrivals only.

RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

EC-1, 11 JUL 2024 to 05 SEP 2024
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
Rwys 4, 17, 22: Standard.
Rwy 35: Standard with minimum climb of 500’ per NM to 1100.

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....
TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....
TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....
TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

.... for RADAR vectors to KZLOV, then on track 111° to LIDDS, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GRIVY TRANSITION (LIDDS3.GRIVY):

NOTE: Chart not to scale.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence...

TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence...

TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence...

TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence...

TOP ALTITUDE: ASSIGNED BY ATC

NOTE: Jet departures at/above 10000' maintain 280K until advised by ATC. Getch Transition: For use by KMKE area arrivals only, or as assigned by ATC.

NOTE: GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.

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TAKEOFF MINIMUMS:

Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Rwy 4, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Rwy 4, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Rwy 4, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Rwy 4, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Rwy 4, 17, 22: Standard.

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Rwy 4, 17, 22: Standard.

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Rwy 4, 17, 22: Standard.

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Rwy 4, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Rwy 4, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Rwy 4, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 500' per NM to 1100.

Rwy 4, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 500' per NM to 1100.
NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....
TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....
TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....
TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to SLVVA, then on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3.ESSBE):
MRDOC TRANSITION (PAVYL3.MRDOC):

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....
TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....
TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....
TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to JWELS, then on track 218° to SNDRS, then on transition. Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):
TORRR TRANSITION (SNDRS3.TORRR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....

TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....

TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....

TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to LOALA, then on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GNZOE TRANSITION (TRMML4.GNZOE):
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 4: Climb on heading 037° to 1200 then as assigned by ATC, thence....
TAKEOFF RUNWAY 17: Climb on heading 174° or as assigned by ATC, thence....
TAKEOFF RUNWAY 22: Climb on heading 217° or as assigned by ATC, thence....
TAKEOFF RUNWAY 35: Climb on heading 006° to 1800 then as assigned by ATC, thence....

....for RADAR vectors to FLOKA, then on track 049° to ZETTR, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

DUTEL TRANSITION (ZETTR4.DUTEL):
ETBOX TRANSITION (ZETTR4.ETBOX):
KELTI TRANSITION (ZETTR4.KELTI):
SIKBO TRANSITION (ZETTR4.SIKBO):
TANKO TRANSITION (ZETTR4.TANKO):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TANKO Transition: For use by CYYZ area arrivals only, or as assigned by ATC.
RNAV (GPS) RWY 9
DOWAGIAC MUNI (C91)

UNICOM 122.8 (CTAF)

SOUTH BEND APP CON *
118.55 257.8

Procedure NA for arrival at ELX VOR/DME on V100 eastbound.

Procedure NA for arrival at GJ VORTAC on V228 eastbound.

MISSED APPROACH: Climb to 2700 direct YEGTU and hold.

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 Cat C and Circling Cats C and D visibility 1/4 SM.

RNAV (GPS) RWY 9

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024
Circling Rwy 9 NA at night. Rwy 27 helicopter visibility reduction below ¾ SM NA. VDP NA when using Elkhart altimeter setting. Obtain local altimeter setting on CTAF, when local altimeter setting not received, use Elkhart altimeter setting and increase all MDAs 60 feet and visibility Cat C and D ½ SM.

**MISSING APPROACH:**
Climb to 2500 direct JUBLA and hold.

**Category:**
- **A:** 1260-1 513 (600-1)
- **B:** 1260-1½ 513 (600-1½)
- **C:** 1480-2 733 (800-2)
- **D:** 1480-2½ 733 (800-2½)

**REILs:**
- Rwy 9 and 27
- MIRL Rwy 9-27

**TDZE:** 747

**Apt Elev:** 747

**APP CRS:** 275°

**UNICOM:** 122.8 (CTAF)

**CTAF:**

- 2500
- 275°
- 95°
- 747
- MIRL Rwy 9-27
- REIL Rwy 9 and 27
- MIRL Rwy 9-27

**Original-Base:** 21MAR24

**Category:**
- **A:** 1260-1 513 (600-1)
- **B:** 1260-1½ 513 (600-1½)
- **C:** 1480-2 733 (800-2)
- **D:** 1480-2½ 733 (800-2½)
Rw 8 helicopter visibility reduction below 1 SM NA. Procedure NA at night, Circling to Rwy 1-19 NA.

RNAV (GPS) RWY 8
DRUMMOND ISLAND (DRM)

Procedure NA for arrivals at REEFY on V45 southbound.

AWOS-3
118.325

TORONTO CENTER
132.65  344.5

UNICOM
122.8 (CTAF) 0

APP CRS
079°

Rwy Idg
TDZE
Apt Elev

3350
661
668

ELEV 668
TDZE 661
RNAV (GPS) RWY 26
DRUMMOND ISLAND (DRM)

AWOS-3
118.325

TORONTO CENTER
132.65  344.5

UNICOM
122.8 (CTAF)

Rwy 26 helicopter visibility reduction below 1 SM NA.
Procedure NA at night. Circling to Rwy 1-19 NA.

MISSED APPROACH: Climb to 3000 direct OKBIW and hold.

ELEV 668
TDZE 661

1880

OKBIW
079° 259°
4 NM

JUNBU

683± 879±

RW26

079° 259°

3000 6000
3000 6000
(22.4)

JUNBU

079° 259°

3.03°

3.1 NM

TCH 40

259°

1700

JUNBU

3.1 NM

6.1 NM

TCH 40

RW26

3000

OKBIW

079°

259°

079°

259°

HOLD

6000

2500

2500

6000

4 NM

MIRL Rwy B-26

1800 X 75

4000 X 75

3.1 TM PH

259°

3.03°

TCH 40

1700

259°

1700

079° 259°

HOLD

6000

2500

4 NM

Holding Pattern

VGS and descent angles not coincident
(VGS Angle 3.00/TCH 25).

CATEGORY    A   B    C       D
LNAV MDA    1180-1 519 (600-1)  1180-1½ 519 (600-1½)
            NA       NA
CIRCLING   1180-1 512 (600-1)  1240-1½ 572 (600-1½)
            NA       NA

EC-1, 11 JUL 2024 to 05 SEP 2024

AL-6718 (FAA)

DRUMMOND ISLAND, MICHIGAN
Orig-B  25MAR21

46°01'N - 83°45'W

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 1
DELTA COUNTY (ESC)

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.

MISSED APPROACH:
Climb to 1100, then climbing left turn to 2800 direct ZALKI and hold.

CAUTION: Magnetic disturbances of as much as 14° exist at ground level at Escanaba.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. For inop ALS, increase LNAV/VNAV visibility to 1 SM.

CAUTION: Magnetic disturbances of as much as 14° exist at ground level at Escanaba.

AWOS: 3PT
121.425

MINNEAPOLIS CENTER
127.65

UNICOM
122.8 (CTAF)

ZUMAB and hold.
Climb to 2500 direct

HOLD
2500

CAUTION: Magnetic disturbances of as much as 14° exist at ground level at Escanaba.
MISSED APPROACH:
Climb to 1100, then climbing right turn to 2700 direct CESIS and hold.

CAUTION:
Magnetic disturbances of as much as 14° exist at ground level at Escanaba.
**AWOS-3PT**  
121.425  

**MINNEAPOLIS CENTER**  
127.65  

**UNICOM**  
122.8 (CTAF)

---

**RNP APCH - GPS.**

- **Rwy 28** helicopter visibility reduction below 3/4 SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

---

**CAUTION:**
Magnetic disturbances of as much as 14° exist at ground level at Escanaba.

---

**ELEV 609**  
TDZE 596

**EC-1, 11 JUL 2024 to 05 SEP 2024**

---

**APP CRS**  
6498  
**Rwy Idg**  
596  
**Apt Elev**  
609

---

**MINNEAPOLIS CENTER**  
127.65  

**UNICOM**  
122.8 (CTAF)

---

**CAUTION:**
Magnetic disturbances of as much as 14° exist at ground level at Escanaba.

---

**ELEV 609**  
TDZE 596

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**

---

**APP CRS**  
6498  
**Rwy Idg**  
596  
**Apt Elev**  
609

---

**MINNEAPOLIS CENTER**  
127.65  

**UNICOM**  
122.8 (CTAF)

---

**CAUTION:**
Magnetic disturbances of as much as 14° exist at ground level at Escanaba.

---

**ELEV 609**  
TDZE 596

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**
DME required.

- Rwy 28 helicopter visibility reduction below 3/4 SM NA.

**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.

**BACK COURSE**

**ELEV**

- **609**

**TDZE**

- **596**

**AWOS-3PT**

- **45°43′N-87°06′W**

**ESCANABA, MICHIGAN**

**Amdt 1C 03NOV22**
Rwy 1 helicopter visibility reduction below $\frac{3}{8}$ SM NA.

Final approach course offset 9.89°.

CAUTION: Magnetic disturbances of as much as 14° exists at ground level at Escanaba.

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) 0

ELEV 609  TDZE 600

HIRL Rwy 10-28  MIRL Rwy 1-19  REIL Rwys 1 and 28

DELTA COUNTY (ESC)
AIRPORT DIAGRAM

AWOS-3PT
121.425
CTAF/UNICOM
122.8

EC-1, 11 JUL 2024 to 05 SEP 2024

FIELD
ELEV
609

TERMINAL

50 X 100

6498 X 150

275.9°

50 X 100

5016 X 100

005.9°

0.3% UP

095.9°

0.0° W

JANUARY 2020
ANNUAL RATE OF CHANGE
0.0° W

RWY 09-27
PCN 80 F/A/X/T
S-80, D-120, 2D-210

RWY 01-19
PCN 79 F/A/X/T
S-40, D-60

AIRPORT DIAGRAM

DELTA COUNTY (ESC)
ESCANABA, MICHIGAN

AL-5123 (FAA)

22307

ESCANABA, MICHIGAN
DELTA COUNTY (ESC)

EC-1, 11 JUL 2024 to 05 SEP 2024

231
**ILS or LOC RWY 9**

**BISHOP INTL (FNT)**

**DME or RADAR required for procedure entry. DME or RADAR required.**

DME from FNT VORTAC. Simultaneous reception of I-FNT and FNT DME required. For inop ALS, increase S-LOC 9 Cat C/D visibility to 1 1/2 SM. **RVR 1800 authorized with use of FD or AP or HUD to DA.**

**MALSR**

**MISSED APPROACH:** Climb to 3000 on FNT VORTAC R-093 to HARRO/FNT VORTAC 10 DME/RADAR and hold.

### ATIS

<table>
<thead>
<tr>
<th>ATIS</th>
<th>GREAT LAKES APP CON</th>
<th>FLINT TOWER</th>
<th>GND CON</th>
<th>CLNC DEL</th>
<th>UNICOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>133.15</td>
<td>118.8</td>
<td>257.9</td>
<td>126.3 (CTAF)</td>
<td>257.9</td>
<td>121.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FNT</th>
<th>120.9</th>
<th>121.75</th>
<th>122.95</th>
</tr>
</thead>
</table>

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

### CLNC DEL

<table>
<thead>
<tr>
<th>CLNC DEL</th>
<th>1160</th>
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### MSA FNT

<table>
<thead>
<tr>
<th>MSA FNT 25 NM</th>
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<tbody>
<tr>
<td>3100</td>
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</table>

### VGS ILS and glidepath not coincident (VGS 3.00/TCH 63)

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-LOC 9</td>
<td>509 (500-1)</td>
<td>509 (500-1)</td>
<td>509 (500-1)</td>
<td>600 (1000-1)</td>
</tr>
</tbody>
</table>

**MINIMUM STANDARD OF FLIGHT PLAN**

<table>
<thead>
<tr>
<th>FLIGHT PLAN</th>
<th>500</th>
<th>1000</th>
<th>1500</th>
<th>2000</th>
<th>2500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FLIGHT PLAN</strong></td>
<td>500</td>
<td>1000</td>
<td>1500</td>
<td>2000</td>
<td>2500</td>
</tr>
</tbody>
</table>

### Holding Pattern

<table>
<thead>
<tr>
<th>One Minute Holding Pattern</th>
<th>4 NM</th>
<th>4 NM</th>
<th>1.4 NM</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME or RADAR</td>
<td>2600</td>
<td>274°</td>
<td>094°</td>
</tr>
</tbody>
</table>

### Holding Pattern

<table>
<thead>
<tr>
<th>Holding Pattern</th>
<th>2600</th>
<th>274°</th>
<th>094°</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HOLD</strong></td>
<td>2600</td>
<td>274°</td>
<td>094°</td>
</tr>
</tbody>
</table>

### VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 63)

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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**FLIGHT PLAN**

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<th>500</th>
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<th>1500</th>
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<td>500</td>
<td>1000</td>
<td>1500</td>
<td>2000</td>
<td>2500</td>
</tr>
</tbody>
</table>

### Missed Approach

**Missed Approach:** Climb to 3000 on FNT VORTAC R-093 to HARRO/FNT VORTAC 10 DME/RADAR and hold.

Procedure NA for arrival on FNT VORTAC airway radials 234 CW 286.

### Great Lakes APP CON

<table>
<thead>
<tr>
<th>GREAT LAKES APP CON</th>
<th>971/24</th>
</tr>
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</table>

### Approach Control

<table>
<thead>
<tr>
<th>APPROACH CONTROL</th>
<th>60</th>
<th>90</th>
<th>120</th>
<th>150</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APPROACH CONTROL</strong></td>
<td>60</td>
<td>90</td>
<td>120</td>
<td>150</td>
<td>180</td>
</tr>
</tbody>
</table>

### Heading

<table>
<thead>
<tr>
<th>HEADING</th>
<th>42°58'N-83°45'W</th>
</tr>
</thead>
</table>

### AL-618 (FAA)

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**FLINT, MICHIGAN**

**FLINT, MICHIGAN**

**Amdt 23 24MAY18**
DME or RADAR required for procedure entry. DME or RADAR required.

**CAUTION:** Brightly lighted parking lot 400’ east of approach end of Rwy 27 can easily be confused for Rwy 27.

**FNT VORTAC airway radials 076 - CW 097.**

**Procedure NA for arrival on FNT VORTAC.**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 9
BISHOP INTL (FNT)

FLINT, MICHIGAN
AL-618 (FAA)

<table>
<thead>
<tr>
<th>WAAS CH 45714</th>
<th>APP CRS 094°</th>
<th>Rwy Idg 7201</th>
<th>TDZE 771</th>
</tr>
</thead>
<tbody>
<tr>
<td>W09A</td>
<td></td>
<td>Apt Elev 782</td>
<td></td>
</tr>
</tbody>
</table>

**ATIS** 133.15
**GREAT LAKES APP CON** 118.8
**FLINT TOWER** 126.3 (CTAF)
**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.

Procedure NA for arrival on FNT VORTAC airway radials 234 CW to 286.

**RNAV (GPS) RWY 9**

**CIRCLING**

- **4 NM**
- **GP 3.00° TCH 50**
- **274° 094°**
- **2400**
- **AJDIF**

**ELEV 782 D TDZE 771**

**MALSR**
**MISSED APPROACH:** Climb to 3000 direct JUBUG and on track 099° to KATTY and hold.

**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 inop ALS, increase LNAV Cat C/D visibility to 1½ SM.**

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

**Procedure NA for arrival on FNT VORTAC airway radials 234 CW to 286.**

**RNAV (GPS) RWY 9**

- **ELEV 782 D TDZE 771**
- **RNAV (GPS) RWY 9**
- **AJDIF**
- **EHEMI**
- **CHUB**
- **FONKO**
- **REIL Rwy 18 and 36**
- **HIRL Rwys 9-27 and 18-36**

**FLINT, MICHIGAN**
Amrd 1B 24MAY18

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 18

BISHOP INTL (FNT)

**A** 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. Rwy 18 helicopter visibility reduction below ¾ SM NA.

**B** MISSED APPROACH: Climb to 3000 direct HAGEM and on track 182° to POLAR and hold.

**C** CAUTION: Brightly lighted parking lot 4000’ east of approach end of Rwy 27 can easily be confused for Rwy 27.

**D** 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. Rwy 18 helicopter visibility reduction below ¾ SM NA.

**E** MISSED APCH FIX POLAR

4 NM

**F** Procedure NA for arrivals at BIRRS on V320 northwest bound.

**G** CAUTION: Brightly lighted parking lot 4000’ east of approach end of Rwy 27 can easily be confused for Rwy 27.

**H** 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. Rwy 18 helicopter visibility reduction below ¾ SM NA.

**I** MISSED APPROACH: Climb to 3000 direct HAGEM and on track 182° to POLAR and hold.

**J** CAUTION: Brightly lighted parking lot 4000’ east of approach end of Rwy 27 can easily be confused for Rwy 27.

**K** 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. Rwy 18 helicopter visibility reduction below ¾ SM NA.

**L** MISSED APPROACH: Climb to 3000 direct HAGEM and on track 182° to POLAR and hold.

**M** CAUTION: Brightly lighted parking lot 4000’ east of approach end of Rwy 27 can easily be confused for Rwy 27.

**N** 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. Rwy 18 helicopter visibility reduction below ¾ SM NA.

**O** MISSED APPROACH: Climb to 3000 direct HAGEM and on track 182° to POLAR and hold.

**P** CAUTION: Brightly lighted parking lot 4000’ east of approach end of Rwy 27 can easily be confused for Rwy 27.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). Rwy 27 helicopter visibility reduction below ½ SM NA, DME/DME RNP 0.3 NA. For inop ALS, increase LNAV/VNAV all Cats visibility to 1⅛ SM, LNAV Cat A/B visibility to 1 SM and LNAV Cat C/D visibility to 1⅛ SM.

MISSED APPROACH: Climb to 3000 direct CURGO and track 352° to CLIOO and hold.

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

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). Rwy 27 helicopter visibility reduction below ½ SM NA, DME/DME RNP 0.3 NA. For inop ALS, increase LNAV/VNAV all Cats visibility to 1⅛ SM, LNAV Cat A/B visibility to 1 SM and LNAV Cat C/D visibility to 1⅛ SM.

MISSED APPROACH: Climb to 3000 direct CURGO and track 352° to CLIOO and hold.

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

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). Rwy 27 helicopter visibility reduction below ½ SM NA, DME/DME RNP 0.3 NA. For inop ALS, increase LNAV/VNAV all Cats visibility to 1⅛ SM, LNAV Cat A/B visibility to 1 SM and LNAV Cat C/D visibility to 1⅛ SM.

MISSED APPROACH: Climb to 3000 direct CURGO and track 352° to CLIOO and hold.

CAUTION: Brightly lighted parking lot 4000 feet east of approach end of Rwy 27 can easily be confused for Rwy 27.
VOR RWY 18
BISHOP INTL (FNT)

Circling

CAUTION: Brightly lit parking lot 4000' east of approach and Rwy 27 can easily be confused for Rwy 27.

EC-1, 11 JUL 2024 to 05 SEP 2024

42°58'N-83°45'W

FNT, MICHIGAN
Orig-B 24MAY18

AL-618 (FAA)
MISSED APPROACH: Climbing right turn to 3000 on FNT VORTAC R-097 to KATTY/10.3 DME and hold.

CAUTION: Brightly lighted parking lot 4000' east of approach end Rwy 27 can easily be confused for Rwy 27.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES
Readback of all runway holding instructions is required.

NOTE: Due to distance of tower from transient ramp,
ATC unable to provide visual guidance or positioning
of aircraft. USE CAUTION.

AIRPORT DIAGRAM

BISHOP INTL (FNT)
FLINT, MICHIGAN

24025
AL-618 (FAA)

ATIS
133.15
FLINT TOWER
126.3 257.9
GND CON
121.9
CLNC DEL
121.75

JANUARY 2020
ANNUAL RATE OF CHANGE
0.0° W

WEST CARGO RAMP
ELEV 764

BLAST PAD
200 X 200

FBO

HS 1
ELEV 764
TERMINAL
DE-ICING AREA
RESTRICTED AREA

ELEV 763

TERMINAL

RESTRICTED AREA

FIELD ELEV 782

LAHSO

AIRPORT MAINT

TWKR 884

AIRPORT MAINT

FIRE STATION

BLAST PAD
200 X 200

7201 X 150

7827 X 150

BLAST PAD
200 X 200

36

GOLF TEES

AIRPARK

42°58'N

095.3°

83°45'W

42°57'N

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024

JANUARY 2020
ANNUAL RATE OF CHANGE
0.0° W

WEST CARGO RAMP
ELEV 764

BLAST PAD
200 X 200

FBO

HS 1
ELEV 764
TERMINAL
DE-ICING AREA
RESTRICTED AREA

ELEV 763

TERMINAL

RESTRICTED AREA

FIELD ELEV 782

LAHSO

AIRPORT MAINT

TWKR 884

AIRPORT MAINT

FIRE STATION

BLAST PAD
200 X 200

7201 X 150

7827 X 150

BLAST PAD
200 X 200

36

GOLF TEES

AIRPARK

42°58'N

095.3°

83°45'W

42°57'N

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 15
FRANKFORT DOW MEML FLD (FKS)

AWOS-3P 118.325
MINNEAPOLIS CENTER 132.9 338.3
UNICOM 123.05 (CTAF)

Procedure NA at night. Rwy 15 helicopter visibility reduction below 1 SM NA. When local alimeter setting not received, use Manistee alimeter setting and increase all MDA's 60 feet and Circling Cat A visibility 1/2 SM.

MISSED APPROACH: Climbing right turn to 2700 direct WIMQE and hold.

Frankfort, Michigan
Amdt 1B 07OCT21

44°38'N - 86°12'W
241
RNAV (GPS) RWY 33
FRANKFORT DOW MEML FLD (FKS)

Procedure NA at night. Rwy 33 helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing left turn to 3600 direct OYVUK and hold.

AWOS-3P
118.325

MINNEAPOLIS CENTER
132.9
338.3

UNICOM
123.05 (CTAF)

APP CRS
Rwy Idg 3939
TDZE 624
Apt Elev 633

RNP APCH - GPS.

ELEV 633
TDZE 624

MIRL Rwy 15-33
REIL Rwy 33

CARGo

FLY AREA

RNAV (GPS) RWY 33

Amdt 1C 11AUG22

EC-1, 11 JUL 2024 to 05 SEP 2024

3600
OYVUK

JEQMU

WECQO

338° 6000

3600

3600

OYVUK

4 NM

OYVUK

Holding Pattern

248°

158°

6000

3600

3600

Final approach course offset 14.67°.

offset 14.67°.

Final approach course offset 14.67°.

Final approach course offset 14.67°.

Final approach course offset 14.67°.

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Final approach course offset 14.67°.

Final approach course offset 14.67°.
RNAV (GPS) RWY 1
FREMONT MUNI (FFX)

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). Rw1 helicopter visibility reduction below ½ SM NA. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Muskegon altimeter setting and increase all DA 65 feet, and all visibilities ½ mile. Increase all MDA 80 feet, and Cat C/D visibilities ½ mile. VDP NA when using Muskegon altimeter setting.

MISSING APPROACH:
Climb to 2900 direct OJANA and hold.

AWOS: 3
118.775

GREAT LAKES APP CON
119.8
290.35

CLNC DEL
118.25

UNICOM
123.0 (CTAF)

4 NM
184°
OJANA

094°
274°
SACOL

2900

30 NM to HEVMI

30 NM to SACOL (No PT)

969 ± V
797 ± V
859 ± V
879 ± V

A 1101

A 1847

1457 A

1382 A

969 ± A

2900

2900 No PT

274°

30 NM to DOSYA

DOSYA

184°

2900

2300

OJANA

004°

1457

1382

969 ± V

797 ± V

859 ± V

879 ± V

6.1 NM

3.6 NM

1.1

4 NM

HEVMI

094°

274°

184°

2900

30 NM to HEVMI

30 NM to SACOL (No PT)

4 NM Holding Pattern

SACOL

2900

GP 3.00°
TCH 45

EC-1, 11 JUL 2024 to 05 SEP 2024

Amdt 1D   11AUG22

43°26'N-86°00'W
RNAV (GPS) RWY 19
FREMONT MUNI (FFX)

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). Rwy 19 helicopter visibility reduction below 0.5 SM NA. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Muskegon altimeter setting and increase all DA 65 feet, and all visibilities 1/2 mile. Increase all MDA 80 feet, and Cat C/D visibilities 1/2 mile. VDP NA when using Muskegon altimeter setting.

