

DTC	P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control
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DESCRIPTION

Refer to DTC P0115 (See page [ES-102](#)).

DTC No.	DTC Detection Condition	Trouble Area
P0125	Engine coolant temperature hardly changes for 70 seconds after engine start (2 trip detection logic)	<ul style="list-style-type: none"> • Engine Coolant Temperature (ECT) sensor • Cooling system • Thermostat
P0125	Engine coolant temperature hardly changes for 114 seconds after engine start (2 trip detection logic)	
P0125	Engine coolant temperature hardly changes for 1,200 seconds after engine start (2 trip detection logic)	

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MONITOR DESCRIPTION

The resistance of the ECT sensor 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 70 seconds 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 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	Continuous
Duration	70 seconds: -0.34°C (31.38°F) or more 114 seconds: -11.45 to -0.34°C (11.39 to 31.38°F) 1200 seconds: Less than -11.45°C (11.39°F)
MIL Operation	2 driving cycles
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

All

Monitor will run whenever these DTCs are not present	P0100 - P0103 (MAF meter) P0110 - P0113 (IAT sensor) P0115 - P0118 (ECT sensor)
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Case 1

Engine coolant or intake air temperature at engine start	-0.34°C (31.38°F) or more
Engine	Running
Fuel cut	OFF

Case 2

Engine coolant or intake air temperature at engine start	Between -11.45°C (11.39°F) and -0.34°C (31.38°F)
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Engine	Running
Fuel cut	OFF

Case 3

Engine coolant or intake air temperature at engine start	Lower than -11.45°C (11.39°F)
Engine	Running
Fuel cut	OFF
Idle	OFF

TYPICAL MALFUNCTION THRESHOLDS

Engine coolant temperature sensor output	Less than 8°C (46°F)
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WIRING DIAGRAM

Refer to DTC P0115 (See page [ES-103](#)).

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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. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, if the engine was warmed up or not, if the air-fuel ratio was LEAN or RICH, and other data from the time the malfunction occurred.

1 CHECK ANY OTHER DTCS OUTPUT (IN ADDITION TO DTC P0125)

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch to ON and turn the intelligent tester ON.
- (c) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.
- (d) Read DTCs.

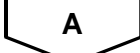
Result

Display (DTC output)	Proceed to
P0125	A
P0125 and other DTCs	B

HINT:

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

B  **GO TO DTC CHART**

A 

2 INSPECT THERMOSTAT

- (a) Remove the thermostat (See page [CO-7](#)).
 - (b) Check the valve opening temperature of the thermostat.
- Standard:**
80 to 84°C (176 to 183°F)

HINT:

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

- (c) Reinstall the thermostat (See page [CO-8](#)).

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REPLACE THERMOSTAT

OK

3

CHECK COOLING SYSTEM

- (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