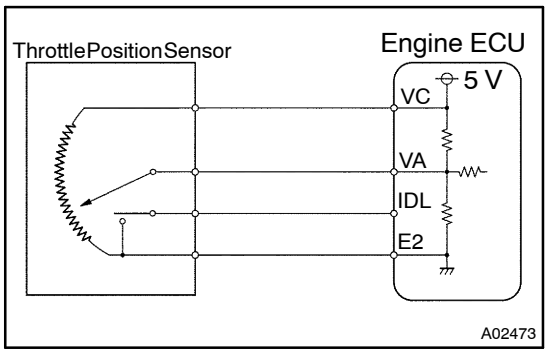
DI6K2–01

DTC	41	Throttle Position Sensor Circuit Malfunction

CIRCUIT DESCRIPTION

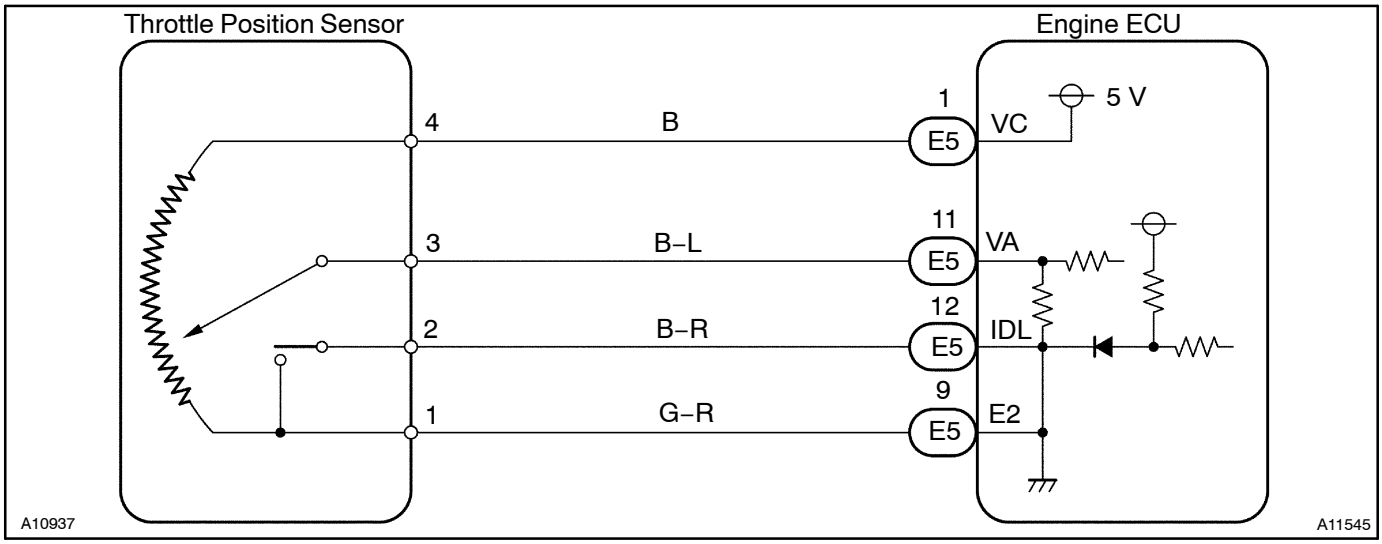


The throttle position sensor is mounted in the throttle body and detects the throttle valve opening angle. When the throttle valve is fully closed, the IDL contacts in the throttle position sensor are on, so the voltage at the terminal IDL of the engine ECU becomes 0 V. At this time, a voltage of approximately 0.3 – 0.8 V is applied to terminal VA of the engine ECU. When the throttle valve is opened, the IDL contacts go off and thus the power source voltage of approximately 12 V in the engine ECU is applied to the terminal IDL of the engine ECU. The voltage applied to the terminal VA of the engine ECU increases in proportion to the opening angle of the throttle valve and becomes approximately 3.2 – 4.9 V when the throttle valve is fully opened. The engine ECU judges the vehicle driving conditions from these signals input from terminals VA and IDL, and uses them as one of the conditions for deciding the basic fuel injection volume.

DTC No.	DTC Detecting Condition	Trouble Area
41	Open or short in throttle position sensor circuit for 0.05 sec. or more	• Open or short in throttle position sensor circuit • Throttle position sensor • Engine ECU

HINT:
When the connector for the throttle position sensor is disconnected, DTC 41 is not displayed. DTC 41 is displayed only when there is an open or short in the VA signal circuit of the throttle position sensor.

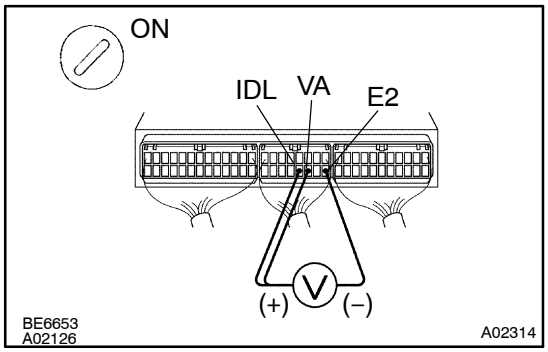
WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
If DTC 22, 35 and 41 are output simultaneously, E2 (sensor ground) may be open.

1	Check voltage between terminals VA and E2, and IDL 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 VA and E2, and IDL and E2 of the engine ECU connector when the throttle valve is opened gradually from the closed condition.

OK:

Throttle Valve	Voltage	
	VA – E2	IDL – E2
Fully closed	0.3 – 0.8 V	0 – 3 V
Fully open	2.9 – 4.9 V	9 – 14 V

HINT:

The voltage should increase steadily in proportion to the throttle valve opening angle.

OK → Check for problem symptoms table (See page DI–17).

NG

2	Check throttle position sensor (See page ED–3).

NG → Replace throttle position sensor.

OK

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

NG → Repair or replace harness or connector.

OK

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