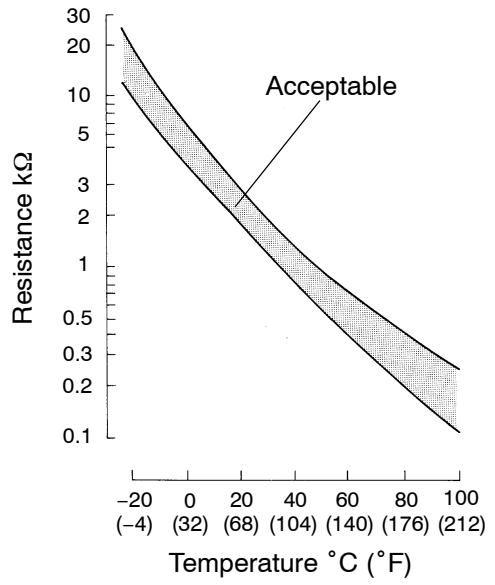
DI6K1–01

DTC	39	Fuel Temp. Sensor Circuit Malfunction

CIRCUIT DESCRIPTION

Fig. 1



The fuel temperature sensor senses the fuel temperature. A thermistor built into the sensor changes the resistance value according to the fuel temperature. The lower the fuel temperature, the greater the thermistor resistance value, and the higher the fuel temperature, the lower the thermistor resistance value (See Fig. 1).

The fuel temperature sensor is connected to the engine ECU (See below). The 5 V power source voltage in the engine ECU is applied to the fuel temperature sensor from terminal THF via a resistor R. That is, resistor R and the fuel temperature sensor are connected in series. When the resistance value of the fuel temperature sensor changes in accordance with changes in the fuel temperature, the potential at terminal THF also changes. Based on this signal, the engine ECU. Based on this signal, the engine ECU performs the pressure control compensation of the supply pump and error detection compensation of the highly pressurized fuel system.

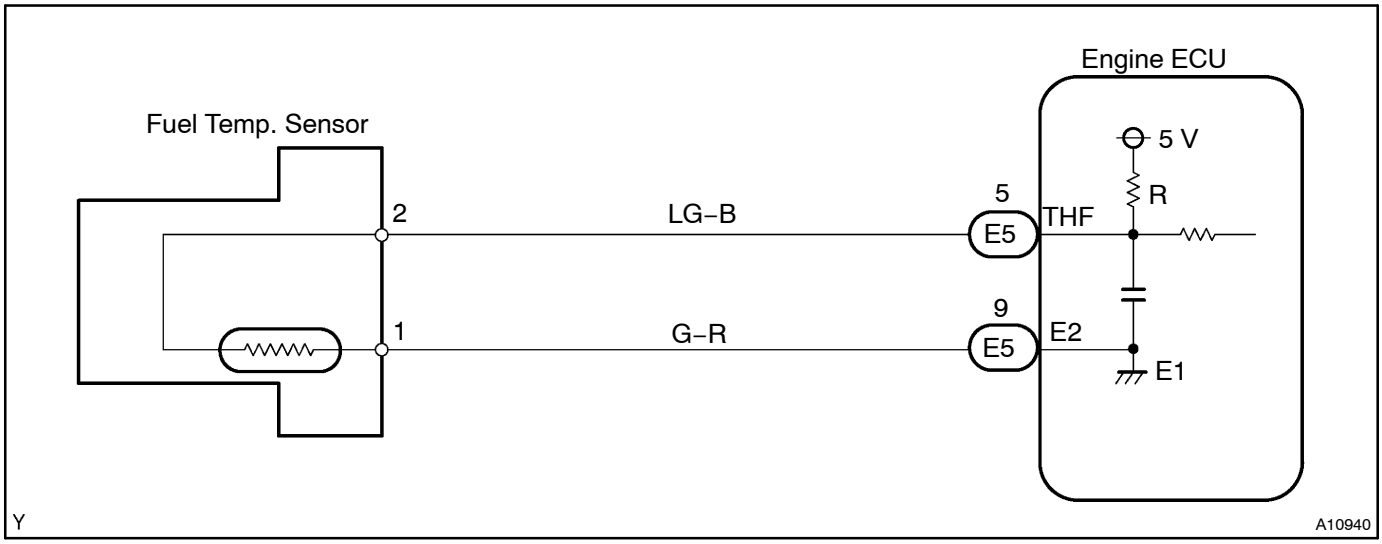
DTC No.	DTC Detecting Condition	Trouble Area
39	Open or short in fuel temp. sensor circuit for 0.5 sec. or more	• Open or short in fuel temp. sensor circuit • Fuel temp. sensor • Engine ECU

HINT:

After confirming DTC 39, use the hand–held tester to confirm the fuel temperature from the CURRENT DATA.

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

WIRING DIAGRAM

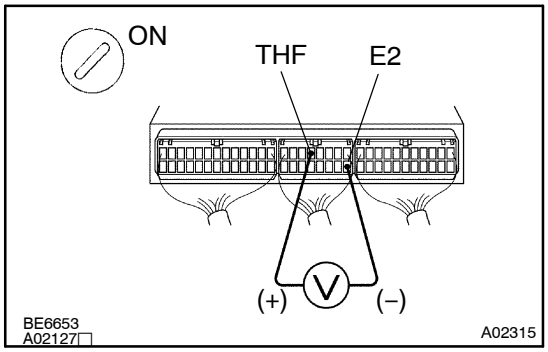


INSPECTION PROCEDURE

HINT:

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

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



PREPARATION:

(a) Remove the glove compartment (See page ED–25).

(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminals THF and E2 of the engine ECU connecter.

OK:

Fuel Temp. °C(°F)	Voltage
20 (68) (Engine is cool)	2.5 – 2.8 V
80 (176) (Engine is hot)	4.4 – 4.5 V

OK	**Check for intermittent problems (See page DI–3).**

NG

2	**Check fuel temperature sensor (See page ED–16).**

NG	**Replace fuel temperature sensor.**

OK

3	**Check for open and short in harness and connector between engine ECU and fuel temperature sensor (See page IN–20).**

NG → **Repair or replace harness or connector.**

OK

Check and replace engine ECU (See page IN–20).