

DTC	P0116	Engine Coolant Temperature 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, P0117 and P0118 on page [DI-51](#).

DTC No.	DTC Detection Condition	Trouble Area
P0116	When THW $\geq 35^{\circ}\text{C}$ (95°F) and 60°C (140°F), THA $\geq -6.7^{\circ}\text{C}$ (19.9°F) when starting engine, conditions (a) and (b) continue: (2 trip detection logic) (a) Vehicle speed is changing (Not stable) (b) Water temp. change is lower than 3°C (37.4°F) from water temp. since when starting engine	- Cooling system - Engine coolant temp. sensor
	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 starting engine	
P0125	If THW $< -6.7^{\circ}\text{C}$ (19.9°F) or THA $< -6.7^{\circ}\text{C}$ (19.9°F) 20 minutes or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	
	If THW $\geq -6.7^{\circ}\text{C}$ (19.9°F) and THA $\geq -6.7^{\circ}\text{C}$ (19.9°F) and 10°C (50°F) at engine start, 5 minutes or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	
	If THW $\geq 10^{\circ}\text{C}$ (50°F) and THA $\geq 10^{\circ}\text{C}$ (50°F) at engine start, 2 minutes 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 and P0116 are output simultaneously, engine coolant temp. sensor circuit may be open. Perform troubleshooting of DTC P0115 first.
- Read freeze frame data using hand-held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, this 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.