MISS APPROACH:
Climb to 2900 direct SACOL and hold.
**ILS or LOC RWY 9**

**GAYLORD RGNL (GLR)**

**LOC I-GLR**

<table>
<thead>
<tr>
<th>APP CRS</th>
<th>TDZE</th>
<th>Apt Elev</th>
</tr>
</thead>
<tbody>
<tr>
<td>111.1</td>
<td>1321</td>
<td>1328</td>
</tr>
</tbody>
</table>

**APCH FIX**

- **GAYLORD**: Chan 29
- **Localizer 111.1**: I-GLR

**MALSR**

- **ELEV** 1328
- **TDZE** 1321

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 38).**

- **VGS** 3.00°
- **TCH** 38°

**Remain within 10 NM**

- **3000**
- **276°**
- **096°**
- **2621**
- **2700**

**GS 3.00° TCH 50°**

**MID-GLR 25 NM**

** Categories**

<table>
<thead>
<tr>
<th>CATEGORY</th>
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<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>S-ILS 9</td>
<td>1521</td>
<td>1/2</td>
<td>200 (200-1/2)</td>
<td></td>
</tr>
<tr>
<td>S-LOC 9</td>
<td>1860-1</td>
<td>539 (600-1/2)</td>
<td>1860-1</td>
<td>539 (600-1)</td>
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<tr>
<td>CIRCLING</td>
<td>1860-1</td>
<td>532 (600-1)</td>
<td>1940-1</td>
<td>612 (700-1)</td>
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<tr>
<td></td>
<td>2040-2</td>
<td>712 (800-2)</td>
<td>2080-2</td>
<td>752 (800-2 1/2)</td>
</tr>
</tbody>
</table>

**ADF or DME REQUIRED**

**MISSED APPROACH:**

- Climbing to 3000 and then holding direct GVR VOR/DME and holding.
- Increase S-LOC 9 visibility to 1/4 mile. Night landing: Rwy 18, 36 NA.

**GAYLORD, MICHIGAN**

- **ASOS** 118.375
- **MINNEAPOLIS CENTER** 134.6 354.05
- **UNICOM** 122.8 (CTAF)
RNAV (GPS) RWY 9
GAYLORD RGNL (GLR)

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 ½ mile and Circling Cats C and D visibility ¼ mile. Inoperative table does not apply to LNAV Cats A and B. For inoperative MALSR increase LNAV Cats C and D visibility to 1½. When using Grayling altimeter setting increase LNAV Cats C and D visibility to 1½.

ASOS
118.375

MINNEAPOLIS CENTER
134.6 354.05

UNICOM
122.8 (CTAF)
RNAV (GPS) RWY 27
GAYLORD RGNL (GLR)

A

Missed Approach: Climb to 3000 direct WODIV and hold.

ASOS
118.375
MINNEAPOLIS CENTER
134.6 354.05
UNICOM
122.8 (CTAF)

Procedure NA for arrival at GLR VOR/DME on V233 southbound.

Procedure NA for arrival on APN VORTAC airway radials 201 CW 346.

RNAV (GPS) RWY 27

3500
A2167

Missed APCH FIX
WODIV

GAYLORD
GR

1442
1404
1630
1492

Rondo

3100 to COBIB
096° (10.8)

Procedure NA for arrival at GLR VOR/DME on V233 southbound.

GAYLORD, MICHIGAN
Orig-C 20MAY21

RNAV (GPS) RWY 27
GAYLORD RGNL (GLR)

EC-11 JUL 2024 to 05 SEP 2024
Circling Rwy 18, 36 NA at night. Rwy 27 helicopter visibility reduction below ¾ SM NA.
When local altimeter setting not received, use Grayling altimeter setting and increase all MDA 80 feet. Increase S-27 and Circling Cat C/D visibility ¼ mile. Increase DEYYY FIX minimums S-27 and Circling Cat C/D visibility ¾ mile.

**MISSED APPROACH:**
Climb to 3000 then climbing right turn to 3100 direct GR LOR/VOR/DME and hold.
GREAT LAKES APP CON *

126.45  235.625

MISSED APCH FIX

4 NM

WELVI

Visual Segment - Obstacles.

3000 WELVI

Δ

PT required for all arrivals at JOMID on V233.

1743

Δ

1164

Δ

5 NM

Holding Pattern

JOMID

2700

271°

(8.4)

(8.4)

8.4 NM

5.9 NM

WELVI

Δ

RW09

1323

1088

831

GREAT LAKES APP CON

UNICOM

126.45  235.625

122.8 (CTAF) 0

MISSED APPROACH: Climb to 3000 direct WELVI and hold.

Circling NA to Rwy's 15 and 33. Rwy 9 helicopter visibility reduction below 1 SM NA.

DME/DME RNP-0.3 NA. Procedure NA at night. Use Mount Pleasant altimeter setting; when not received, use Midland altimeter setting and increase all MDA 20 feet; increase LP and LNAV Cats C/D visibility 1/4 SM.

MISSED APCH FIX

5000 Napt (22.1)

(ZOLOX)

5000 Napt (7.3)

(IAF)

JOMID

(IAF)

ICADA

WAAS

CH 48826

W09A

APP CRS

TDZE

Apt Elev

Rwy Idg

4699

774

774

CATEGORY

A

B

C

D

LP MDA

1440-1

666 (700-1)

1440-1½

666 (700-1½)

1440-1½

666 (700-1½)

1440-1½

666 (700-1½)

1500-1

726 (800-1)

1520-2½

746 (800-2½)

1700-3

926 (1000-3)

LNAV MDA

1440-1

666 (700-1)

1440-1½

666 (700-1½)

1440-1½

666 (700-1½)

1440-1½

666 (700-1½)

CIRCLING

1440-1

666 (700-1)

1500-1

726 (800-1)

1520-2½

746 (800-2½)

1700-3

926 (1000-3)
**RNAV (GPS) RWY 27**

**GLADWIN ZETTEL MEML (GDW)**

**GREAT LAKES APP CON**
- 126.45
- 235.625

**UNICOM**
- 122.8 (CTAF)

**RNP APCH - GPS**

**Circling NA to Rwys 15 and 33. Rwy 27 helicopter visibility reduction below 1 SM NA. Procedure NA at night. Use Mount Pleasant altimeter setting; when not received, use Midland altimeter setting and increase all MDA 20 feet; increase LP and LNAV Cats C/D visibility 1/4 SM.**

**Procedure NA for arrival on MOP VOR/DME airway radials 336 CW 106.**

**Procedure NA for arrival on MBS VOR/DME airway radials 284 CW 016.**

**MOUNT PLEASANT MOP**

**WHIPP**

**JIDUM**

**WELVI**

**HOLDING PATTERN**
- 3000

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 9
GRAND HAVEN MEML AIRPARK (3GM)

RNP APCH.

Use Muskegon altimeter setting. Circling Rwy 18, 36 NA at night.
Rwy 9 helicopter visibility reduction below ½ SM NA.

MKG ASOS
124.3

GREAT LAKES APP CON
133.825 290.35

UNICOM
122.7 (CTAF)

Category

| A  | B       | C       | D
|----|---------|---------|---
| LNAV MDA | 1140-1 | 537 (600-1) | 1140-1½ | 537 (600-1½) | NA
| CIRCLING | 1240-1 | 636 (700-1) | 1320-2 | 716 (800-2) | NA

GRAND HAVEN, MICHIGAN
Orig-B 07OCT21

EC-1, 11 JUL 2024 to 05 SEP 2024
Use Muskegon altimeter setting. Rwy 27 helicopter visibility reduction below 1/4 SM NA. Circling Rwys 18, 36 NA at night.

**MISSED APPROACH:**
Climb to 3000 direct WASOG and hold.

**EC-1, 11 JUL 2024 to 05 SEP 2024**
Use Lansing altimeter setting. DME/DME RNP-0.3 NA. Circling NA to Rwys 18 and 36. Helicopter visibility reduction below ¾ SM NA. Night Landing Rwy 27 NA.

**MISSED APPROACH:** Climbing left turn 3000 direct CUTTY and hold.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>LP MDA</td>
<td>1380-1</td>
<td>539 (600-1)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>LNAV MDA</td>
<td>1400-1</td>
<td>559 (600-1)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>CIRCLING</td>
<td>1400-1</td>
<td>1420-1</td>
<td>559 (600-1)</td>
<td>579 (600-1)</td>
</tr>
</tbody>
</table>

EC-1, 11 JUL 2024 to 05 SEP 2024
ILS RWY 35 (SA CAT I & II)  
GERALD R FORD INTL (GRR)

DME required. DME or RADAR required for procedure entry.

SA CAT I: Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.
SA CAT II: Reduced lighting: requires specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown.
Procedure NA when tower closed.

MISSED APPROACH: Climb to 1300 then climbing left turn to 3000 on VIO VOR/DME R-353 to WALKS 13.7 DME and hold.

ATIS 118.725  GREAT LAKES 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

MISSPD APCH FIX
WALKS VIO 13.7

LOCALIZER 111.9 I-DVS

VIO R-353

LOM
KNOBS 263 GR

VICTORY 115.95 VIO Chan 106 (Y)

VIO 6.4

MISSED APPROACH: Climb to 1300 then climbing left turn to 3000 on VIO VOR/DME R-353 to WALKS 13.7 DME and hold.

SA CATEGORY I & II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

GRAND RAPIDS, MICHIGAN
Amdt 2B 30JAN20

42°53'N-85°31'W
ILS RWY 35 (SA CAT I & II)

GRAND RAPIDS, MICHIGAN
AL-5184 (FAA)

LOC 1-DVS 111.9
APP CRS 357°
Rwy Idg 8501
TDZE 790
Apt Elev 794

DME required. DME or RADAR required for procedure entry.
RNAV (GPS) RWY 8L
GERALD R FORD INTL (GRR)

**ATIS**
118.725

**GREAT LAKES 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

**MISSED APPROACH:** Climb to 3000 direct WAGMI and left turn on track 337° to CLOCK and hold.

**ATIS Details**
- **GRAND RAPIDS, MICHIGAN**
- **RNAV (GPS) RWY 8L**
- **GERALD R FORD INTL (GRR)**

**RNAV (GPS) RWY 8L**

**ATIS**
- **GRAND RAPIDS, MICHIGAN**
- **RNAV (GPS) RWY 8L**
- **GERALD R FORD INTL (GRR)***

**ATIS Details**
- **GRAND RAPIDS, MICHIGAN**
- **RNAV (GPS) RWY 8L**
- **GERALD R FORD INTL (GRR)***

**RNAV (GPS) RWY 8L**
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 47°C. For inop ALS, increase LNAV Cat D visibility to RVR 6000.

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

Procedure NA for arrivals at JAKES on V193 southwest bound.
RNAV (GPS) RWY 17
GERALD R FORD INTL (GRR)

**RNAV (GPS) RWY 17**

**ATIS**
118.725

**GREAT LAKES 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

**Procedure NA for arrivals at CLOCK on V193 northeast bound and V285 northbound.**

**For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. Rwy 17 helicopter visibility reduction below ½ SM NA.**

**RNP APCH.**

**GRAND RAPIDS, MICHIGAN**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**Amdt 1C 31DEC20**

**42°53’N-85°31’W**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 26R

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 47°C. Rwy 26R helicopter visibility reduction below 1 SM NA.

ATIS
118.725

GREAT LAKES APP CON
GND CON
128.4
135.65
121.8

GRAND RAPIDS TOWER
CLNC DEL
125.6
119.3

UNICOM
133.65

ATIS
135.65

GRAND RAPIDS, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. For inop ALS, increase LNAV Cat D visibility to RVR 6000.
* RVR 1800 authorized with use of FD or AP or HUD to DA.

MISSED APPROACH: Climb to 3000 direct HABKO and on track 352° to CLOCK and hold.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. For inop ALS, increase LNAV Cat D visibility to RVR 6000.
* RVR 1800 authorized with use of FD or AP or HUD to DA.
**ELEV 1 m in 355° 175° 059° 239°**

**R -239**

**R-355**

**175° 2500 (5)**

**S-17**

**CIRCLING One Minute Holding Pattern**

**2500**

**355°**

**175°**

**VOR/DME VIO 115.95 Chan 106 (Y)**

**APP CRS 175°**

**Rwy Idg 8501 TDZE 788 Apt Elev 794**

**GREAT LAKES APP CON * 118.725**

**2500**

**355°**

**175°**

**2500 to TNMAN 355° (16)**

**1022**

**949**

**3000**

**VIO 7.4**

**3.32° TCH 45**

**5001 X 100**

**10001 X 150**

**355° (16)**

**GREAT LAKES VOR W 8R-26L and 17-35**

**REIL Rwy 8L, 26R and 17**

**HIRL Rwy 8R-26L and 17-35**

**MIRL Rwy 8L-26R**

**HIRL Rwys 8R-26L and 17-35**


**MISSED APPROACH: Climb to 3000 direct VIO VOR/DME and hold.**

**ATIS**

**GRAND RAPIDS TOWER * 135.65 [CTAF] 339.8**

**GND CON 121.8 CLNC DEL 119.3 UNICOM 122.95**

**GREAT LAKES APP CON**

**257.6**

**VOR RWY 17**

**GERALD R FORD INTL (GRR)**

**GRAND RAPIDS, MICHIGAN**

**Orig-F 30JAN20**

**42°53'N-85°31'W**

**VOR RWY 17**

**GERALD R FORD INTL (GRR)**

**GRAND RAPIDS, MICHIGAN**

**AL-5184 (FAA)**

**24193**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
### RNAV (GPS) RWY 14

**GRAYLING AAF (GOV)**

**ATIS** 119.075  
**MINNEAPOLIS CENTER** 125.475 269.45  
**GRAYLING TOWER** 126.2 (CTAF)  
**GND CON** 121.9

---

**RNP APCH.**

Circling Rwys 5, 23, 32 NA at night. Rw 14 helicopter visibility reduction below 1/2 SM NA.

When local altimeter setting not received, use Houghton Lake altimeter setting and increase all MDAs 60 feet and LNAV Cat C visibility 1/2 SM and Circling Cat D visibility 1/4 SM.

**MISSED APPROACH:**

Climbing right turn to 3000 direct MAMER and hold.

---

### RNAV (GPS) RWY 14

**GRAYLING AAF (GOV)**

**ATIS** 119.075  
**MINNEAPOLIS CENTER** 125.475 269.45  
**GRAYLING TOWER** 126.2 (CTAF)  
**GND CON** 121.9

---

**RNP APCH.**

Circling Rwys 5, 23, 32 NA at night. Rw 14 helicopter visibility reduction below 1/2 SM NA.

When local altimeter setting not received, use Houghton Lake altimeter setting and increase all MDAs 60 feet and LNAV Cat C visibility 1/2 SM and Circling Cat D visibility 1/4 SM.

**MISSED APPROACH:**

Climbing right turn to 3000 direct MAMER and hold.

---

### RNAV (GPS) RWY 14

**GRAYLING AAF (GOV)**

**ATIS** 119.075  
**MINNEAPOLIS CENTER** 125.475 269.45  
**GRAYLING TOWER** 126.2 (CTAF)  
**GND CON** 121.9

---

**RNP APCH.**

Circling Rwys 5, 23, 32 NA at night. Rw 14 helicopter visibility reduction below 1/2 SM NA.

When local altimeter setting not received, use Houghton Lake altimeter setting and increase all MDAs 60 feet and LNAV Cat C visibility 1/2 SM and Circling Cat D visibility 1/4 SM.

**MISSED APPROACH:**

Climbing right turn to 3000 direct MAMER and hold.

---

### RNAV (GPS) RWY 14

**GRAYLING AAF (GOV)**

**ATIS** 119.075  
**MINNEAPOLIS CENTER** 125.475 269.45  
**GRAYLING TOWER** 126.2 (CTAF)  
**GND CON** 121.9

---

**RNP APCH.**

Circling Rwys 5, 23, 32 NA at night. Rw 14 helicopter visibility reduction below 1/2 SM NA.

When local altimeter setting not received, use Houghton Lake altimeter setting and increase all MDAs 60 feet and LNAV Cat C visibility 1/2 SM and Circling Cat D visibility 1/4 SM.

**MISSED APPROACH:**

Climbing right turn to 3000 direct MAMER and hold.
VOR RWY 14
GRAYLING AAF (GOV)

Rwy 14 helicopter visibility reduction below ½ SM NA. Circling Rwy 5, 23, 32 NA at night. When local altimeter setting not received, use Houghton Lake altimeter setting and increase all MDAs 60 feet and visibility S-14 and Circling Cat B/C/D ½ SM and GORDN fix minimums: S-14 Cat C and Circling Cat D ¼ SM.

MISSED APPROACH: Climbing right turn to 3500 in CGG VOR holding pattern.

GORDN FIX MINIMUMS:
- S-14: 1720-1/6, 1720-1¼, 1720-1½, 1760-1¼, 1760-1½, 1760-1¾, 1960-2/1, 267
- Circling: 1720-1/6, 1720-1¼, 1760-1¼, 1760-1½, 1760-1¾, 1960-2/1, 267

ATIS
119.075

MINNEAPOLIS CENTER
125.475 269.45

GRAYLING TOWER *
126.2 (CTAF)

GND CON
121.9
RNAV (GPS) RWY 10
GREENVILLE MUNI (6D6)

Circling NA to Rwy 18 and 36. Rwy 10 helicopter visibility reduction below 1 SM NA. DME/DME RNP-0.3 NA. Straight-in and Circling Rwy 10 NA at night. Use Grand Rapids altimeter setting; when not received, use Ionia altimeter setting.

**MISSED APPROACH:**
Climb to 3000 direct DOTIZ and hold.

Procedure NA for arrival on VIO VOR/DME airway radials 288 CW 058.

**APP CRS**
- Rwy Idg: 4199
- TDZE: 855
- Apt Elev: 855

**UNICOM**
- 122.8 (CTAF)

**GREAT LAKES APP CON**
- 124.6
- 257.6

**ELEV**
- 855

**TDZE**
- 855

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**CATEGORY**
- A
- B
- C
- D

**LNAV MDA**
- 1340-1 (500-1)
- 1340-1\(\frac{3}{8}\) (500-1\(\frac{3}{8}\))

**CIRCLING**
- 1400-1
- 545 (600-1)
- 1420-1
- 565 (600-1)
- 1680-2\(\frac{1}{2}\)
- 825 (900-2\(\frac{1}{2}\))
- 1680-2\(\frac{3}{4}\)
- 825 (900-2\(\frac{3}{4}\))

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**GREENVILLE, MICHIGAN**
Amdt 1 24MAY18

**RNAV (GPS) RWY 10**
GREENVILLE MUNI (6D6)

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**REIL Rwy 28**
- MIRL Rwy 10-28

**GREAT LAKES APP CON**
- 23110

**GREENVILLE, MICHIGAN**
AL-6875 (FAA)

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**GREAT LAKES APP CON**
- 23110
Circling NA to Rwys 18 and 36. DME/DME RNP-0.3 NA. Rwy 28 helicopter visibility reduction below ½ SM NA. Circling Rwy 10 NA at night. Use Grand Rapids altimeter setting; when not received, use Ionia altimeter setting.

**MISSED APPROACH:** Climb to 3000 direct ODELE and hold.

Procedure NA for arrival on VIO VOR/DME airway radials 333 CW 100.

**Apt Elev** 855  **TDZE** 847  **UNICOM** 122.8 (CTAF) 

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 7
HOUGHTON COUNTY MEML (CMX)

ASOS
125.675

MINNEAPOLIS CENTER
133.55  379.1

UNICOM
122.7 (CTAF)

Procedure NA for arrival on CMX VOR/DME airway radials 171 CW 332.

MISSED APPROACH: Climb to 3700 direct ZORIV and hold.

LPV DA
1431-1  364 (400-1)

LNAV/ VNAV DA
1598-1  531 (600-1½)

LNAV MDA
1640-1  573 (600-1)
1640-1½  573 (600-1½)

CIRCLING
1640-1  545 (600-1)
1700-1¾  605 (700-1½)
1820-2½  725 (800-2¼)

MINNEAPOLIS CENTER
133.55  379.1

Rwy 7 helicopter visibility reduction below ¾ SM NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

HANCOCK, MICHIGAN
Amdt 1C  25FEB21

47°10'N-88°29'W

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 14
HOUGHTON COUNTY MEML (CMX)

HANCOCK, MICHIGAN
AL-896 (FAA)

RNP APCH - GPS.

**A**
Rwy 14 helicopter visibility reduction below ¾ SM NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -21°C or above 54°C.

**B**

MISSED APPROACH: Climb to 2400 then climbing left turn to 3700 direct BAPYA and hold.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>LPV DA</th>
<th>LNAV/ VNAV DA</th>
<th>LNAV MDA</th>
<th>CIRCLING</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1414-7½</td>
<td>1626-1½</td>
<td>1560-1½</td>
<td>1620-1</td>
</tr>
<tr>
<td>B</td>
<td>319 (400-¾)</td>
<td>531 (600-½)</td>
<td>465 (500-1)</td>
<td>525 (600-1)</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td>1560-1¾</td>
<td>1660-1</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td>465 (500-½)</td>
<td>565 (600-1)</td>
</tr>
</tbody>
</table>

**CIRCLING**

- 1620-1
- 525 (600-1)
- 1660-1
- 565 (600-1)
- 1700-1¾
- 605 (700-1¼)
- 1820-2½
- 725 (800-2¼)

HANCOCK, MICHIGAN
Amdt 1B 30NOV23
47°10’N-88°29’W
Rwy 25 helicopter visibility reduction below ¾ SM NA.

Procedure NA for arrivals at CMX VOR/DME on V133-341 northwest bound.

MISSED APPROACH: Climb to 3700 direct FAXET and hold.

HANCOCK, MICHIGAN
AMDT 1 30NOV23
**LOC BC RWY 14**

**HOUGHTON COUNTY MEML (CMX)**

**ELEV 1095**

**D TDZE 1095**

**LOC/DME I-CMX 110.3**

**APP CRS 133°**

**Rwy Idg 6501**

**TDZE 1095**

**Apt Elev 1095**

**ASOS 125.675**

**MINNEAPOLIS CENTER 133.55 379.1**

**UNICOM 122.7 (CTAF)**

**MISSED APPROACH:** Climb to 3100 then right turn direct CMX VOR/DME and hold.

**BACK COURSE**

**Rwy 14 helicopter visibility reduction below ¾ SM NA. Activate MIRLs Rwy 7-25 - CTAF.**

**DME required.**

Use I-CMX DME when on the localizer course. Disregard glide slope indications.

**EC-1, 11 JUL 2024 to 05 SEP 2024**

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**CATEGORY**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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</thead>
<tbody>
<tr>
<td>S</td>
<td>LOC 14</td>
<td>1540-1</td>
<td>445 (500-1)</td>
<td>1540-1½</td>
</tr>
<tr>
<td></td>
<td>525 (600-1)</td>
<td>565 (600-1)</td>
<td>605 (700-1¼)</td>
<td>725 (800-2¼)</td>
</tr>
<tr>
<td>C</td>
<td>CIRCLING 1620-1</td>
<td>1660-1</td>
<td>1700-1½</td>
<td>1820-2¼</td>
</tr>
</tbody>
</table>

**HANCOCK, MICHIGAN**

**NEW**

**Al 896 (FAA)**

**24193**

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**HANCOCK, MICHIGAN**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**LOC BC RWY 14**

**HOUGHTON COUNTY MEML (CMX)**

**ELEV 1095**

**D TDZE 1095**

**LOC/DME I-CMX 110.3**

**APP CRS 133°**

**Rwy Idg 6501**

**TDZE 1095**

**Apt Elev 1095**

**ASOS 125.675**

**MINNEAPOLIS CENTER 133.55 379.1**

**UNICOM 122.7 (CTAF)**

**MISSED APPROACH:** Climb to 3100 then right turn direct CMX VOR/DME and hold.

**BACK COURSE**

**Rwy 14 helicopter visibility reduction below ¾ SM NA. Activate MIRLs Rwy 7-25 - CTAF.**

**DME required.**

Use I-CMX DME when on the localizer course. Disregard glide slope indications.

