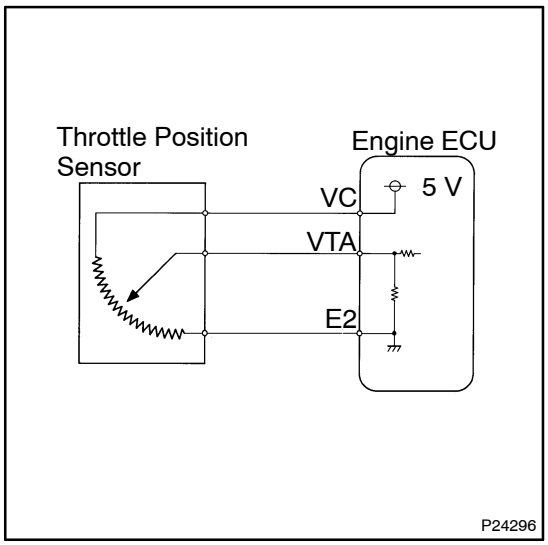
DTC	41	Throttle Position Sensor Circuit

CIRCUIT DESCRIPTION

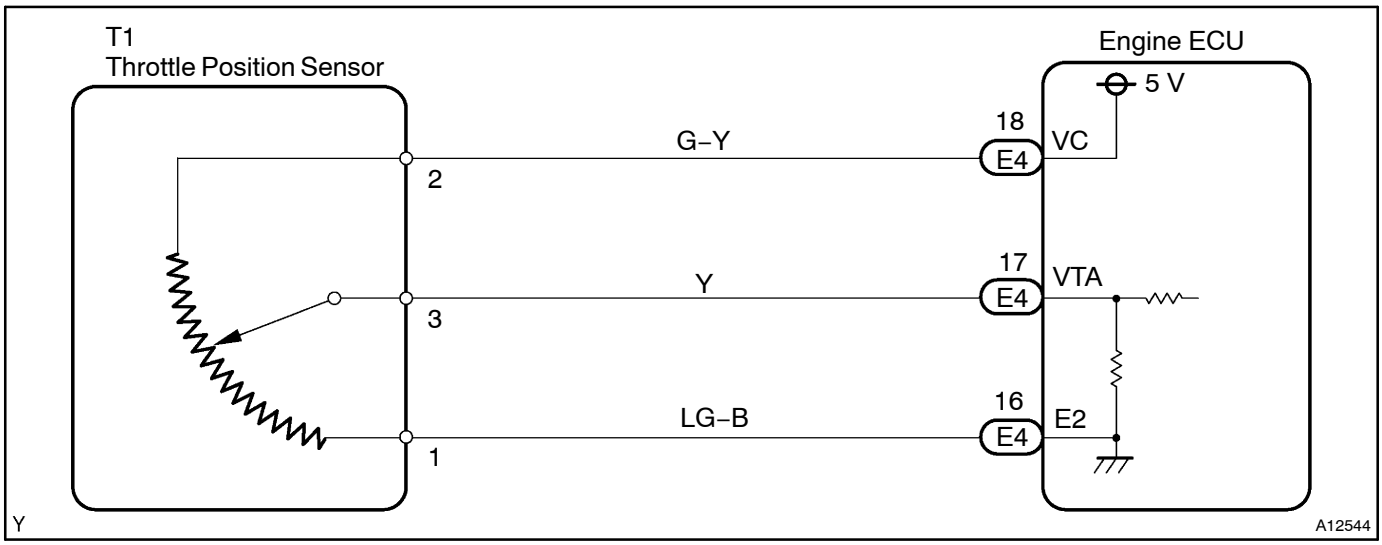


The throttle position sensor is mounted in the throttle body and detects the throttle valve opening angle.
When the throttle valve is fully closed, a voltage of 0.3 – 1.0 V is applied to terminal VTA of the engine ECU. The voltage applied to the terminals VTA of the engine ECU increases in proportion to the opening angle of the throttle valve and becomes 2.7 – 5.2 V when the throttle valve is fully opened. The engine ECU judges the vehicle driving conditions from these signals input from terminal VTA, uses them as one of the conditions for deciding the air–fuel ratio correction, power increase correction and fuel–cut control etc.

DTC No.	DTC Detection Condition	Trouble Area
41	Open or short in throttle position sensor circuit for 0.5 sec. or more	• Open or short in throttle position sensor circuit • Throttle position senor • Engine ECU

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

WIRING DIAGRAM

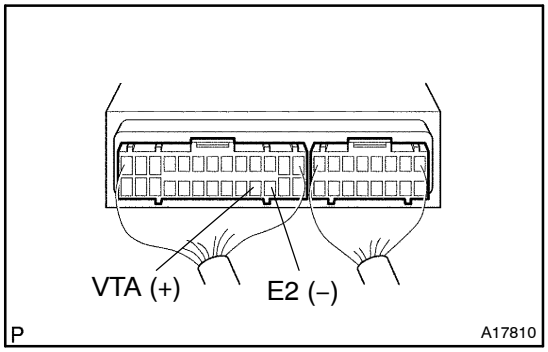


INSPECTION PROCEDURE

HINT:

If DTCs 22, 24, 31 and 41 are output simultaneously, E2 (sensor ground) may be open.

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



PREPARATION:

(a) Remove the glove compartment.

(b) Turn the ignition switch ON.

CHECK:

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

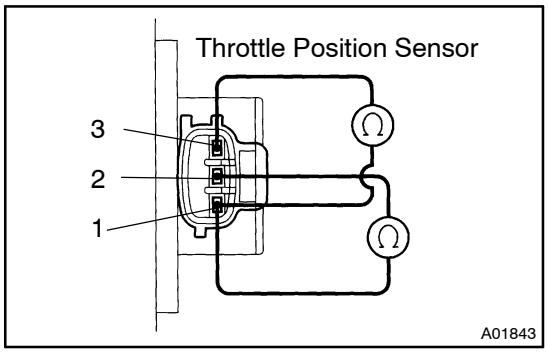
OK:

Throttle valve	Voltage
Fully open	0.3 – 1.0 V
Fully closed	2.7 – 5.2 V

OK → **Check for intermittent problems (See page DI–164).**

NG

2	**Check throttle position sensor.**



PREPARATION:

Disconnect the throttle position sensor connector.

CHECK:

Measure the resistance between terminals 1, 3 and 2 of the throttle position sensor.

OK:

Terminals	Throttle valve	Resistance
1 – 2	–	2.5 – 5.9 kΩ
2 – 3	Fully closed	0.2 – 5.7 kΩ
	Fully open	2.0 – 10.2 kΩ

NG → **Replace throttle position sensor.**

OK

3	**Check for open and short in harness and connector in VC, VTA and E2 circuits between engine ECU and throttle position sensor (See page IN–19).**

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

OK

Check and replace engine ECU.