

DTC	P0116	Engine Coolant Temp. Circuit Range/Performance Problem
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CIRCUIT DESCRIPTION

Refer to Engine Coolant Temp. Circuit Malfunction on page [DI-33](#).

DTC No.	DTC Detecting Condition	Trouble Area
P0116	When the engine starts, the engine coolant temp. is -7°C (20°F) or less. And, 20 min. or more after the engine starts, the engine coolant temp. sensor value is less than 22.4°C (72.3°F) (2 trip detection logic)	<ul style="list-style-type: none"> • Engine coolant temp. sensor • Cooling system
	When the engine starts, the engine coolant temp. is between -7°C (20°F) and 10°C (50°F). And, 5 min. or more after the engine starts, the engine coolant temp. sensor value is less than 22.4°C (72.3°F) (2 trip detection logic)	
	When the engine starts, the engine coolant temp. is between 10°C (50°F) and 20°C (68°F). And, 2 min. or more after the engine starts, the engine coolant temp. sensor value is less than 22.4°C (72.3°F) (2 trip detection logic)	
	When the engine starts, the engine coolant temp. is 20°C (68°F) or more. And, 2 min. or more after the engine starts, the engine coolant temp. sensor value is less than 42°C (107.6°F) (2 trip detection logic)	

INSPECTION PROCEDURE

HINT:

If DTC "P0115" (Engine Coolant Temp. Circuit Malfunction) and "P0116" (Engine Coolant Temp. Circuit Range/Performance) are output simultaneously, engine coolant temp. sensor circuit may be open. Perform troubleshooting of DTC P0115 first.

1	Are there any other codes (besides DTC P0116) being output?
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YES

Go to relevant DTC chart.

NO

2	Check thermostat (See page CO-10).
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NG**Replace thermostat.****OK****Replace engine coolant temp. sensor.**