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

CIRCUIT DESCRIPTION

Refer to DTC P0115 on page 05–322.

DTC No.	DTC Detecting Condition	Trouble Area
P0116/22	If THW < –7°C (19.4°F), 20 min. or more after starting engine, E.F.I. engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	• Cooling system • E.F.I. engine coolant temperature sensor
	If THW ≧ –7°C (19.4°F), and < 10°C (50°F), 5 min. or more after starting engine, E.F.I. engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	
	If THW ≧ 10°C (50°F), 2 min. or more after starting engine, E.F.I. engine coolant temp. sensor value is 30°C (86°F) or less (2 trip detection logic)	
	When THW ≧ 35°C (95°F) or more and less than 60°C (140°F), and THA ≧ –6.7°C (19.9°F) or more, when starting engine, conditions (a) and (b) continue: (2 trip detection logic) (a) Vehicle speed is changing (Not stable) (b) THW change is lower than 3°C (37.4°F) from THW since when starting engine	
	In case that reading value of water temp. sensor will not change more than 1°C (33.8°F) even after repeating 6 trips (detection logic) of adjusting speed pattern with THW more than 60°C (140°F) when engine starts.	

INSPECTION PROCEDURE

HINT:

- If DTCs P0115 and P0116 are output simultaneously, E.F.I.engine coolant temperature sensor circuit may be open. Perform troubleshooting of DTC P0115 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 was warmed up or not, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.

When using Hand–held Tester:

1 CHECK OTHER DTC OUTPUT(BESIDES DTC P0116)

(a) Read the DTC using the hand–held tester.

YES → **GO TO RELEVANT DTC CHART**

NO

2 INSPECT THERMOSTAT (See page 16–26)

NG → **REPLACE THERMOSTAT**

OK

REPLACE E.F.I. ENGINE COOLANT TEMPERATURE SENSOR

When not using Hand–held Tester:

1	INSPECT THERMOSTAT(See Page 16–26)

NG → REPLACE THERMOSTAT

OK

REPLACE E.F.I. ENGINE COOLANT TEMPERATURE SENSOR