**EC-1, 11 JUL 2024 to 05 SEP 2024**

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**HANCOCK, MICHIGAN**

**NEW**

**Al 896 (FAA)**

**24193**

---

**HANCOCK, MICHIGAN**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**LOC BC RWY 14**

**HOUGHTON COUNTY MEML (CMX)**

**ELEV 1095**

**D TDZE 1095**

**LOC/DME I-CMX 110.3**

**APP CRS 133°**

**Rwy Idg 6501**

**TDZE 1095**

**Apt Elev 1095**

**ASOS 125.675**

**MINNEAPOLIS CENTER 133.55 379.1**

**UNICOM 122.7 (CTAF)**

**MISSED APPROACH:** Climb to 3100 then right turn direct CMX VOR/DME and hold.

**BACK COURSE**

**Rwy 14 helicopter visibility reduction below ¾ SM NA. Activate MIRLs Rwy 7-25 - CTAF.**

**DME required.**

Use I-CMX DME when on the localizer course. Disregard glide slope indications.

**EC-1, 11 JUL 2024 to 05 SEP 2024**

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**HANCOCK, MICHIGAN**

**NEW**

**Al 896 (FAA)**

**24193**

---

**HANCOCK, MICHIGAN**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
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)

Amdt 17E  30NOV23

Category
A
B
C
D

S-25
1620-1
545 (600-1)
1620-1½
545 (600-1½)
1620 1¾
545 (600-1¾)

CIRCLING
1620-1
525 (600-1)
1660-1
1700-1¾
605 (700-1¾)
1820-2¼
725 (800-2¼)

MIRL Rwy 7-25
REIL Rwys 7, 14 and 25
HIRL Rwy 14-32

HANCOCK, MICHIGAN
Amdt 17E  30NOV23

47°10'N-88°29'W
RNAV (GPS) RWY 10
HARBOR SPRINGS (MGN)

AWOS-3P
119.925

MINNEAPOLIS CENTER
134.6 354.05

UNICOM
122.8 (CTAF)

APP CRS
101°
Rwy Ldg
3712
TDZE
679
Apt Elev
686

CATEGORY
B
C
D

AWS-3P

HARBOR SPRINGS, MICHIGAN

MINNEAPOLIS CENTER

UNICOM

RNAV (GPS) RWY 10
HARBOR SPRINGS (MGN)

EC-1, 11 JUL 2024 to 05 SEP 2024

45°26'N - 84°55'W

HARBOR SPRINGS, MICHIGAN
Amdt 1A 28APR16

RNAV (GPS) RWY 10
HARBOR SPRINGS (MGN)
RNAV (GPS) RWY 28
HARBOR SPRINGS (MGN)

AWOS-3P 119.925
MINNEAPOLIS CENTER 134.6 354.05
UNICOM 122.8 (CTAF)

EC-1, 11 JUL 2024 to 05 SEP 2024

OPNOE and via 240° track to JONIE and hold.

MISSED APPROACH: Climb to 3400 direct
OPNOE and via 240° track to JONIE and hold.

EC-1, 11 JUL 2024 to 05 SEP 2024

RNAV (GPS) RWY 28
HARBOR SPRINGS (MGN)

Amdt 2A 28APR16

HARBOR SPRINGS, MICHIGAN
AL-6985 (FAA)

HARBOR SPRINGS, MICHIGAN
45°26'N - 84°55'W

MIRL Rwy 10-28

ELEV 686
TDZE 686

ELEV 686
TDZE 686

AWOS-3P 119.925
MINNEAPOLIS CENTER 134.6 354.05
UNICOM 122.8 (CTAF)

EC-1, 11 JUL 2024 to 05 SEP 2024

RNAV (GPS) RWY 28
HARBOR SPRINGS (MGN)

HARBOR SPRINGS, MICHIGAN
AL-6985 (FAA)

HARBOR SPRINGS, MICHIGAN
45°26'N - 84°55'W

Amdt 2A 28APR16

MIRL Rwy 10-28
When local altimeter setting not received, use Pellston altimeter setting and increase all MDAs 40 feet. Procedure NA at night. Visibility reduction by helicopters NA.

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

AWOS-3P  
119.925

MINNEAPOLIS CENTER  
134.6  354.05

UNICOM  
122.8 (CTAF)

HARBOR SPRINGS, MICHIGAN  
(MGN)

HARBOR SPRINGS CENTER  
686

PROCEDURES

One Minute Holding Pattern

Lat: 45°26'N-84°55'W
RNAV (GPS) RWY 9
OCEANA COUNTY (C04)

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 Rwys 15 and 33.

MISSED APPROACH:
Climbing right turn to 3300 direct WHALL and hold.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNAV MDA</td>
<td>1340-1</td>
<td>424 (500-1)</td>
<td>1780-1¼</td>
<td>NA</td>
</tr>
<tr>
<td>CIRCLING</td>
<td>1540-1</td>
<td>624 (700-1)</td>
<td>864 (900-1¾)</td>
<td>NA</td>
</tr>
</tbody>
</table>

EC-1, 11 JUL 2024 to 05 SEP 2024

43°38'N-86°20'W

OCEANA COUNTY (C04)
RNAV (GPS) RWY 9

HART/SHELBY, MICHIGAN
Orig 10DEC15

AWOS-AV
122.7

GREAT LAKES APP CON*
119.8 290.35

UNICOM
122.7 (CTAF)

1.8 NM to ENEXE
3.0° TCH 40

WHALL
3.0° TCH 40

3300

HOMUT
1090 ±

088°

ENEXE
1.8 NM to RW09

30 NM to FOGAT

1480

RW09

087°

357°

4 NM

1508

[Diagram showing flight path and holding patterns]
**RNAV (GPS) RWY 27**

**OCEANA COUNTY (C04)**

**AWOS-AV** 122.7

**GREAT LAKES APP CON**

**UNICOM** 122.7 (CTAF)

---

Boro-NAV NA when using Fremont altimeter setting. For uncompensated Boro-NAV systems, LNAV/NAV NA below -16°C (4°F) or above 54°C (130°F). When local altimeter setting not received, use Fremont altimeter setting and increase all DA 64 feet, all MDA 80 feet, and LPV and LNAV/NAV 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.

---

**Category**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>LPV DA</td>
<td>1254-1 342 (400-1½)</td>
<td>324 (400-1½)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>LNAV/VNAV DA</td>
<td>1236-1 324 (400-1½)</td>
<td>324 (400-1½)</td>
<td>NA</td>
<td></td>
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<tr>
<td>LNAV MDA</td>
<td>1340-1 428 (500-1)</td>
<td>428 (500-1)</td>
<td>NA</td>
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</tr>
<tr>
<td>CIRCLING</td>
<td>1540-1 624 (700-1)</td>
<td>1780-1 864 (900-1½)</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

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**EC-1, 11 JUL 2024 to 05 SEP 2024**

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**HART/SHELBY, MICHIGAN**

**Orig 10DEC15**

**43°38′N-86°20′W**
Circling NA to Rwy 9, 18, 27 and 36. Baro-VNAV NA. DME/DME RNP-0.3 NA. Use Grand Rapids altimeter setting; when not received, use Ionia altimeter setting: increase LPV DA to 1102 feet; increase LNAV/VNAV DA to 1260 feet and all visibilities 1/2 SM; increase all MDA 20 feet, and LNAV visibility Cat C 1/2 SM.

**MISSED APPROACH:**
Climb to 3000 direct DERRE and hold.

### GREAT LAKES APP CON

| GRR ASOS | 118.725 |
| UNICOM | 123.075 (CTAF) |

| Rwy Idg | 4762 |
| TDZE | 800 |
| Apt Elev | 800 |

**RAVADAR REQUIRED**

**GRR ASOS** 118.725

**GREAT LAKES APP CON**

**UNICOM** 123.075 (CTAF)

**RNAV (GPS) RWY 12**
**HASTINGS (9D9)**
**RNAV (GPS) RWY 30**

**HASTINGS (9D9)**

<table>
<thead>
<tr>
<th>Category</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>LPV DA</td>
<td>1116-1</td>
<td>316 (400-1)</td>
<td>NA</td>
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<tr>
<td>LNAV/VNAV DA</td>
<td>1362-1(^\circ)</td>
<td>562 (600-1(^\circ))</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>LNAV MDA</td>
<td>1300-1</td>
<td>500 (500-1)</td>
<td>1300-1(^\circ)</td>
<td>500 (500-1(^\circ))</td>
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<tr>
<td>CIRCLING</td>
<td>1380-1</td>
<td>580 (600-1)</td>
<td>1420-1</td>
<td>620 (700-1)</td>
</tr>
</tbody>
</table>

**RNAV (GPS) RWY 30**

**HASTINGS (9D9)**

**MISSED APPROACH:**
- Climbing right turn to 3000 direct UNSUN and hold.

**Circling NA to Rwy 9, 18, 27 and 36. Baro-VNAV NA. Use Grand Rapids altimeter setting; when not received, use Ionia altimeter setting: increase LPV DA to 1131 feet; increase LNAV/VNAV DA to 1377; increase all MDAs 20 feet.**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**GRR ASOS**
- 118.725

**GREAT LAKES APP CON**
- 128.4
- 257.6

**UNICOM**
- 123.075 (CTAF)

**RADAR REQUIRED**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**GREAT LAKES APP CON**

**MISSING APPROACH:**
- Climbing right turn to 3000 direct UNSUN and hold.

**Circling NA to Rwy 9, 18, 27 and 36. Baro-VNAV NA. Use Grand Rapids altimeter setting; when not received, use Ionia altimeter setting: increase LPV DA to 1131 feet; increase LNAV/VNAV DA to 1377; increase all MDAs 20 feet.**

**GRR ASOS**
- 118.725

**GREAT LAKES APP CON**
- 128.4
- 257.6

**UNICOM**
- 123.075 (CTAF)

**RADAR REQUIRED**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**MISSING APPROACH:**
- Climbing right turn to 3000 direct UNSUN and hold.

**Circling NA to Rwy 9, 18, 27 and 36. Baro-VNAV NA. Use Grand Rapids altimeter setting; when not received, use Ionia altimeter setting: increase LPV DA to 1131 feet; increase LNAV/VNAV DA to 1377; increase all MDAs 20 feet.**

**GRR ASOS**
- 118.725

**GREAT LAKES APP CON**
- 128.4
- 257.6

**UNICOM**
- 123.075 (CTAF)
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 1/2 mile. Circling NA to Rwy 9, 18, 27, 36.

**VOR RWY 12**

**HASTINGS (9D9)**

**UNICOM**

123.075 (CTAF) ❗

**MISSING APPROACH: Climb to 2000, then climbing left turn to 3000 on VIO VOR/DME R-142 to VIO VOR/DME and hold.**

**GRR ASOS**

118.725

**GREAT LAKES APP CON**

* 128.4 257.6

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**HASTINGS, MICHIGAN**

Orig-H 26MAR20

**42°40'N-85°21'W**

287
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.

**MISSED APPROACH:**
Climb to 3100 direct AVIYE and hold.

<table>
<thead>
<tr>
<th>AWOS-3</th>
<th>TOLEDO APP CON</th>
<th>UNICOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>121.025</td>
<td>134.35 317.55</td>
<td>122.8 (CTAF)</td>
</tr>
</tbody>
</table>
RNAV (GPS) RWY 28

HILLSDALE MUNI (JYM)

AWOS-3 121.025
TOLEDO APP CON 134.35 317.55
UNICOM 122.8 (CTAF)

Rwy 28 helicopter visibility reduction below 3/4 SM NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below
-17°C or above 54°C.

MISSED APPROACH: Climb to 1700 then climbing left turn to
3100 direct HIRED and hold.

REIL Rwy 10 and 28
HIRL Rwy 10-28
Procedure NA for arrival on PMM VOR/DME airway radials 004 CW 091.

PATH:
- Start at HOLLAND, MICHIGAN
- Proceed to 698’ ELEV.
- Continue to 686’ TDZE
- Proceed to 264° heading
- Hold at ZEELE
- Continue to 2600
- Proceed to 264° heading
- Hold at FENAB
- Continue to 2600
- Proceed to 264° heading
- Hold at JAVPO INT
- Continue to 2600
- Proceed to 264° heading
- Hold at 5100
- Continue to 2700

NOTE:
- DME required.

MISSED APPROACH: Climb to 1500 then climbing right turn to 2600 on heading 020° and VIO.

VOE/DME R-285 to ZEELE/VIO 25.7 DME and hold.
RNAV (GPS) RWY 8
HOLLAND, MICHIGAN

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 16°F or above 54°F. When local altimeter setting not received, use Muskegon altimeter setting: increase LPV DA to 1018 feet, increase LNAV/VNAV DA to 1160 feet, and all visibilities 1/4 SM, increase all MDAs 80 feet, and visibility LNAV C/D 1/4 SM and Circling Cat C/D 1/4 SM. Baro-VNAV and VDP NA when using Muskegon altimeter setting.

MISSED APPROACH: Climb to 3000 direct JAVPO and hold.

<table>
<thead>
<tr>
<th>ASOS</th>
<th>GREAT LAKES APP CON*</th>
<th>CLNC DEL</th>
<th>UNICOM</th>
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<tbody>
<tr>
<td>119.025</td>
<td>133.825 290.35</td>
<td>123.95</td>
<td>123.05 (CTAF)</td>
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</table>

EC-1, 11 JUL 2024 to 05 SEP 2024

WEST MICHIGAN RGNL (BIV)

RNAV (GPS) RWY 8
HOLLAND, MICHIGAN

Amdt 2E 11AUG22

42°45’N-86°06’W

291
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. For inoperative ALS, increase LNAV/VNAV all Cat visibility to 1 SM; increase LNAV Cat C visibility to 1½ SM.

MISSED APPROACH:
Climb to 2700 direct HOXON and hold.

ELEV 698  TDZE 686
RNAV (GPS) RWY 9

ROSCOMMON COUNTY/BLODGETT MEML (HTL)

**Altimeter Setting**
- When local altimeter setting not received, use Gaylord altimeter setting and increase all MDAs.
- 120 feet and visibility Cat C/D 1/2 SM. DME/DME RNP-0.3 NA. Procedure NA at night.
- Helicopter visibility reduction below 1 SM NA. Circling NA to Rwy 18 and 36.

**MISSED APPROACH**
- Climb to 3300 direct HESER and hold.

**Unicom**
- 122.8 (CTAF)

**Visual Segment - Obstacles**
- 3300
- 274°
- 094°
- 2900
- (IF/IAF) FISTU
- (FAF) IBEME
- RW09
- 30 NM to FISTU
- 30 NM to FISTU

**Category**
- A
- B
- C
- D

**LP MDA**
- 1520-1
- 372 (400-1)

**LNAV MDA**
- 1580-1
- 432 (500-1)
- 1580-1¼
- 432 (500-1¼)

**Circling**
- 1600-1
- 450 (500-1)
- 1700-1½
- 550 (600-1½)
- 1820-2
- 670 (700-2)

**EC-1, 11 JUL 2024 to 05 SEP 2024**
When local altimeter setting not received, use Gaylord altimeter setting and increase all MDAs 120 feet and visibility Cat C/D 1/2 SM. DME/DME RNP-0.3 NA. Procedure NA at night. Helicopter visibility reduction below 1 SM NA. Circling NA to Rwys 18, 36.

MISSING APPROACH: Climb to 3300 direct FISTU and hold.

ASOS
118.05

MINNEAPOLIS CENTER
125.475 269.45

UNICOM
122.8 (CTAF)

EC-1, 11 JUL 2024 to 05 SEP 2024

ROSCOMMON COUNTY/BLODGETT MEML

ROSCOMMON COUNTY/BLODGETT MEML (HTL)

RNAV (GPS) RWY 27

Houghton Lake, Michigan

Amdt 1D 24FEB22

Helicopter visibility reduction below 1 SM NA. Circling NA to Rwys 18, 36.

When local altimeter setting not received, use Gaylord altimeter setting and increase all MDAs 120 feet and visibility Cat C/D 1/2 SM. DME/DME RNP-0.3 NA. Procedure NA at night. Helicopter visibility reduction below 1 SM NA. Circling NA to Rwys 18, 36.

MISSING APPROACH: Climb to 3300 direct FISTU and hold.
ILS or LOC RWY 13
LIVINGSTON COUNTY SPENCER J HARDY (OZW)

For inop ALS, increase LOC Cat C and D visibility to 1 1/2 SM, and JIVEX fix minimums S-13 Cat C and D visibility to 1 SM.

AWOS-3
118.875
DETOUR APP CON
132.35
284.0
CLNC DEL
121.725
(GCO)
UNICOM
123.0
(CTAF)

Procedure NA for arrivals at FNT VORTAC on V450 eastbound.

HOWELL, MICHIGAN
AL-5485 (FAA) 23054

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 13
LIVINGSTON COUNTY SPENCER J HARDY (OZW)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 37°C. For inop ALS, increase LNAV/VNAV all Cats visibility to ¾ SM.

AWOS-3 118.875
DETOI APP CON 132.35 284.0
CLNC DEL 121.725 (GCO)
UNICOM 123.0 (CTAF)

Procedure NA for arrivals at FNT VORTAC on V450 eastbound.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

AWOS-3
118.875

DETOUR APP CON
132.35 284.0

CINC DEL
121.725 (GCO)

UNICOM
123.0 (CTAF)

MISSED APPROACH:
Climb to 3000 direct HUCCY and hold.

EC-1, 11 JUL 2024 to 05 SEP 2024
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to HUUTZ, then on track 213° to BARII, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SINKR TRANSITION (BARI3.SINKR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to BROZZ, then on track 279° to CCOBB, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

ZEGBI TRANSITION (CCOBB3.ZEGBI):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: For use by aircraft filed at or below FL220, or as assigned by ATC.
NOTE: CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP) at or below 17999 (SR-SS).

TAKEOFF MINIMUMS:
Rwys 13, 31: Standard.

NOTE: Chart not to scale.
CLVIN THREE DEPARTURE (RNAV) (CLVIN3.CLVIN) 24JUL24

DEPARTURE ROUTE DESCRIPTION

**TAKEOFF RUNWAY 13:** Climb on heading 132° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 31:** Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to cross PHAUL at or above 3100, then on track 206° to CLVIN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**STAZE TRANSITION (CLVIN3.STAZE):**

NOTE: Chart not to scale.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to cross MALTB at or above 2200, then on track 094° to HHOWE, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE4.BROKK):

LNCON TRANSITION (HHOWE4.LNCON):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to MTRCT, then on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3 SMUUV):
**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 13**: Climb on heading 132° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 31**: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.

**NOTE**: Chart not to scale.

**NOTE**: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

**NOTE**: For use by Cleveland terminal arrivals only.
NOTE: Turboprop departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

TOP ALTITUDE: ASSIGNED BY ATC

TAKEOFF MINIMUMS:
Rwy 13, 31: Standard.

RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

...for RADAR vectors to KZLOV, then on track 111° to LIDDS, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GRIVY TRANSITION (LIDDS3.GRIVY):
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to JAXII, then on track 323° to MIGGY, then on (transition).
Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

GETCH TRANSITION (MIGGY3.GETCH):
HUBBY TRANSITION (MIGGY3.HUBBY):
SLLAP TRANSITION (MIGGY3.SLLAP):

NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.

NOTE: GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.
NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to SLVVA, then on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3.ESSBE):
MRDOC TRANSITION (PAVYL3.MRDOC):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....

TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to JWELS, then on track 218° to SNDRS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):
TORRR TRANSITION (SNDRS3.TORRR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.

NOTE: Chart not to scale.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to LOALA, then on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GNZOE Transition (TRMML4.GNZOE):

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 13: Climb on heading 132° or as assigned by ATC, thence....
TAKEOFF RUNWAY 31: Climb on heading 312° or as assigned by ATC, thence....

....for RADAR vectors to FLOKA, then on track 049° to ZETTR, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

DUTEL TRANSITION (ZETTR4.DUTEL):
ETBOX TRANSITION (ZETTR4.ETBOX):
KELTI TRANSITION (ZETTR4.KELTI):
SIKBO TRANSITION (ZETTR4.SIKBO):
TANKO TRANSITION (ZETTR4.TANKO):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TANKO Transition: For use by CYYZ area arrivals only, or as assigned by ATC.

NOTE: Chart not to scale.
**RNAV (GPS) RWY 28**

**IONIA COUNTY (Y70)**

**AWOS-3** 118.9

**GREAT LAKES APP CON**

<table>
<thead>
<tr>
<th>Category</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td>LNAV MDA</td>
<td>1240-1</td>
<td>427 (500-1)</td>
<td>1240-1/4</td>
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<td>EC-1, 11 JUL 2024 to 05 SEP 2024</td>
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<tr>
<td>CIRCLING</td>
<td>1320-1</td>
<td>502 (600-1)</td>
<td>1340-11/2</td>
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<td>EC-1, 11 JUL 2024 to 05 SEP 2024</td>
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</table>

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**REIL Rwy 28**

**MIRL Rwy 10-28**

---

**RNAV (GPS) RWY 28**

**IONIA, MICHIGAN**

Amdt 1 02DEC21

42°56'N-85°04'W

IONIA COUNTY (Y70)
Circling NA NE of Rwy 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 ½ mile, Cat C visibility ¾ mile, Cat D visibility ½ mile. For inoperative M ALSR when using Escanaba altimeter setting, increase S-LOC 1 visibility Cat C/D to 2 ½ mile. DME from IMT VOR/DME. Simultaneous reception of IMT and IMT DME required.

ASOS

IRON MOUNTAIN KINGSFORD, MICHIGAN

AL-5347 (FAA) 2327B

ILS or LOC RWY 1

FORD (IMT)

MISSED APPROACH: Climb to 2200 then climbing left turn to 3100 direct IMT VOR/DME and hold.

LOC I-IMT 111.5
APP CRS 010°
Rwy Ldg 6501
TDZE 1133
Apt Elev 1182

DME REQUIRED

ASOS

MINNEAPOLIS CENTER

UNICOM

119.025

121.25 322.5

122.8 (CTAF)
Circling NA northeast of RWys 19 and 31. Circling RWy 13, 31 NA at night. Rwy 1 helicopter visibility reduction below 1/2 SM NA. Inop table does not apply to LPV.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C. For inop ALS, increase LNAV Cat A and B visibility 1/4 SM.
RNAV (GPS) RWY 19
FORD (IMT)

**ASOS**
- **MINNEAPOLIS CENTER**
- **UNICOM**

**RNAV (GPS) RWY 19**

**Category**
- **A**
- **B**
- **C**
- **D**

**LNAV MDA**
- 1760-1
- 578 (600-1)
- 1760-1½
- 578 (600-1½)

**RNAV PAPI**
- 1760-1
- 578 (600-1)
- 1760-1½
- 578 (600-1½)

**MISSING APCH**

Circling NA northeast of Rwys 19 and 31. Rwy 19 helicopter visibility reduction below 1 SM NA.
Straight-in Rwy 19 NA at night, Circling Rwys 19, 13, 31 NA at night.

**ELEV**

- 1182

**TDZE**

- 1182

**UNICOM**

- 122.8 (CTAF)

**APP CRS**

- 3376
- 1182
- 1182

**Rwy Idg**

- 3376
- 1182
- 1182

**Apt Elev**

- 1182

**190°**
Circling NA northeast of Rwys 19 and 31. DME from IMT VOR/DME. Simultaneous reception of I-IMT and IMT DME required. Rwy 19 helicopter visibility reduction below 1 SM NA. Straight-in Rwy 19 NA at night; Circling Rwy 13, 19, 31 NA at night. When local altimeter setting not received, use Escanaba altimeter setting and increase all MDA 180 feet; increase S-19 Cat C/D visibilities ½ SM and Circling Cat C/D visibility ½ SM.

