

DTC	P0125	INSUFFICIENT COOLANT TEMPERATURE FOR CLOSED LOOP FUEL CONTROL
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CIRCUIT DESCRIPTION

Refer to DTC P0115 on page [05-80](#).

DTC No.	DTC Detection Condition	Trouble Area
P0125	If the engine coolant temperature (ECT) was less than -6.6°C (20°F) when starting the engine, and 20 minutes after the engine start, the ECT sensor still indicates below 20°C (68°F)	<ul style="list-style-type: none"> • Cooling system • Engine coolant temperature sensor • Thermostat
	If the ECT was between -6.6°C (20°F) and 10°C (50°F) when start, 5 minutes after the start, the ECT sensor still indicates below 20°C (68°F)	
	If the ECT was greater than 10°C (50°F) when starting the engine, and 2 minutes after the engine start, ECT sensor still indicates below 20°C (68°F)	

MONITOR DESCRIPTION

The engine coolant temperature (ECT) sensor is used to monitor the temperature of the engine coolant. The resistance of the sensor varies with the actual coolant temperature. The ECM applies a voltage to the sensor and the varying resistance of the sensor causes the signal voltage to vary. The ECM monitors the ECT signal voltage after engine start-up. If, after sufficient time has passed, the sensor still reports that the engine is not warm enough for closed-loop fuel control, the ECM interprets this as a fault in the sensor or cooling system.

Example:

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

MONITOR STRATEGY

Related DTCs	P0125	Insufficient coolant temperature for closed loop fuel control
Required sensors/components	Main sensors	Engine coolant temperature sensor, cooling system, thermostat
	Related sensors	Mass air flow sensor
Frequency of operation	Continuous	
Duration	<ul style="list-style-type: none"> • 20 minutes • 5 minutes • 2 minutes (Depending on ECT at engine start)	
MIL operation	2 driving cycles	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

Item	Specification	
	Minimum	Maximum
The monitor will run whenever the following DTCs are not present	See "List of Disable a Monitor" table (On page 05-25)	
Intake air amount per second	0.1 g/sec	–
Fuel cut	OFF	

TYPICAL MALFUNCTION THRESHOLDS

Detection Criteria	Threshold
Time until detected engine coolant temperature (ECT) reaches the closed-loop enabling temperature	(a), (b) or (c)
(a) ECT at engine start is 10°C (50°F) or more	2 minutes or more
(b) ECT at engine start is between -6.7°C (20°F) and 10°C (50°F)	5 minutes or more
(c) ETC at engine start is -6.7°C (20°F) or less	20 minutes or more

WIRING DIAGRAM

Refer to DTC P0115 on page [05-80](#).

INSPECTION PROCEDURE

HINT:

- If DTCs P0115, P0116, P0117, P0118 and P0125 are output simultaneously, the engine coolant temperature sensor circuit may be open or short. Perform the troubleshooting of DTC P0115, P0117 or P0118 first.
- Read freeze frame data using the hand-held tester or the OBD II scan tool. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air-fuel ratio was lean or rich, etc. at the time of the malfunction.

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

- Connect the hand-held tester or the OBD II scan tool to the DLC3.
- Turn the ignition switch ON and push the hand-held tester or the OBD II scan tool main switch ON.
- Select the item "DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES".
- Read the DTCs.

Result:

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

HINT:

If any other codes besides P0125 are output, perform the troubleshooting for those DTCs first.

B

GO TO RELEVANT DTC CHART
(See page [05-35](#))

A

2 INSPECT THERMOSTAT (See page [16-3](#))

NG

REPLACE THERMOSTAT
(See page [16-11](#))

OK

REPLACE ENGINE COOLANT TEMPERATURE SENSOR