



INSTRUMENT APPROACH PROCEDURE CHARTS



IFR ALTERNATE AIRPORT MINIMUMS

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

NAME ALTERNATE MINIMUMS

**ADRIAN, MI**

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

**ALMA, MI**

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

**ALPENA, MI**

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

**ANN ARBOR, MI**

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

**BAD AXE, MI**

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

NAME ALTERNATE MINIMUMS

**BATTLE CREEK, MI**

W.K. KELLOGG (BTL) ..... ILS or LOC Rwy 23R<sup>13</sup>  
NDB Rwy 23R<sup>3</sup>  
RADAR-1<sup>2</sup>  
RNAV (GPS) Rwy 5L<sup>3</sup>  
RNAV (GPS) Rwy 23R<sup>3</sup>  
RNAV (GPS) Rwy 31<sup>3</sup>

<sup>1</sup>NA when control tower closed.  
<sup>2</sup>NA when Kalamazoo control tower closed.  
<sup>3</sup>NA when local weather not available.

**BEAVER ISLAND, MI**

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

**BELLAIRE, MI**

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

**BENTON HARBOR, MI**

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

**BIG RAPIDS, MI**

ROBEN-HOOD (RQB) ..... RNAV (GPS) Rwy 27<sup>1</sup>  
VOR/DME-A<sup>2</sup>  
NA when local weather not available.

<sup>1</sup>Category D, 900-2%.  
<sup>2</sup>Categories A, B, 900-2; Category C, 900-2½; Category D, 900-2%.

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**NAME** ALTERNATE MINIMUMS  
**CADILLAC, MI**  
 WEXFORD  
 COUNTY (CAD) ..... **RNAV (GPS) Rwy 7**  
**RNAV (GPS) Rwy 25**  
 NA when local weather not available.

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

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

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

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

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

**DETROIT, MI**  
 COLEMAN A  
 YOUNG MUNI (DET)..... **ILS or LOC Rwy 15<sup>2</sup>**  
**ILS or LOC Rwy 33<sup>1</sup>**  
**NDB Rwy 15<sup>2</sup>**  
**RNAV (GPS) Rwy 15<sup>2</sup>**  
**RNAV (GPS) Rwy 33<sup>2</sup>**  
**VOR Rwy 33<sup>2</sup>**

<sup>1</sup>ILS, 700-2.  
<sup>2</sup>NA when local weather not available.

**NAME** ALTERNATE MINIMUMS  
**DETROIT, MI (CON'T)**  
 WILLOW RUN (YIP)..... **ILS or LOC Rwy 23L<sup>3</sup>**  
**RNAV (GPS) Rwy 5L<sup>12</sup>**  
**RNAV (GPS) Rwy 5R<sup>2</sup>**  
**RNAV (GPS) Rwy 9<sup>12</sup>**  
**RNAV (GPS) Rwy 23L<sup>2</sup>**  
**RNAV (GPS) Rwy 23R<sup>2</sup>**  
**VOR-A<sup>2</sup>**

<sup>1</sup>NA when local weather not available.  
<sup>2</sup>Category D, 800-2¼.  
<sup>3</sup>ILS Category D, 700-2¼.

**DETROIT/GROSSE ILE, MI**  
 GROSSE ILE MUNI (ONZ)..... **NDB Rwy 4<sup>1</sup>**  
**RNAV (GPS) Rwy 4<sup>2</sup>**  
**RNAV (GPS) Rwy 22<sup>2</sup>**  
**VOR-A<sup>2</sup>**

NA when local weather not available.  
<sup>1</sup>Category A, B, 1000-2; Category C, 1000-2¾;  
 Category D, 1000-3.  
<sup>2</sup>Category A, B, 900-2; Category C, 900-2½;  
 Category D, 900-2¾.

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

**ESCANABA, MI**  
 DELTA COUNTY (ESC)..... **ILS or LOC Rwy 9<sup>13</sup>**  
**LOC/DME BC Rwy 27<sup>2</sup>**  
**RNAV (GPS) Rwy 9<sup>2</sup>**  
**RNAV (GPS) Rwy 27<sup>2</sup>**  
**RNAV (GPS) Rwy 36<sup>23</sup>**  
**VOR Rwy 36<sup>2</sup>**

<sup>1</sup>ILS, Category C, 700-2; Category D, 900-2¾.  
 LOC, Category D, 900-2¾.  
<sup>2</sup>Category D, 900-2¾.  
<sup>3</sup>NA when local weather not available.

**FLINT, MI**  
 BISHOP INTL (FNT)..... **ILS or LOC Rwy 9<sup>1</sup>**  
**ILS or LOC Rwy 27<sup>12</sup>**  
**RADAR-1<sup>1</sup>**  
**RNAV (GPS) Rwy 27<sup>2</sup>**  
**VOR Rwy 36<sup>3</sup>**

<sup>1</sup>NA when control tower closed.  
<sup>2</sup>NA when local weather not available.  
<sup>3</sup>Category D, 800-2¼.

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NAME ALTERNATE MINIMUMS

## FRANKFORT, MI

FRANKFORT DOW MEMORIAL  
FIELD (FKS) ..... RNAV (GPS) Rwy 15<sup>1</sup>  
RNAV (GPS) Rwy 33<sup>1</sup>  
VOR/DME-A<sup>2</sup>

NA when local weather not available.

<sup>1</sup>Category C, 900-2 $\frac{3}{4}$ .

<sup>2</sup>Categories A, B, 900-2; Category C, 900-2 $\frac{3}{4}$ .

## FREMONT, MI

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

NA when local weather not available.

## GAYLORD, MI

GAYLORD RGNL (GLR) .... RNAV (GPS) Rwy 27  
VOR Rwy 27

Category D, 800-2 $\frac{1}{2}$ .

NA when local weather not available.

## GRAND RAPIDS, MI

GERALD R  
FORD INTL (GRR) ..... ILS or LOC Rwy 8R<sup>1</sup>  
ILS or LOC Rwy 26L<sup>1</sup>  
ILS or LOC Rwy 35<sup>123</sup>  
RADAR-1<sup>3</sup>  
RNAV (GPS) Rwy 8L<sup>1</sup>  
RNAV (GPS) Rwy 8R<sup>1</sup>  
RNAV (GPS) Rwy 17<sup>1</sup>  
RNAV (GPS) Rwy 26L<sup>1</sup>  
RNAV (GPS) Rwy 26R<sup>1</sup>  
RNAV (GPS) Rwy 35<sup>1</sup>  
VOR Rwy 17<sup>1</sup>

<sup>1</sup>NA when local weather not available.