**MISSING 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)

**LOCALIZER 111.5**
- I-IMT

**IMT**
- 111.5

**NOODL**
- IMT 1

**IZLAR**
- IMT 11

**IRON MOUNTAIN**
- LOCALIZER 111.2 IMT
- Chan 49

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**Back Course**
- 3100
- IMT

**IMT VOR/DME**
- 1.5

**NOODL**
- IMT 1

**IZLAR**
- IMT 11

**IRON MOUNTAIN**
- LOCALIZER 111.2 IMT
- Chan 49

**Locals**
- 315

**AERONAUTICAL CHART**
- 315

**PLOT**
- 315
Circling NA northeast of Rwys 19 and 31. Rwy 31 helicopter visibility reduction below 1 SM NA.
Straight-in Rwy 31 NA at night, Circling Rwy 13, 31 NA at night. 

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>S-31</td>
<td>1760-1</td>
<td>629 (600-1)</td>
<td>1760-1-⅓</td>
<td>1760-2</td>
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<tr>
<td>CIRCLING</td>
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<td>578 (600-1)</td>
<td>1780-1</td>
<td>1780-1-⅓</td>
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</tbody>
</table>

MINNESAPOLIS CENTER 121.25 322.5
UNICOM 122.8 (CTAF)
When local altimeter setting not received, use Ashland altimeter setting:
increase DA to 1562 feet; increase all MDA 140 feet and S-LOC 27 Cat 
C/D visibility ½ SM and Circling Cat B visibility ½ SM. For inop ALS when 
using Ashland altimeter setting, increase S-ILS 27 all Cats visibility to 1.

**AWOS-3PT**

**MINNEAPOLIS CENTER**

**UNICOM**

**LOCALIZER 111.5**

**ILS** or **LOC RWY 27**

**GOGEIC/IRON COUNTY (IWD)**

**MALSR**

**REIL** Rwy 9

**MISSED APPROACH:**
Climb to 3300 then 
right turn direct IWD 
VOR/DME and hold.
**RNAV (GPS) RWY 9**

**GOGEBIC/IRON COUNTY (IWD)**

### RNAV (GPS) RWY 9

#### Category

<table>
<thead>
<tr>
<th>Category</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
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<td>1940-1</td>
<td>710 (800-1)</td>
<td>1940-2</td>
<td>710 (800-2)</td>
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<td>2100-1¼</td>
<td>870 (900-1¼)</td>
<td>2200-3</td>
<td>970 (1000-3)</td>
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</tbody>
</table>

#### Holding Pattern

- **Holding Pattern:**
  - **GODSE**
  - **FAVOD**
  - **ELAZY**
  - **HIRUN**

- **2.1 NM to RW09**

#### Missed Approach

- **Climb to 3500 direct HIRUN and hold.**

#### Weather Information

- **AWOS-3PT**
  - **125.175**

- **MINNEAPOLIS CENTER**
  - **133.55**

- **UNICOM**
  - **122.8 (CTAF)**

#### Additional Information

- **APP CRS 090°**
- **Rwy Idg 6501**
- **TDZE 1230**
- **Apt Elev 1230**
- **RNP APCH - GPS.**

#### Navigation Aid

- **HIRL Rwy 9-27**
- **REIL Rwy 9**

---

**IRONWOOD, MICHIGAN**

**Orig-A 15JUL21**

**MINNEAPOLIS CENTER**

**AWOS-3PT**

**125.175**

**MINNEAPOLIS CENTER**

**133.55**

**UNICOM**

**122.8 (CTAF)**

**RNP APCH - GPS.**

**AWOS-3PT**

**125.175**

**MINNEAPOLIS CENTER**

**133.55**

**UNICOM**

**122.8 (CTAF)**

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**
Remove all LAAS.

For RNAV/VNAV DA fly visual to airport, 270° -2.8 miles, when using Ashland altimeter setting fly visual to airport, 270° -3.2 mile.
Rwy 9 helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Ashland altimeter setting: increase all MDA 140 feet and S-9 Cat C visibility ¼ SM, Cat D visibility ½ SM and Circling Cat B visibility ¼ SM.

AWOS-3PT 125.175
MINNEAPOLIS CENTER 133.55
UNICOM 122.8 (CTAF)

VOR RWY 9
GOGEBIC/IRON COUNTY (IWD)

TDZE 1224

MISSED APPROACH: Climb to 3300 then climbing left turn to 3400 on heading 240° and IWD R-259 to BEDAY/6.3 DME and hold.

AWOS-3PT 125.175
MINNEAPOLIS CENTER 133.55
UNICOM 122.8 (CTAF)

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 14
JACKSON COUNTY/REYNOLDS FLD (JXN)

ATIS
125.725

GREAT LAKES APP CON *
127.3 335.575

JACKSON TOWER *
128.475 (CTAF) 257.8

GND CON
121.9

CLNC DEL
121.9

UNICOM
122.95

Rwy 14 helicopter visibility reduction below ½ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -23°C or above 54°C.

HOLD
6000
3000

30 NM to JERIK (NoPT)

050°

Rwy 14 direct JERIK and hold.

1.6 NM to ZAVED

EC-1, 11 JUL 2024 to 05 SEP 2024

LPV DA
1345-1 349 (400-1)

LNAV/VNAV DA
1463-13/8 467 (500-1/4)

LNAV MDA
1380-1 384 (400-1) 1380-13/8 384 (400-1/8)

Circling
1480-1 479 (500-1) 1660-13/4 659 (700-1/4) 1660-2 659 (700-2)

Baro-VNAV systems, LNAV/VNAV NA below -23°C or above 54°C.

Baro-VNAV systems, LNAV/VNAV NA below -23°C or above 54°C.

Baro-VNAV systems, LNAV/VNAV NA below -23°C or above 54°C.

Baro-VNAV systems, LNAV/VNAV NA below -23°C or above 54°C.
RNAV (GPS) RWY 32
JACKSON COUNTY/REYNOLDS FLD (JXN)

MISSED APPROACH: Climb to 3000 direct RIGSE and hold.

Rwy 32 helicopter visibility reduction below ¾ SM NA.

ATIS
125.725

GREAT LAKES APP CON
127.3 335.575

JACKSON TOWER
128.475 (CTAF) 257.8

GND CON
121.9

CLNC DEL
121.9

UNICOM
122.95

ELEV 1001
TDZE 1001

EC-1, 11 JUL 2024 to 05 SEP 2024
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
Circling Rwy 5, 9, 17, 23, 27 NA at night. Rwy 5 helicopter visibility reduction below 1 SM NA. Rwy 5 straight-in minimums NA at night.

Procedure NA for arrival on ELX VOR/DME airway radials 061 CW 149.

Procedure NA for arrival on GU VORTAC airway radials 021 CW 138.

Procedure NA for arrival on ELX VOR/DME airway radials 061 CW 149.

Procedure NA for arrival on GU VORTAC airway radials 021 CW 138.

Procedure NA for arrival on ELX VOR/DME airway radials 061 CW 149.

Procedure NA for arrival on GU VORTAC airway radials 021 CW 138.

Procedure NA for arrival on ELX VOR/DME airway radials 061 CW 149.

Procedure NA for arrival on GU VORTAC airway radials 021 CW 138.

Procedure NA for arrival on ELX VOR/DME airway radials 061 CW 149.

Procedure NA for arrival on GU VORTAC airway radials 021 CW 138.

Procedure NA for arrival on ELX VOR/DME airway radials 061 CW 149.

Procedure NA for arrival on GU VORTAC airway radials 021 CW 138.
RNAV (GPS) RWY 17
KALAMAZOO/BATTLE CREEK INTL (AZO)

WAA5
CH 57933
APP CRS 174°
Rwy Idg 6502
TDZE 867
Apt Elev 874

RNP APCH - GPS

RNAV (GPS) RWY 17
KALAMAZOO/BATTLE CREEK INTL (AZO)

MISSED APPROACH: Climb to 2800 direct COVAV and hold.

procedure NA for arrival on PMM VOR/DME airway radials 054 CW 112.

4 NM Holding Pattern

6000
3000

GP 3.00°
TCH 45

174°
354°

354°
174°

2800

OSEGO

SUYOD

WURAX

1.8 NM to RW17

1460

LNAV/VNAV DA to 1229 feet; increase all MDAs 60 feet.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C or above 54°C. Circling Rwy 5, 9, 23, 27 NA at night. When local altimeter setting not received, use Battle Creek altimeter setting: increase LPV DA to 1200 feet, LNAV/VNAV DA to 1229 feet; increase all MDAs 60 feet.

Amdt 1B  20APR23

EC-1, 11 JUL 2024 to 05 SEP 2024

KALAMAZOO, MICHIGAN
AL-717 (FAA)
Circling Rwy 5, 9, 17, 23, 27 NA at night. Rwy 23 helicopter visibility reduction below 1 SM NA. Straight-in Rwy 23 NA at night.

MISSSED APPROACH: Climb to 2700 direct COLDT and hold.

ATIS  127.25
GREAT LAKES APP CON*  121.2  239.25
KALAMAZOO TOWER*  118.3 (CTAF)  257.875
GND CON  121.9
CLNC DEL  121.75
UNICOM  122.95

Amdt 1  19 Jul 2018

RNAV (GPS) RWY 23
KALAMAZOO/BATTLE CREEK INTL (AZO)

KALAMAZOO, MICHIGAN
EC-1, 11 Jul 2024 to 05 Sep 2024
RNAV (GPS) RWY 35
KALAMAZOO/BATTLE CREEK INTL (AZO)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C or above 54°C. Circling Rwy 5, 9, 17, 23, 27 NA at night. ** RVR 1800 authorized with use of FD or AP or HUD to DA.

** RVR 1800 authorized with use of FD or AP or HUD to DA.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

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

AIRPORT DIAGRAM
20086
AL-717 (FAA)
KALAMAZOO, MICHIGAN
KALAMAZOO/BATTLE CREEK INTL (AZO)

ATIS
127.25
KALAMAZOO TOWER ★
118.3 257.875
GND CON
121.9
CLNC DEL
121.75
### RNAV (GPS) RWY 10

**LAKEVIEW/GRIFTH FLD (13C)**

<table>
<thead>
<tr>
<th>Unav NDA</th>
<th>Category</th>
<th>UNAV Elev</th>
<th>TDZE Elev</th>
<th>Proc NA</th>
<th>Rwy Idg</th>
<th>Visual Segment Obstacle</th>
<th>Holding Pattern</th>
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<tr>
<td>1480-1</td>
<td>A</td>
<td>1640</td>
<td>1475</td>
<td>511</td>
<td>611</td>
<td>2 NM to 2 NM</td>
<td>094° to A</td>
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<td>431(500-1)</td>
<td>C</td>
<td>2500</td>
<td>22139</td>
<td>711(700-1)</td>
<td>611(700-1)</td>
<td>2 NM to 2 NM</td>
<td>094° to 274°</td>
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<tr>
<td>1580-1</td>
<td>A</td>
<td>4399</td>
<td>125.875</td>
<td>334</td>
<td>334</td>
<td>2 NM to 2 NM</td>
<td>094° to 274°</td>
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<tr>
<td>1400-1</td>
<td>A</td>
<td>3000</td>
<td>3499</td>
<td>334</td>
<td>334</td>
<td>2 NM to 2 NM</td>
<td>094° to 274°</td>
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<tr>
<td>1400-1</td>
<td>A</td>
<td>3000</td>
<td>3499</td>
<td>334</td>
<td>334</td>
<td>2 NM to 2 NM</td>
<td>094° to 274°</td>
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**LNAV MDA**

<table>
<thead>
<tr>
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<th>Ceiling</th>
<th>Altitude</th>
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<tbody>
<tr>
<td>RNP ARCH</td>
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<td>1250</td>
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<tr>
<td>UNNAV</td>
<td>1250</td>
<td>1250</td>
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</table>

**MISSED APPROACH**

- Climb to 1800 then climbing right turn to 3000 direct

**Procedures**

- RNAV (GPS) RWY 10
- Holding Pattern
- Visual Segment - Obstacles

**Visual Information**

- Visibility: 2 SM
- Night Visual Approach: 1 SM
- Obstacles: 1 SM

---

**Great Lakes App Con**

- Great Lakes App Con
- Holding Pattern
- RNAV (GPS) RWY 10

---

**Navigation Aids**

- VOR
- ILS
- NDB
- DME
- VASI
- GS

---

**Approach**

- RNAV (GPS) RWY 10
- Holding Pattern
- Visual Segment - Obstacles

---

**Obstacles**

- Obstacles within 3 NM
- Clearance above: 1 SM
- Use Big Rapids altimeter setting

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 28
LAKEVIEW/GRIFFITH FLD (13C)

**RNP APCH - GPS.**

- **Category:** 
  - A
  - B
  - C
  - D

- **RNAV (GPS) RWY 28**
- **LAKEVIEW/GRIFFITH FLD (13C)**

### Missed Approach
- Climb to 1800 then climbing left turn to 3000 direct TRUFA and hold.

### Approach Instructions
- Proceed to RW28
- Hold at 094° 6000
- Climb 274° to 3000

### RNAV (GPS) RWY 28

#### LAKEVIEW/GRIFFITH FLD (13C)

- **ELEV 969**
- **TDZE 969**

#### Helicopter Visibility Reduction
- Rw 28 helicopter visibility reduction below 1 SM NA.
- Use Mount Pleasant altimeter setting and increase all MDAs 60 feet.

#### Procedure NA at Night
- Use Big Rapids altimeter setting; when not received, use Mount Pleasant altimeter setting and increase all MDAs 60 feet.
- Rw 28 helicopter visibility reduction below 1 SM NA.

#### RNAV (GPS) RWY 28
- **LAKEVIEW/GRIFFITH FLD (13C)**
- **ELEV 969**
- **TDZE 969**

#### Approach
- **Category:** 
  - A
  - B
  - C
  - D

#### RNAV (GPS) RWY 28
- **LAKEVIEW/GRIFFITH FLD (13C)**
- **ELEV 969**
- **TDZE 969**

#### Helicopter Visibility Reduction
- Rw 28 helicopter visibility reduction below 1 SM NA.
- Use Mount Pleasant altimeter setting and increase all MDAs 60 feet.

#### Procedure NA at Night
- Use Big Rapids altimeter setting; when not received, use Mount Pleasant altimeter setting and increase all MDAs 60 feet.
- Rw 28 helicopter visibility reduction below 1 SM NA.
**ILS or LOC RWY 10R**

**CAPITAL REGION INTL (LAN)**

**ATIS**
- 119.75

**GREAT LAKES APP CON**
- 118.65 226.4

**LANSING TOWER**
- 119.9 240.9

**GND CON**
- 121.9

**CLNC DEL**
- 123.675

**LOC I-CPQ**
- 111.7

**APP CRS**
- 096°

**Rwy Idg**
- TDZE

**Apt Elev**
- 861

**MALS5**
- 2

**NAL**
- 3000

**Circling Rwy 10L, 28R NA at night.**
**RVR 1800 authorized with use of FD or AP or HUD to DA.**

**MALSR**
- 861

**MISSING APPROACH:** Climb to 2000 then climbing left turn to 2700 on heading 070° and on FNT VORTAC R-257 to ERRYS INT and hold.

**ATIS**
- 119.75

**GREAT LAKES APP CON**
- 118.65 226.4

**LANSING TOWER**
- 119.9 240.9

**GND CON**
- 121.9

**CLNC DEL**
- 123.675

**ELEV 861**

**TDZE 861**

**MISSED APCH FIX**
- 111.9 FNT Ch 116

**ERRYs INT**

**LOCALIZER 111.7**
- I-CPQ

**RADAR REQUIRED**

**VGS1 and ILS glidespath not coincident (VGS1 Angle 3.00/TCH 73).**

**GS 3.00°**
- TCH 56

**CATEGORY**
- A  B  C  D

**S-ILS 10R**
- 1061/24 200 (200-1/2)

**S-LOC 10R**
- 1340/24 479 (500-1/2) 1340/50 479 (500-1)

**C CIRCLING**
- 1380-1 519 (600-1) 1600-2 739 (800-2) 1760-3 899 (900-3)

**ATIS**
- 119.75

**GREAT LAKES APP CON**
- 118.65 226.4

**LANSING TOWER**
- 119.9 240.9

**GND CON**
- 121.9

**CLNC DEL**
- 123.675

**ELEV 861**

**TDZE 861**

**MISSED APCH FIX**
- 111.9 FNT Ch 116

**ERRYs INT**

**LOCALIZER 111.7**
- I-CPQ

**RADAR REQUIRED**

**VGS1 and ILS glidespath not coincident (VGS1 Angle 3.00/TCH 73).**

**GS 3.00°**
- TCH 56

**CATEGORY**
- A  B  C  D

**S-ILS 10R**
- 1061/24 200 (200-1/2)

**S-LOC 10R**
- 1340/24 479 (500-1/2) 1340/50 479 (500-1)

**C CIRCLING**
- 1380-1 519 (600-1) 1600-2 739 (800-2) 1760-3 899 (900-3)
EC-1, 11 JUL 2024 to 05 SEP 2024

LANSING, MICHIGAN
AL-224 (FAA)

RNAV (GPS) RWY 24
CAPITAL REGION INTL (LAN)

ATIS
119.75
GREAT LAKES APP CON *
118.65
226.4
LANSING TOWER
119.9
240.9
GND CON
121.9
CLNC DEL
123.675

Circling Rwy 10L, 28R NA at night. Rwy 24 helicopter visibility reduction below 3/4 SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -22°C or above 54°C.

MISSED APPROACH: Climb to 3000 direct EUGY and hold.

MISS APCH FIX
EUGY
4 NM
3000

GREAT LAKES APP CON
973
3000
6000
058°
238°

LANSING TOWER
119.9
240.9

GND CON
121.9

CLNC DEL
123.675

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 28L
CAPITAL REGION INTL (LAN)

For uncompensated Baro-VNAV systems, UNAV/VNAV NA below -19°C (-2°F) or above 54°C (130°F).

MISSED APPROACH: Climb to 3000 feet O.D. and hold.

RNAV (GPS) RWY 28L

TCH 53
GP 3.00°

MALSR AL-224 (FAA) 8506
READBACK OF ALL RUNWAYS HOLDING INSTRUCTIONS IS REQUIRED.

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.

RH 1
RH 2

AIRPORT DIAGRAM

ATIS
119.75
LANEING TOWER
119.9 240.9
GND CON
121.9
CLNC DEL
123.675

LANEING, MICHIGAN

24193

AL-224 (FAA)

CAPITAL REGION INTL (LAN)

ELEV 861
FIELD

ELEV 858
HANGARS

ELEV 848
TERMINAL RAMP

ELEV 850
CARGO RAMP

MICHIGAN AERONAUTICS COMMISSION

TERMINAL

TRANSIENT HANGARS

TERMINAL RAMP

SE RAMP

PCN 45 R/C/X/T
S-45, D-65, 2D-100
RWY 06-24

PCN 70 F/B/Y/U
S-12
RWY 10L-28R

PCN 90 R/B/W/T
S-100, D-175, 2D-300
RWY 10R-28L

ANNUAL RATE OF CHANGE
0.0° W
JANUARY 2020

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 18
DUPONT/LAPEER (D95)

### AWOS-3P
- 

### GREAT LAKES APP CON *
- 

### UNICOM
- 

#### Category
<table>
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<th>A</th>
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<td>465 (500-1)</td>
<td>1380-1</td>
<td>545 (600-1)</td>
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</tbody>
</table>

Descent angle NA:
- 3000
- 2.8 NM
- 2 NM

### Holding Pattern
- 3000
- 004° (NAP) to WIVGU
- 184° to WIVGU
- 094° to WIVGU

### MISSED APCH FIX
- ZUSDI
- 4 NM

### Descent angle NA.
- 3000
- ZUSDI

### EC-1, 11 JUL 2024 to 05 SEP 2024
- EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 36  
DUPONT/LAPEER (D95)

**AWOS-3P**  
134.050

**GREAT LAKES APP CON**  
118.8  257.9

**UNICOM**  
123.0 (CTAF)  

---

**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 MDA 60 feet and increase LNAV Cat C visibility 1/2 mile and LP Cat C and Circling Cat C visibility 3/4 mile. Circling NA to Rwys 9 and 27.

**MISSED APPROACH:** Climb to 3000 direct WIVGU and hold.

---

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
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<td>428 (500-1¾)</td>
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<tr>
<td>CIRCLING</td>
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<td>465 (500-1)</td>
<td>1380-1</td>
<td>545 (600-1)</td>
</tr>
</tbody>
</table>

---

**MISSED APCH FIX**

**WIVGU**

---

**WOMDA**

---

**ZUSDI**

---

**Descent angle NA.**

---

**ZUSDI Holding Pattern**

---

**WIVGU and hold.**

---

**Climb to 3000 direct WIVGU and hold.**
Circling NA to Rwy 9 and 27. Circling Rwy 18 NA at night. Rwy 18 helicopter visibility reduction below 1 SM NA.

AWOS-3P 134.050 GREAT LAKES APP CON * 118.8 257.9 UNICOM 123.0 (CTAF)

Procedure NA for arrival on FNT VORTAC airway radials 076 CW 097.

CAUTION: NE/SW drag strip 2 miles north of airport.

MISSED APPROACH: Climbing left turn to 2500 on FNT VORTAC R-080 to MIXED 16 DME and hold.

Procedure NA for arrival on FNT VORTAC airway radials 076 CW 097.

CAUTION: NE/SW drag strip 2 miles north of airport.

MISSING APPROACH: Climbing left turn to 2500 on FNT VORTAC R-080 to MIXED 16 DME and hold.

CAUTION: NE/SW drag strip 2 miles north of airport.

MISSED APPROACH: Climbing left turn to 2500 on FNT VORTAC R-080 to MIXED 16 DME and hold.

CAUTION: NE/SW drag strip 2 miles north of airport.

MISSED APPROACH: Climbing left turn to 2500 on FNT VORTAC R-080 to MIXED 16 DME and hold.

CAUTION: NE/SW drag strip 2 miles north of airport.

MISSED APPROACH: Climbing left turn to 2500 on FNT VORTAC R-080 to MIXED 16 DME and hold.

CAUTION: NE/SW drag strip 2 miles north of airport.

MISSED APPROACH: Climbing left turn to 2500 on FNT VORTAC R-080 to MIXED 16 DME and hold.

CAUTION: NE/SW drag strip 2 miles north of airport.
Use Flint altimeter setting; when not received, use Howell altimeter setting. Procedure NA at night. Rwy 9 helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 2900 direct TUKJU and hold.

RNAV (GPS) RWY 9

GREAT LAKES APP CON

UNICOM

RNAV (GPS) RWY 9

EC-1, 11 JUL 2024 to 05 SEP 2024
**RNAV (GPS) RWY 27**

**PRICES (9G2)**

**LINDEN, MICHIGAN**

**APP CRS**
- Rwy Idg: 3199
- TDZE: 919
- Apt Elev: 920

**RNAV APCH.**

- Use Flint altimeter setting; when not received, use Howell altimeter setting.
- Procedure NA at night. Rwy 27 helicopter visibility reduction below 1 SM NA.

