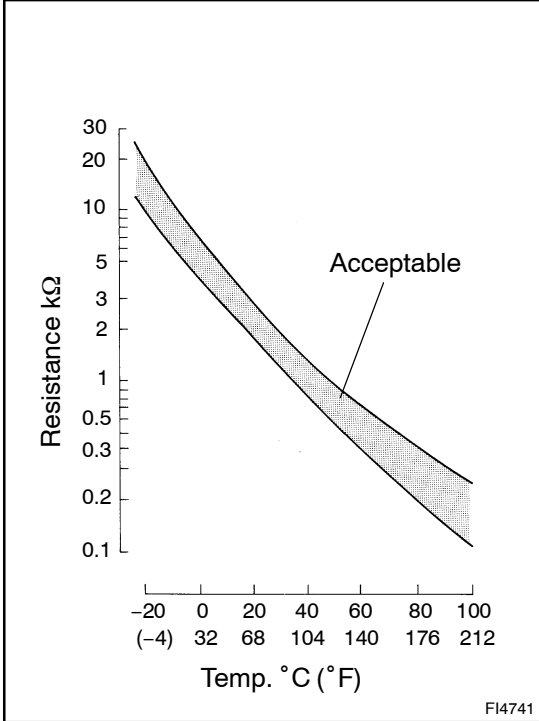


DTC	24	Intake Air Temp. Sensor Circuit Malfunction
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CIRCUIT DESCRIPTION



The intake air temperature sensor senses the intake air temperature. A thermistor built in this sensor changes the resistance value according to the intake air temperature as shown in the illustration. This resistance value of air intake temperature sensor is one of the factors to decide the fuel injection volume.

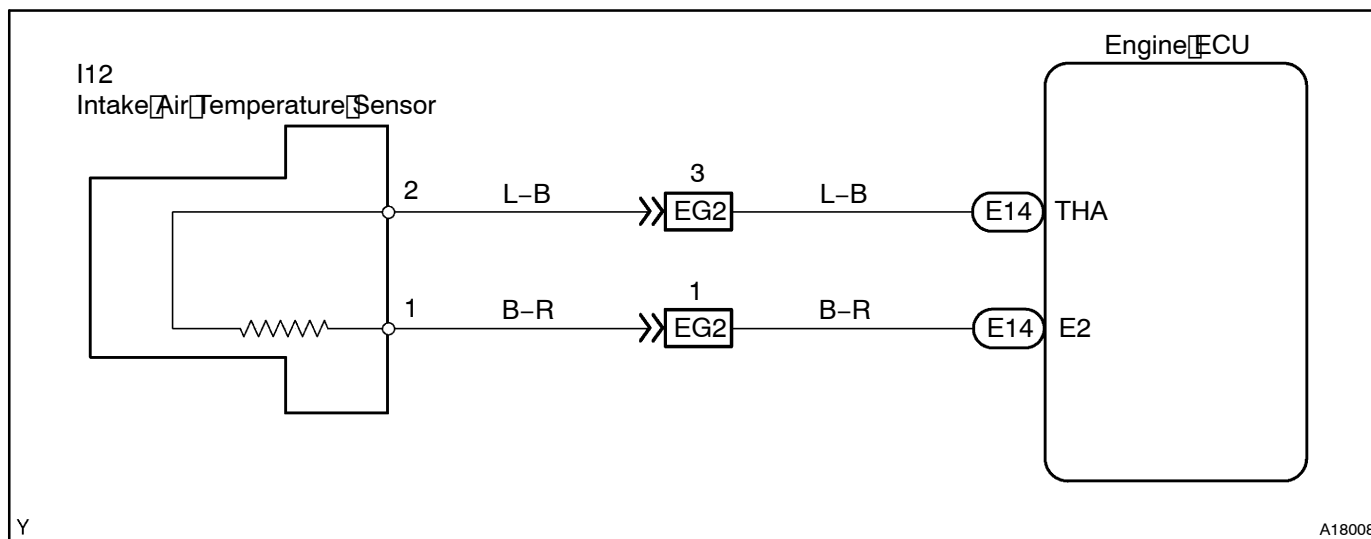
DTC No.	DTC Detecting Condition	Trouble Area
24	Open or short in intake air temp. sensor circuit for 0.5 sec. or more	• Open or short in intake air temp. sensor circuit • Intake air temp. sensor • Engine ECU

HINT:

After confirming DTC 24, use the hand-held tester to confirm the water temperature from CURRENT DATA.

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

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

If DTC 22, 24, 35 and 39 are output simultaneously, E2 (sensor ground) may be open.

When using hand-held tester

1	Read value of water temperature on hand-held tester.
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OK:

The same value as actual intake air temperature.

HINT:

- If there is an open circuit, the hand-held tester indicates -40°C (-40°F).
- If there is a short circuit, the hand-held tester indicates 140°C (284°F) or more.

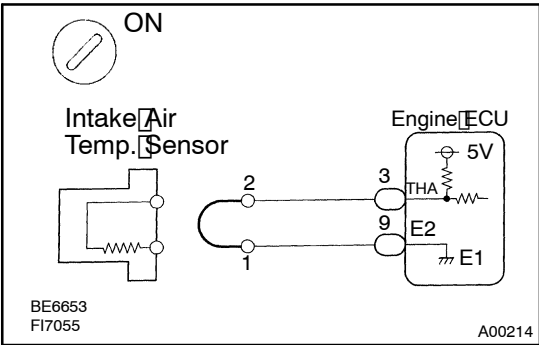
NG

-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-4).

2 Check for open in harness or engine ECU.



PREPARATION:

- Disconnect the intake air temperature sensor connector.
- Connect the sensor wire harness terminals together.
- Turn the ignition switch ON.