<sup>2</sup>ILS, Categories A, B, C, 700-2; Category D, 700-2 $\frac{1}{4}$ . LOC, Category D, 800-2 $\frac{1}{4}$ .

<sup>3</sup>NA when control tower is closed.

## GRAYLING, MI

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

## HANCOCK, MI

HOUGHTON COUNTY  
MEMORIAL (CMX) ..... ILS or LOC Rwy 31<sup>1</sup>  
LOC/DME BC Rwy 13<sup>23</sup>  
RNAV (GPS) Rwy 7<sup>3</sup>  
RNAV (GPS) Rwy 13<sup>24</sup>  
RNAV (GPS) Rwy 25<sup>24</sup>  
RNAV (GPS) Rwy 31<sup>3</sup>  
VOR Rwy 25<sup>3</sup>

<sup>1</sup>ILS, LOC, Category D, 800-2 $\frac{1}{4}$ .

<sup>2</sup>NA when local weather not available.

<sup>3</sup>Category D, 800-2 $\frac{1}{4}$ .

<sup>4</sup>Category D, 900-2 $\frac{1}{2}$ .

NAME ALTERNATE MINIMUMS

## HARBOR SPRINGS, MI

HARBOR  
SPRINGS (MGN) ..... RNAV (GPS) Rwy 10  
RNAV (GPS) Rwy 28

NA when local weather not available.

Category B, 900-2.

## HOLLAND, MI

WEST MICHIGAN  
RGNL (BIV) ..... RNAV (GPS) Rwy 8  
RNAV (GPS) Rwy 26

NA when local weather not available.

## HOUGHTON LAKE, MI

ROSCOMMON COUNTY-BLODGETT  
MEMORIAL (HTL) ..... RNAV (GPS) Rwy 9  
RNAV (GPS) Rwy 27

NA when local weather not available.

## HOWELL, MI

LIVINGSTON COUNTY SPENCER  
J HARDY (OZW) ..... RNAV (GPS) Rwy 13  
RNAV (GPS) Rwy 31  
VOR Rwy 31

NA when local weather not available.

## IRON MOUNTAIN-KINGSFORD, MI

FORD (IMT) ..... RNAV (GPS) Rwy 1  
RNAV (GPS) Rwy 19  
VOR Rwy 31

NA when local weather not available.

## IRONWOOD, MI

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

NA when local weather not available.

Category A, B, 900-2; Category C, 900-2 $\frac{1}{2}$ ;  
Category D, 1000-3.

## JACKSON, MI

JACKSON COUNTY-REYNOLDS  
FIELD (JXN) ..... ILS or LOC Rwy 24<sup>12</sup>  
RNAV (GPS) Rwy 6<sup>3</sup>  
RNAV (GPS) Rwy 14<sup>3</sup>  
RNAV (GPS) Rwy 24<sup>3</sup>  
RNAV (GPS) Rwy 32<sup>3</sup>  
VOR Rwy 6<sup>3</sup>  
VOR Rwy 14<sup>3</sup>  
VOR Rwy 32<sup>3</sup>

<sup>1</sup>NA when control tower closed.

<sup>2</sup>ILS, Category D, 700-2.

<sup>3</sup>NA when local weather not available.

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### KALAMAZOO, MI

KALAMAZOO/BATTLE CREEK

INTL (AZO) ..... ILS or LOC Rwy 35<sup>13</sup>

RADAR-1<sup>1</sup>

RNAV (GPS) Rwy 5<sup>2</sup>

RNAV (GPS) Rwy 17<sup>2</sup>

RNAV (GPS) Rwy 23<sup>2</sup>

<sup>1</sup>NA when control tower closed.

<sup>2</sup>NA when local weather not available.

<sup>3</sup>Category C, D, 700-2.

### LANSING, MI

CAPITAL REGION

INTL (LAN) .....

ILS or LOC Rwy 10R<sup>1</sup>

ILS or LOC Rwy 28L<sup>1</sup>

RNAV (GPS) Rwy 28L<sup>2</sup>

<sup>1</sup>ILS, Category C, 800-2; Category D, 900-3;

LOC, Category D, 900-3.

<sup>2</sup>Category D, 900-3.

### LAPEER, MI

DUPONT-LAPEER (D95) ... RNAV (GPS) Rwy 18

RNAV (GPS) Rwy 36

NA when local weather not available.

### LUDINGTON, MI

MASON COUNTY (LDM) ..... RNAV (GPS) Rwy 8

RNAV (GPS) Rwy 26

NA when local weather not available.

### MACKINAC ISLAND, MI

MACKINAC

ISLAND (MCD) ..... RNAV (GPS) Rwy 8

RNAV (GPS) Rwy 26

VOR/DME-A

NA when local weather not available.

### MANISTEE, MI

MANISTEE CO-

BLACKER (MBL) ..... RNAV (GPS) Rwy 10

RNAV (GPS) Rwy 28

VOR Rwy 10

NA when local weather not available

Category D, 800-2<sup>1</sup>/<sub>4</sub>.

### MANISTIQUE, MI

SCHOOLCRAFT

COUNTY (ISQ) ..... RNAV (GPS) Rwy 10

RNAV (GPS) Rwy 28

VOR Rwy 28

NA when local weather not available.

NAME ALTERNATE MINIMUMS

### MARQUETTE, MI

SAWYER INTL (SAW) ..... ILS or LOC Rwy 1<sup>1</sup>

RNAV (GPS) Rwy 1<sup>2</sup>

RNAV (GPS) Rwy 19<sup>2</sup>

<sup>1</sup>LOC, NA.

<sup>2</sup>NA when local weather not available.

### MARSHALL, MI

BROOKS FIELD (RMV) ..... RNAV (GPS) Rwy 28

VOR/DME-A

NA when local weather not available.

### MASON, MI

MASON JEWETT

FIELD (TEW) ..... RNAV (GPS) Rwy 10

RNAV (GPS) Rwy 28

VOR-A

NA when local weather not available.

