

**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
GRAPHIC DEPARTURE PROCEDURES (DP)**

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TRMML	TWO	TRMML2.TRMML	ONE	07/19/2018	
<u>TYPE:</u>	<u>OBSTACLE</u>	<u>COPTER</u>	<u>SID</u>	<u>SPECIAL</u>	<u>RNAV</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**DP ROUTE DESCRIPTION:**

**DETROIT METROPOLITAN WAYNE COUNTY (KDTW):**

**TAKEOFF RWY 3L:** CLIMB ON HEADING 035.71 TO 1146, THEN DIRECT TO CROSS DCATS AT OR BELOW 7000, THEN ON TRACK 347.82 TO CROSS EERNY AT OR BELOW 11000, THEN ON TRACK 349.25 TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 3R:** CLIMB ON HEADING 035.71 TO 1146, THEN DIRECT BURPZ, THEN ON TRACK 034.39 TO CROSS DCATS AT OR BELOW 7000, THEN ON TRACK 347.82 TO CROSS EERNY AT OR BELOW 11000, THEN ON TRACK 349.25 TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 4L:** CLIMB ON HEADING 035.68 TO 1146, THEN DIRECT MINDY, THEN ON TRACK 037.88 TO CROSS KKELL AT OR BELOW 7000, THEN ON TRACK 350.49 TO CROSS EERNY AT OR BELOW 11000, THEN ON TRACK 349.25 TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 4R:** CLIMB ON HEADING 035.70 TO 1146, THEN DIRECT TO CROSS KKELL AT OR BELOW 7000, THEN ON TRACK 350.49 TO CROSS EERNY AT OR BELOW 11000, THEN ON TRACK 349.25 TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 21L:** CLIMB ON HEADING 215.72 TO INTERCEPT COURSE 172.93 TO CROSS WINRS AT OR ABOVE 2500 AND AT OR BELOW 230 KIAS, THEN ON TRACK 093.68 TO CROSS USSIE AT OR ABOVE 4000, THEN ON TRACK 083.76 TO CROSS SUURF AT OR BELOW 7000, THEN ON TRACK 036.34 TO TUURF, THEN ON TRACK 344.60 TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 21R:** CLIMB ON HEADING 215.72 TO INTERCEPT COURSE 174.91 TO CROSS WINRS AT OR ABOVE 2500 AND AT OR BELOW 230 KIAS, THEN ON TRACK 093.68 TO CROSS USSIE AT OR ABOVE 4000, THEN ON TRACK 083.76 TO CROSS SUURF AT OR BELOW 7000, THEN ON TRACK 036.34 TO TUURF, THEN ON TRACK 344.60 TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 22L:** CLIMB ON HEADING 215.71 TO INTERCEPT COURSE 251.44 TO CROSS FORDZ AT OR ABOVE 4000, THEN ON TRACK 314.11 TO CROSS CORVE AT OR BELOW 7000, THEN ON TRACK 027.07 TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 22R:** CLIMB ON HEADING 215.69 TO INTERCEPT COURSE 249.57 TO CROSS FORDZ AT OR ABOVE 4000, THEN ON TRACK 314.11 TO CROSS CORVE AT OR BELOW 7000, THEN ON TRACK 027.07 TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 27L:** CLIMB ON HEADING 275.73 TO 1146, THEN ON HEADING 275.71 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 27R:** CLIMB ON HEADING 275.72 TO 1146, THEN ON HEADING 275.70 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN 17000 OR AS ASSIGNED BY ATC, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**WILLOW RUN (KYIP):**

**TAKEOFF RWY 5L:** CLIMB ON HEADING 053.71 TO 1220, THEN LEFT TURN HEADING 300.00 FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 5R:** CLIMB ON HEADING 053.70 TO 1220, THEN LEFT TURN HEADING 300.00 FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 9:** CLIMB ON HEADING 095.55 TO 1220, THEN LEFT TURN HEADING 300.00 FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 23L:** CLIMB ON HEADING 233.72 TO 1220, THEN ON HEADING 233.70 FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 23R:** CLIMB ON HEADING 233.73 TO 1220, THEN ON HEADING 233.72 FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 27:** CLIMB ON HEADING 275.57 TO 1220, THEN ON HEADING 275.56 FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**ANN ARBOR MUNI (KARB):**

**TAKEOFF RWY 6:** CLIMB ON HEADING 059.53 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 24:** CLIMB ON HEADING 239.53 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.



