

DTC	P0115	Engine Coolant Temperature Circuit
-----	-------	------------------------------------

DTC	P0117	Engine Coolant Temperature Circuit Low Input
-----	-------	--

DTC	P0118	Engine Coolant Temperature Circuit High Input
-----	-------	---

CIRCUIT DESCRIPTION

A thermistor built into the engine coolant temp. sensor changes the resistance value according to the engine coolant temperature. The structure of the sensor and connection to the ECM is the same as in the DTC P0110, P0112 and P0113 shown on page [DI-44](#).

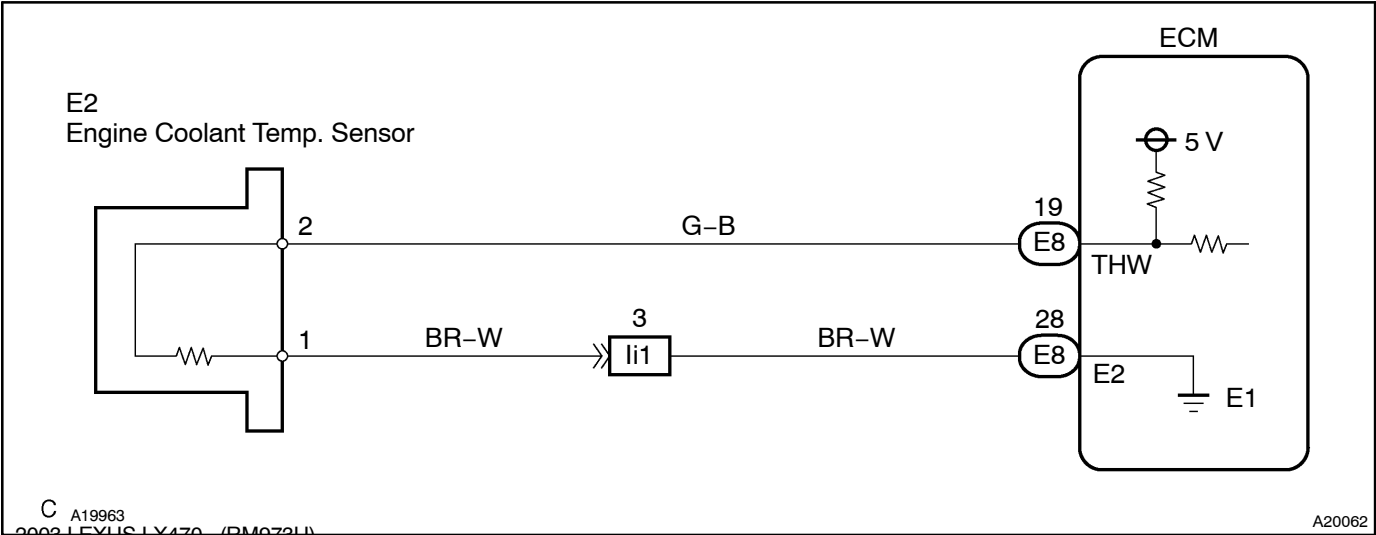
DTC No.	Proceed to	DTC Detection Condition	Trouble Area
P0115	Step 1	Open or short in engine coolant temp. sensor circuit for 0.5 seconds	• Engine coolant temp. sensor circuit • Engine coolant temp. sensor • ECM
P0117	Step 4	Short in engine coolant temp. sensor circuit for 0.5 seconds	
P0118	Step 2	Open in engine coolant temp. sensor circuit for 0.5 seconds	

HINT:

After confirming DTC P0115, use the OBD II scan tool or hand-held tester to confirm the engine coolant temperature from the CURRENT DATA.

Temperature Displayed	Malfunction
-40°C (-40°F)	Open circuit
140C° (284°F) or more	Short circuit

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

- If DTCs P0110, P0115, P0120, P0450 and P1120 are output simultaneously, E2 (sensor ground) may be open.
- Read freeze frame data using hand-held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, this 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	Connect OBD II scan tool or hand-held tester, and read value of engine coolant temperature.
---	--

PREPARATION:

- (a) Connect the OBD II scan tool or hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the OBD II scan tool or hand-held tester main switch ON.

CHECK:

Read the temperature value on the OBD II scan tool or hand-held tester.

OK:

Same as actual engine coolant temperature.

HINT:

- If there is open circuit, OBD II scan tool or hand-held tester indicates -40°C (-40°F).
- If there is short circuit, OBD II scan tool or hand-held tester indicates 140°C (284°F) or more.

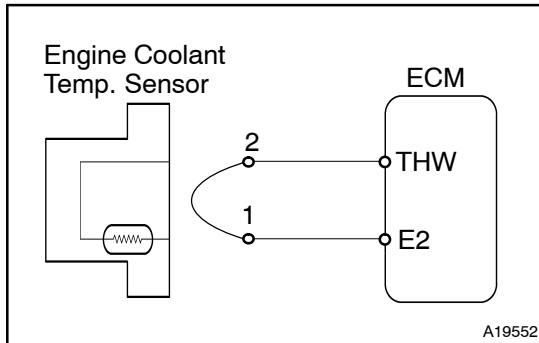
NG

-40°C (-40°F) ... Go to step 2.
 140°C (284°F) or more ... Go to step 4.