### MENOMINEE, MI

MENOMINEE-MARINETTE

TWIN COUNTY (MNM) ..... RNAV (GPS) Rwy 3

RNAV (GPS) Rwy 21<sup>1</sup>

RNAV (GPS) Rwy 32<sup>1</sup>

VOR-A<sup>1</sup>

NA when local weather not available.

<sup>1</sup>Category D, 900-2<sup>1</sup>/<sub>4</sub>.

### MIDLAND, MI

JACK BARSTOW (IKW) ..... RNAV (GPS) Rwy 6

RNAV (GPS) Rwy 24

VOR-A

NA when local weather not available.

### MONROE, MI

CUSTER (TTF) ..... RNAV (GPS) Rwy 3

RNAV (GPS) Rwy 21

VOR Rwy 21

NA when local weather not available.

### MOUNT PLEASANT, MI

MOUNT PLEASANT

MUNI (MOP) ..... RNAV (GPS) Rwy 9

RNAV (GPS) Rwy 27

VOR Rwy 27

NA when local weather not available.

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**MUSKEGON, MI**  
 MUSKEGON  
 COUNTY (MKG)..... **ILS or LOC Rwy 24<sup>1</sup>**  
                                           **ILS or LOC Rwy 32<sup>1</sup>**  
                                           **LOC BC Rwy 14<sup>1</sup>**  
                                           **RNAV (GPS) Rwy 6**  
                                           **RNAV (GPS) Rwy 14**  
                                           **RNAV (GPS) Rwy 24**

NA when local weather not available.

<sup>1</sup>NA when control tower closed.

**NEWBERRY, MI**  
 LUCE COUNTY (ERY) ..... **RNAV (GPS) Rwy 11**  
                                           **RNAV (GPS) Rwy 29**

NA when local weather not available.

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

NA when local weather not available.

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

NA when local weather not available.

**PELLSTON, MI**  
 PELLSTON RGNL AIRPORT OF  
 EMMET COUNTY (PLN) ..... **ILS or LOC Rwy 32<sup>1</sup>**  
                                           **RNAV (GPS) Rwy 5<sup>2</sup>**  
                                           **RNAV (GPS) Rwy 23<sup>3</sup>**  
                                           **RNAV (GPS) Rwy 32<sup>3</sup>**  
                                           **VOR Rwy 23<sup>3</sup>**

NA when local weather not available.

<sup>1</sup>ILS, Category D, 700-2¼. LOC, Category D, 800-2¼.

<sup>2</sup>Categories A,B, 900-2; Category C, 900-2½; Category D, 900-2¾.

<sup>3</sup>Category D, 800-2¼.

**PONTIAC, MI**  
 OAKLAND COUNTY  
 INTL (PTK) ..... **ILS or LOC Rwy 9R<sup>12</sup>**  
                                           **LOC BC Rwy 27L<sup>1</sup>**  
                                           **RNAV (GPS) Rwy 9R<sup>3</sup>**  
                                           **RNAV (GPS) Rwy 27L<sup>3</sup>**  
                                           **VOR Rwy 9R<sup>3</sup>**  
                                           **VOR Rwy 27L<sup>3</sup>**

<sup>1</sup>NA when control tower closed.

<sup>2</sup>ILS, Categories A, B, C, D, 700-2.

<sup>3</sup>NA when local weather not available.

**PORT HURON, MI**  
 ST CLAIR COUNTY  
 INTL (PHN) ..... **RNAV (GPS) Rwy 4**  
                                           **RNAV (GPS) Rwy 22**  
 NA when local weather not available.

**SAGINAW, MI**  
 MBS INTL (MBS) ..... **ILS or LOC Rwy 5<sup>1</sup>**  
                                           **ILS or LOC Rwy 23<sup>2</sup>**  
                                           **RNAV (GPS) Rwy 5<sup>3</sup>**  
                                           **RNAV (GPS) Rwy 14<sup>3</sup>**  
                                           **RNAV (GPS) Rwy 23<sup>3</sup>**  
                                           **RNAV (GPS) Rwy 32<sup>3</sup>**  
                                           **VOR Rwy 14<sup>4</sup>**

<sup>1</sup>NA when control tower closed.

<sup>2</sup>DME or radar required; NA when control tower closed.

<sup>3</sup>NA when local weather not available.

<sup>4</sup>NA for NON-DME equipped aircraft when control tower closed.

SAGINAW COUNTY H W  
 BROWNE (HYX) ..... **ILS or LOC/DME Rwy 27**  
                                           **RNAV (GPS) Rwy 9<sup>1</sup>**  
                                           **RNAV (GPS) Rwy 27**  
                                           **VOR/DME-A**

NA when local weather not available.

<sup>1</sup>Category C, 800-2¼.

**SAULT STE MARIE, MI**  
 CHIPPEWA COUNTY  
 INTL (CIU)..... **ILS or LOC Rwy 16<sup>1</sup>**  
                                           **RNAV (GPS) Rwy 10**  
                                           **RNAV (GPS) Rwy 16**  
                                           **RNAV (GPS) Rwy 28**  
                                           **RNAV (GPS) Rwy 34**

NA when local weather not available.

<sup>1</sup>ILS, Category E, 600-2; LOC, Category E, 800-2.

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

NA when local weather not available.

**SOUTH HAVEN, MI**  
 SOUTH HAVEN  
 AREA RGNL (LWA) ..... **RNAV (GPS) Rwy 5**  
                                           **RNAV (GPS) Rwy 23**  
                                           **VOR Rwy 23**

NA when local weather not available.

Category D, 900-2¾.

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<b>SPARTA, MI</b>			
PAUL C MILLER-			
SPARTA (8D4).....	<b>RNAV (GPS) Rwy 7</b>		
	<b>RNAV (GPS) Rwy 25</b>		
	<b>VOR-A</b>		

NA when local weather not available.

**STURGIS, MI**  
 KIRSCH MUNI (IRS)..... **RNAV (GPS) Rwy 18**  
**RNAV (GPS) Rwy 36**

NA when local weather not available.

Category D, 800-2¼.

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

NA when local weather not available.

**TRAVERSE CITY, MI**  
 CHERRY  
 CAPITAL (TVC)..... **ILS or LOC Rwy 28<sup>13</sup>**  
**RNAV (GPS) Rwy 10<sup>2</sup>**  
**RNAV (GPS) Rwy 18<sup>4</sup>**  
**RNAV (GPS) Rwy 28<sup>4</sup>**  
**RNAV (GPS) Rwy 36<sup>4</sup>**  
**VOR-A<sup>3</sup>**

NA when local weather not available.