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**COLEMAN A YOUNG MUNI (KDET):**

**TAKEOFF RWY 7:** CLIMB ON HEADING 068.30 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 15:** CLIMB ON HEADING 148.32 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 25:** CLIMB ON HEADING 248.31 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 33:** CLIMB ON HEADING 328.33 TO 1800 THEN AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**CUSTER (KTTF):**

**TAKEOFF RWY 3:** CLIMB ON HEADING 027.49 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 21:** CLIMB ON HEADING 207.50 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**GROSSE ILE MUNI (KONZ):**

**TAKEOFF RWY 4:** CLIMB ON HEADING 037.34 TO 1200 THEN AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 17:** CLIMB ON HEADING 173.78 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 22:** CLIMB ON HEADING 217.34 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 35:** CLIMB ON HEADING 005.78 TO 1800 THEN AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**LIVINGSTON COUNTY SPENCER J HARDY (KOZW):**

**TAKEOFF RWY 13:** CLIMB ON HEADING 132.35 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 31:** CLIMB ON HEADING 312.36 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**OAKLAND COUNTY INTL (KPTK):**

**TAKEOFF RWY 9L:** CLIMB ON HEADING 094.66 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 9R:** CLIMB ON HEADING 094.63 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 27L:** CLIMB ON HEADING 274.65 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 27R:** CLIMB ON HEADING 274.68 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**OAKLAND/TROY (KVLL):**

**TAKEOFF RWY 9:** CLIMB ON HEADING 095.71 TO 1400 THEN AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...  
**TAKEOFF RWY 27:** CLIMB ON HEADING 275.72 TO 1500 THEN AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.



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**SELFRIDGE ANGB (KMTG):**

**TAKEOFF RWY 1:** CLIMB ON HEADING 007.47 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 19:** CLIMB ON HEADING 187.47 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**WINDSOR (CYQG):**

**TAKEOFF RWY 7:** CLIMB ON HEADING 069.55 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 12:** CLIMB ON HEADING 122.61 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 25:** CLIMB ON HEADING 249.56 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

**TAKEOFF RWY 30:** CLIMB ON HEADING 302.60 OR AS ASSIGNED FOR RADAR VECTORS TO CROSS LOALA AT OR ABOVE 4000, THENCE...

...ON TRACK 351.96 TO TRMML, THEN ON (TRANSITION). MAINTAIN ATC ASSIGNED ALTITUDE, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

**TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):**

<u>TRANSITION NAME</u>	<u>TRANSITION COMPUTER CODE</u>	<u>FROM FIX/NAVAID</u>	<u>TO FIX/NAVAID</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>MEA</u>	<u>MOCA</u>	<u>CROSSING ALTITUDE/FIXES</u>
GNZOE	TRMML2.GNZOE	TRMML	DDEEZ	TRACK 352.32	20.91	10000		
		DDEEZ	GNZOE	TRACK 352.06	10.82	10000		

**PROCEDURAL DATA NOTES:**

**NOTE:** RNAV 1

**NOTE:** RADAR REQUIRED

**NOTE:** DME/DME/IRU OR GPS REQUIRED.

**NOTE:** TURBOJET DEPARTURES AT/ABOVE 10000, MAINTAIN 280K UNTIL ADVISED BY ATC.

**NOTE:** KDTW/KYIP DEPARTURES: IF UNABLE TO ACCEPT 500 FT PER NM CLIMB RATE, ADVISE CLEARANCE DELIVERY ON INITIAL CONTACT.

