DTC	P0116/22	Engine Coolant Temp. Circuit Range/ Performance Problem

CIRCUIT DESCRIPTION

Refer to DTC P0115/22 (Engine Coolant Temp. Circuit Malfunction) on page DI–39.

DTC No.	DTC Detecting Condition	Trouble Area
P0116/22	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)	• 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 "P0115/22" (Engine Coolant Temp. Circuit Malfunction) and "P0116/22" (Engine Coolant Temp. Circuit Range/Performance Problem) are output simultaneously, engine coolant temp. sensor circuit may be open. Perform troubleshooting of DTC P0115/22 first.
- Read freeze frame data using hand–held tester. 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 P0116/22) being output?**

YES → **Go to relevant DTC chart.**

NO

2	**Check thermostat (See page CO–10).**

NG → **Replace thermostat.**

OK

Replace engine coolant temp. sensor.