

DTC	P0116	ENGINE COOLANT TEMP. CIRCUIT RANGE/PERFORMANCE PROBLEM
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DTC	P0125	INSUFFICIENT COOLANT TEMPERATURE FOR CLOSED LOOP FUEL CONTROL
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CIRCUIT DESCRIPTION

Refer to DTC P0115 on page [05-58](#) .

DTC No.	DTC Detection Condition	Trouble Area
P0116	When THW $\geq 35^{\circ}\text{C}$ (95°F) and $< 60^{\circ}\text{C}$ (140°F), and THA $\geq -6.7^{\circ}\text{C}$ (20°F), and when starting engine, conditions (a) and (b) continue: (2 trip detection logic) (a) Vehicle speed is changing (Not stable) (b) THW change is lower than 3°C (37.4°F) from THW since when starting engine	<ul style="list-style-type: none"> • Cooling system • Engine coolant temperature sensor • Thermostat (water inlet)
	In case that reading value of engine coolant temp. sensor will not change more than 1°C (33.8°F) even after repeating 6 trips (detection logic) of adjusting speed pattern with THW more than 60°C (140°F) when engine starts.	
P0125	If THW or THA $< -6.7^{\circ}\text{C}$ (20°F) at engine start, 20 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	
	If THW and THA $\geq -6.7^{\circ}\text{C}$ (20°F) and $< 10^{\circ}\text{C}$ (50°F) at engine start, 5 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	
	If THW and THA $\geq 10^{\circ}\text{C}$ (50°F) at engine start, 2 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	

INSPECTION PROCEDURE

HINT:

- If DTCs "P0115, P0116, P0117, P0118 and P0125" are output simultaneously, 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, as 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(BESIDES DTC P0116 AND/OR P0125)
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(a) Read the DTC using the hand-held tester or the OBD II scan tool.

Result:

Display (DTC output)	Proceed to
Only "P0116 and/or P0125" are output	A
"P0116 or P0125" and other DTCs are output	B

HINT:

If any other codes besides "P0116 and/or P0125" are output, perform the troubleshooting for those DTCs first.

B → **GO TO RELEVANT DTC CHART**
(See page [05-17](#))

A

2 | **INSPECT WATER INLET(THERMOSTAT)** (See page [16-3](#))

NG → **REPLACE WATER INLET (THERMOSTAT)**
(See page [16-10](#))

OK

REPLACE ENGINE COOLANT TEMPERATURE SENSOR