**UNICOM**
- 123.0 (CTAF)

**FNT ASOS**
- 133.15

**GREAT LAKES APP CON**
- 128.55 257.9

**MISSED APCH FIX**

- OQONI
  - 095°
  - 275°
  - 4 NM

**MISSED APPROACH:** Climb to 3100 direct OQONI and hold.

**RNAV (GPS) RWY 27**

- LNAV MDA
  - 1400-1 481 [500-1]
  - NA

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**PRICES (9G2)**

**GREAT LAKES APP CON**
- 128.55 257.9

**RNAV (GPS) RWY 27**

- LNAV MDA
  - 1400-1 481 [500-1]
  - NA

---

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**PRICES (9G2)**

**GREAT LAKES APP CON**
- 128.55 257.9

**RNAV (GPS) RWY 27**

- LNAV MDA
  - 1400-1 481 [500-1]
  - NA

---
RNAV (GPS) RWY 8
MASON COUNTY (LDM)

**APP CRS**

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<td>1200-1</td>
<td>1260-1¾</td>
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<td>513 (600-1)</td>
<td>553 (600-1)</td>
<td>613 (700-1½)</td>
<td>813 (900-2½)</td>
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</tbody>
</table>

**REIL Rwy 26**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 26
MASON COUNTY (LDM)

Circling Rwy 1, 19 NA at night. Rwy 26 helicopter visibility reduction below ¾ SM NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

AWOS-3  119.925
MINNEAPOLIS CENTER  120.85  322.35
UNICOM  123.0 (CTAF)

RNAV (GPS) RWY 26
MASON COUNTY (LDM)

EC-1, 11 JUL 2024 to 05 SEP 2024

LUDINGTON, MICHIGAN
Orig-D 03NOV22

43°58'N-86°24'W
351
RNAV (GPS) RWY 8  
MACKINAC ISLAND (MCD)

**AWOS-3**  
**MINNEAPOLIS CENTER**  
**UNICOM**

<table>
<thead>
<tr>
<th></th>
<th>118.275</th>
<th>134.6 354.05</th>
<th>122.7 (CTAF)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LP MDA</strong></td>
<td>1080-1</td>
<td>341 (400-1)</td>
<td>NA</td>
</tr>
<tr>
<td><strong>LNAV MDA</strong></td>
<td>1120-1</td>
<td>381 (400-1)</td>
<td>1120-1 381 (400-1%)</td>
</tr>
<tr>
<td><strong>CIRCLING</strong></td>
<td>1320-1</td>
<td>579 (600-1)</td>
<td>1320-1 579 (600-1½)</td>
</tr>
</tbody>
</table>

**RNP ACH.**

- RW 8 helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 60 feet, increase LP and LNAV Cat C visibility ½ SM and Circling Cat C visibility ¼ SM. Straight-in and Circling RW 8 NA at night.

**MISSED APPROACH:**
- Climb to 2500 direct HUVTI and hold.

**Visual Segment - Obstacles.**

- Holding Pattern
  - 6000 262° 2500 082° (7.2)
  - 2400 082° (7.2)
  - 2400 RW08

**HUVTI**

- Procedure NA for arrival on PLN VORTAC airway radials 219 CW 295.

**MIRL Rwy 8-26**

- EC-1, 11 JUL 2024 to 05 SEP 2024

Amdt 1C 20JUN19

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

- 082° 082° 262° 082° 082° 1320 ± 1.5 NM to RW08
- 2900 ±
- 1240 ±
- 2400 ±
- 2500 ±

**MACKINAC ISLAND, MICHIGAN**  
**AL-6041 (FAA)**

**RNAV (GPS) RWY 8**

**MACKINAC ISLAND (MCD)**

**45°52'N-84°38'W**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**MACKINAC ISLAND, MICHIGAN**  
**AL-6041 (FAA)**

**RNAV (GPS) RWY 8**

**MACKINAC ISLAND (MCD)**

**45°52'N-84°38'W**
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 DA 47 feet and all MDA 60 feet, increase LNAV Cat C visibility ½ mile and Circling Cat C visibility ½ mile. DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Night landing: Rwy 8 NA.

Procedure NA for arrivals at PLN VORTAC on V78 northwest bound.

**AWOS-3**
118.275

**MINNEAPOLIS CENTER**
134.6 354.05

**UNICOM**
122.7 (CTAF)

122.8

**ELEV 741**

**TDZE 741**

**WAAS CH 99529**

**W26A**

**APP CRS 262°**

**Rwy Idg 3501**

**Apt Elev 741**

**Apt Elev**

**3501**

**741**

**DA**

**LPV**

**1058-1**

**317 [400-1]**

**NA**

**LNAV/ VNAV**

**1182-13/8**

**441 [500-1½]**

**NA**

**LNAV MDA**

**1280-1**

**539 [600-1]**

**1280-1½**

**539 [600-1½]**

**NA**

**CIRCLING**

**1320-1**

**579 [600-1]**

**1320-1½**

**579 [600-1½]**

**NA**

**MACKINAC ISLAND, MICHIGAN**

**Amdt 1B 08JAN15**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**353**
Mackinac Island, Michigan

VOR/DME-A

MACKINAC ISLAND, MICHIGAN

Category

A

B

C

D

CIRCLING

1320-1

579 (600-1)

1320-1½

579 (600-1½)

NA

When local altimeter setting not received, use Pellston altimeter setting and increase all MDA 60 feet, increase Cat C visibility ¼ mile. Visibility reduction by helicopters NA. Night landing: Rwy 8 NA.

EC-1, 11 JUL 2024 to 05 SEP 2024

354
ILS or LOC RWY 28
MANISTEE COUNTY/BLACER (MBL)

AWOS-3PT
118.825

MINNEAPOLIS CENTER
120.85 322.35

UNICOM
122.8 (CTAF)

MANISTEE COUNTY/BLACKER

MANISTEE, MICHIGAN

AL-5257 (FAA) 23222

LOC  I-MBL
108.35

APP CRS 277°

Rwy Ildg 5501
TDZE 621

Apt Elev 621

AP CRS

EC-1, 11 JUL 2024 to 05 SEP 2024

AWOS-3PT
118.825

MINNEAPOLIS CENTER
120.85 322.35

UNICOM
122.8 (CTAF)

MANISTEE COUNTY/BLACKER (MBL)

MANISTEE, MICHIGAN

AL-5257 (FAA) 23222

LOC  I-MBL
108.35

APP CRS 277°

Rwy Ildg 5501
TDZE 621

Apt Elev 621

AP CRS

EC-1, 11 JUL 2024 to 05 SEP 2024

AWOS-3PT
118.825

MINNEAPOLIS CENTER
120.85 322.35

UNICOM
122.8 (CTAF)

MANISTEE COUNTY/BLACKER (MBL)

MANISTEE, MICHIGAN

AL-5257 (FAA) 23222

LOC  I-MBL
108.35

APP CRS 277°

Rwy Ildg 5501
TDZE 621

Apt Elev 621

AP CRS
RNAV (GPS) RWY 10
MANISTEE COUNTY/BLACKER (MBL)

Circling Rwy 1, 19 NA at night. Rwy 10 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrivals at YULNU on V26 northwest bound.

RNAV (GPS) RWY 10
MANISTEE COUNTY/BLACKER (MBL)

Circling Rwy 1, 19 NA at night. Rwy 10 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrivals at YULNU on V26 northwest bound.

RNAV (GPS) RWY 10
MANISTEE COUNTY/BLACKER (MBL)

Circling Rwy 1, 19 NA at night. Rwy 10 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrivals at YULNU on V26 northwest bound.

RNAV (GPS) RWY 10
MANISTEE COUNTY/BLACKER (MBL)

Circling Rwy 1, 19 NA at night. Rwy 10 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.

Procedure NA for arrivals at YULNU on V26 northwest bound.
RNAV (GPS) RWY 10
SCHOOLCRAFT COUNTY (ISQ)

MANISTIQUE, MICHIGAN
AL-5616 (FAA)

APP CRS
095°

Rwy Idg 5001
TDZE 684
Apt Elev 684

RNAV (GPS) RWY 10
MANISTIQUE, MICHIGAN
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 ½ SM, Circling Cat C visibility ½ SM and Circling Cat D visibility ¾ SM. 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.

AWOS-3
118.775

MINNEAPOLIS APP CON
134.6 354.05

UNICOM
122.8 (CTAF)

MISSED APPROACH:
Climb to 2600 direct
DUCER and hold.

CATEGORY
A
B
C
D

LNAV MDA
1060-1 376 (400-1)

CIRCLING
1120-1 1140-1 1280-1½ 1300-2
436 (500-1) 456 (500-1) 596 (600-½) 616 (700-2)

MANISTIQUE, MICHIGAN
Orig-B 25MAR21

45°58'N-86°10'W
When local alimeter setting not received, use Beaver Island alimeter setting and increase all
MDA 80 feet, increase LP Cat C and D and Circling Cat D visibility ¼ SM, LNAV Cat C and D visibility ⅛ SM, Circling Cat C visibility ½ SM. When VGS 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
MINNEAPOLIS APP CON 134.6 354.05
UNICOM 122.8 (CTAF)
RNAV (GPS) RWY 10
MARLETT TOWNSHIP (77G)

APP CRS
097°
TDZE
881
Apt Elev
895

CFS AWOS-3
119.275
CLEVELAND CENTER
127.7 290.425
UNICOM
122.8 (CTAF)

HOLD 6000
3000

CIRCLING LNAV MDA
Apt Elev
895
3000
5 NM

MGTD AL-6266 (FAA)

MARLETTE, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024

RNP APCH - GPS.

RNAV (GPS) RWY 10
MARLETT TOWNSHIP (77G)

NA

Rwy 10 helicopter visibility reduction below 1 SM. NA 1 straight-in Rwy 10 NA at night. Use Caro altimeter setting; when not received, use Bad Axe altimeter setting and increase all MDAs 20 feet and LNAV visibility Cat C/D ½ SM.

EC-1, 11 JUL 2024 to 05 SEP 2024

MISSED APPROACH:
Climb to 2700 direct UYULU and hold.

CIRCLING

MARLETT, MICHIGAN

Amdt 1D 24MAR22

RNP APCH - GPS.

RNAV (GPS) RWY 10
MARLETT TOWNSHIP (77G)

EC-1, 11 JUL 2024 to 05 SEP 2024

MARLETT, MICHIGAN

Amdt 1D 24MAR22

MARLETT, MICHIGAN

Amdt 1D 24MAR22

EC-1, 11 JUL 2024 to 05 SEP 2024
### RNAV (GPS) RWY 19

**MARLETTE TOWNSHIP (77G)**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LPV DA</strong></td>
<td>1214-1 1/8</td>
<td>319 (400-1 1/8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LNAV/VNAV DA</strong></td>
<td>1264-1 1/4</td>
<td>369 (400-1 1/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LNAV MDA</strong></td>
<td>1340-1 1/4</td>
<td>445 (500-1 1/4)</td>
<td>1340-1 3/8</td>
<td>445 (500-1 3/8)</td>
</tr>
<tr>
<td><strong>CIRCLING</strong></td>
<td>1460-1</td>
<td>565 (600-1)</td>
<td>1460-1 1/2</td>
<td>665 (700-1 1/2)</td>
</tr>
</tbody>
</table>

**MISSED APPROACH:**
- Climb to 3000 direct JAMOV and on track 157° to HEMIS and hold.
- Climb to 3000 direct JAMOV and on track 157° to HEMIS and hold.

**CFS AWOS-3**
- 119.275

**CLEVELAND CENTER**
- 127.7
- 290.425

**UNICOM**
- 122.8 (CTAF) 0
**ILS or LOC RWY 1**

**MARQUETTE/SAWYER RGNL (SAW)**

**AWOS-3PT**
- 118.375

**MINNEAPOLIS CENTER**
- 119.1
- 290.2

**SAWYER TOWER**
- 119.975 (CTAF)

**GROUND CON**
- 121.65

**UNICOM**
- 122.7

**ALTERNATE MISSED APCH FIX**

---

**Procedure NA for arrivals on IMT VOR/DME airway radials 044 CW 099.**

**SAW** 17.5

**EVYIP INT** SAW [17.5]

**FOLUK SAW** [5.9]

**Procedure NA for arrivals on**

**SAW VOR/DME airway radials**

**165 CW 227.**

**SAW 5.9**

**FOLUK**

**SAW 17.5**

**EVYIP**

**SAW 17.5**

**EVYIP INT**

**GAMGE SAW 3.9**

**FOLUK SAW 5.9**

**HOLD 5000**

**3500 NoPT**

**106° (31.3) 3500 NoPT**

**324° (26) 3500 NoPT**

**17° (10) 193°**

**278 CW 341.**

**SAW VOR/DME airway radials**

**Procedure NA for arrivals on**

**IMT VOR/DME airway radials 044 CW 099.**

**BRD 013°**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RAA (GPS) RWY 1
MARQUETTE/SAWYER RGNL (SAW)

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

MISSED APPROACH: Climb to 3500 direct ZUCTI and hold.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
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For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.

For inop ALS, increase LNAV Cat C/D visibility to 1/4 SM.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C or above 54°C.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C
or above 54°C.

AWOS-3PT 118.375
MINNEAPOLIS CENTER 119.1 290.2
SAWYER TOWER * 119.975 (CTAF)

GND CON 121.65
UNICOM 122.7

**MISSING APPROACH:** Climb to 3500
193°
direct EVYIP and hold.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPV DA</td>
<td>1404-3/4</td>
<td>200 (200-3/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNAV/ VNAV DA</td>
<td>1521-7/8</td>
<td>317 (400-7/8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNAV MDA</td>
<td>1620-1 416 (500-1)</td>
<td>1620-1 416 (500-1/8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIRCLING</td>
<td>1680-1 476 (500-1)</td>
<td>1820-1 416 (500-1/8)</td>
<td>1820-2 616 (700-1/4)</td>
<td>616 (700-2)</td>
</tr>
</tbody>
</table>

**LVNAV only**

193°

3500 EVYIP

3500 YAFDY

193°

2900 ZUCTI

VGSi and RNAV glidepath not coincident
(VGSi Angle 3.00°/TCH 53).
**MARQUETTE, MICHIGAN**

**AWOS-3PT** | **MINNEAPOLIS CENTER** | **SAWYER TOWER** | **GND CON** | **UNICOM**
--- | --- | --- | --- | ---
118.375 | 119.1 290.2 | 119.975 (CTAF) | 121.65 | 122.7

**ELEV** | **TDZE**
--- | ---
1204 | 1204

**VOR/DME SAW**
- **117.1** (Chan 118)
- APP CRS 202°
- RWy Idg 9072
- TDZE 1204
- Apt Elev 1204

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**VOR RWY 19**
**MARQUETTE/SAWYER RGNL (SAW)**

**MISSED APPROACH:** Climb to 1800 then climbing left turn to 3000 on heading 050° and SAW VOR/DME R-095 to YEXJO Int and hold.

**HIRL Rwy 1-19**
**REIL Rwy 19**

**CATEGORY** | **A** | **B** | **C** | **D**
--- | --- | --- | --- | ---
S-19 | 1780-1 576 (600-1) | 1780-1½ 576 (600-1½) | **CIRCLING** | 1780-1 576 (600-1) | 1820-1½ 616 (700-1½) | **C** | 1820-2 616 (700-2)

**SAW VOR/DME**
**SAW**
**Chan 118**

**1762**
**IAF**
**SAWYER**
**117.1**
**Chan 118**

**1341**
**R-095**

**1601**
**R-349**

**YEXJO INT**

**1204**
**202°**
**Chan 82 (W)**

**113.55 ESC**
**Chan 82 (W)**

**YEXJO**

**INT**

**Remain within 10 NM**

**3000**

**202°**

**022°**

**3700**

**25°**

**367**

**AL-773 (FAA)**

**MARQUETTE/SAWYER RGNL (SAW)**

**VOR RWY 19**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**46°21'N - 87°24'W**

**367**
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
RNAV (GPS) RWY 28

MISSED APPROACH: Climb to 1500 then climbing left turn to 3100 direct AWSOF and hold.

AWOS-3 120.025
GREAT LAKES APP CON 119.2 239.25
UNICOM 122.8 (CTAF)

WAAS CH 45533
APP CRS 282°
Rwy Idg 3501
TDZE 941
Apt Elev 941

DME/DME RNP-0.3 NA. VDP NA with Battle Creek altimeter setting. When local altimeter setting not received, use Battle Creek altimeter setting: increase all MDA 40 feet; increase LP and LNAV Cat C visibility ¼ SM and Circling Cat C visibility ½ SM. Helicopter visibility reduction below ½ SM NA. Night landing: Rwy 10 NA.

42°15'N 84°57'W

MIRL Rwy 10-28

MARSHALL, MICHIGAN
Orig-C 04NOV21

4.00°/TCH 37). VDP NA with Battle Creek altimeter setting. When local altimeter setting not received, use Battle Creek altimeter setting: increase all MDA 40 feet; increase LP and LNAV Cat C visibility ¼ SM and Circling Cat C visibility ½ SM. Helicopter visibility reduction below ½ SM NA. Night landing: Rwy 10 NA.

LNAV MDA 1320-1 379 (400-1)
CIRCLING 1440-1 499 (500-1)

MARSHALL, MICHIGAN
AL-5467 (FAA)
RNAV (GPS) RWY 10
MASON JEWETT FLD (TEW)

WAAS CH 61134 W10A

Rwy Idg 4002
Apt Elev 920

RNP APCH.

Rwy 10 helicopter visibility reduction below 1 SM NA. Straight-in Rwy 10 NA at night, Circling Rwy 10 NA at night.

AWOS-3P
119.425

GREAT LAKES APP CON
118.65  226.4

UNICOM
122.7 (CTAF)

MISSED APPROACH: Climb to 3000 direct UJEXY and hold.

RNAV (GPS) RWY 10

ELEV 920
TDZE 920

Optimal RNAV approach.

Visual Segment - Obstacles.

Category A
LP MDA 1300-1 380 (400-1)
LNAV MDA 1380-1 460 (500-1)
CIRCLING 1500-1 580 (600-1)

Category B

Category C

Category D

NA

NA

NA

NA

WAAS

AL-6487 (FAA)
22083

MASON, MICHIGAN
42°34'N-84°25'W

EC-1, 11 JUL 2024 to 05 SEP 2024

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 28
MASON JEWETT FLD (TEW)

Rwy 28 helicopter visibility reduction below ¾ SM NA.
Circling Rwy 10 NA at night.

MISSED APPROACH: Climb to 3000 direct YIPUY and on track 191° direct LESSY and hold.

AWOS 3P 1923
119.425

GREAT LAKES APP CON * 1929
118.65 122.7 (CTAF)
226.4

UNICOM

\[ \triangle \text{1923} \]

\[ \triangle \text{1204 - YIPUY} \]

\[ \triangle \text{1197 - ZEGUG (FAF) WEXUS} \]

\[ \triangle \text{1283 - 275° 2500} \]

\[ \triangle \text{1397 - LESSY} \]

\[ \triangle \text{1956 - 4 NM} \]

\[ \triangle \text{1956 - 096°} \]

\[ \triangle \text{1949 - 276°} \]

\[ \triangle \text{1949 - 4 NM} \]

\[ \triangle \text{3000 - UJEXY} \]

\[ \triangle \text{3000 - UJEXY} \]

\[ \triangle \text{3100 - UJEXY} \]

\[ \triangle \text{095° - 4 NM} \]

\[ 3000 \]

\[ \text{3000 - YIPUY fr 191° LESSY} \]

\[ \text{Visual Segment - Obstacles.} \]

\[ 4 \text{ NM Holding Pattern} \]

\[ \text{4002 X 75} \]

\[ 28 \]

\[ 275° \]

\[ \text{ZEGUG 2 NM to RW28} \]

\[ \text{WEXUS} \]

\[ \text{2500} \]

\[ \text{275°} \]

\[ \text{2 NM - 2.8 NM - 5 NM} \]

\[ \text{CATEGORY} \]

\[ \text{A} \]

\[ \text{B} \]

\[ \text{C} \]

\[ \text{D} \]

\[ \text{LP MDA} \]

\[ 1360-1 440 (500-1) \]

\[ \text{NA} \]

\[ \text{LNAV MDA} \]

\[ 1400-1 480 (500-1) \]

\[ \text{NA} \]

\[ \text{CIRCLING} \]

\[ 1500-1 580 (600-1) \]

\[ \text{NA} \]

\[ \text{MIRL Rwy 10-28} \]

\[ \text{REIL Rwy 10 and 28} \]

\[ \text{42°34'N-84°25'W} \]
Circling Rwy 14, 32 NA at night. Baro-VNAV and VDP NA when using Sturgeon Bay altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -10°C or above 54°C. When local altimeter setting not received, use Sturgeon Bay altimeter setting and increase all DA/MDA 60 feet, increase Circling Cat C/D visibility 1/4 SM. For inop MALSR when using Sturgeon Bay altimeter setting increase LNAV MDA visibility Cat C/D to 1/8. Inop table does not apply to LPV and LNAV/VNAV all Cats and LNAV MDA Cats A/B.

AWOS-3PT 121.45
GREEN BAY APP CON 120.3 338.2
UNICOM 122.8 (CTAF)

RNAV (GPS) RWY 3
MENOMINEE RGNL (MNM)

HOLD 6000 2200
4 NM

holding pattern

OMUPE

LEYID

TACUC

2.2 NM to RW03

2200
2000 (NoPT)

2200

* 1360

2200

2200

2200

2300

UCINI

MALSR

MISSING APCH FIX

4 NM

UCINI

ELEV 625

TDZE 624

45°08'N - 87°38'W

373
Circling Rwy 14, 32 NA at night. Rwy 21 helicopter visibility reduction below ½ SM NA. VDP NA when using Sturgeon Bay altimeter setting. 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 ½ SM.

MISSED APPROACH:
Climb to 2200 direct
OMUPE and hold.

AWOS-3PT 121.45
GREEN BAY APP CON ⭐ 120.3 338.2
UNICOM 122.8 (CTAF)

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 32
MENOMINEE RGNL (MNM)

AWOS-3PT: 121.45
GREEN BAY APP CON*: 120.3  338.2
UNICOM: 122.8 (CTAF)

MISSED APPROACH: Climb to 4000 direct ZELNA and hold, continue climb-in-hold to 4000.

Rwy 32 helicopter visibility reduction below 1 SM NA. Straight-in Rwy 32 NA at night, Circling Rwy 14, 32 NA at night.

Visual Segment - Obstacles.

CATEGORY  | A  | B  | C  | D
---|---|---|---|---
LP MDA   | 1140-1 | 532 (600-1) | 1140-1½ | 532 (600-1½)
LNAV MDA | 1160-1 | 552 (600-1) | 1160-1½ | 552 (600-1½)
CIRCLING | 1200-1 | 575 (600-1) | 1200-1½ | 575 (600-1½)
         |       |       | 1380-2½ | 755 (800-2½)

4000 ZELNA
HOLD 2400
MUNMU
4 NM

MENOMINEE, MICHIGAN
Al-5145 (FAA)
RNAV (GPS) RWY 6
JACK BARSTOW (IKW)

AWOS-3
119.525

GREAT LAKES APP CON *
126.45 235.625

UNICOM
122.8 (CTAF)

Procedure NA for arrivals at MBS VOR/DME via airway radials 212 CW 320.
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.

Procedure NA for arrivals at MBS VOR/DME via V45 southbound.

GREAT LAKES APP CON

AWOS-3
119.525

GREAT LAKES APP CON

126.45
235.625

UNICOM

122.8 (CTAF)

MIDLAND, MICHIGAN

378

MIDLAND, MICHIGAN

AL-5476 (FAA)

24193

MIDLAND, MICHIGAN

Amdt 1B 22APR21

EC-1, 11 JUL 2024 to 05 SEP 2024
When local altimeter setting not received, use MBS Intl altimeter setting and increase all MDA 40 feet. Circling RW 18, 36 NA at night. RW 18, 36 heli 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

GREAT LAKES APP CON *
126.45 235.625

UNICOM
122.8 (CTAF)
RNAV (GPS) RWY 3

When local altimeter setting not received, use Detroit Metro Wayne County altimeter setting and increase all MDAs 60 feet and LNAV visibility Cat C/D ¼ SM, and Circling visibility Cat C/D ¼ SM. RWy 3 helicopter visibility reduction below 1 SM NA. Procedure NA at night.