**TAKEOFF MINIMUMS:**

**DETROIT METROPOLITAN WAYNE COUNTY (KDTW):**

**RWY 3L, 3R, 4L, 4R, 21L, 21R, 22L, 22R, 27L, 27R:** STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 1160.

**WILLOW RUN (KYIP):**

**RWY 5L, 5R, 9, 23L, 23R, 27:** STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 1220.

**ANN ARBOR MUNI (KARB):**

**RWY 6, 24:** STANDARD.

**RWY 12, 30:** NA - ENVIRONMENTAL.

**COLEMAN A YOUNG MUNI (KDET):**



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**RWY 7, 15, 33:** STANDARD.

**RWY 25:** STANDARD WITH MINIMUM CLIMB OF 210 FEET PER NM TO 1000.

**CUSTER (KTTF):**  
STANDARD.

**GROSSE ILE MUNI (KONZ):**

**RWY 4, 17, 22:** STANDARD.

**RWY 35:** STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 1100.

**LIVINGSTON COUNTY SPENCER J HARDY (KOZW):**  
STANDARD.

**OAKLAND COUNTY INTL (KPTK):**

**RWY 9L, 9R, 27L, 27R:** STANDARD.

**RWY 18, 36:** NA - ENVIRONMENTAL.

**OAKLAND/TROY (KVLL):**

**RWY 9:** STANDARD.

**RWY 27:** STANDARD WITH MINIMUM CLIMB OF 476 FT PER NM TO 1500.

**SELFRIDGE ANGB (KMTC):**

**RWY 1:** STANDARD.

**RWY 19:** STANDARD WITH MINIMUM CLIMB OF 234 FT PER NM TO 1500.

**WINDSOR (CYQG):**

**RWY 7, 12, 25:** STANDARD.

**RWY 30:** STANDARD WITH MINIMUM CLIMB OF 210 FT PER NM TO 1300.

**TAKEOFF OBSTACLES NOTES:**

SEE FORM 8260-15A TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP).

**CONTROLLING OBSTACLES:**

**WILLOW RUN (KYIP):**

**RWY 27:** 903 FT MSL TOWER 421431.78N/0833411.47W

**COLEMAN A YOUNG MUNI (KDET):**

**RWY 25:** 871 FT MSL STACK 422307.00N/0830235.00W

**RWY 33:** 1749 FT MSL TOWER 422653.00N/0831023.00W

**GROSSE ILE MUNI (KONZ):**

**RWY 35:** 1146 FT MSL STACK, 420718.61N/0831050.62W

**OAKLAND/TROY (KVLL):**

**RWY 27:** 940 FT MSL BLDG 423234.20N/0831235.50W (CG), 1749 FT MSL TOWER 422858.00N/0831219.00W (CGTA)

**SELFRIDGE ANGB (KMTC):**

**RWY 19:** 1246 FT MSL TOWER 423315.00N/0825315.00W



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**LOST COMMUNICATIONS PROCEDURES:**

**ADDITIONAL FLIGHT DATA:**

CHART: TOP ALTITUDE: KDTW 17000.

CHART: TOP ALTITUDE: ALL OTHER AIRPORTS ASSIGNED BY ATC

REFERENCE MAG VAR: KDTW 7W/2020

DME/DME ASSESSMENT: SAT (RNP 2.0)

**KDTW CHART:** SEE ADDITIONAL REQUIREMENTS IN RNAV DEPARTURE AAUP.

**AIRPORTS SERVED:**

<b>AIRPORT NAME</b>	<b>CITY</b>	<b>STATE</b>
DETROIT METROPOLITAN WAYNE COUNTY (KDTW)	DETROIT	MI
WILLOW RUN (KYIP)	DETROIT	MI
ANN ARBOR MUNI (KARB)	ANN ARBOR	MI
COLEMAN A YOUNG MUNI (KDET)	DETROIT	MI
CUSTER (KTTF)	MONROE	MI
GROSSE ILE MUNI (KONZ)	DETROIT/GROSSE ILE	MI
LIVINGSTON COUNTY SPENCER J HARDY (KOZW)	HOWELL	MI
OAKLAND COUNTY INTL (KPTK)	PONTIAC	MI
OAKLAND/TROY (KVLL)	TROY	MI
SELFRRIDGE ANGB (KMTC)	MOUNT CLEMENS	MI
WINDSOR (CYQG)	WINDSOR, ONTARIO, CANADA	

