

US DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		RNAV - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.33		Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.	
TERMINAL ROUTES				MISSED APPROACH	
FROM	TO	COURSE AND DISTANCE	ALTITUDE	LPV: DA LNAV/VNAV: DA LNAV: RW09 CLIMB TO 1900 THEN CLIMBING LEFT TURN TO 4000 DIRECT CIGAL AND HOLD. ADDITIONAL FLIGHT DATA: CHART FAS OBST: 903 TOWER 421432N/0833411W 1049 AAO 421328N/0834021W DISTANCE TO THLD FROM 250 HATH: 0.63 NM. WAAS CHANNEL # 73035 REFERENCE PATH ID: W09A CHART CIRCLING ICON. LTP HAE: 183.7 M	
CIGAL (IF/IAF)	ATOYE (FB)	094.39 / 5.47	2600		
ATOYE (FAF)	NOCIN/2.50 NM TO RW09 (FB)	094.47 / 3.26			
NOCIN/2.50 NM TO RW09	RW09 (MAP) (FO)	094.47 / 2.50			
RW09 (MAP)	1900 MSL	094.47	1900		
1900 MSL	CIGAL (FO)		4000		
1. PT <u> </u> SIDE OF COURSE <u> </u> OUTBOUND <u> </u> FT WITHIN <u> </u> MILES OF <u> </u> (IAF) 2. HOLD W CIGAL, RT, 094.39 INBOUND, 4000 FT. IN LIEU OF PT (IAF) 3. FAC: 094.47 FAF: ATOYE DIST FAF TO MAP: 5.76 THLD: 5.76 4. MIN. ALT: CIGAL 4000, ATOYE 2600, NOCIN/2.50 NM TO RW09 1560* 5. DIST TO THLD FROM OM: MM: IM: 150 HAT: 100 HAT: GS ANT: 6. MIN GS INCPT: 2600 GS ALT AT: ATOYE 2600 OM: MM: IM: 7. GS ANGLE: 3.00 TCH: 50.0 34:1 IS NOT CLEAR 8. MSA FROM:				MAG VAR: 6W EPOCH YEAR: 1995	
MINIMUMS					
TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT				ALTERNATE: N A	
CATEGORY =====>				STANDARD @	
	A		B		C
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS
LPV DA	965	1	250	965	1
LNAV/VNAV DA	1197	1 5/8	482	1197	1 5/8
LNAV MDA	1160	1	445	1160	1 3/8
CIRCLING	1220	1	504	1220	1
NOTES: CHART NOTE: DME/DME RNP-0.3 NA. *LNAV ONLY CHART NOTE: HELICOPTER VISIBILITY REDUCTION BELOW 1SM NOT AUTHORIZED. CHART NOTE: RWY 9 STRAIGHT-IN AND CIRCLING AND CIRCLING TO RWY 5R, 5L, 23L, 23R NA AT NIGHT. (SEE FORM 8260-10)					
CITY AND STATE DETROIT, MI		ELEVATION: 716 THRE: 715 AIRPORT NAME: WILLOW RUN		FACILITY IDENTIFIER: RNAV PROCEDURE NO./AMDT NO./EFFECTIVE DATE: RNAV (GPS) RWY 9, AMDT 2 8 JANUARY 2015	
				SUP: RNAV (GPS) RWY 9L AMDT: 1 DATED 09/25/2008	

QUALITY
 CHECKED

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
RNAV - STANDARD
INSTRUMENT APPROACH PROCEDURE - TITLE 14 CFR PART 97.33

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NOTES, (CONT.):

CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -19C (-2F) OR ABOVE 54C (130F).

TAA

	FROM	TO	ALT
1.	004/30 CW 184/30 (NOPT)	CIGAL (IF/IAF) (FB)	4000
2.	184/30 CW 004/30	CIGAL (IF/IAF) (FO)	4000

QUALITY
A
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CITY AND STATE
DETROIT, MI

ELEVATION: 716 THRE: 715
AIRPORT NAME:
WILLOW RUN

FACILITY
IDENTIFIER:
RNAV

PROCEDURE NO./AMDT NO./EFFECTIVE DATE:
RNAV (GPS) RWY 9, AMDT 2
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RNAV STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICE - FAR PART 97.33