<sup>1</sup>NA when control tower closed.

<sup>2</sup>Categories A, B, 1200-2; Categories C, D, 1200-3.

<sup>3</sup>Categories A, B, 900-2; Category C, 900-2½; Category D, 1100-3.

<sup>4</sup>Category C, 900-2½; Category D, 1100-3.

**TROY, MI**  
 OAKLAND/TROY (VLL)..... **RNAV (GPS) Rwy 9**  
 NA when local weather not available.

**WEST BRANCH, MI**  
 WEST BRANCH  
 COMMUNITY (Y31)..... **RNAV (GPS) Rwy 9<sup>1</sup>**  
**RNAV (GPS) Rwy 27**

NA when local weather not available.

<sup>1</sup>Category C, 800-2¼; Category D, 800-2½.

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## RADAR MINS


16147

## RADAR INSTRUMENT APPROACH MINIMUMS

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

Amdt 2, 13DEC90 (16147) (FAA)

ELEV 952

RADAR-1 119.2 239.25 

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


When Kalamazoo control tower closed, procedure not authorized.

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

**FLINT, MI**

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

ELEV 782

**BISHOP INTL (FNT)**RADAR-1 118.8 257.9 

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


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

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

**GRAND RAPIDS, MI**

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

ELEV 794

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

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

When control tower closed, ASR not authorized.

EC-1

## RADAR INSTRUMENT APPROACH MINIMUMS

## RADAR MINS

16147

## RADAR MINS

16147

## RADAR INSTRUMENT APPROACH MINIMUMS

## KALAMAZOO, MI

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

ELEV 874

## KALAMAZOO/BATTLE CREEK INTL (AZO)

RADAR-1 121.2 239.25 **▽** **△**

	RWY	GP/TCH/RPI	CAT	HAT/ HATh/			CAT	HAT/ HATh/		
				DA/ MDA-VIS	HAA	CEIL-VIS		DA/ MDA-VIS	HAA	CEIL-VIS
ASR	35		AB	1320/24	452	(500-1/2)	C	1320/40	452	(500-3/4)
			D	1320/50	452	(500-1)				
			AB	1320-1	453	(500-1)				
D	1320-1 1/2	453	(500-1 1/2)							
CIRCLING			AB	1380-1	506	(600-1)	C	1380-1 1/2	506	(600-1 1/2)
			D	1440-2	566	(600-2)				

When control tower closed, ASR NA.

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

## LANSING, MI

Amdt 15, 27AUG09 (16147) (FAA)

ELEV 861

## CAPITAL REGION INTL (LAN)

RADAR-1 118.65 133.475 226.4 **▽**

	RWY	GP/TCH/RPI	CAT	HAT/ HATh/			CAT	HAT/ HATh/		
				DA/ MDA-VIS	HAA	CEIL-VIS		DA/ MDA-VIS	HAA	CEIL-VIS
ASR	10R		ABC	1260/24	399	(400-1/2)	D	1260/50	399	(400-1)
			AB	1260-1	403	(400-1)				
	28L	AB	1320/24	469	(500-1/2)	C	1320/40	469	(500-3/4)	
		D	1320/50	469	(500-1)					
		AB	1320-1	462	(500-1)					C
D	1320-1 1/2	462	(500-1 1/2)							
CIRCLING			AB	1380-1	519	(600-1)	C	1380-1 1/2	519	(600-1 1/2)
			D	1440-2	579	(600-2)				

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

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

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## RADAR INSTRUMENT APPROACH MINIMUMS

## RADAR MINS

16147



# RADAR MINS

16147


## RADAR INSTRUMENT APPROACH MINIMUMS

### MUSKEGON, MI

Amdt 15, 03JUN10 (16147) (FAA)

ELEV 629

### MUSKEGON COUNTY (MKG)

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

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

Procedure NA when Muskegon Approach Control closed.

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

Visibility reduction by helicopters NA.

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## RADAR INSTRUMENT APPROACH MINIMUMS

# RADAR MINS

16147

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

17089



## IFR TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

Civil Airports and Selected Military Airports

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

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

Some ODPs, which are established solely for obstacle avoidance, require a climb in visual conditions to cross the airport, a fix, or a NAVAID in a specified direction, at or above a specified altitude. These procedures are called 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.

NAME	TAKEOFF MINIMUMS	NAME	TAKEOFF MINIMUMS
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### ADRIAN, MI

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

### ALMA, MI

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

### ALLEGAN, MI

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

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

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



## ALPENA, MI

### ALPENA COUNTY RGNL (APN)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

ORIG 09015 (FAA)

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

## ANN ARBOR, MI

### ANN ARBOR MUNI (ARB)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 9 10322 (FAA)

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

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

## BAD AXE, MI

### HURON COUNTY MEMORIAL (BAX)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 4 07354 (FAA)

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

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



## BALDWIN, MI

### BALDWIN MUNI (7D3)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

ORIG 84075 (FAA)

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

## BATTLE CREEK, MI

### W. K. KELLOGG (BTL)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 3 11125 (FAA)

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

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

## BAY CITY, MI

### JAMES CLEMENTS MUNI (3CM)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 6 13346 (FAA)

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

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

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



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



## BEAVER ISLAND, MI

BEAVER ISLAND (SJX)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

ORIG 98001 (FAA)

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

**Rwys 5,14,23,32**, NA.

## BELLAIRE, MI

ANTRIM COUNTY (ACB)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

AMDT 6 06215 (FAA)

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

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

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

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

## BENTON HARBOR, MI

SOUTHWEST MICHIGAN RGNL (BEH)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

AMDT 7 11237 (FAA)

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

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

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

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

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

## BERRIEN SPRINGS, MI

ANDREW UNIVERSITY AIRPARK (C20)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

ORIG 03023 (FAA)

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

NA at night.

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

## BIG RAPIDS, MI

ROBEN-HOOD (RQB)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

AMDT 6 15008 (FAA)

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

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

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



## BOIS BLANC ISLAND, MI

BOIS BLANC ISLAND (6Y1)

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

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

## BOYNE FALLS, MI

BOYNE MOUNTAIN (BFA)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 4 14149 (FAA)

TAKEOFF MINIMUMS: **Rwy 17**, std w/min. climb of 490' per NM to 1400 or 1300-2½ for climb in visual conditions. **Rwy 35**, std w/min. climb of 310' per NM to 1400 or 1300-2½ for climb in visual conditions.