MISSED APPROACH: Climb to 3000 direct OBOSE and on track 096° to MACCS and hold.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tr>
<td>LNAV MDA</td>
<td>1100-1</td>
<td>486 (500-1)</td>
<td>1100-1½</td>
<td>486 (500-1½)</td>
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<tr>
<td>CIRCLING</td>
<td>1120-1</td>
<td>1180-1</td>
<td>1380-2½</td>
<td>764 (800-2½)</td>
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</tbody>
</table>

AWOS-3 119.075

DETROIT APP CON 134.3 363.2

UNICOM 122.7 (CTAF)
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 47°C. When local altimeter setting not received, use Detroit Metro Wayne County altimeter setting: increase LPV DA to 1011 feet; increase LNAV/VNAV DA 1054 feet; increase all MDAs 60 feet and visibility LNAV Cat C and Circling Cat C/D 1/2 SM. Baro-VNAV and VDP NA when using Detroit Metro Wayne County altimeter setting. Circling to Rwy 3 NA at night.

**MISSED APPROACH:**
Climb to 3000 direct CIVIK and on track 118° to GAKRE and on track 031° to MACCS and hold.
CUSTERS (TTF)

MONROE, MICHIGAN

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....

TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

.....for RADAR vectors to HUUTZ, then on track 213° to BARII, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SINKR TRANSITION (BARI3.SINKR):

NOTE: Chart not to scale.
NOTE: Chart not to scale.

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 3:** Climb on heading 027° or as assigned by ATC, thence...

**TAKEOFF RUNWAY 21:** Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to BROZZ, then on track 279° to CCOBB, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**ZEGBI TRANSITION (CCOBB3.ZEGBI):**
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....
TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to cross PHAUL at or above 3100, then on track 206° to CLVIN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

STAZE TRANSITION (CLVIN3.STAZE):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....
TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to cross MALTB at or above 2200, then on track 094° to HHOGE, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE4.BROKK):
LNCON TRANSITION (HHOWE4.LNCON):

NOTE: Chart not to scale.

NOTE:  Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

RAV-1 DME/DME/IRU or GPS.
RADAR required.

TOP ALTITUDE:
ASSIGNED BY ATC

DETROIT DEP CON
134.3  284.0
AWOS-3
119.075
CTAF 122.7

NOTE:  BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

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

TAKEOFF MINIMUMS:
Rwy 3, 21: Standard.

DEC-1, 11 JUL 2024 to 05 SEP 2024
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

SMUUV

KAYLN

279°

(13)

MTRCT

279°

(15)

IIICE

279°

(52)

SMUUV

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....

TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to MTRCT, then on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3.SMUUv):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....
TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.
NOTE: Turboprop departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....
TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 111° to LIDDS, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GRIVY TRANSITION (LIDDS3.GRIVY):

NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....
TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to JAXII, then on track 323° to MIGGY, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

GETCH TRANSITION (MIGGY3.GETCH):
HUBBY TRANSITION (MIGGY3.HUBBY):
SLLAP TRANSITION (MIGGY3.SLLAP):
NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....
TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

...for RADAR vectors to SLVVA, then on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3.ESSEBE):
MRDOC TRANSITION (PAVYL3.MRDOC):

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....
TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to JWELS, then on track 218° to SNDRS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):
TORRR TRANSITION (SNDRS3.TORRR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....

TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to LOALA, then on track 352° to TRMML, then on (transition).

Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GNZOE TRANSITION (TRMML4.GNZOE):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb on heading 027° or as assigned by ATC, thence....
TAKEOFF RUNWAY 21: Climb on heading 208° or as assigned by ATC, thence....

....for RADAR vectors to FLOKA, then on track 049° to ZETTR, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

DUTEL TRANSITION (ZETTR4.DUTEL):
ETBOX TRANSITION (ZETTR4.ETBOX):
KELTI TRANSITION (ZETTR4.KELTI):
SIKBO TRANSITION (ZETTR4.SIKBO):
TANKO TRANSITION (ZETTR4.TANKO):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TANKO Transition: For use by CYYZ area arrivals only, or as assigned by ATC.
NOTE: Chart not to scale.
RNAV (GPS) RWY 9

MOUNT PLEASANT, MICHIGAN

APP CRS
096°

Rwy Idg 5000
TDZE 755
Apt Elev 755

GREAT LAKES APP CON* 126.45 235.625

AWOS-3
133.025

UNICOM
123.0 (CTAF)

MISSED APCH FIX
4 NM

NAV AID
096°

JAXIL

SILLA

GRUNI

MISSED APPROACH: Climb to 2800 direct GRUNI and hold.

MISSED APPROACH FIX
4 NM

-2.4 NM to AWAVO

-3.05° TCH 40

-2.4 NM to RW09

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)
1400-1¾ 645 (700-1¾)
1700-3 945 (1000-3)

Orig-B 09SEP21

394
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. Circling NA to Rwys 5 and 23.

AWOS-3
133.025
GREAT LAKES APP CON
126.45 235.625
UNICOM
123.0 (CTAF)

3000 direct COPTI and via 186° track direct INDAF and via 132° track to ELMME and hold.

MISSED APPROACH: Climb to 3000 direct COPTI and via 186° track direct INDAF and via 132° track to ELMME and hold.
For inop ALS, increase S-LOC Cat C/D visibility to 1½ SM.
** RVR 1800 authorized with use of FD or AP or HUD to DA.
Rwy 6 helicopter visibility reduction below ½ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C or above 54°C.

Procedure NA for arrivals at SALES on V30 southeast bound.

MISSED APPROACH: Climb to 3000 direct GUTPE and hold.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C or above 54°C. For inop ALS, increase LPV visibility all Cats to RVR 4000, LNAV/VNAV visibility all Cats to RVR 4500, and LNAV visibility Cats A/B to RVR 5500 and Cats C/D to 1 3/4 SM. ** RVR 1800 authorized with use of FD or AP or HUD to DA, NA when using Fremont altimeter setting.

** RVR 1800 authorized with use of FD or AP or HUD to DA, NA when using Fremont altimeter setting.

** RVR 1800 authorized with use of FD or AP or HUD to DA, NA when using Fremont altimeter setting.

** RVR 1800 authorized with use of FD or AP or HUD to DA, NA when using Fremont altimeter setting.
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
RNAV (GPS)-A
OAKLAND SOUTHWEST (Y47)

**Procedure NA at night. Rwy 8 and 26 helicopter visibility reduction below 1 SM NA. Use Detroit Willow Run altimeter setting.**

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<tr>
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<th>YIP ASOS</th>
<th>DETROIT APP CON</th>
<th>UNICOM</th>
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<tr>
<td></td>
<td>127.425</td>
<td>132.35 284.0</td>
<td>122.7 (CTAF)</td>
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<td>1578</td>
<td>1130±</td>
<td>1252</td>
</tr>
<tr>
<td></td>
<td>1221</td>
<td>050° 230°</td>
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<td>3000</td>
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**HOLD**

**150° 230°**

**3000**

**5000**

**403**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
NEWBERRY, MICHIGAN
AL-5836 (FAA)

RNAV (GPS) RWY 11
LUCE COUNTY (ERY)

**APP CRS**

<table>
<thead>
<tr>
<th>CATEGORY</th>
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<th>B</th>
<th>C</th>
<th>D</th>
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<td><strong>LNAV/ VNAV DA</strong></td>
<td>1259-1/8</td>
<td>390 (400-1/8)</td>
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<tr>
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<td>1420-1</td>
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<td>551 (600-1/6)</td>
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<td><strong>CIRCLING</strong></td>
<td>1420-1</td>
<td>1460-1 1/8</td>
<td>591 (600-1/8)</td>
<td>1560-2 1/4</td>
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<td><strong>Apt Elev</strong></td>
<td>869</td>
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<td><strong>LNAV/VNAV MDA</strong></td>
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</tbody>
</table>

**RNAV (GPS) RWY 11**

**Category B**

**Circling NA to Rwy 4 and 22. Rwy 11 helicopter visibility reduction below 3/4 SM NA.**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C or above 54°C.

**MISSED APPROACH:**

Climb to 2700 direct DIHZE and hold.

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**NEWBERRY, MICHIGAN**

Orig-D 21MAR24

46°19'N - 85°27'W
### RNAV (GPS) RWY 29

**LUCE COUNTY (ERY)**

**NEWBERRY, MICHIGAN**

#### APP CRS
- **296°**
- **Rwy Ldg 4304**
- **TDZE 867**
- **Apt Elev 869**

#### WP Parameters
- **4304 X 75**
- **2856 X 150**

#### RNAV (GPS) RWY 29

**NEWBERRY, MICHIGAN**

**LANV**
- **46°19'N - 85°27'W**

#### APP CRS
- **869**

#### CATEGORY
- **B**
- **C**
- **D**

#### LPV DA
- **1117-1**
- **250 (300-1)**

#### LNAV/VNAV DA
- **1239-1 1/2**
- **372 (400-1 1/2)**

#### LNAV MDA
- **1260-1**
- **393 (400-1)**

#### CIRCLING
- **1300-1**
- **431 (500-1)**

#### Missed Approach
- Climb to 2700 direct OBDUW and hold.

---

**Notes:**
- For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 47°C. When local altimeter setting not received, use Chippewa County Intl altimeter setting and increase LPV DA to 1222 feet; increase LNAV/VNAV DA to 1344 feet; increase all MDAs 120 feet and LNAV visibility Cat C ½ SM and Cat D ¼ SM, and Circling visibility Cat C/D ½ SM. Baro-VNAV NA when using Chippewa County Intl altimeter setting. Circling NA to Rwys 4 and 22. Rwy 29 helicopter visibility reduction below ¾ NA.

---

**AWOS-3P**
- 119.525

**MINNEAPOLIS CENTER**
- 134.6 354.05

**UNICOM**
- 122.8 (CTAF)

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**EC-1, 11 JUL 2024 to 05 SEP 2024**

**NEWBERRY, MICHIGAN**

**Orig B 21MAR24**
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.

Procedure NA for arrivals on GIJ VORTAC airway radials 271 CW 050.

Procedure NA for arrivals at LINGS on V277 southeast bound.

RNAN (GPS) RWY 15
JERRY TYLER MEML (3TR)

SBN ASOS  120.675
SOUTH BEND APP CON  118.55  257.8
GCO  121.725
UNICOM  122.8 (CTAF)

APP CRS
151°

RNAN (GPS) RWY 15
JERRY TYLER MEML (3TR)

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.

Procedure NA for arrivals on GIJ VORTAC airway radials 271 CW 050.

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.

Procedure NA for arrivals on GIJ VORTAC airway radials 271 CW 050.

RNAN (GPS) RWY 15
JERRY TYLER MEML (3TR)

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.

Procedure NA for arrivals on GIJ VORTAC airway radials 271 CW 050.

RNAN (GPS) RWY 15
JERRY TYLER MEML (3TR)
**RNAV (GPS) RWY 33**

**JERRY TYLER MEML (3TR)**

**SBN ASOS**

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**GCO**

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**Procedure NA for arrivals at JJANN on V277 northwest bound.**

**Procedure NA for arrivals at JJANN on V277 southeast bound.**

**Procedure NA at night. Rwy 33 helicopter visibility reduction below 1 SM NA. Use South Bend altimeter setting; when not received, use Elkhart altimeter setting; increase all MDA 20 feet and LNAV Cat C visibility 1/2 SM.**

**MISSED APPROACH: Climbing right turn to 3000 direct JJANN and hold.**

**Visual Segment - Obstacles.**

- **LNAV MDA:** 1320-1 570 (600-1)
- **CIRCLING:** 1320-1 570 (600-1)

**RNAV (GPS) RWY 33**

**RNP APCH.**

**APP CRS**

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**RNAV (GPS) RWY 33**

**750**

**3000**

**NILES, MICHIGAN**

**Orig C 25MAR21**

**ELEV 750**

**TDZE 750**

**331°**

**41°50'N-86°14'W**

**407**
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.

Remain within 10 NM
OSCODA, MICHIGAN

ILS or LOC RWY 25
OSCODA/WURTSMITH (OSC)

AWOS-3  118.7

MINNEAPOLIS CENTER  125.475  269.45

UNICOM  123.0 (CTAF)

108.8 APN  25°

LEGOR APN  15

MISSED APPROACH: Climb to 1300 then climbing right turn to 3000 on heading 030° and on APN VORTAC R-175 to LEGOR/APN 15 DME and hold.

DME required.

Circling NA southeast of Rwy 7-25. For inap ALS, increase S-LOC Cats C and D visibility to 1 SM. DME from ASP DME. Simultaneous reception of I-LJU and ASP DME required.

**EC-1, 11 JUL 2024 to 05 SEP 2024**
Circling NA to Rwy 6, 18, 24 and 36. Rwy 29 helicopter visibility reduction below 1/2 SM NA. When local altimeter setting not received, use Flint altimeter setting and increase all MDA 60 feet and S-29 Cat C visibility 1/4 mile.

AWOS-3 118.025

**VOR/DME RWY 29**

**OWOSSO COMMUNITY (RNP)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**
When local altimeter setting not received, use Harbor Springs altimeter setting: increase S-ILS 32 DA to 942 feet; increase all MDA 40 feet and visibility S-LOC 32 Cat D and EMHUR fix minimums S-LOC 32 Cat C ¾ SM. Circling Rwy 5, 14, 23 NA at night. Autopilot coupled approach NA below 1868 feet.

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RNAV (GPS) RWY 5
PELLSTON RGNL/EMMET COUNTY (PLN)

APR CRS
Rwy Idg 5395
LNAV MDA
Apt Elev 716

MINNEAPOLIS CENTER
134.6 354.05

UNICOM
123.0 (CTAF)

MISSAPCH FIX
3 NM to JILEL

MISS APCH FIX
4 NM

EC-1, 11 JUL 2024 to 05 SEP 2024

PELLSTON, MICHIGAN
Ortg D 09SEP21

RWP 05

MINSA RN05 20 NM

45°34'N-84°48"W

MISSAPCH: Climb to 2400 direct FUBUP and hold.

Straight-in Rwy 5 NA at night, Circling Rwy 5, 14, 23 NA at night.
Rwy 5 helicopter 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 visibility ¼ SM.

ASOS
119.025

MINNEAPOLIS CENTER
134.6 354.05

UNICOM
123.0 (CTAF)

Procedure NA for arrivals at GLR VOR/DME on V233 southbound.

MISSAPCH FIX
4 NM

MISS APCH FIX
3 NM to JILEL

EC-1, 11 JUL 2024 to 05 SEP 2024

PELLSTON, MICHIGAN
Orig D 09SEP21

RWP 05

MINSA RN05 20 NM

45°34'N-84°48"W

MISSAPCH: Climb to 2400 direct FUBUP and hold.

Straight-in Rwy 5 NA at night, Circling Rwy 5, 14, 23 NA at night.
Rwy 5 helicopter 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 visibility ¼ SM.

ASOS
119.025

MINNEAPOLIS CENTER
134.6 354.05

UNICOM
123.0 (CTAF)

Procedure NA for arrivals at GLR VOR/DME on V233 southbound.

MISSAPCH FIX
4 NM

MISS APCH FIX
3 NM to JILEL
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. Rwy 23 helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Harbor Springs altimeter setting; increase LPV DA to 1087 feet, LNAV/VNAV DA to 1139 feet and all visibilities 3/4 SM; increase all MDA 40 feet. Circling Rwy 5, 14, 23 NA at night.

MISSING APPROACH:
Climb to 3000 direct BAVDY and hold.
ILS or LOC RWY 9R
OAKLAND COUNTY INTL (PTK)

RADAR required for procedure entry.

Circling Rwy 9L, 36 NA at night. When local altimeter setting not received, use Coleman A Young Muni altimeter setting and increase DA to 1286 feet and all MDA 120 feet, increase S-LOC 9R Cat B visibility to RVR 4000, Cat C/D visibility 3/4 SM, and Circling Cat B/C/D visibility 1/2 SM. For inop MALSR, increase S-LOC 9R Cat C/D visibility to 1 1/4 SM. For inop MALSR, when using Coleman A Young altimeter, increase S-ILS 9R all Cat's visibility to RVR 4500, and increase S-LOC 9R Cat C/D visibility to 2 SM. **RVR 1800 authorized with the use of FD or AP or HUD to DA, NA when using Coleman A Young Muni altimeter setting.

**MISSED APPROACH:** Climb to 1600 then climbing right turn to 3000 direct SVM VORTAC and hold.

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 9R
OAKLAND COUNTY INTL (PTK)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.6°C (4°F) or above 47°C (116°F). Baro-VNAV and VDP NA when using Coleman A Young altimeter setting. Circling Rwy 9L, 36 NA at night. When local altimeter setting not received, use Coleman A Young altimeter setting and increase LPV DA to 1286 feet, LNAV/VNAV DA to 1685 feet and all MDA 120 feet, increase LNAV/VNAV all Cats visibility to 2 SM, increase LNAV Cat C visibility to RVR 5000, Cat D visibility to RVR 6000, and Circling Cat C/D visibility ½ SM. For inop MALSR increase LNAV Cats A/B visibility to RVR 5000. For inop MALSR when using Coleman A Young altimeter setting; increase LPV all Cats, and LNAV Cats A/B visibility to RVR 5000. # RVR 1800 authorized with use of FD or AP or HUD to DA, NA when using Coleman A Young altimeter setting.

Procedure NA for arrivals at FNT VORTAC on V353 northeast bound.

LPV DA
LNAV/ VNAV DA
LNAV MDA
CIRCLING

4 NM Holding Pattern

42°40’N-83°25’W

ATIS DETROIT APP CON PONTIAC TOWER* GND CON CLNC DEL UNICOM
125.025 132.35 284.0 120.5 (CTAF) 121.9 118.25 122.95

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 27L
OAKLAND COUNTY INTL (PTK)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F).
Baro-VNAV and VDP NA when using Coleman A Young altimeter setting. Circling Rwy 9L, 36 NA at night. When local altimeter setting not received, use Coleman A Young Muni altimeter setting and increase LPV DA to 1279 feet, LNAV/VNAV DA to 1568 and all MDA 120 feet, increase LPV and LNAV/VNAV all cats visibility ½ SM, LNAV Cat C/D, and Circling Cat C/D visibility ½ SM.

Procedure NA for arrivals on FNT VORTAC airway radials 076 CW 097.

VPNAV glideslope not coincident (VPNAV Angle 3.00°/TCH 42).

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). Baro-VNAV and VDP NA when using Coleman A Young altimeter setting. Circling Rwy 9L, 36 NA at night. When local altimeter setting not received, use Coleman A Young Muni altimeter setting and increase LPV DA to 1279 feet, LNAV/VNAV DA to 1568 and all MDA 120 feet, increase LPV and LNAV/VNAV all cats visibility ½ SM, LNAV Cat C/D, and Circling Cat C/D visibility ½ SM.

Procedure NA for arrivals on FNT VORTAC airway radials 076 CW 097.

VPNAV glideslope not coincident (VPNAV Angle 3.00°/TCH 42).
Circling Rwy 9L, 36 NA at night. When local altitude setting not received, use Coleman A Young Muni altitude setting and increase all MDA 120 feet, increase S-27L Cat C/D visibility ½ SM and Circling Cat C/D visibility ½ SM.

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

**Procedure NA for arrival on SVM VORTAC airway radials 085 CW 095.**

**BACK COURSE**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**LOC BC RWY 27L**

**OAKLAND COUNTY INTL (PTK)**

**PONTIAC, MICHIGAN**

**Amdt 2 19JUL18**

**42°40'N-83°25'W**
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to HUUTZ, then on track 213° to BARII, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SINKR TRANSITION (BARII3.SINKR):
**DEPARTURE ROUTE DESCRIPTION**

**TOP ALTITUDE:** RNAV 1 - DME/DME/IRU or GPS. **ASSIGNED BY ATC**
RADAR required.

**NOTE:** Turbojet departures at/above 10000, maintain 280K until advised by ATC.

**NOTE:** For use by aircraft filed at or below FL220, or as assigned by ATC.

**NOTE:** CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP) at or below 17999 (SR-SS).

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

**ZEGBI TRANSITION (CCOBB3.ZEGBI):**
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**TAKEOFF RUNWAYS 9L/R:** Climb on heading 095° or as assigned by ATC, thence....

**TAKEOFF RUNWAYS 27L/R:** Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to BROZZ, then on track 279° to CCOBB, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**ZEGBI TRANSITION (CCOBB3.ZEGBI):**
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to cross PHAUL at or above 3100, then on track 206° to CLVIN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

STAZE TRANSITION (CLVIN3.STAZE):
HHOWE FOUR DEPARTURE (RNAV)

DEPARTURE ROUTE DESCRIPTION

TOP ALTITUDE: ASSIGNED BY ATC

DEPARTURE MINIMUMS:

Rwy 1B, 36: NA-Environmental.

NOTE:

- Turbojet departures at/above 10000, maintain 280K until advised by ATC.
- NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

NOTE: Chart not to scale.

ASSIGNED BY ATC

TOP ALTITUDE:

DEPARTURE MINIMUMS:

Rwy 1B, 36: NA-Environmental.

NOTE:

- Turbojet departures at/above 10000, maintain 280K until advised by ATC.
- NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TOP ALTITUDE: ASSIGNED BY ATC

DEPARTURE MINIMUMS:

Rwy 1B, 36: NA-Environmental.

NOTE:

- Turbojet departures at/above 10000, maintain 280K until advised by ATC.
- NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TOP ALTITUDE: ASSIGNED BY ATC

DEPARTURE MINIMUMS:

Rwy 1B, 36: NA-Environmental.

NOTE:

- Turbojet departures at/above 10000, maintain 280K until advised by ATC.
- NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TOP ALTITUDE: ASSIGNED BY ATC

DEPARTURE MINIMUMS:

Rwy 1B, 36: NA-Environmental.

NOTE:

- Turbojet departures at/above 10000, maintain 280K until advised by ATC.
- NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

NOTE: Chart not to scale.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TOP ALTITUDE: ASSIGNED AT ATC

RNAV-1 DME/DME/IRU or GPS.
RADAR required.

NOTE: Chart not to scale.

TAKEOFF MINIMUMS:
Rwy 18, 36: NA-Environmental.

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to MTRCT, then on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3.SMUUV):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

...for RADAR vectors to KZLOV, then on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TOP ALTITUDE: ASSIGNED BY ATC

$275^\circ$ $095^\circ$

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 111° to LIDDS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GRIVY TRANSITION (LIDDS3.GRIVY):

NOTE: Chart not to scale.
NOTE: For use by non-RNAV equipped aircraft only.

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

TOP ALTITUDE: 3000

SPECIAL INSTRUCTIONS:

When using this departure, file the appropriate depicted departure fix and route. Aircraft over HARWL must file FL220 and below. PROP AIRCRAFT departing KDTW Rwys 9L/R, 27L/R westbound, cross DXO 3.5 DME at or above 2500 MSL. Aircraft landing Cleveland (CLE) must file MAARS transition. Turbojet departures at/above 10000, maintain 280K until advised by ATC. If unable, advise ATC prior to departure.

TAKEOFF MINIMUMS

Rwy 18, 36: NA - Environmental.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R and 27L/R: Climb on assigned heading, thence...

.....maintain ATC assigned altitude for RADAR vectors to intercept filed/assigned transition or enroute fix/navaid. When 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 within ten (10) minutes after departure.

DUNKS TRANSITION (METRO3.DUNKS): From over DXO VOR/DME on DXO R-296 to DUNKS.
HARWL TRANSITION (METRO3.HARWL): From over DXO VOR/DME on DXO R-281 to HARWL.
ILLIE TRANSITION (METRO3.ILLIE): From over DXO VOR/DME on DXO R-217 to ILLIE.
MAARS TRANSITION (METRO3.MAARS): From over DXO VOR/DME on DXO R-106 to MAARS.
PISTN TRANSITION (METRO3.PISTN): From over DXO VOR/DME on DXO R-020 to PISTN.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence.....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence.....