**COMMUNICATIONS:**

ATIS, AWOS/ASOS, CLNC DEL, GND CON, TWR, CTAF, DEP CON, CPDLC

**FIXES AND/OR NAVAIDS:**



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**REMARKS:**  
MOCA(S) NOT CHARTED PER ATC REQUEST TO REDUCE CHART CLUTTER.

CHANGES TO THIS PROCEDURE MUST BE COORDINATED WITH NAVCANADA, AERONAUTICAL INFORMATION MANAGEMENT (AIM), AIMDATA@NAVCANADA.CA (CURRENT POC IS CHARLES SIMARD, 613-248-3819, SIMACHA@NAVCANADA.CA).

**FLIGHT INSPECTED BY:**

**OFFICE SYMBOL:**

**DATE:**

**DEVELOPED BY:**

CHRISTINE BAYSE

**OFFICE SYMBOL:**

**DATE:**

AJV-A432

03/12/2019

**APPROVED BY:**

LONNIE EVERHART

**OFFICE SYMBOL:**

**DATE:**

AJV-A430

**REQUIRED EFFECTIVE DATE:**

ROUTINE

**COORDINATED WITH:**

<b><u>A4A</u></b>	<b><u>ALPA</u></b>	<b><u>AOPA</u></b>	<b><u>APA</u></b>	<b><u>HAI</u></b>	<b><u>NBAA</u></b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**OTHER:**

ZOB, DTW APP CON, AMGR

**CHANGES - REASONS:**

1. CHANGED TOP ALTITUDE FOR KDTW TO 17000.- INDUSTRY REQUEST TO REDUCE CONFUSION.
2. CHANGED DEPARTURE ROUTE DESCRIPTION FOR KDTW FROM "MAINTAIN ATC ASSIGNED ALTITUDE" TO "MAINTAIN 17000 OR AS ASSIGNED BY ATC". - INDUSTRY REQUEST TO REDUCE CONFUSION.
3. MOVE FORDZ 1 NM SW. - DECONFLICT SID FROM OTHER PROCEDURES.
4. ADD AT OR ABOVE 4000 RESTRICTION AT FORDZ. - DECONFLICT SID FROM OTHER PROCEDURES.
5. ADD AT OR ABOVE 4000 RESTRICTION AT USSIE. - DECONFLICT SID FROM OTHER PROCEDURES.
6. MOVE DCATS 7.8 NM N. - DECONFLICT SID FROM OTHER PROCEDURES.
7. REMOVE HOYAR FROM KDTW RUNWAY TRANSITIONS. - DECONFLICT SID FROM OTHER PROCEDURES.
8. ADD AT OR BELOW 7000 RESTRICTION AT DCATS. - DECONFLICT SID FROM OTHER PROCEDURES.
9. MOVE KKELL 6.82 NM NE. - DECONFLICT SID FROM OTHER PROCEDURES.
10. REMOVE LLOUU FROM KDTW RUNWAY TRANSITIONS. - DECONFLICT SID FROM OTHER PROCEDURES.
11. ADD AT OR BELOW 7000 RESTRICTION AT KKELL. - DECONFLICT SID FROM OTHER PROCEDURES.
12. ADD EERNY TO RWY 3L/R AND 4L/R TRANSITIONS. - DECONFLICT SID FROM OTHER PROCEDURES.
13. ADD AT OR BELOW 11000 RESTRICTION AT EERNY. - DECONFLICT SID FROM OTHER PROCEDURES.
14. MOVE TRMML 20.9 NM S. - SHORTEN COMMON ROUTE TO ALLOW PROCEDURE USE FROM CLOSE-IN AIRPORTS.
15. ADD DDEEZ TO GNZOE TRANSITION. - SHORTEN COMMON ROUTE TO ALLOW PROCEDURE USE FROM CLOSE-IN AIRPORTS.
16. CHANGE CODING OF DTW RWYS 21L/R AND 22L/R TO VI-CF MINIMUM LEG LENGTH. - REDUCE DRIFT ON INITIAL CLIMBOUT.
17. MOVE WINRS 1.2 NM SOUTH. - REDUCE DRIFT ON INITIAL CLIMBOUT.