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

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

## BOYNE CITY, MI

BOYNE CITY MUNI (N98)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 12152 (FAA)

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

**Rwy 27**, 300-½ w/ min. climb of 230' per NM to 1800.

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

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

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



## CADILLAC, MI

WEXFORD COUNTY (CAD)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 7 09183 (FAA)

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

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

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

## CARO, MI

TUSCOLA AREA (CFS)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 2 16147 (FAA)

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

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

## CHARLEVOIX, MI

CHARLEVOIX MUNI (CVX)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 4 05020 (FAA)

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

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

## CHARLOTTE, MI

FITCH H BEACH (FPK)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 2 92065 (FAA)

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

## CHEBOYGAN, MI

CHEBOYGAN COUNTY (SLH)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 3 86156 (FAA)

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

## CLARE, MI

CLARE MUNI (48D)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 2 13262 (FAA)

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

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

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## COLDWATER, MI

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

AMDT 4 08101 (FAA)

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

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

## DAVISON, MI

ATHELONE WILLIAMS MEMORIAL (6G0)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

AMDT 2 97338 (FAA)

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

## DETROIT, MI

COLEMAN A YOUNG MUNI (DET)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

AMDT 7 10322 (FAA)

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

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

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

## DETROIT, MI (CON'T)

DETROIT METROPOLITAN/WAYNE COUNTY  
(DTW)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

AMDT 1 10322 (FAA)

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

## WILLOW RUN (YIP)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES

AMDT 10A 15120 (FAA)

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

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

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





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



## DETROIT/GROSSE ILE, MI

### GROSSE ILE MUNI (ONZ)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5 12236 (FAA)

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

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

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

## DOWAGIAC, MI

### DOWAGIAC MUNI (C91)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5 10210 (FAA)

TAKEOFF MINIMUMS: **Rwys 4, 21**, NA-Environmental.

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

## DRUMMOND ISLAND, MI

### DRUMMOND ISLAND (DRM)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 12152 (FAA)

TAKEOFF MINIMUMS: **Rwys 1,19**, NA - environmental. **Rwy 8**, 300-1 or std. w/min. climb of 449' per NM to 1000.

NOTE: **Rwy 8**, fence beginning 72' from DER, left and right of centerline, up to 5' AGL/664' MSL. Vehicle on road beginning 199' from DER, left and right of centerline, up to 15' AGL/675' MSL. Buildings beginning 11' from DER, left and right of centerline, up to 20' AGL/679' MSL. Poles 123' from DER, 182' left of centerline, up to 30' AGL/689' MSL. Trees beginning 91' from DER, left and right of centerline, up to 100' AGL/860' MSL. **Rwy 26**, trees beginning 42' from DER, left and right of centerline, up to 100' AGL/809' MSL. Buildings beginning 102' from DER, 87' left of centerline, up to 20' AGL/669' MSL.

## EAST TAWAS, MI

### IOSCO COUNTY (6D9)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 13206 (FAA)

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

## ESCANABA, MI

### DELTA COUNTY (ESC)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 09127 (FAA)

TAKEOFF MINIMUMS: **Rwy 36**, 400-2¼ or std. w/ min. climb of 261' per NM to 1100.

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

## FLINT, MI

### BISHOP INTL (FNT)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5 02052 (FAA)

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

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







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



## FRANKFORT, MI

FRANKFORT DOW MEMORIAL FIELD  
(FKS)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 3 11069 (FAA)

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

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

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

## FREMONT, MI

FREMONT MUNI (FFX)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 09351 (FAA)

TAKEOFF MINIMUMS: **Rwy 27**, 300-1½ or std. w/ a min climb of 211' per NM to 1100, or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, TAKEOFF must occur no later than 1400' prior to DER.

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

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

## GAYLORD, MI

GAYLORD RGNL (GLR)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 09127 (FAA)

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

## GLADWIN, MI

CHARLES ZETTEL MEMORIAL (GDW)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 3 11293 (FAA)

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

**Rwys 15, 33, NA** - Environmental.

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

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

## GRAND HAVEN, MI

GRAND HAVEN MEMORIAL AIRPARK  
(3GM)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 5 12040 (FAA)

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

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

27 APR 2017 to 25 MAY 2017

27 APR 2017 to 25 MAY 2017





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



## GRAND LEDGE, MI

### ABRAMS MUNI (4D0)

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

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

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

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

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

## GRAND RAPIDS, MI

### GERALD R FORD INTL (GRR)

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

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

## GRAYLING, MI

### GRAYLING AAF (GOV)

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

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

## GREENVILLE, MI

### GREENVILLE MUNI (6D6)

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

TAKEOFF MINIMUMS: **Rwys 1, 19**, NA, environmental.

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

## HANCOCK, MI

### HOUGHTON COUNTY MEMORIAL (CMX)

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

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

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

## HARBOR SPRINGS, MI

### HARBOR SPRINGS (MGN)

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

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

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

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



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





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



## HART/SHELBY, MI

### OCEANA COUNTY (C04)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

ORIG 15344 (FAA)

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

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

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

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

## HASTINGS, MI

### HASTINGS (9D9)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 5 13066 (FAA)

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

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

## HILLSDALE, MI

### HILLSDALE MUNI (JYM)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 1 13206 (FAA)

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

## HOLLAND, MI

### WEST MICHIGAN RGNL (BIV)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 1 09183 (FAA)

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

## HOUGHTON LAKE, MI

### ROSCOMMON COUNTY-BLODGETT

#### MEMORIAL (HTL)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 1 07298 (FAA)

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

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

## HOWELL, MI

### LIVINGSTON COUNTY SPENCER J HARDY

#### (OZW)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

AMDT 3 06215 (FAA)

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

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





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



## IONIA, MI

### IONIA COUNTY (Y70)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

ORIG 83230 (FAA)

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

## IRON MOUNTAIN-KINGSFORD, MI

### FORD (IMT)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 5 09071 (FAA)

TAKEOFF MINIMUMS: **Rwy 13**, 300-1 or std. w/ min. climb of 590' per NM to 1400. **Rwy 31**, 300-1¼ or std. w/ min. climb of 260' per NM to 1400.

