DTC	P0116/22	ENGINE COOLANT TEMP. CIRCUIT RANGE/PERFORMANCE PROBLEM

CIRCUIT DESCRIPTION

Refer to DTC P0115/22 on page 05–34.

DTC No.	DTC Detecting Condition	Trouble Area
P0116/22	When engine starts, water temp. is –7°C(20°F) or less. And, 20 min. or more after engine starts, engine coolant temp. sensor value is 20°C(68°F) or less (2 trip detection logic)	• Cooling system • E.F.I. engine coolant temp. sensor • Thermostat
	When engine starts, water temp. is between –7°C(20°F) and 10°C(50°F) And, 5 min. or more after engine starts, engine coolant temp. sensor value is 20°C(68°F) or less (2 trip detection logic)	

INSPECTION PROCEDURE

HINT:

- If DTCs P0110/24, P0115/22, P0116/22, P0120/41 and P0121/41 are output simultaneously, engine coolant temperature sensor circuit may be open. Perform the troubleshooting of DTC P0115/22 first.
- Read freeze frame data using the hand–held tester, as freeze frame data 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 was warmed up or not, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.

1	READ OUTPUT DTC(BESIDES P0116/22)

Result:

	A	B
RESULT	Only P0116/22 is output.	P0116/22 and other codes are output.

HINT:

If any other codes besides P0116/22 are output, perform the troubleshoot on that DTC before.

B → GO TO RELEVANT DTC CHART

A

2	INSPECT THERMOSTAT (See page 16–10)

NG → REPLACE THERMOSTAT

OK

REPLACE E.F.I. ENGINE COOLANT TEMPERATURE SENSOR