QUALITY  
3  
CHECKED

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18. ADD AT OR ABOVE 2500 AND AT OR BELOW 230 KIAS RESTRICTION AT WINRS. - REDUCE DRIFT ON INITIAL CLIMBOUT.					
19. ADD CHART NOTE: KDTW/KYIP DEPARTURES: IF UNABLE TO ACCEPT 500 FT PER NM CLIMB RATE, ADVISE CLEARANCE DELIVERY ON INITIAL CONTACT. - ENSURE PILOTS ARE AWARE OF REQUIREMENTS.					
20. ADD KDTW CHART: SEE ADDITIONAL REQUIREMENTS IN RNAV DEPARTURE AAUP.- ENSURE PILOTS ARE AWARE OF REQUIREMENTS.					
21. UPDATE DP ROUTE DESCRIPTION KDTW RWY 3L, 3R, 27L, 27 CLIMB TO ALTITUDE FROM "1160" TO "1146". - LNAV ENGAGEMENT ALTITUDE CHANGED.					
22. UPDATE DP ROUTE DESCRIPTION KDTW RWY 3L AND 3R FROM "ON TRACK 353.88 TO CROSS LOALA" TO "ON TRACK 349.25 TO CROSS LOALA". - RUNWAY TRANSITION CHANGED.					
23. UPDATE DP ROUTE DESCRIPTION KDTW RWY 3R TO ADD "ON TRACK 034.39 TO CROSS DCATS AT OR BELOW 7000" TO RUNWAY TRANSITION.- DCATS ADDED TO RUNWAY TRANSITION.					
24. UPDATE DP ROUTE DESCRIPTION KDTW RWY 4L FROM "...TO INTERCEPT COURSE 007.72 TO LLOUU, THEN ON TRACK 004.29 TO CROSS LOALA..." TO "... TO 1146, THEN DIRECT MINDY, THEN ON TRACK 037.88 TO CROSS KKELL AT OR BELOW 7000, THEN ON TRACK 350.49 TO CROSS EERNY AT OR BELOW 11000, THEN ON TRACK 349.25 TO CROSS LOALA...". - UPDATE FROM VI-CF TO VA-DF.					
25. UPDATE DP ROUTE DESCRIPTION KDTW RWY 4R FROM "...TO INTERCEPT COURSE 004.37 TO LLOUU, THEN ON TRACK 004.29 TO CROSS LOALA..." TO "...TO 1146, THEN DIRECT TO CROSS KKELL AT OR BELOW 7000, THEN ON TRACK 350.49 TO CROSS EERNY AT OR BELOW 11000, THEN ON TRACK 349.25 TO CROSS LOALA...". - UPDATE FROM VI-CF TO VA-DF.					
26. UPDATE DP ROUTE DESCRIPTION KDTW RWY 21L INTERCEPT COURSE FROM "161.34 TO WINRS" TO "172.93 TO CROSS WINRS".-WINRS MOVED AND VI-CF MINIMUM.					
27. UPDATE DP ROUTE DESCRIPTION KDTW RWY 21R INTERCEPT COURSE FROM "166.06 TO WINRS" TO "174.91 TO CROSS WINRS". - WINRS MOVED AND VI-CF MINIMUM.					
28. UPDATE DP ROUTE DESCRIPTION KDTW RWY 21L AND 21R FROM "ON TRACK 108.58 TO USSIE" TO "ON TRACK 093.68 TO CROSS USSIE".- WINRS MOVED.					
29. UPDATE DP ROUTE DESCRIPTION KDTW RWY 22L INTERCEPT COURSE FROM "256.00 TO FORDZ" TO "251.44 TO CROSS FORDZ". - FORDZ MOVED AND VI-CF MINIMUM.					
30. UPDATE DP ROUTE DESCRIPTION KDTW RWY 22R INTERCEPT COURSE FROM "254.05 TO FORDZ" TO "249.57 TO CROSS FORDZ". - FORDZ MOVED AND VI-CF MINIMUM.					
31. UPDATE DP ROUTE DESCRIPTION KDTW RWY 22L AND 22R FROM "ON TRACK 309.08 TO CROSS CORVE" TO "ON TRACK 314.11 TO CROSS CORVE". - FORDZ MOVED.					
32. UPDATED TAKEOFF MINIMUMS KDTW FROM "RWY 4L, 4R, 21L, 21R, 22L, 22R, 27L, 27R: STANDARD" AND "RWY 3L, 3R, 27L, 27R: STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 1160" TO "RWY 3L, 3R, 4L, 4R, 21L, 21R, 22L, 22R, 27L, 27R: STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 1146". - ALL RUNWAYS ARE 500 FT PER NM TO 500 FT ABOVE FOR LNAV ENGAGEMENT.					
33. UPDATED RECOMMENDED NAVAID FROM AIR VOR/DME TO ECK TACAN ON 8260-15C. - NAVAID CLOSER TO AIRPORT.					