DEPARTURE PROCEDURE: **Rwy 1**, climb heading 010° to 1700 before turning right. **Rwy 13**, climb heading 134° to 1900 before turning left.

NOTE: **Rwy 1**, trees and bushes beginning 526' from DER, 292' right of centerline, up to 79' AGL/1259' MSL. Antenna, trees and bushes beginning 378' from DER, 192' left of centerline, up to 76' AGL/1276' MSL. **Rwy 13**, tree 1276' from DER, 312' right of centerline, 88' AGL/1188' MSL. Trees and poles beginning 547' from DER, 100' left of centerline, up to 86' AGL/1306' MSL. **Rwy 19**, trees beginning 992' from DER, 245' right of centerline, up to 56' AGL/1192' MSL. Trees beginning 1229' from DER, 376' left of centerline, up to 48' AGL/1183' MSL. **Rwy 31**, trees 1711' from DER, 113' right of centerline, 66' AGL/1186' MSL. Bush 165' from DER, 161' right of centerline, 11' AGL/1131' MSL. Trees beginning 66' from DER, 182' left of centerline, up to 95' AGL/1315' MSL.

## IRONWOOD, MI

### GOGEBIC-IRON COUNTY (IWD)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 6 09127 (FAA)

DEPARTURE PROCEDURE: **Rwy 9**, climb heading 090° to 2300 before turning right. **Rwy 27**, climb heading 270° to 1700 before turning left.

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

## JACKSON, MI

### JACKSON COUNTY-REYNOLDS FIELD (JXN)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 5 09295 (FAA)

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

## KALAMAZOO, MI

### KALAMAZOO/BATTLE CREEK INTL (AZO)

TAKEOFF MINIMUMS AND (OBSTACLE)

DEPARTURE PROCEDURES

AMDT 9 07242 (FAA)

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

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



## LAKEVIEW, MI

LAKEVIEW-GRIFFITH FIELD (13C)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 98281 (FAA)  
TAKEOFF MINIMUMS: **Rwy 28**, 300-1 or std. with a  
min. climb of 400' per NM to 1200.  
NOTE: **Rwy 10**, 1018' tree 50' from DER, 490' right of  
centerline.

## LAMBERTVILLE, MI

TOLEDO SUBURBAN (DUH)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 1 80360 (FAA)  
TAKEOFF MINIMUMS: **Rwys 9, 27**, 300-1.

## LANSING, MI

CAPITAL REGION INTL (LAN)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 14 14317 (FAA)  
DEPARTURE PROCEDURE: **Rwys 10L, 10R**, climb  
runway heading to 2000 before turning south.  
**Rwys 6, 24, 28L, 28R**, climb runway heading to 1500  
before turning southeast.  
NOTE: **Rwy 6**, trees beginning 1441' from DER, 321'  
left of centerline, up to 102' AGL/942' MSL. Trees  
beginning 2536' from DER, 7' right of centerline, up to  
107' AGL/947' MSL. Trees beginning 2711' from DER,  
126' left of centerline, up to 107' AGL/956' MSL.  
**Rwy 10L**, tree 350' from DER, 394' left of centerline,  
86' AGL/916' MSL. Fence 525' from DER, 148' right of  
centerline, 17' AGL/864' MSL. Trees beginning 883'  
from DER, 198' left of centerline, up to 90' AGL/920'  
MSL. Trees beginning 1698' from DER, 368' right of  
centerline, up to 104' AGL/934' MSL. **Rwy 10R**, pole  
111' from DER, 290' right of centerline, 41' AGL/871'  
MSL. MALSR 155' from DER, 4' right of centerline, 18'  
AGL/866' MSL. Pole 575' from DER, 290' right of  
centerline, 35' AGL/865' MSL. Trees beginning 700'  
from DER, 551' right centerline, up to 84' AGL/924'  
MSL. Trees beginning 1077' from DER, 599' left of  
centerline, up to 98' AGL/928' MSL. Trees beginning  
1831' from DER, left and right of centerline, up to 93'  
AGL/956' MSL. **Rwy 24**, trees beginning 549' from  
DER, 114' left of centerline, up to 68' AGL/918' MSL.  
Poles beginning 830' from DER, 358' left of centerline,  
up to 41' AGL/893' MSL. Trees beginning 1107' from  
DER, 81' right of centerline, up to 89' AGL/919' MSL.  
Trees beginning 1271' from DER, 386' left of  
centerline, up to 104' AGL/937' MSL. **Rwy 28L**, trees  
beginning 1690' from DER, 862' right of centerline, up  
to 83' AGL/923' MSL. Trees beginning 1782' from  
DER, 786' left of centerline, up to 100' AGL/959' MSL.  
**Rwy 28R**, rod on ASR 987' from DER, 516' right of  
centerline, 104' AGL/954' MSL. Trees beginning 1853'  
from DER, 902' right of centerline, up to 100' AGL/939'  
MSL. Tree 2209' from DER, 221' left of centerline, 79'  
AGL/919' MSL.

## LAPEER, MI

DUPONT-LAPEER (D95)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 3 86156 (FAA)  
TAKEOFF MINIMUMS: **Rwys 9, 27**, 300-1.

## LINDEN, MI

PRICES (9G2)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 5 13346 (FAA)  
NOTE: **Rwy 9**, trees beginning 446' from DER, left and  
right of centerline, up to 100' AGL/1009' MSL. **Rwy 27**,  
trees beginning 18' from DER, 103' left of centerline, up  
to 100' AGL/1019' MSL. Trees beginning 30' from DER,  
204' right of centerline, up to 100' AGL/1009' MSL.

## LUDINGTON, MI

MASON COUNTY (LDM)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 6 92233 (FAA)  
TAKEOFF MINIMUMS: **Rwys 1, 19, 26**, 300-1.