OK

Check for intermittent problems
(See page [DI-3](#)).

2 Check for open in harness or ECM.



PREPARATION:

- Disconnect the engine coolant temp. sensor connector.
- Connect the sensor wire harness terminals together.
- Turn the ignition switch ON.

CHECK:

Read the temperature value on the OBD II scan tool or hand-held tester.

OK:

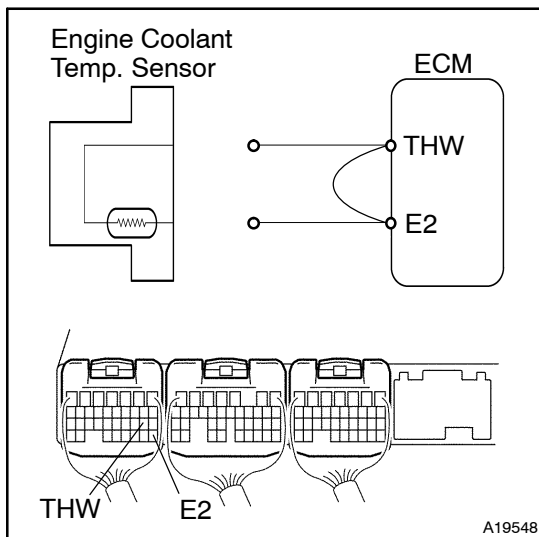
Temperature value: 140°C (284°F) or more

OK

Confirm good connection at sensor. If OK, replace engine coolant temp. sensor.

NG

3 Check for open in harness or ECM.



PREPARATION:

- Remove the glove compartment door (See page [SF-60](#)).
- Connect between terminals THW and E2 of the ECM connector.
- Turn the ignition switch ON.

HINT:

The engine coolant temp. sensor connector is disconnected. Before checking, do a visual and contact pressure check for the ECM connector (See page [IN-36](#)).

- Turn the ignition switch ON.

CHECK:

Read the temperature value on the OBD II scan tool or hand-held tester.

OK:

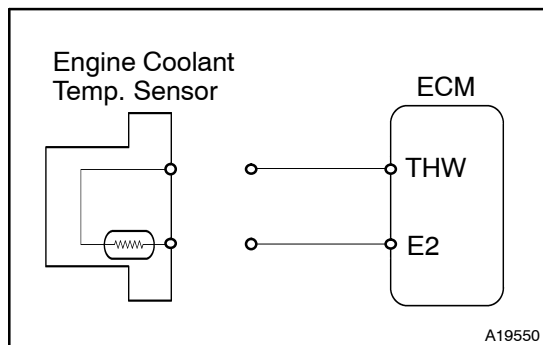
Temperature value: 140°C (284°F) or more

OK

Open in harness between terminals E2 and THW, repair or replace harness.

NG

Confirm good connection at ECM. If OK, check and replace ECM (See page [IN-36](#)).

4 Check for short in harness and ECM.**PREPARATION:**

- (a) Disconnect the engine coolant temp. sensor connector.
- (b) Turn the ignition switch ON.

CHECK:

Read the temperature value on the OBD II scan tool or hand-held tester.

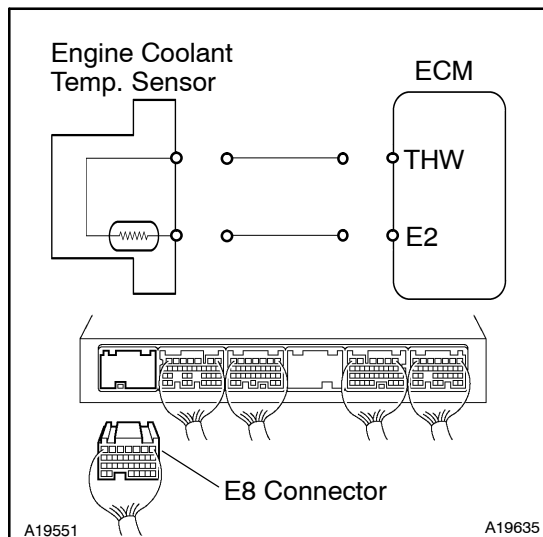
OK:

Temperature value: -40°C (-40°F)

OK

Replace engine coolant temp. sensor.

NG

5 Check for short in harness or ECM.**PREPARATION:**

- (a) Remove the glove compartment door (See page [SF-60](#)).
- (b) Disconnect the E8 connector from the ECM.

HINT:

The engine coolant temp. sensor connector is disconnected.

- (c) Turn the ignition switch ON.

CHECK:

Read the temperature value on the OBD II scan tool or hand-held tester.

OK:

Temperature value: -40°C (-40°F)

OK

Repair or replace harness or connector.

NG

Check and replace ECM (See page [IN-36](#)).