**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
DEPARTURE (DATA RECORD)**

<u>DP NAME</u>		<u>NUMBER</u>		<u>DP COMPUTER CODE</u>		<u>SUPERSEDED NUMBER</u>		<u>DATED</u>	<u>EFFECTIVE DATE</u>
TRMML		TWO		TRMML2.TRMML		ONE		07/19/2018	
<u>FIX/NAVAID</u>	<u>LAT/LONG</u>	<u>C</u>	<u>FO/FB</u>	<u>LEG TYPE</u>	<u>TC</u>	<u>DIST (NM)</u>	<u>ALTITUDE</u>	<u>SPEED</u>	<u>REMARKS</u>
DETROIT METROPOLITAN WAYNE COUNTY (KDTW)									
RW03L (AER)	421228.21N/0832104.39W	N	-	-	-	-			
1146 MSL	-	-	-	VA	028.71	-			CG 500 FT/NM TO 1146
DCATS	442712.00N/0831009.17W	Y	FB	DF	-	-	AT/BELOW 7000		
EERNY	423600.37N/0831417.98W	Y	FB	TF	340.82	9.32	AT/BELOW 11000		
LOALA	425401.32N/0832208.62W	Y	FB	TF	342.25	18.92	AT/ABOVE 4000		
RW03R (AER)	421144.21N/0832106.49W	N	-	-	-	-			
1146 MSL	-	-	-	VA	028.71	-			CG 500 FT/NM TO 1146
BURPZ	421517.69N/0831829.10W	Y	FB	DF	-	-			
DCATS	442712.00N/0831009.17W	Y	FB	TF	027.39	13.41	AT/BELOW 7000		
EERNY	423600.37N/0831417.98W	Y	FB	TF	340.82	9.32	AT/BELOW 11000		
LOALA	425401.32N/0832208.62W	Y	FB	TF	342.25	18.92	AT/ABOVE 4000		
RW04L (AER)	421207.82N/0832302.40W	N	-	-	-	-			
1146 MSL	-	-	-	VA	028.68	-			CG 500 FT/NM TO 1146
MINDY	421559.47N/0832011.78W	Y	FB	DF	-	-			
KKELL	422730.48N/0831053.34W	Y	FB	TF	030.88	13.42	AT/BELOW 7000		
EERNY	423600.37N/0831417.98W	Y	FB	TF	343.49	8.86	AT/BELOW 11000		
LOALA	425401.32N/0832208.62W	Y	FB	TF	342.25	18.92	AT/ABOVE 4000		

