

2012 - Mazda6 - Engine

NO.9 FAST IDLE/ RUNS ON [MZR 2.5]

9	FAST IDLE/RUNS ON
DESCRIPTION	• Engine speed continues at fast idle after warm-up. • Engine runs after ignition is off.
POSSIBLE CAUSE	• Cooling fan system malfunction • ECT sensor malfunction • Improper load signal input ▪ Refrigerant pressure sensor malfunction ▪ Evaporator temperature sensor malfunction ▪ Climate control unit malfunction ▪ Communication error between climate control unit and instrument cluster ▪ Communication error between instrument cluster and PCM ▪ Erratic signal from PSP switch ▪ CPP switch malfunction (MTX) ▪ Neutral switch malfunction (MTX) ▪ TR switch malfunction (ATX) ▪ Communication error between TCM and PCM (ATX) • Air leakage from intake air system • Improper operation of drive-by-wire control system • APP sensor malfunction

Diagnostic procedure

STEP	INSPECTION	RESULTS	ACTION
	INSPECT COOLING SYSTEM FOR		

1	MALFUNCTION - Access the PCM PID ECT using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Start and warm up the engine to normal operating temperature. - Is the ECT PID between 82—112 °C { 180—233 °F } ?	Yes	Go to the next step.
		No	ECT PID is higher than 112 °C { 233 °F } : - Go to the symptom troubleshooting "NO.17 COOLING SYSTEM CONCERNS-OVERHEATING". (See NO.17 COOLING SYSTEM CONCERNS-OVERHEATING [MZR 2.5].) ECT PID is less than 82 °C { 180 °F } : - Go to the symptom troubleshooting "NO.18 COOLING SYSTEM CONCERNS-RUNS COLD". (See NO.18 COOLING SYSTEM CONCERNS-RUNS COLD [MZR 2.5].)
2	VERIFY PCM DTC - Retrieve any DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Are there any DTCs displayed?	Yes	Go to the appropriate DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	Go to the next step.
3	VERIFY CURRENT INPUT SIGNAL STATUS - Access and monitor the following PCM PIDs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - AC_REQ - COLP - CPP (MTX) - CPP/PNP (MTX) - PSP - TR (ATX)	Yes	Go to the next step.
		No	AC_REQ PID is not specified: - Inspect the following: - A/C switch, evaporator temperature sensor and fan switch (See EVAPORATOR TEMPERATURE SENSOR INSPECTION [FULL-AUTO AIR CONDITIONER].) (See EVAPORATOR

- Are all PID values normal?

(See **PCM INSPECTION [MZR 2.5]**.)

TEMPERATURE SENSOR INSPECTION [MANUAL AIR CONDITIONER] .)

- Communication between climate control unit and instrument cluster (Full-auto air conditioner)
- Communication between instrument cluster and PCM
- Short to ground in wiring harness between instrument cluster terminal 1A and climate control unit terminal 1L (Manual air conditioner)

COLP PID is not specified:

- Inspect the refrigerant pressure sensor.

(See **REFRIGERANT PRESSURE SENSOR INSPECTION [FULL-AUTO AIR CONDITIONER]**.)

(See **REFRIGERANT PRESSURE SENSOR INSPECTION [MANUAL AIR CONDITIONER]**.)

CPP PID is not specified:

- Inspect the CPP switch (MTX).

(See **CLUTCH PEDAL POSITION (CPP) SWITCH INSPECTION [MZR 2.5]**.)

CPP/ PNP PID:

- Inspect the neutral switch (MTX).

(See **NEUTRAL SWITCH INSPECTION [MZR 2.5]**.)

PSP PID:

			- Inspect PSP switch (See POWER STEERING PRESSURE (PSP) SWITCH INSPECTION [MZR 2.5].) TR PID: - Inspect the TR switch (ATX). (See TRANSAXLE RANGE (TR) SWITCH INSPECTION [FS5A-EL].) Repair or replace the malfunctioning part according to the inspection results.
4	INSPECT INTAKE AIR SYSTEM FOR AIR LEAKAGE Is there air leakage felt or heard at the intake air system components while racing the engine to higher speed?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Inspect the following: - Drive-by-wire control system operation (See ENGINE CONTROL SYSTEM OPERATION INSPECTION [MZR 2.5].) - APP sensor (See ACCELERATOR PEDAL POSITION (APP) SENSOR INSPECTION [MZR 2.5].) Repair or replace the malfunctioning part according to the inspection results.
5	- Verify test results. - If normal, return to diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [MZR 2.5].) - If malfunction remains, inspect related Service Bulletins and/or On-line Repair Information and perform repair or diagnosis. - If vehicle is repaired, troubleshooting completed. - If vehicle is not repaired or additional diagnostic information is not available, reprogram the PCM if a later calibration is available. Retest.		

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