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Model Year: 2007	Model: Camry	Doc ID: RM000000T9P00YX
Title: 2GR-FE ENGINE CONTROL SYSTEM: SFI SYSTEM: P0125: Insufficient Coolant Temperature for Closed Loop Fuel Control (2007 Camry)		

DTC	P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control
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DESCRIPTION

A thermistor is built into the Engine Coolant Temperature (ECT) sensor, and its resistance value varies according to the ECT.

The structure of the sensor and its connection to the ECM are the same as those of the Intake Air Temperature (IAT) sensor.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
P0125	Engine coolant temperature (ECT) does not reach closed-loop enabling temperature for 20 minutes (this period varies with ECT when engine start)	<ul style="list-style-type: none"> • Engine coolant temperature sensor • Cooling system • Thermostat

MONITOR DESCRIPTION

The resistance of the ECT varies in proportion to the actual ECT. The ECM supplies a constant voltage to the sensor and monitors the signal output voltage of the sensor. The signal voltage output varies according to the changing resistance of the sensor. After the engine is started, the ECT is monitored through this signal. If the ECT sensor indicates that the engine is not yet warm enough for closed-loop fuel control, despite a specified period of time having elapsed since the engine was started, the ECM interprets this as a malfunction in the sensor or cooling system and sets the DTC.

Example:

The ECT is 0°C (32°F) at engine start. After 5 minutes running time, the ECT sensor still indicates that the engine is not warm enough to begin closed-loop fuel (air-fuel ratio feedback) control. The ECM interprets this as a malfunction in the sensor or cooling system and sets the DTC.

MONITOR STRATEGY

Related DTCs	P0125: Insufficient engine coolant temperature for closed-loop
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	fuel control
Required Sensors/Components (Main)	Thermostat, cooling system
Required Sensors/Components (Related)	Engine coolant temperature sensor and mass air flow meter
Frequency of Operation	Once per driving cycle
Duration	64 seconds: Closed-loop enabling temperature - 8.34°C (15°F) or more 111.2 seconds: Closed-loop enabling temperature - 19.45 to 8.34°C (35 to 15°F) 1,200 seconds: Less than closed-loop enabling temperature - 19.45°C (35°F)
MIL Operation	2 driving cycles
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever following DTCs are not present	P0100 - P0103 (MAF sensor) P0110 - P0113 (IAT sensor) P0115 - P0118 (ECT sensor)
MAF sensor circuit fail	Not detected
IAT sensor circuit fail	Not detected
ECT sensor circuit fail	Not detected
Thermostat fail	Not detected

TYPICAL MALFUNCTION THRESHOLDS


Time until actual engine coolant temperature reaches closed-loop fuel control enabling temperature	64 seconds or more: Engine coolant temperature at engine start is - 8.34°C (15°F) or more 111.2 seconds or more: Engine coolant temperature at engine start is - 19.45 to 8.35°C (15 to 35°F) 1,200 seconds or more: Engine coolant temperature at engine start is less than - 19.4°C (35°F)
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WIRING DIAGRAM

Refer to DTC P0115  .

INSPECTION PROCEDURE

HINT:

- If any of DTCs P0115, P0116, P0117 or P0118 are set simultaneously with DTC P0125, the Engine Coolant Temperature (ECT) sensor may have an open or a short circuit. Troubleshoot those DTCs first.
- Read freeze frame data using the intelligent tester. The ECM records vehicle and driving condition information as freeze frame data the moment a DTC is stored. When troubleshooting, freeze frame data can be helpful in determining whether the vehicle was running or stopped, whether the engine was warmed up or not, whether the air-fuel ratio was lean or rich, as well as other data recorded at the time of a malfunction  .

PROCEDURE

1.	CHECK ANY OTHER DTCs OUTPUT (IN ADDITION TO DTC P0125)
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- (a) Connect an intelligent tester to the DLC3.
- (b) Turn the ignition switch on (IG).
- (c) Turn the tester on.
- (d) Enter the following menus: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.
- (e) Read the DTCs.

Result:

DISPLAY (DTC OUTPUT)	PROCEED TO
P0125	A
P0125 and other DTCs	B


If any DTCs other than P0125 are output, troubleshoot those DTCs first.

B  **GO TO DTC CHART**

A



2.	INSPECT THERMOSTAT
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(a) Remove the thermostat  .

(b) Check the valve opening temperature of the thermostat.

Standard:

80 to 84°C (176 to 183°F)

In addition to the above check, confirm that the valve is completely closed when the temperature is below the standard.

(c) Reinstall the thermostat  .

NG  **REPLACE THERMOSTAT**

OK



3.	CHECK COOLING SYSTEM
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(a) Check for defects in the cooling system that might cause the system to be too cold, such as abnormal radiator fan operation or any modifications.

NG  **REPAIR OR REPLACE COOLING SYSTEM**

OK  **REPLACE ENGINE COOLANT TEMPERATURE SENSOR**