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FAS DATA BLOCK INFORMATIONDATA FIELDDATA

OPERATION TYPE 0
SBAS SERVICE PROVIDER IDENTIFIER 0
AIRPORT IDENTIFIER KYIP
RUNWAY RW09
APPROACH PERFORMANCE DESIGNATOR 0
ROUTE INDICATOR
REFERENCE PATH DATA SELECTOR 0
REFERENCE PATH IDENTIFIER (APPROACH ID) W09A
LTP/FTP LATITUDE 421438.3680N
LTP/FTP LONGITUDE 0833228.3285W
LTP/FTP ELLIPSOIDAL HEIGHT +01837
FPAP LATITUDE 421440.5920N
FPAP LONGITUDE 0833028.4050W
THRESHOLD CROSSING HEIGHT (TCH) 00050.0
TCH UNITS SELECTOR (METERS OR FEET USED) F
GLIDEPATH ANGLE (GPA) 03.00
COURSE WIDTH AT THRESHOLD 106.75
LENGTH OFFSET 0704
HORIZONTAL ALERT LIMIT (HAL) 40.0
VERTICAL ALERT LIMIT (VAL) 50.0

CRC REMAINDER

D313B4E3

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE K5
LTP ORTHOMETRIC HEIGHT +02179
FPAP ORTHOMETRIC HEIGHT +02179

CITY AND STATE

DETROIT, MI

ELEVATION: 716

THRE: 715

AIRPORT NAME:

WILLOW RUN

FACILITY
IDENTIFIER:

RNAV

PROCEDURE NO./AMDT NO./EFFECTIVE DATE:

RNAV (GPS) RWY 9, AMDT 2

8 JANUARY 2015

SUP: RNAV (GPS) RWY
9L

AMDT: 1

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[illegible]

SEGMENT	1	2	3	4	5	6	7	8	9	0	1	2	3
SUSAP KYIPK5FR09	ACIGAL	010CIGALK5EA0EE	AR	HF		09440040		+ 04000	18000			A JS	
SUSAP KYIPK5FR09	R	010CIGALK5EA0E	I	IF				+ 04000	18000			A JS	
SUSAP KYIPK5FR09	R	020ATOYEK5EA1E	F	051TF		09440055		+ 02600				A JS	
SUSAP KYIPK5FR09	R	020ATOYEK5EA2WALPV			ALNAV/VNAV ALNAV							JS	
SUSAP KYIPK5FR09	R	021NOCINK5EA0E	S	031TF		09450033		V 0156001561		-300		A JS	
SUSAP KYIPK5FR09	R	030RW09 K5PG0GY	M	031TF		09450025		00765		-300		A JS	
SUSAP KYIPK5FR09	R	040	0	M	CA	0945		+ 01900				A JS	
SUSAP KYIPK5FR09	R	050CIGALK5EA0EY	L	DF				+ 04000				A JS	
SUSAP KYIPK5FR09	R	060CIGALK5EA0EE	R	HM		09440040		+ 04000				A JS	

[illegible]

CITY AND STATE DETROIT, MI	ELEVATION: 716	THRE: 715	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAV (GPS) 9L
	AIRPORT NAME:			RNAV (GPS) RWY 9, AMDT 2	AMDT: 1
	WILLOW RUN	RNAV	8 JANUARY 2015	DATED: 09/25/2008	

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICES - FAR PART 97.33

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ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG (TRUE)	DISTANCE	ALTITUDE	SPEED
	CIGAL	CIGAL	010	IAF	HF	R	FO		094.4 (088.4T)	004.0	AA 04000	
		CIGAL	010	FACF	IF		FB				AA 04000	
		ATOYE	020	FAF	TF		FB	0.5	094.4 (088.4T)	005.5	AA 02600	
		NOCIN	021	SDF	TF		FB	0.3	094.5 (088.5T)	003.3	AA 01560	GS 01561
		RW09	030	MAP	TF		FO	0.3	094.5 (088.5T)	002.5	AT 00765	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG (TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		094.5 (088.5T)		AA 01900	
	CIGAL	050		DF	L	FO				AA 04000	
	CIGAL	060		HM	R	FO		094.4 (088.4T)	004.0	AA 04000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	ATOYE	N421429.41	W0834013.69	N4214.490	W08340.228
	CIGAL	N421420.43	W0834735.53	N4214.341	W08347.592
	NOCIN	N421434.55	W0833550.22	N4214.576	W08335.837
	RW09	N421438.37	W0833228.33	N4214.640	W08332.472

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW09	00715	50

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	AIRPORT NAME:	WILLOW RUN	RNAV	RNAV (GPS) RWY 9, AMDT 2	AMDT: 1
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