## MACKINAC ISLAND, MI

MACKINAC ISLAND (MCD)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 2 12236 (FAA)  
TAKEOFF MINIMUMS: **Rwy 8**, 300-1 or std. w/min. climb  
of 608' per NM to 1000.  
NOTE: **Rwy 8**, trees and building beginning 69' from  
DER. 16' left of centerline, up to 100' AGL/841' MSL.  
Trees beginning 34' from DER, 34' right of centerline, up  
to 100' AGL/896' MSL. Fence 49' from DER, 295' right of  
centerline, 8' AGL/741' MSL. Vehicle on road 525' from  
DER, 610' right of centerline, 15' AGL/774' MSL. **Rwy  
26**, trees beginning 8' from DER, 193' left of centerline,  
up to 100' AGL/829' MSL. Vehicle on road 36' from DER,  
334' left of centerline, 15' AGL/744' MSL. Trees  
beginning at DER, 196' right of centerline, up to 100'  
AGL/829' MSL. Fence 53' from DER, 202' right of  
centerline, 8' AGL/727' MSL. Building 129' from DER,  
498' right of centerline, 28' AGL/747' MSL. Vehicle on  
road 354' from DER, 20' right of centerline, 15'  
AGL/734' MSL.

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## MANISTEE, MI

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

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

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

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

## MARLETTE, MI

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

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

## MARQUETTE, MI

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

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

## MARSHALL, MI

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

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

## MASON, MI

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

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

## MANISTIQUE, MI

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

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



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





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



## MENOMINEE, MI

### MENOMINEE-MARINETTE TWIN COUNTY (MNM)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES AMDT 3 09239 (FAA)

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

## MIDLAND, MI

### JACK BARSTOW (IKW)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES ORIG 09183 (FAA)

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

## MONROE, MI

### CLUSTER (TTF)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES AMDT 6 08213

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

## MOUNT PLEASANT, MI

### MOUNT PLEASANT MUNI (MOP) TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

#### AMDT 5 09239 (FAA)

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

## MUSKEGON, MI

### MUSKEGON COUNTY (MKG) TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

#### AMDT 10 09015 (FAA)

NOTE: **Rwy 6**, tree 1700' from DER, 600' right of centerline, 25' AGL/672' MSL. Multiple trees beginning 1980' from DER, 300' left of centerline, up to 75' AGL/709' MSL. **Rwy 14**, pole 1040' from DER, 700' left of centerline, 25' AGL/655' MSL. Multiple poles beginning 1500' from DER, 880' right of centerline, up to 50' AGL/677' MSL. Tree 1900' from DER, 940' left of centerline, 79' AGL/709' MSL. **Rwy 24**, bush 124' from DER, 480' left of centerline, 19' AGL/630' MSL. Tree 500' from DER, 300' right of centerline, 42' AGL/649' MSL. Tree 1210' from DER, 450' left of centerline, 42' AGL/653' MSL. Antenna 1200' from DER, 500' right of centerline, 43' AGL/654' MSL. Multiple trees beginning 2200' from DER, 50' left of centerline, up to 86' AGL/697' MSL. **Rwy 32**, tree 1040' from DER, 740' right of centerline, 65' AGL/659' MSL. Tree 1190' from DER, 500' left of centerline, 65' AGL/663' MSL. Tree 1270' from DER, 800' left of centerline, 89' AGL/690' MSL.

## NEW HUDSON, MI

### OAKLAND SOUTHWEST (Y47) TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

#### AMDT 2 88350 (FAA)

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

## NEWBERRY, MI

### LUCE COUNTY (ERY) TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

#### ORIG 10210 (FAA)

TAKEOFF MINIMUMS: **Rwys 4, 22**, NA-Environmental. NOTE: **Rwy 11**, trees beginning 15' from DER, 112' right of centerline, up to 79' AGL/919' MSL. Trees beginning 1207' from DER, 10' left of centerline, up to 119' AGL, 969' MSL. **Rwy 29**, ground 1' from DER, 221' right of centerline, 0' AGL/872' MSL. Tree 1' from DER, 431' right of centerline, 12' AGL/872' MSL. Trees and antenna on building beginning 88' from DER, 13' left of centerline, up to 84' AGL/954' MSL. Trees, vehicle on road, and antenna on building beginning 561' from DER, 28' right of centerline, up to 89' AGL/959' MSL.

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## NILES, MI

JERRY TYLER MEMORIAL (3TR)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 6 11125 (FAA)

TAKEOFF MINIMUMS: **Rwy 22**, NA-obstacles.  
NOTE: **Rwy 4**, vehicles on road beginning 192' from DER, crossing left to right of centerline, up to 15' AGL/754' MSL. Trees beginning 360' from DER, 276' right of centerline, up to 100' AGL/849' MSL. Building 410' from DER, 225' left of centerline, 30' AGL/759' MSL. **Rwy 15**, trees beginning 470' from DER, 461' left of centerline, up to 100' AGL/869' MSL. Trees beginning 568' from DER, 187' right of centerline, up to 100' AGL/869' MSL. **Rwy 33**, vehicles on road beginning 198' from DER, crossing right to left of centerline, up to 15' AGL/764' MSL. Building 705' from DER, 604' left of centerline, 30' AGL/779' MSL.

## ONTONAGON, MI

ONTONAGON COUNTY-SCHUSTER  
FIELD (OGM)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 2 12152 (FAA)

TAKEOFF MINIMUMS: **Rwy 17**, 300-1% or std. w/ a climb gradient of 390' per NM to 1000.  
NOTE: **Rwy 35**, hanger 70' from DER, 467' right of centerline up to 50' AGL/689' MSL. Vehicle on road 225' from DER, 367' right of centerline up to 17' AGL/664' MSL. Trees beginning abeam DER, 537' right of centerline, up to 100' AGL/756' MSL. Trees 80' from DER, 179' left of centerline, up to 100' AGL/756' MSL. Sailing boat 3128' from DER, on centerline, up to 100' AGL/719' MSL. **Rwy 17**, trees beginning 439' from DER, 423' left of centerline up to 100' AGL/901' MSL. Trees beginning 354' from DER, 243' right of centerline, up to 100' AGL/851' MSL.

## OSCODA, MI

OSCODA-WURTHSMITH (OSC)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 08157 (FAA)

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

## OWOSSO, MI

OWOSSO COMMUNITY (RNP)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 4 08213 (FAA)

TAKEOFF MINIMUMS: **Rwys 6, 18, 24, 36**, NA - Environmental.  
NOTE: **Rwy 11**, bush 187' from DER, 158' right of centerline, 3' AGL/742' MSL. Trees beginning 1136' from DER, 630' left of centerline, up to 75' AGL/814' MSL. Trees and pole beginning 1111' from DER, 596' right of centerline, up to 90' AGL/829' MSL. Power line with towers beginning 2029' from DER, left and right of centerline, 90' AGL/829' MSL. **Rwy 29**, bush 212' from DER, 436' right of centerline, 11' AGL/741' MSL. Vent, trees, and a building beginning 266' from DER, 46' left of centerline, up to 100' AGL/836' MSL. Trees and a pole beginning 1184' from DER, 244' right of centerline, up to 60' AGL/815' MSL.