...for RADAR vectors to JAXII, then on track 323° to MIGGY, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

GETCH TRANSITION (MIGGY3.GETCH):
HUBBY TRANSITION (MIGGY3.HUBBY):
SLLAP TRANSITION (MIGGY3.SLLAP):

NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.

NOTE: Chart not to scale.
TOP ALTITUDE: ASIGNED BY ATC

RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

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

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to SLVVA, then on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3.ESSBE):
MRDOC TRANSITION (PAVYL3.MRDOC):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....

TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to JWELS, then on track 218° to SNDRS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):
TORRR TRANSITION (SNDRS3.TORRR):

TOP ALTITUDE: ASSIGNED BY ATC

RNAV-1 DME/DME/IRU or GPS.
RADAR required.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.

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

NOTE: Chart not to scale.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to LOALA, then on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GNZOE TRANSITION (TRMML4.GNZOE):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 9L/R: Climb on heading 095° or as assigned by ATC, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 275° or as assigned by ATC, thence....

....for RADAR vectors to FLOKA, then on track 049° to ZETTR, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

DUTEL TRANSITION (ZETTR4.DUTEL):
ETBOX TRANSITION (ZETTR4.ETBOX):
KELTI TRANSITION (ZETTR4.KELTI):
SIKBO TRANSITION (ZETTR4.SIKBO):
TANKO TRANSITION (ZETTR4.TANKO):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TANKO Transition: For use by CYYZ area arrivals only, or as assigned by ATC.

NOTE: Chart not to scale.
PORT HURON, MICHIGAN

ILS or LOC RWY 4
ST CLAIR COUNTY INTL (PHN)

LOC I-PHN
110.9

APP CRS
043°

Rwy Idg
TDZE
Apt Elev
5104
647
650

AWOS-3
118.375

SELFRIJDE APP CON
119.6 391.9

UNICOM
123.05 (CTAF)

PORT HURON, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024

AWOS-3
118.375

SELFRIJDE APP CON
119.6 391.9

UNICOM
123.05 (CTAF)

LOCALIZER 110.9
I-PHN

Amdt 4 18SEP14

ST CLAIR COUNTY INTL (PHN)

ILS or LOC RWY 4

LOCALIZER 110.9
I-PHN

EC-1, 11 JUL 2024 to 05 SEP 2024

AWOS-3
118.375

SELFRIJDE APP CON
119.6 391.9

UNICOM
123.05 (CTAF)

LOCALIZER 110.9
I-PHN

PORT HURON, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024

AWOS-3
118.375

SELFRIJDE APP CON
119.6 391.9

UNICOM
123.05 (CTAF)

LOCALIZER 110.9
I-PHN

PORT HURON, MICHIGAN

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SELFRIJDE APP CON
119.6 391.9

UNICOM
123.05 (CTAF)

LOCALIZER 110.9
I-PHN

PORT HURON, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 4
ST CLAIR COUNTY INTL (PHN)

**AWOS-3**
118.375

**SELFridge app con**
119.6 391.9

**unicom**
123.05 (CTAF)

**MalSR**
Climbing left turn to 4000 direct PUYCU and hold, continue climb-inhold to 4000.

**missed approach**

<table>
<thead>
<tr>
<th>Category</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPV DA</td>
<td>847-½</td>
<td>200 (200-½)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNAV/ VNAV DA</td>
<td>930-½</td>
<td>283 (300-½)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNAV MDA</td>
<td>1000-½</td>
<td>353 (400-½)</td>
<td>1000-5/6</td>
<td>353 (400-5/6)</td>
</tr>
<tr>
<td>C circling</td>
<td>1160-1</td>
<td>510 (600-1)</td>
<td>1260-1½</td>
<td>1260-2</td>
</tr>
</tbody>
</table>

Circling Rwy 10, 22, 28 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. For inoperative ALS, increase LNAV/VNAV all Cats visibility to ½ mile and LNAV Cat C/D visibility to 1 SM.

VGSi and RNAV glidepath not coincident (VGSi Angle 3.00/TCH 50).

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAP (GPS) RWY 22
ST CLAIR COUNTY INTL (PHN)

AWOS-3
118.375

SELFRIEGE APP CON *
119.6 391.9

UNICOM
123.05 (CTAF)

HIGIG
1020-1
371 (400-1)

MARGN
RW22
(14.3) 066°
4000

WIGUK
(6.9) 1260-1
610 (700-1, 2)

ZORIX
898
(FAF) RW22
2.2 NM to JULAD
2.5 NM

VGS1 and descent angles not coincident
(VGS1 Angle 3.00/TCH 45).

HIGIG
4000
043°
223°

JULAD
2.2 NM to
RW22

WIGUK
2200
6000

4 NM
223°
223°

2000

TCH 55

4 NM
6.9 NM

1400
2200

2.2 NM
 CATEGORY

LP MDA
1020-1 371 (400-1)

LNAV MDA
1040-1 391 (400-1)
1040-1 3/6 391 (400-1 1/6)

1260-1 3/6 391 (400-1 1/6)
1260-2 610 (700-1 3/6)
1260-2 610 (700-2)

CIRCLING
1160-1 510 (600-1)

EC-1, 11 JUL 2024 to 05 SEP 2024

PORT HURON, MICHIGAN
ST CLAIR COUNTY INTL (PHN)
444
PORT HURON, MICHIGAN

ST CLAIR COUNTY INTL (PHN)

EC-1, 11 JUL 2024 to 05 SEP 2024

AWOS-3
118.375

SELFRIEDE APP CON * 119.6 391.9

UNICOM 123.05 (CTAF)

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

ST CLAIR COUNTY INTL (PHN)

EC-1, 11 JUL 2024 to 05 SEP 2024

AWOS-3
118.375

SELFRIEDE APP CON * 119.6 391.9

UNICOM 123.05 (CTAF)

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.

LOM/IAF PHURN
332 PH

PHURRN

LOM and hold.

4000 direct PHURN climbing left turn to
Climb to 2500 then

MISSED APPROACH: Climb to 2500 then climbing left turn to 4000 direct PHURN LOM and hold.
**RNAV (GPS)-A**

**RAY COMMUNITY (57D)**

**APP CRS**
- **094°**
- **Rwy Ldg** N/A
- **TDZE** N/A
- **Apt Elev** 632

**RNP APCH**
- Procedure NA at night. Rwy 10 helicopter visibility reduction below 1 SM NA. Use Troy altimeter setting. When not received use Pontiac altimeter setting and increase all MDAs 60 feet.
- **MISSED APPROACH**: Climb to 2000 then climbing left turn to 4000 direct HIGIG and hold, continue climb-in-hold to 4000.

**VLL AWOS-3**
- **119.475**

**SELFRIDGE APP CON**
- **119.6 391.9**

**UNICOM**
- **122.7 (CTAF)**

**AL-11012 (FAA)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**RAY, MICHIGAN**

**Orig-B 20JUN19**

**42°44'N-82°53'W**

**RAY, MICHIGAN**

**SELFRIDGE APP CON**

**119.6 391.9**

**UNICOM**

**122.7 (CTAF)**

**MISSED APPROACH**: Climb to 2000 then climbing left turn to 4000 direct HIGIG and hold, continue climb-in-hold to 4000.
RNAV (GPS) RWY 9

**RNAV (GPS) RWY 9**

<table>
<thead>
<tr>
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<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNAV MDA</td>
<td>1120-1</td>
<td>451 (500-1)</td>
<td>1120-1 1/4</td>
<td>451 (500-1 1/4)</td>
</tr>
<tr>
<td>CIRCLING</td>
<td>1200-1</td>
<td>530 (600-1)</td>
<td>1240-1</td>
<td>570 (600-1)</td>
</tr>
</tbody>
</table>

**RNAV (GPS) RWY 9**

- If local altimeter setting not received, use Alpena County Rgnl altimeter setting and increase all MDA's 60 feet. Straight-in/Circling Rwy 9 NA at night. Rwy 9 helicopter visibility reduction below 1 SM NA.
- Procedure NA for arrival at PLN VORTAC via V297 northbound, APN VORTAC via V420 eastbound, and REEFY via V45 northbound.

**RNAV (GPS) RWY 9**

- Holding Pattern
- 4 NM
- JUPAK
- KUCEK
- 2500
- 275°
- 095°
- 2500
- 095°
- 2500
- 095°
- 3.0°
- TCH 35
- 1600
- 2.8 NM
- 2.8
- 6 NM
- 1200-1
- 1240-1
- 1260-1 1/2

**RNAV (GPS) RWY 9**

- AWOS-3
- 118.125
- ALPENA APP CON *
- 128.425 379.3
- CTAF
- 122.9 0
RNAV (GPS) RWY 27
PRESQUE ISLE COUNTY (PZQ)

**APP CRS**
- **Rwy Idg**: 3727
- **TDZE**: 670
- **Apt Elev**: 670

**Category B**

**MISSED APPROACH**: Climb to 2500 direct JUZU and hold.

**AWOS-3**
- **118.125**

**ALPENA APP CON**
- **128.425**
- **379.3**

**CTAF**
- **122.9**

**Procedure NA for arrival at APN VORTAC via V45 southbound, and PLN VORTAC via V78 northbound.**

**ELEV 670**
- **TDZE 670**
RNAV (GPS) RWY 18
ROMEO STATE (D98)

**RNAV (GPS) RWY 18**

- **Category:** A
- **LNAV MDA:** 1240-1 (600-1)
- **CIRCLING:** 1300-1 (561-1)

**APM CRS**

<table>
<thead>
<tr>
<th>APP CRS</th>
<th>Rwy Idg</th>
<th>TDZE</th>
<th>Apt Elev</th>
</tr>
</thead>
<tbody>
<tr>
<td>184°</td>
<td>3534</td>
<td>739</td>
<td>739</td>
</tr>
</tbody>
</table>

**NA**

- **Rwy 18** heli visibility reduction below 1 SM NA. Use Coleman A Young Muni altimeter setting. Straight-in and Circling Rwy 18 NA at night.

**UNICOM**

- **122.8 (CTAF)**

**REMARKS**

- **MIRL Rwy 18-36**
- **REIL Rwys 18 and 36**
RNAV (GPS) RWY 36
ROMEO STATE (D98)

**RNP APCH - GPS.**

- Circling RWy 18 NA at night. RWy 36 helicopter visibility reduction below 1 SM NA.
- Use Coleman A Young Muni altimeter setting.

**Det ASOS**

- 124.875

**Selfridge App Con**

- 119.6
- 391.9

**Unicom**

- 122.8 (CTAF)

**Missed Approach Fix**

- Climb to 2900 direct UTEBE and hold.

**App Crs**

- 004°

**LNAV MDA**

- 1180-1 (500-1)
- 1180-1 1/2 (500-1 1/2)

**Circling**

- 1300-1
- 1420-1
- 1420-2
- 1480-2 1/2

**Category**

- A
- B
- C
- D

**LNAV Ruys**

- 4003
- 736

**Unid**

- 2900

**Elev**

- 739

**TDZE**

- 736
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. For inoperative ALS, increase LNAV/VNAV all Cat C/D visibility to RVR 4500 and LNAV Cats C/D visibility to RVR 6000.

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

ATIS
GREAT LAKES APP CON*
SAGINAW TOWER *
GND CON
CLNC DEL
UNICOM

WAAS CH 82010
W05A
APP CRS
053°

Rwy Idg
TDZE
Apt Elev
8002
666
668

EC-1, 11 JUL 2024 to 05 SEP 2024
EC-1, 11 JUL 2024 to 05 SEP 2024

GREAT LAKES APP CON**

126.45 235.625

SAGINAW TOWER **

120.1(CTAF) 257.7

GND CON
121.7

CLNC DEL
121.85

UNICOM
122.95

ATIS
125.925

GREAT LAKES APP CON*

126.45 235.625

SAGINAW TOWER *

120.1(CTAF) 257.7

GND CON
121.7

CLNC DEL
121.85

UNICOM
122.95

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

VNAV only.

LPV DA**
866/24 200 (200-1/2)

LNAV/ VNAV DA
955/24 289 (300-1/2)

LNAV MDA
1080/24 414 (500-1/2)
1080/40 414 (500-3/4)

CIRCLING
1080-1 1120-1 1240-1 1240-2
412 (500-1) 452 (500-1) 572 (600-1/2) 572 (600-2)

EC-1, 11 JUL 2024 to 05 SEP 2024

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

VNAV all Cats visibility to RVR 4500 and LNAV Cats C/D visibility to RVR 6000.

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

For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500 and LNAV Cats C/D visibility to RVR 6000.

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

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500 and LNAV Cats C/D visibility to RVR 6000.

** RVR 1800 authorized with use of FD or AP or HUD to DA.
RNAV (GPS) RWY 23
MBS INTL (MBS)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
For inoperative ALS, increase LNAV/VNAV all Cats visibility to RVR 4500.
# RVR 1800 authorized with use of FD or AP or HUD to DA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C or above 54°C.

ATIS 125.925
GREAT LAKES APP CON * 126.45 235.625
SAGINAW TOWER * 120.1 (CTAF) 257.7
GND CON 121.7
CLNC DEL 121.85
UNICOM 122.95

WAAS CH 78011 W32A
Rwy Idg 6399
TDZE 665
Apt Elev 668

MISSED APPROACH: Climb to 2300 direct OGREE and hold.

GREAT LAKES APP CON

126.45 235.625

SAGINAW TOWER
120.1 (CTAF) 257.7

GND CON 121.7

CLNC DEL 121.85

UNICOM 122.95

ABORT APPROACH

MISSED APPROACH: Climb to 2300 direct OGREE and hold.

2300 direct OGREE

OGREE

GREAT LAKES APP CON

126.45 235.625

SAGINAW TOWER
120.1 (CTAF) 257.7

GND CON 121.7

CLNC DEL 121.85

UNICOM 122.95

ABORT APPROACH

MISSED APPROACH: Climb to 2300 direct OGREE and hold.
Procedure NA for arrival on MBS VOR/DME airway radials 284 CW 356.

ZETBI FIX MINIMUMS (DME REQUIRED)

S-14
1120-1 452 (500-1) 1120-1/8 452 (500-1/8)

C CIRCLING
1120-1 452 (500-1) 1240-1/2 572 (600-1/2) 1240-2 572 (600-2)

ZETBI MBS 1.9
XODUY MBS 0.6

ATIS GREAT LAKES APP CON SAGINAW TOWER GND CON CLNC DEL UNICOM
125.925 126.45 235.625 120.1 (CTAF) 257.7 121.7 121.85 122.95

TRW
U P
Strip
A

A

82

MBS INTL (MBS)

SAGINAW, MICHIGAN

VOR RWY 14

MBS INTL (MBS)

AL-648 (FAA)

VOR RWY 14

MBS INTL (MBS)

SAGINAW, MICHIGAN

24025
Inoperative table does not apply to S-ILS 28.
DME required. Circling Rwy 5, 23 NA at night.
Circling NA for Cat C north of Rwy 10-28.

Procedure NA for arrivals at MBS VOR/DME on V133 northbound.

Procedure NA for arrivals at FNT VORTAC on T616 westbound.

*LOC only

DME REQUIRED

EC-1, 11 JUL 2024 to 05 SEP 2024
### RNAV (GPS) RWY 10

**SAGINAW COUNTY/H W BROWNE (HYX)**

#### RNP APCH - GPS

- **For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C or above 54°C. Circling NA for Cat C north of Rwy 10-28. Circling Rwy 5, 23 NA at night.**

#### AWOS-3PT
- **SAGINAW, MICHIGAN**
  - **CH 50200 W10A**
  - **APP CRS 097°**
  - **Rwy Idg 5002**
  - **TDZE 600**
  - **Apt Elev 602**

#### GREAT LAKES APP CON
- **GREAT LAKES APP CON**
  - **UNICOM 122.8 (CTAF)**

#### Procedure NA for arrival on MBS VOR/DME airway radials 163 CW 284.

#### Procedure NA for arrivals at FNT VOR/TAC on V450 eastbound.

#### Holding Pattern
- **GP 3.00° TCH 45**
  - **CULAK**
  - **KURYE**
  - **RW10**

#### CATEGORY
- **LPV DA**
- **LNAV/VNAV DA**
- **LNAV MDA**
- **CIRCLING**

#### MISSED APPROACH: Climb to 2700 direct IVODY and hold.

### RNAV (GPS) RWY 10

**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 MDA 40 feet and increase Circling Cat C visibility 1/4 SM. Circling NA for Cat C north of Rwy 10-28.

MISSED APPROACH: Climb to 1900 then climbing right turn to 3000 direct MBS VOR/DME and hold.

NoPT for arrival on MBS VOR/DME airway radials 212 CW 016.
RNAV (GPS) RWY 7
MACKINAC COUNTY (83D)

MINNEAPOLIS CENTER
134.6 354.05

UNICOM
122.7 (CTAF)

Procedure NA for arrival on PLN VORTAC airway radials 219 CW 023.

MISSED APPROACH: Climb to 3000 direct BAPKE and hold.

ST IGNACE, MICHIGAN

AL-10180 (FAA)

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 10
SANDUSKY CITY (Y83)

- **RNAV (GPS) RWY 10**
- **SANDUSKY CITY (Y83)**

**Circling NA to Rwy 18 and 36. Circling NA north of Rwy 10:28.**
- Procedure NA at night. Baro-VNAV NA. Use Bad Axe altimeter setting.

**MISSED APPROACH:**
- Climb to 2500 direct MCRIK and hold.

**TCH 41**
- GP 3.00°
- NAVAID 277°
- 4 NM
- Holding Pattern

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 28
SANDUSKY CITY (Y83)

Rwy 28 helicopter visibility reduction below 1 SM NA. Baro-VNAV NA. Use Bad Axe altimeter setting.

HOTLN and hold.爬上到2500直接

MISSED APPROACH:
Climb to 2500 direct
HOTLN and hold.

BAX AWOS-3
118.6

CLEVELAND CENTER
127.7 290.425

UNICOM
122.8 (CTAF)

STEELHEAD
MOA

EC-1, 11 JUL 2024 to 05 SEP 2024

SANDUSKY, MICHIGAN
AL-10457 (FAA)

2327B

RNAV (GPS) RWY 28
SANDUSKY CITY (Y83)

43°27'N-82°51'W
SAULT STE MARIE, MICHIGAN
Amdt 8G 15JUN23

ILS or LOC RWY 16
CHIPPEWA COUNTY INTL (CIU)

AWOS-3PT
127.575

TORONTO CENTER
132.65 344.5

UNICOM
123.0 (CTAF)

ANNA
Autopilot coupled approach NA below 1380.
For inap ALS, increase S-ILS 16 visibility to ½ SM
all Cats and S-LOC 16 Cat C/D/E to 1 SM.

MALSR

MISSLED APPROACH: Climb to 1500 then climbing
right turn to 2600 direct KOLOE LOM/INT and hold,
continue climb-in-hold to 2600.

AWOS-3PT
127.575

TORONTO CENTER
132.65 344.5

UNICOM
123.0 (CTAF)

S-LOC 16

1160-½ 361 (400-½)
1160-¾ 361 (400-¾)

C CIRCLING
1260-1 461 (500-1)
461 (500-1½) 1360-2 1380-2
561 (600-2) 581 (600-2)

CATEGORY
A B C D E
S-ILS 16 1090½ 291 (300½)
S-LOC 16 1160-½ 361 (400-½)
1160-¾ 361 (400-¾)

EC-1, 11 JUL 2024 to 05 SEP 2024
RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

AWOS-3PT
127.575

TORONTO CENTER
132.65 344.5

UNICOM
123.0 (CTAF)

Procedure NA for arrivals on SSM VOR/DME airway radials 295 CW 023.

Procedure NA for arrivals on PLN VORTAC airway radials 295 CW 023.

SAULT STE MARIE, MICHIGAN
Orig-B 08OCT20

46°15'N-84°28'W

RNAV (GPS) RWY 10
CHPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
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RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

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CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
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RNAV (GPS) RWY 10
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RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

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CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

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RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

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CHIPPEWA COUNTY INTL (CIU)

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CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
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RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
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RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)

RNAV (GPS) RWY 10
CHIPPEWA COUNTY INTL (CIU)
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. For inop ALS, increase LPV all Cats, LNAV/VNAV all Cats and LNAV Cats A/B/C ½ SM; increase LNAV Cat D ¼ SM.

**MISSED APPROACH:**
Climb to 3000 direct CAKRU and on track 209° to PINES and hold. Procedure NA for arrivals at CATGA on V300 southeast bound.
RNAV (GPS) RWY 34
CHIPPEWA COUNTY INTL (CIU)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C.
When local altimeter setting not received, use Sault Ste Marie Muni/Sanderson Fld altimeter setting; increase LPV DA to 1091 feet, LNAV/VNAV DA to 1243 feet and all MDA 60 feet; increase LNAV Cat D visibility ½ SM. Baro-VNAV and VDP NA when using Sault Ste Marie Muni/Sanderson Fld altimeter setting.

Procedure NA for arrival at PINES via V193 southbound.
MISSED APPROACH: Climb to 2600 direct KOLOE LOM and hold.

When local altimeter setting not received, use Sault-Ste Marie Muni/ Sanderson Fld altimeter setting and increase all MDA 60 feet and increase S-34 Cat C/D visibility to 1/4 mile.

AWOS-3PT
127.575

TORONTO CENTER
132.65 344.5

UNICOM
123.0 (CTAF)
AIRPORT DIAGRAM

CHIPPEWA COUNTY INTL (CIU)
SAULT STE MARIE, MICHIGAN

AWOS-3PT
127.575
CTAF/UNICOM
123.0

FIELD ELEV 799

ELEV 792

RHWY 10-28
PCN 15 F/B/Y/U
S-100, D-100

RHWY 16-34
PCN 31 R/B/X/U
S-155, D-330, 2D-600

VEHICLE TESTING IN PROGRESS
WINTER MONTHS. AREAS MAY BE
PLowed BUT ARE NOT AVAILABLE
FOR AIRCRAFT OPERATIONS.

PCN 31 R/B/X/U
S-155, D-330, 2D-600

EC-1, 11 JUL 2024 to 05 SEP 2024
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. Rwy 14 helicopter visibility reduction below 1/2 SM 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 1 3/4 mile and LNAV Cat C visibility to 1 1/4 mile.

Procedure NA for arrivals on SSM VOR/DME airway radials 304 CW 352.

RNP APCH:

SAULT STE MARIE, MICHIGAN

RNAV (GPS) RWY 14

SAULT STE MARIE MUNI/SANDERSON FLD (ANJ)

MISSED APCH FIX

4 NM

SAULT STE MARIE MUNI/SANDERSON FLD

RNAV (GPS) RWY 14

EC-1, 11 JUL 2024 to 05 SEP 2024

SAULT STE MARIE, MICHIGAN
RNAV (GPS) RWY 32
SAULT STE MARIE MUNI/SANDERSON FLD (ANJ)

ASOS

TORONTO CENTER

UNICOM

118.375

132.65

344.5

122.7 (CTAF)

Rwy 32 helicopter visibility reduction below 1/4 SM NA. When local altimeter setting not received, use Chippewa County Int'l altimeter setting and increase all MDA 60 feet, and increase LP Cat C visibility 1/2 mile and LNAV Cat C visibility 1/4 mile.

Procedure NA for arrivals on SSM VOR/DME airway radials 080 CW 201.

MISSED APPROACH: Climb to 2800 direct KUCEB and hold.

SAULT STE MARIE, MICHIGAN
Orig-B 08NOV18

RNAV (GPS) RWY 32
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 1/4 mile. Rwy 32 helicopter visibility reduction below 3/4 SM NA.

**MISSUED APPROACH:**
Climbing left turn to 2400 direct SSM VOR/DME and hold.
**BARII THREE DEPARTURE (RNAV)**

**TOP ALTITUDE: ASSIGNED BY ATC**

**RNAV 1 - DME/DME/IRU or GPS.**

**RADAR required.**

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<th>SELFRIDGE DEP CON</th>
<th>119.6 391.9</th>
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<td>125.325 270.1</td>
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<td>CLNC DEL</td>
<td>128.3 275.8</td>
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<td>GND CON</td>
<td>128.3 275.8</td>
</tr>
<tr>
<td>SELFRIDGE TOWER</td>
<td>120.15 225.4</td>
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**TAKEOFF MINIMUMS:**

- **Rwy 1:** Standard.
- **Rwy 19:** Standard with minimum climb of 235’ per NM to 1500.