QUALITY  
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**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
DEPARTURE (DATA RECORD)**

DP NAME		NUMBER		DP COMPUTER CODE		SUPERSEDED NUMBER		DATED		EFFECTIVE DATE	
TRMML		TWO		TRMML2.TRMML		ONE		07/19/2018			
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS		
RW04R (AER)*	421212.78N/0832213.32W*	N	-	-	-	-			*DISPL THLD (509 FT)		
1146 MSL	-	-	-	VA	028.70	-			CG 500 FT/NM TO 1146		
KKELL	422800.67N/0832028.12W	Y	FB	DF	-	-	AT/BELOW 7000				
EERNY	423600.37N/0831417.98W	Y	FB	TF	343.49	8.86	AT/BELOW 11000				
LOALA	425401.32N/0832208.62W	Y	FB	TF	342.25	26.03	AT/ABOVE 4000				
RW21L (AER)	421310.86N/0832002.65W	N	-	-	-	-					
-	421050.18N/0832146.27W	-	-	VI	208.72	2.67			CG 500 FT/NM TO 1146		
WINRS	420542.02N/0832002.39W	Y	FB	CF	165.93	5.29	AT/ABOVE 2500	AT/BELOW 230K	RECOMMENDED NAVAID: ECK TACAN		
USSIE	420556.34N/0831427.74W	Y	FB	TF	086.68	4.16	AT/ABOVE 4000				
SUURF	420657.51N/0830837.76W	Y	FB	TF	076.76	4.46	AT/BELOW 7000				
TUURF	421644.40N/0830113.28W	Y	FB	TF	029.34	11.22					
LOALA	425401.32N/0832208.62W	Y	FB	TF	337.60	40.35	AT/ABOVE 4000				
RW21R (AER)	421341.85N/0832010.12W	N	-	-	-	-					
-	421134.48N/0832143.96W	-	-	VI	208.72	2.42			CG 500 FT/NM TO 1146		
WINRS	420542.02N/0832002.39W	Y	FB	CF	167.91	6.01	AT/ABOVE 2500	AT/BELOW 230K	RECOMMENDED NAVAID: ECK TACAN		
USSIE	420556.34N/0831427.74W	Y	FB	TF	086.68	4.16	AT/ABOVE 4000				
SUURF	420657.51N/0830837.76W	Y	FB	TF	076.76	4.46	AT/BELOW 7000				
TUURF	421644.40N/0830113.28W	Y	FB	TF	029.34	11.22					
LOALA	425401.32N/0832208.62W	Y	FB	TF	337.60	40.35	AT/ABOVE 4000				
QUALITY											
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**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
DEPARTURE (DATA RECORD)**

<u>DP NAME</u>		<u>NUMBER</u>		<u>DP COMPUTER CODE</u>		<u>SUPERSEDED NUMBER</u>		<u>DATED</u>	<u>EFFECTIVE DATE</u>
TRMML		TWO		TRMML2.TRMML		ONE		07/19/2018	
<u>FIX/NAVAID</u>	<u>LAT/LONG</u>	<u>C</u>	<u>FO/FB</u>	<u>LEG TYPE</u>	<u>TC</u>	<u>DIST (NM)</u>	<u>ALTITUDE</u>	<u>SPEED</u>	<u>REMARKS</u>
RW22L (AER)	421352.37N/0832059.97W	N	-	-	-	-			
-	421114.77N/0832256.02W	-	-	VI	208.71	2.99			CG 500 FT/NM TO 1146
FORDZ	420747.33N/0833240.34W	Y	FB	CF	244.44	8.03	AT/ABOVE 4000		RECOMMENDED NAVAID: ECK TACAN
CORVE	421315.71N/0834224.97W	Y	FB	TF	307.11	9.08	AT/BELOW 7000		
LOALA	425401.32N/0832208.62W	Y	FB	TF	020.07	43.41	AT/ABOVE 4000		
RW22R (AER)	421334.48N/0832158.61W	N	-	-	-	-			
-	421115.08N/0832341.20W	-	-	VI	208.69	2.65			CG 500 FT/NM TO 1146
FORDZ	420747.33N/0833240.34W	Y	FB	CF	242.57	7.53	AT/ABOVE 4000		RECOMMENDED NAVAID: ECK TACAN
CORVE	421315.71N/0834224.97W	Y	FB	TF	307.11	9.08	AT/BELOW 7000		
LOALA	425401.32N/0832208.62W	Y	FB	TF	020.07	43.41	AT/ABOVE 4000		
RW27L (AER)	421158.34N/0831949.33W	N	-	-	-	-			
1146 MSL	-	-	-	VA	268.73	-			CG 500 FT/NM TO 1146
-	-	-	-	VM	268.71	-			
RW27R (AER)	421303.02N/0831951.72W	N	-	-	-	-			
1146 MSL	-	-	-	VA	268.72	-			CG 500 FT/NM TO 1146
-	-	-	-	VM	268.70	-			