CHECK:

Read the temperature value on the hand-held tester.

OK:

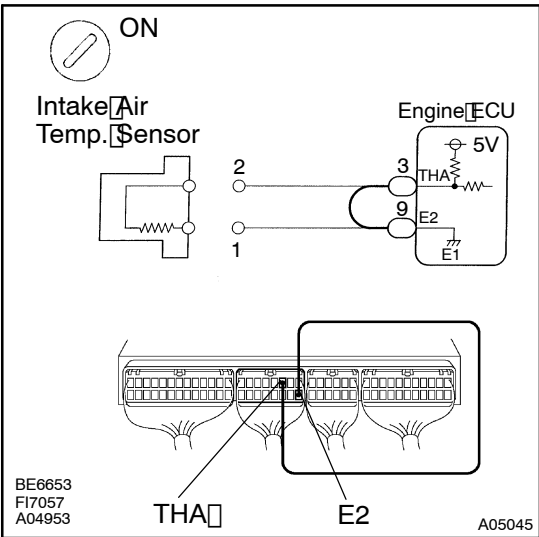
Temperature value: 140°C (284°F) or more

OK

Confirm good connection at sensor.
If OK, replace intake air temperature sensor.

NG

3 Check for open in harness or engine ECU.



PREPARATION:

- Remove the glove compartment door.
- Connect between terminals THA and E2 of the engine ECU connector.
- Disconnect the intake air temperature sensor.

HINT:

Before checking, do a visual and contact pressure check for the engine ECU connector (See page N-19).

- Turn the ignition switch ON.

CHECK:

Read the temperature value on the hand-held tester.

OK:

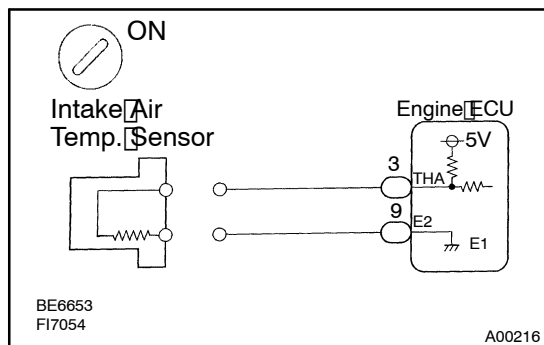
Temperature value: 140°C (284°F) or more

OK

Open in harness between terminal E2 or THA,
repair or replace harness.

NG

Confirm good connection at engine ECU. If OK, replace engine ECU.

4 Check for short in harness and engine ECU.**PREPARATION:**

- (a) Disconnect the intake air temperature sensor connector.
 (b) Turn the ignition switch ON.

CHECK:

Read the temperature value on the hand-held tester.

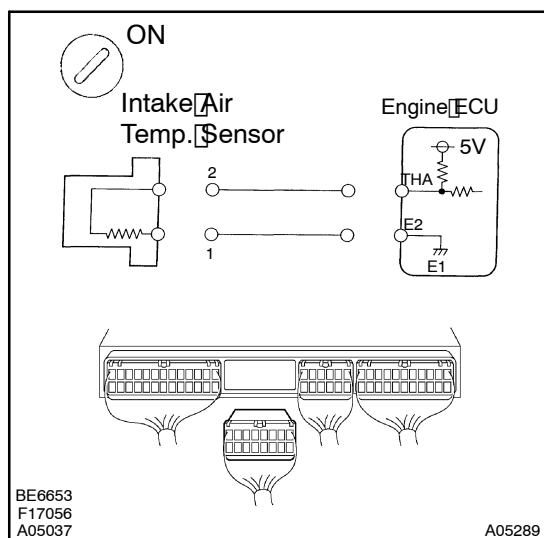
OK:

Temperature value: -40°C (-40°F)

OK

Replace intake air temp. sensor.

NG

5 Check for short in harness or engine ECU.**PREPARATION:**

- (a) Remove the glove compartment door.
 (b) Disconnect the connector of the engine ECU.

HINT:

Intake air temperature sensor connector is disconnected.

- (c) Turn the ignition switch ON.

CHECK:

Read the temperature value on the hand-held tester.

OK:

Temperature value: -40°C (-40°F)

OK

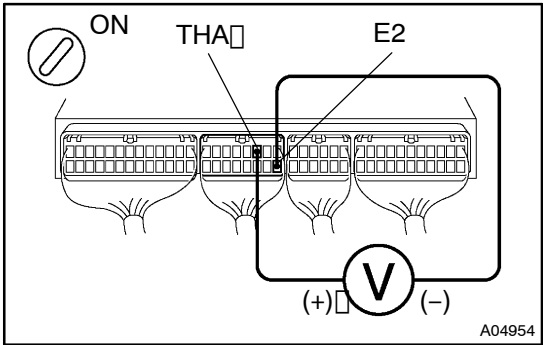
Repair or replace harness or connector.

NG

Check and replace engine ECU (See page IN-19).

When not using hand-held tester

1 Check voltage between terminals THA and E2 of engine ECU connector.



PREPARATION:

- (a) Remove the glove compartment door.
- (b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminals THA and E2 of the engine ECU connector.

OK:

Intake air temperature	Voltage
20°C (68°F)	0.2 – 3.8V
80°C (176°F)	0.2 – 0.8V

OK Check for intermittent problems (See page DI-4)

NG

2 Check intake air temperature sensor (See page ED-13)

NG Replace intake air temperature sensor.

OK

3 Check for open and short in harness and connector between engine ECU and intake air temperature sensor (See page IN-19)

NG Repair or replace harness or connector.

OK

Check and replace engine ECU (See page IN-19)