## PELLSTON, MI

PELLSTON RGNL AIRPORT OF EMMET  
COUNTY (PLN)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 4 09183 (FAA)

TAKEOFF MINIMUMS: **Rwy 23**, std. w/ a min. climb of 260' per NM to 1800, or 1000-2½ for climb in visual conditions. **Rwy 32**, std. w/ a min. climb of 290' per NM to 1100, or 1000-2½ for climb in visual conditions.  
DEPARTURE PROCEDURE: **Rwys 23, 32**, for climb in visual conditions: cross Pellston Rgnl airport of Emmet County at or above 1600.  
NOTE: **Rwy 5**, vehicle on road 411' from DER, 588' left of centerline, 15' AGL/738' MSL. Trees beginning 1070' from DER, 12' left of centerline, up to 100' AGL/838' MSL. Railroad 810' from DER, 672' right of centerline, 23' AGL/744' MSL. Trees beginning 1001' from DER, 288' right of centerline, up to 100' AGL/821' MSL. **Rwy 14**, trees beginning 1290' from DER, 814' left of centerline, up to 100' AGL/805' MSL. **Rwy 23**, vehicle on road 14' from DER, 463' left of centerline, 15' AGL/720' MSL. Trees beginning 476' from DER, 53' left of centerline, up to 100' AGL/805' MSL. Trees beginning 953' from DER, 240' right of centerline, up to 100' AGL/820' MSL. Tree 2.97 NM from DER, 2771' right of centerline, 100' AGL/1297' MSL. **Rwy 32**, bush 107' from DER, 309' right of centerline, 4' AGL/722' MSL. Vehicle on road 1213' from DER, 809' right of centerline, 15' AGL/752' MSL. Terrain 2127' from DER, 715' right of centerline, 775' MSL. Trees beginning 4336' from DER, 315' right of centerline, up to 100' AGL/872' MSL. Trees beginning 1932' from DER, 20' left of centerline, up to 100' AGL/996' MSL.

## PLYMOUTH, MI

CANTON-PLYMOUTH-METTETAL (1D2)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
TAKEOFF MINIMUMS: **Rwys 18, 36**, 300-1.

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



## PONTIAC, MI

### OAKLAND COUNTY INTL (PTK)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 6 10322 (FAA)

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

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

## PORT HURON, MI

### ST. CLAIR COUNTY INTL (PHN)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 6 11237 (FAA)

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

## RAY, MI

### RAY COMMUNITY (57D)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 15008 (FAA)

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

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

## ROGERS CITY, MI

### PRESQUE ISLE COUNTY (PZQ)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 2 12124 (FAA)

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

## ROMEO, MI

### ROMEO STATE (D98)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 5 13122 (FAA)

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

## SAGINAW, MI

### MBS INTL (MBS)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 86240 (FAA)

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

### SAGINAW COUNTY H W BROWNE (HYX)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 8 12208 (FAA)

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

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

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





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

## ST IGNACE

MACKINAC COUNTY (83D)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 11125 (FAA)

TAKEOFF MINIMUMS: **Rwy 25**, 300-1 or std. w/min. climb of 430' per NM to 900.  
NOTE: **Rwy 7**, vehicles on road beginning 10' from DER, 322' right of centerline, up to 15' AGL/627' MSL. Trees beginning 70' from DER, 363' right of centerline, up to 85' AGL/686' MSL. Poles beginning 117' from DER, 381' left of centerline, up to 54' AGL/629' MSL. Vehicles on road beginning 310' from DER, left and right of centerline, up to 15' AGL/631' MSL. Poles beginning 602' from DER, 328' right of centerline, up to 54' AGL/644' MSL. Ships beginning 3099' from DER, left and right of centerline, up to 155' AGL/735' MSL. **Rwy 25**, trees beginning 20' from DER, left and right of centerline, up to 85' AGL/809' MSL. Vehicles on road 366' from DER, left and right of centerline, up to 17' AGL/663' MSL. Poles beginning 919' from DER, left and right of centerline, up to 62' AGL/682' MSL.

## SAULT STE MARIE, MI

CHIPPEWA COUNTY INTL (CIU)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG-A 15064 (FAA)

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

## SAULT STE MARIE MUNI/SANDERSON FIELD (ANJ)

TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
ORIG 11237 (FAA)

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

## SELFRIDGE ANGB (KMTC),

MT. CLEMENS, MI  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 3A, 14149

TAKE-OFF MINIMUMS: **Rwy 1**, Standard. **Rwy 19**, Standard with a minimum climb of 234 ft/NM to 1500.  
TAKE-OFF OBSTACLES: **Rwy 19**, Numerous trees beginning 1872' from DER, 269' left of centerline, up to 100' AGL/693' MSL. Numerous trees beginning 3007' from DER, 57' right of centerline, up to 100' AGL/704' MSL. **Rwy 1**, Numerous trees beginning 2290' from DER, 800' left of centerline, up to 100' AGL/689' MSL. Numerous trees beginning 2308' from DER, 539' right of centerline, up to 100' AGL/683' MSL.

## SOUTH HAVEN, MI

SOUTH HAVEN AREA RGNL (LWA)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 4 13178 (FAA)

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

## SPARTA, MI

PAUL C MILLER-SPARTA (8D4)  
TAKEOFF MINIMUMS AND (OBSTACLE)  
DEPARTURE PROCEDURES  
AMDT 2 10126 (FAA)

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

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## STURGIS, MI

### KIRSCH MUNI (IRS)

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

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

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

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

## THREE RIVERS, MI

### THREE RIVERS MUNI DR. HAINES (HAI)

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

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

## TRAVERSE CITY, MI

### CHERRY CAPITAL (TVC)

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

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

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

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

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



## TROY, MI

### OAKLAND/TROY (VLL)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

#### AMDT 4A 14037 (FAA)

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

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

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

## WEST BRANCH, MI

### WEST BRANCH COMMUNITY (Y31)

#### TAKEOFF MINIMUMS AND (OBSTACLE)

#### DEPARTURE PROCEDURES

#### AMDT 3 11069 (FAA)

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

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

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

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