**NOTE:** Turbojet departures at/above 10000, maintain 280K until advised by ATC.

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 1:** Climb on heading 007° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 19:** Climb on heading 187° or as assigned by ATC, thence....

....for RADAR vectors to HUUTZ, then on track 213° to BARII, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**SINKR TRANSITION (BARII3.SINKR):**
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence....
TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence....

...for RADAR vectors to BROZZ, then on track 279° to CCOBB, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

ZEGBI TRANSITION (CCOBB3.ZEGBI):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: For use by aircraft filed at or below FL220, or as assigned by ATC.
NOTE: CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP)
at or below 17999 (SR-SS).

NOTE: Chart not to scale.
CLVIN THREE DEPARTURE (RNAV) (CLVIN3.CLVIN) 16MAY24

TOP ALTITUDE: ASSIGNED BY ATC

RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

TAKEOFF MINIMUMS:
Rwy 1: Standard.
Rwy 19: Standard with minimum climb of 235° per NM to 1500.

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence....
TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence....

....for RADAR vectors to cross PHAUL at or above 3100, then on track 206° to CLVIN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

STAZE TRANSITION (CLVIN3.STAZE):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence....
TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence....

....for RADAR vectors to cross MALTB at or above 2200, then on track 094° to HHOWE, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE4.BROKK):
LNCON TRANSITION (HHOWE4.LNCON):

NOTE: Chart not to scale.
**KAYLN THREE DEPARTURE (RNAV)**

**TOP ALTITUDE: ASSIGNED AT ATC**
- RNAV-1 DME/DME/IRU or GPS.
- RADAR required.

**TAKEOFF MINIMUMS:**
- Rwy 1: Standard.
- Rwy 19: Standard with minimum climb of 235' per NM to 1500.

**NOTE:** Turbojet departures at/above 10000, maintain 280K until advised by ATC.

**TAKEOFF RUNWAY 1:** Climb on heading 007° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 19:** Climb on heading 187° or as assigned by ATC, thence....

....for RADAR vectors to MTRCT, then on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**SMUUV TRANSITION (KAYLN3.SMUUV):**

**DEPARTURE ROUTE DESCRIPTION**

**NOTE:** Chart not to scale.
**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 1:** Climb on heading 007° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 19:** Climb on heading 187° or as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.

**NOTE:** Chart not to scale.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF MINIMUMS:**
- Rwy 1: Standard.
- Rwy 19: Standard with minimum climb of 235' per NM to 1500.

**TAKEOFF RUNWAY 1:** Climb on heading 007° or as assigned by ATC, thence....

**TAKEOFF RUNWAY 19:** Climb on heading 187° or as assigned by ATC, thence....

.... for RADAR vectors to KZLOV, then on track 111° to LIDDS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**GRIVY TRANSITION (LIDDS3.GRIVY):**

**NOTE:** Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence....
TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence....

...for RADAR vectors to JAXII, then on track 323° to MIGGY, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

GETCH TRANSITION (MIGGY3.GETCH):
HUBBY TRANSITION (MIGGY3.HUBBY):
SLLAP TRANSITION (MIGGY3.SLLAP):

NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.

TOP ALTITUDE: ASSIGNED BY ATC

NOTE: Chart not to scale.
NOTE: Chart not to scale.

PAVYL THREE DEPARTURE (RNAV)

NOTE: Jet departures at/above 10,000.

DEPARTURE ROUTE DESCRIPTION

PAVYL THREE DEPARTURE (RNAV)

NOTE: Jet departures at/above 10,000.

maintain 280K until advised by ATC.

Jet departures at/above 10,000,

NOTE:

Takt1:  Standard.

Rwy 19: Standard with minimum climb of 235' per NM to 1,500.

TOP ALTITUDE: ASSIGNED BY ATC

Radar required.

EC-1, 11 JUL 2024 to 05 SEP 2024

RNAV 1 - DME/DME/IRU or GPS.

RADAR required.

EC-1, 11 JUL 2024 to 05 SEP 2024

PAVYL THREE DEPARTURE (RNAV)

(PAVYL3.PAVYL) 16MAY24

SELFRIDGE ANGB (MTC)
MOUNT CLEMENS, MICHIGAN

SELFRIDGE TOWER: 120.15 225.4

SELFRIDGE DEP CON: 119.6 391.9

MRDOC TRANSITION (PAVYL3.MRDOC):

ESSBE TRANSITION (PAVYL3.ESSBE):

TAKEOFF MINIMUMS:

Rwy 1: Standard.

Rwy 19: Standard with minimum climb of 235' per NM to 1,500.

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence...

TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence...

...for RADAR vectors to SILVA, then on track 097° to PAVYL, then on (transition). Maintain 17,000 or as assigned by ATC.

...for RADAR vectors to SILVA, then on track 097° to PAVYL, then on (transition). Maintain 17,000 or as assigned by ATC.

ASSIGNED BY ATC

TOP ALTITUDE: ASSIGNED BY ATC

Radar required.

EC-1, 11 JUL 2024 to 05 SEP 2024

PAVYL THREE DEPARTURE (RNAV)

(PAVYL3.PAVYL) 16MAY24

SELFRIDGE ANGB (MTC)
MOUNT CLEMENS, MICHIGAN

SELFRIDGE TOWER: 120.15 225.4

SELFRIDGE DEP CON: 119.6 391.9

MRDOC TRANSITION (PAVYL3.MRDOC):

ESSBE TRANSITION (PAVYL3.ESSBE):

TAKEOFF MINIMUMS:

Rwy 1: Standard.

Rwy 19: Standard with minimum climb of 235' per NM to 1,500.

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence...

TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence...

...for RADAR vectors to SILVA, then on track 097° to PAVYL, then on (transition). Maintain 17,000 or as assigned by ATC.

...for RADAR vectors to SILVA, then on track 097° to PAVYL, then on (transition). Maintain 17,000 or as assigned by ATC.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence....
TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence....

....for RADAR vectors to JWELS, then on track 218° to SNDRS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):
TORRR TRANSITION (SNDRS3.TORRR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.

TOP ALTITUDE: ASSIGNED BY ATC

RNAV-1 DME/DME/IRU or GPS.
RADAR required.

TAKEOFF MINIMUMS:
Rwy 1: Standard.
Rwy 19: Standard with minimum climb of 235° per NM to 1500.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence....

TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence....

....for RADAR vectors to LOALA, then on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GNZOE TRANSITION (TRMML4.GNZOE):

TOP ALTITUDE: ASSIGNED BY ATC

TAKEOFF MINIMUMS:
Rwy 1: Standard.
Rwy 19: Standard with minimum climb of 235’ per NM to 1500.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1: Climb on heading 007° or as assigned by ATC, thence...
TAKEOFF RUNWAY 19: Climb on heading 187° or as assigned by ATC, thence...

....for RADAR vectors to FLOKA, then on track 049° to ZETTR, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

DUTEL TRANSITION (ZETTR4.DUTEL):
ETBOX TRANSITION (ZETTR4.ETBOX):
KELTI TRANSITION (ZETTR4.KELTI):
SIKBO TRANSITION (ZETTR4.SIKBO):
TANKO TRANSITION (ZETTR4.TANKO):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: TANKO Transition: For use by CYYZ area arrivals only, or as assigned by ATC.

NOTE: Chart not to scale.
Circling NA to Rwys 14 and 32.
Rwy 5 helicopter visibility reduction below 1/2 SM NA.

Procedure NA for arrival on PMM VOR/DME airway radials 243 CW 303.

 CATEGORY  A  B  C  D
LNAV MDA  1020-1  361 (400-1)
CIRCLING  1120-1  1140-1  1440-21/4  1440-21/2
454 (500-1)  474 (500-1)  774 (800-21/4)  774 (800-21/2)

MISSED APPROACH: Climb to 4000 direct JUSRO and hold, continue climb-in-hold to 4000.

Category D Rwy 5 holding pattern.

Visual Segment - Obstacles.

LNAV MDA

Amdt 1E 11 OCT 2018

SOUTH HAVEN, MICHIGAN
Al-5472 (FAA)
### RNAV (GPS) RWY 7

**Category:**

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<td>605 (700-1)</td>
<td>NA</td>
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<td>CIRCLING</td>
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<td>605 (700-1)</td>
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**AWOS-AV**

132.95

**GREAT LAKES APP CON**

124.6  257.6

**UNICOM**

122.8 (CTAF)

---

**RNAV (GPS) RWY 7**

**PAUL C MILLER/SPARTA (8D4)**

**SPARTA, MICHIGAN**

**AL-6186 (FAA)**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**Visual Segment - Obstacles.**

- **HUUNT**
- **FELYN**
- **JUBAD**

**Holding Pattern**

- **30 NM to EZAYE**
- **2500**
- **RW07**

**EC-1, 11 JUL 2024 to 05 SEP 2024**

- **TDZE 775**
- **ELEV 775**

**MISSED APPROACH:**

- Climb to 3000 direct WAGIT and hold.

**Rwy 7 glider visibility reduction below ½ SM NA. When local altimeter setting not received, use Grand Rapids altimeter setting. VDP NA when using Grand Rapids altimeter setting.**

---

**PAUL C MILLER/SPARTA (8D4)**

**43°08'N-85°41'W**
Circling Rwy 6 NA at night, Rwy 1 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 47°C. When local altimeter setting not received, use Three Rivers altimeter setting and increase LPV DA to 1219 feet; increase LNAV/VNAV DA to 1395 feet and all visibilities ½ SM. Increase all MDA’s 60 feet and LNAV visibility Cat C/D ½ SM, and Circling visibility Cat C/D ⅔ SM. VDP NA when using Three Rivers altimeter setting. Baro-VNAV NA when using Three Rivers altimeter setting.

**AWOS-3**
121.325

**GREAT LAKES APP CON**
121.2 239.25

**CLNC DEL**
118.325

**UNICOM**
123.05 (CTAF)

---

**RNAV (GPS) RWY 1**

**KIRSCH MUNI (IRS)**

**RNP APCH - GPS.**

**Climb to 2500 direct UKANE and hold.**

**AWOS-3**
121.325

**GREAT LAKES APP CON**
121.2 239.25

**CLNC DEL**
118.325

**UNICOM**
123.05 (CTAF)
RNAV (GPS) RWY 19

KIRSCH MUNI (IRS)

RNAV (GPS) RWY 19

STURGIS, MICHIGAN

Category

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AWOS-3 121.325

GREAT LAKES APP CON 121.2 239.25

CLNC DEL 118.325

UNICOM 123.05 (CTAF)

EC-1, 11 JUL 2024 to 05 SEP 2024

Amdt 1D 21MAR24

501
STURGIS, MICHIGAN

NDB IRS 382

APP CRS 165°

Rwy Idg 5201

TDZE 915

Apt Elev 925

RADAR required for procedure entry.

Procedure NA at night. Rwy 19 helicopter visibility reduction below 1 SM NA.

AWOS-3

121.325

GREAT LAKES APP CON

121.2 239.25

CLNC DEL

118.325

UNICOM

123.05 (CTAF)

MISSED APPROACH: Climb to 2500 then left turn direct IRS NDB and hold.

1493

NDB IRS 25 NM

2500

Remain within 10 NM

IRS NDB

2500

345°

165°

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 27).

CATEGORY A B C D

S-19 1520-1 605 (600-1) 1520-1¾ 605 (600-1¾)

CIRCLING 1520-1 595 (600-1) 1620-2 695 (700-2) 1620-2¾ 695 (700-2¾)

STURGIS, MICHIGAN

Amdt 6A 29DEC22

41°49'N-85°26'W

NDB RWY 19

KIRSCH MUNI (IRS)

EC-1, 11 JUL 2024 to 05 SEP 2024
**NDB RWY 24**

**KIRSCH MUNI (IRS)**

**AWOS-3**
121.325

**GREAT LAKES APP CON**
121.2 239.25

**CLNC DEL**
118.325

**UNICOM**
123.05 (CTAF)

RADAR required for procedure entry.

- Circling Rwy 6 NA at night.
- Rwy 24 helicopter visibility reduction below ¾ SM NA.

**MISSED APPROACH:** Climb to 2500 then right turn direct IRS NDB and hold.

**EC-1, 11 JUL 2024 to 05 SEP 2024**
RNAV (GPS) RWY 27
THREE RIVERS MUNI/DR HAINES (HAI)

AWOS-3
119.975

GREAT LAKES APP CON
* 121.2 239.25

UNICOM
122.8 (CTAF) 0

---

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 1/8 mile. Procedure NA at night. Helicopter visibility reduction below 1 SM NA.

REIL Rwys 9 and 27 6
MIRL Rwys 5-23 and 9-27 7

Visual Segment - Obstacles.
- 1420 when using South Bend Rgnl, IN altimeter setting.

---

CATEGORY
A  B  C  D

LNAV MDA
1200-1 377 (400-1) 1200-1½ 377 (400-1¼)

CIRCLING
1320-1 1420-1 1560-2

496 (500-1) 596 (600-1) 736 (800-2)

---

RNAV (GPS) RWY 27
THREE RIVERS MUNI/DR HAINES (HAI)

THREE RIVERS, MICHIGAN
EC-1, 11 JUL 2024 to 05 SEP 2024
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -19°C or above 54°C. Baro-VNAV and VDP NA with Bellaire altimeter setting. When local altimeter setting not received, Bellaire altimeter setting: increase DA 51 feet and all MDA 60 feet. Increase LPV all Cats visibility ½ mile, LNAV/VNAV visibility all Cats ¾ mile and LNAV Cat B visibility ⅞ mile and C/D visibilities ¾ mile and Circling Cat B/C visibility ¼ mile. For inop MALSR, increase all LPV all Cats visibility to 1½, LNAV Cats C/D visibility to 2 miles. For inop MALSR when using Bellaire altimeter setting, increase LPV all Cats visibility to 1½ mile, LNAV Cats C/D visibility to 2½ miles. Missed approach requires minimum climb of 237 feet per NM to 2000.

**MISSED APPROACH: Climb to 3000 direct BEAAR and hold.**

** procedure NA for arrivals at TVC VOR/DME airway on radials 035 CW 153.**

**#Missed approach requires minimum climb of 237 feet per NM to 2000.
**RNP APCH - GPS.**

Baro-VNAV NA when using Antrim County altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C or above 54°C. 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 C visibilities 1/4 mile, and increase LPV all Cats, LNAV Cat C/D and Circling Cat D visibilities 1/8 mile. Helicopter visibility reduction below 1/4 SM NA.

**ATIS**
- **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

**MISSED APCH FIX**
- 4 NM
- TIDDU

**EC-1, 11 JUL 2024 to 05 SEP 2024**
- EC-1, 11 JUL 2024 to 05 SEP 2024
- 510
When local altimeter setting not received, use Bellaire altimeter setting and increase all MDA 60 feet and all Cat C visibility ¼ mile.

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

MISSED APPROACH: Climb to 1800 then climbing right turn to 3000 direct TVC VOR/DME and hold.

TRAVERSE CITY, MICHIGAN
Amdt 21A 18MAY23

EC-1, 11 JUL 2024 to 05 SEP 2024

VOR-A

TRAVESE CITY TVC
114.6 TVC 2.3

CHERRY CAPITAL (TVC)
114.6 TVC 4.3

VOR/DME TVC
114.6

Channel 93

APP CRS
345°

Rwy Idg
N/A

TDZE
N/A

Apt Elev
624

TRAVERSE CITY, MICHIGAN

EC-1, 11 JUL 2024 to 05 SEP 2024

VOR-A
RNAV (GPS) RWY 10
Oakland/Troy (VLL)

MISSED APPROACH:
Climbing left turn to 2700 direct CELUB and hold.

AWOS-3
119.475

Detroit App Con
132.35 284.0

Unicom
123.05 (CTAF)

Circling to Rwy 28 NA at night. Rwy 10 helicopter visibility reduction below 1 SM NA.
Straight-in Rwy 10 at night, operational VGSI required, remain on or above VGSI glidepath until threshold.

Holding Pattern

Rwy Idg
3549

TDZE
727

Apt Elev
727

Amdt 3A 14 Jul 2024 to 05 Sep 2024

513
**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 10**: Climb on heading 096° to 1400 then as assigned by ATC, thence....

**TAKEOFF RUNWAY 28**: Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to HUUTZ, then on track 213° to BARII, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**SINKR TRANSITION (BARII3.SINKR):**

**NOTE**: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

**NOTE**: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10: Climb on heading 096° to 1400 then as assigned by ATC, thence....

TAKEOFF RUNWAY 28: Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to BROZZ, then on track 279° to CCOBB, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

ZEGBI TRANSITION (CCOBB3,ZEGBI):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: For use by aircraft filed at or below FL220, or as assigned by ATC.
NOTE: CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP) at or below 17999 (SR-SS).

NOTE: Chart not to scale.

TAKEOFF MINIMUMS:
Rwy 10: Standard.
Rwy 28: Standard with minimum climb of 476’ per NM to 1500.

TOP ALTITUDE: ZEGBI 2500
ASSIGNED BY ATC: RNAV 1 - DME/DME/IRU or GPS.
RADAR required.

NOTE: For use by aircraft filed at or below FL220, or as assigned by ATC.
NOTE: CAUTION: Parachute jumping 6 NM SW of BROZZ, 3 NM radius of Napoleon Airport (3NP) at or below 17999 (SR-SS).

NOTE: Chart not to scale.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10:  Climb on heading 096° to 1400 then as assigned by ATC, thence....
TAKEOFF RUNWAY 28:  Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to cross MALTB at or above 2200, then on track 094° to HHOWE, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE4.BROKK):
LNCON TRANSITION (HHOWE4.LNCON):
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TOP ALTITUDE: 280K
ASSIGNED AT ATC: RAdar required.

RNAV-1 DME/DME/IRU or GPS.

TAKEOFF MINIMUMS:
- Rwy 10: Standard.
- Rwy 28: Standard with minimum climb of 476' per NM to 1500.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10: Climb on heading 096° to 1400 then as assigned by ATC, thence....
TAKEOFF RUNWAY 28: Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to MTRCT, then on track 279° to KAYLN, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

SMUUV TRANSITION (KAYLN3.SMUUV):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10: Climb on heading 096° to 1400 then as assigned by ATC, thence....
TAKEOFF RUNWAY 28: Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 148° to WINNZ. Maintain ATC assigned altitude, expect filed altitude ten minutes after departure.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
Rwy 10: Standard.
Rwy 28: Standard with minimum climb of 476’ per NM to 1500.

TAKEOFF RUNWAY 10: Climb on heading 096° to 1400 then as assigned by ATC, thence....
TAKEOFF RUNWAY 28: Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to KZLOV, then on track 111° to LIDDS, then on (transition).
Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

GRIVY TRANSITION (LIDDS3.GRIVY):

NOTE: Chart not to scale.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10: Climb on heading 096° to 1400 then as assigned by ATC, thence....
TAKEOFF RUNWAY 28: Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to JAXII, then on track 323° to MIGGY, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

GETCH TRANSITION (MIGGY3.GETCH):
HUBBY TRANSITION (MIGGY3.HUBBY):
SLLAP TRANSITION (MIGGY3.SLLAP):

TAKEOFF MINIMUMS:
Rwy 10: Standard.
Rwy 28: Standard with minimum climb of 476' per NM to 1500.

NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: GETCH TRANSITION: For use by KMKE area arrivals only, or as assigned by ATC.
NOTE: Jet departures at/above 10000, maintain 280K until advised by ATC.

TAKEOFF MINIMUMS:
Rwy 10: Standard.
Rwy 28: Standard with minimum climb of 476’ per NM to 1500.

TAKEOFF RUNWAY 10: Climb on heading 096° to 1400 then as assigned by ATC, thence....
TAKEOFF RUNWAY 28: Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to SLVVA, then on track 097° to PAVYL, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

ESSBE TRANSITION (PAVYL3. ESSBE):
MRDOC TRANSITION (PAVYL3. MRDOC):
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10: Climb on heading 096° to 1400 then as assigned by ATC, thence....

TAKEOFF RUNWAY 28: Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to JWELS, then on track 218° to SNDRS, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

BGHRT TRANSITION (SNDRS3.BGHRT):

TORRR TRANSITION (SNDRS3.TORRR):

NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: TORRR Transition: For use by KIND and KCVG area arrivals only and flights filed at or below FL220, or as assigned by ATC.

NOTE: Chart not to scale.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

**TAKEOFF MINIMUMS:**
Rwy 10: Standard.
Rwy 28: Standard with minimum climb of 476' per NM to 1500.

**NOTE:** Chart not to scale.

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 10:** Climb on heading 096° to 1400 then as assigned by ATC, thence....

**TAKEOFF RUNWAY 28:** Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to LOALA, then on track 352° to TRMML, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**GNZOE TRANSITION (TRMML4.GNZOE):**
**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 10:** Climb on heading 096° to 1400 then as assigned by ATC, thence....

**TAKEOFF RUNWAY 28:** Climb on heading 276° to 1500 then as assigned by ATC, thence....

....for RADAR vectors to FLOKA, then on track 049° to ZETTR, then on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

**DUTEL TRANSITION (ZETTR4.DUTEL):**

**ETBOX TRANSITION (ZETTR4.ETBOX):**

**KELTI TRANSITION (ZETTR4.KELTI):**

**SIKBO TRANSITION (ZETTR4.SIKBO):**

**TANKO TRANSITION (ZETTR4.TANKO):**

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**NOTE:** Turbojet departures at/above 10000, maintain 280K until advised by ATC.

**NOTE:** TANKO Transition: For use by CYYZ area arrivals only, or as assigned by ATC.

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**NOTE:** Chart not to scale.
RNAV (GPS) RWY 9
WEST BRANCH COMMUNITY (Y31)

WRY 9 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. Straight-in Rwy 9 NA at night, Circling Rwy 9 NA at night.

AWOS-3P
119.575

MINNEAPOLIS CENTER
125.475 269.45

UNICOM
122.8 (CTAF)

Procedure NA for arrivals at
LADIN on V133 northwest bound
and T265 southwest bound.

Procedure
Turn
NA

NEWFE
3100
095°

KAKEW
2600

RW09

TCH 41

LA "5933 (FAA)

EC-1, 11 JUL 2024 to 05 SEP 2024

Orig-C 10AUG23
RNAV (GPS) RWY 27
WEST BRANCH COMMUNITY (Y31)

**WAAS**
- CH 53541
- W27A
- APP CRS 275°
- Rwy Idg 5000
- TDZE 877
- Apt Elev 882

**RNP APCH - GPS.**

- Circling Rwy 9 NA at night. Rwy 27 helicopter visibility reduction below ½ SM NA.
- Procedure NA for arrivals at LADIN on V133 northwest bound and T265 southwest bound.

**MINNEAPOLIS CENTER**
- 125.475 269.45
- UNICOM

**WHOOP**
- 095°
- 275°
- 2500 NoPT
- 234° (5.5)
- [IF/IAF] AVIXY
- [IAF] WHOOP

**BANJO**
- 359°
- 4 NM

**AVIXY**
- 095°
- 275°
- 2500 NoPT
- 359°
- 4 NM

**JAMAC**
- 2500
- 275°
- [IF/IAF] SNOWW

**MINNEAPOLIS CENTER**
- 125.475
- 269.45
- UNICOM

**AWOS-3P**
- 119.575

**UNICOM**
- 122.8 (CTAF)

**EC-1, 11 JUL 2024 to 05 SEP 2024**

**44°15'N-84°11'W**

**527**
INTENTIONALLY LEFT BLANK
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 exists upon breakout. Care should always be exercised so that minimum descent altitude and missed approach point are not exceeded.

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