DTC	P0116	ENGINE COOLANT TEMP. CIRCUIT RANGE/PERFORMANCE PROBLEM

CIRCUIT DESCRIPTION

Refer to DTC P0115 on page 05–259.

DTC No.	DTC Detection Condition	Trouble Area
P0116	With the engine coolant temperature was 35°C (95°F) or more but less than 60°C (140°F) when the engine was started, and if conditions (a) and (b) are met (2 trip detection logic): (a) Vehicle runs under the engine speed fluctuation (acceleration and deceleration) (b) Engine coolant temperature remains within 3°C (37.4°F) of the initial engine coolant temperature.	• Cooling system • Engine coolant temperature sensor • Thermostat (water inlet)
	With the engine coolant temperature was more than 60°C (140°F) when the engine was started and the vehicle has accelerated and decelerated, and if a 1–trip detection which informs the engine coolant temperature sensor indicating below 1°C (33.8°F) temperature variation is successively recorded 6 times.	

INSPECTION PROCEDURE

HINT:

- If DTCs ”P0115, P0116, P0117 and P0118” are output simultaneously, engine coolant temperature sensor circuit may be open or short. Perform the troubleshooting of DTC ”P0115, P0117 or P0118” first.
- Read freeze frame data using the hand–held tester, as freeze frame data records the engine conditions when a 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	CHECK OTHER DTC OUTPUT(BESIDES DTC P0116)

(a) Connect a Intelligent Tester II to the DLC3.
(b) Turn the ignition switch to ON and turn the tester ON.
(c) Select the following menu items: Powertrain / Engine and ECT / DTC.
(d) Read DTCs.

Result:

Display (DTC output)	Proceed to
Only ”P0116 is output	A
”P0116” and other DTCs are output	B

HINT:

If any other codes besides ”P0116” are output, perform the troubleshooting for those DTCs first.

B → GO TO RELEVANT DTC CHART (See page 05–199)

A

2	**INSPECT WATER W/THERMOSTAT INLET SUB–ASSY(THERMOSTAT) (See Pub. No. RM1017E, page 16–3)**

NG → **REPLACE WATER W/THERMOSTAT INLET SUB–ASSY (See Pub. No. RM1017E, page 16–10)**

OK

REPLACE ENGINE COOLANT TEMPERATURE SENSOR