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FLIGHT STANDARDS SERVICE  
DEPARTURE (DATA RECORD)**

DP NAME		NUMBER		DP COMPUTER CODE		SUPERSEDED NUMBER		DATED		EFFECTIVE DATE	
TRMML		TWO		TRMML2.TRMML		ONE		07/19/2018			
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS		
WILLOW RUN (KYIP)											
RW05L (AER)	421355.86N/0833230.06W	N	-	-	-	-					
1220 MSL	-	-	-	VA	046.71	-			CG 500 FT/NM TO 1220		
-	-	-	-	VM	293.00	-			LEFT TURN		
RW05R (AER)	421350.25N/0833223.46W	N	-	-	-	-					
1220 MSL	-	-	-	VA	046.70	-			CG 500 FT/NM TO 1220		
-	-	-	-	VM	293.00	-			LEFT TURN		
RW09 (AER)*	421438.37N/0833228.33W*	N	-	-	-	-			*DISPL THLD (576 FT)		
1220 MSL	-	-	-	VA	088.55	-			CG 500 FT/NM TO 1220		
-	-	-	-	VM	293.00	-			LEFT TURN		
RW23L (AER)	421441.34N/0833110.47W	N	-	-	-	-					
1220 MSL	-	-	-	VA	226.72	-			CG 500 FT/NM TO 1220		
-	-	-	-	VM	226.70	-					
RW23R (AER)	421436.47N/0833132.03W	N	-	-	-	-					
1220 MSL	-	-	-	VA	226.73	-			CG 500 FT/NM TO 1220		
-	-	-	-	VM	226.72	-					
RW27 (AER)	421440.03N/0833059.06W	N	-	-	-	-					
1220 MSL	-	-	-	VA	268.57	-			CG 500 FT/NM TO 1220		
QUALITY 3											

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FLIGHT STANDARDS SERVICE  
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<u>DP NAME</u>		<u>NUMBER</u>		<u>DP COMPUTER CODE</u>		<u>SUPERSEDED NUMBER</u>		<u>DATED</u>	<u>EFFECTIVE DATE</u>
TRMML		TWO		TRMML2.TRMML		ONE		07/19/2018	
<u>FIX/NAVAID</u>	<u>LAT/LONG</u>	<u>C</u>	<u>FO/FB</u>	<u>LEG TYPE</u>	<u>TC</u>	<u>DIST (NM)</u>	<u>ALTITUDE</u>	<u>SPEED</u>	<u>REMARKS</u>
-	-	-	-	VM	268.56	-			
LOALA	425401.32N/0832208.62W	Y	-	IF	-	-	AT/ABOVE 4000		
TRMML	431218.76N/0832851.90W	Y	FB	TF	344.96	18.94			
TRMML	431218.76N/0832851.90W	Y	-	IF	-	-			TRMML2.GNZOE
DDEEZ	433232.50N/0833609.08W	Y	FB	TF	345.32	20.91			
GNZOE	434300.00N/0834000.00W	Y	FB	TF	345.06	10.82			

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