

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

Refer to DTC P0115 (Engine Coolant Temp. Circuit Malfunction) on page [DI-32](#).

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

INSPECTION PROCEDURE

HINT:

- If DTC P0115 (Engine Coolant Temp. Circuit Malfunction) and P0116 (Engine Coolant Temp. Circuit Range/Performance Problem) are output simultaneously, engine coolant temp. sensor circuit may be open. Perform troubleshooting of DTC P0115 first.
- Read freeze frame data using TOYOTA hand-held tester or OBD II scan tool. Because freeze frame records the engine conditions when the malfunction is detected, when troubleshooting it is useful for determining whether the vehicle was running or stopped, the engine warmed up or not, the air-fuel ratio lean or rich, etc. at the time of the malfunction.

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-7).
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Replace thermostat.

OK

Replace engine coolant temp. sensor.