DTC	19 (2)	Accelerator Pedal Position Sensor Circuit Malfunction (IDL Switch/Range)

CIRCUIT DESCRIPTION

Refer to DTC 19 (1) on page DI–42.

DTC No.	DTC Detection Condition	Trouble Area
19 (2)	Condition (a) or (b) continues for 0.5 seconds or more: (a) IDL ON and VA > 1.4 V (b) IDL ON and VAS >1.4 V	• Open or short in accelerator pedal position sensor circuit • Accelerator pedal position sensor • Engine ECU
	Condition (a) or (b) continues for 0.5 seconds or more: (a) IDL OFF and VA < 0.6 V (b) IDL OFF and VAS < 0.6 V	
	Conditions (a) and (b) continue 0.05 seconds or more: (a) 0.6 V < VA < 4.4 V and 0.6 V < VAS < 4.4 V (b) VA – VAS > 0.5 V	

WIRING DIAGRAM

Refer to DTC 19 (1) on page DI–42.

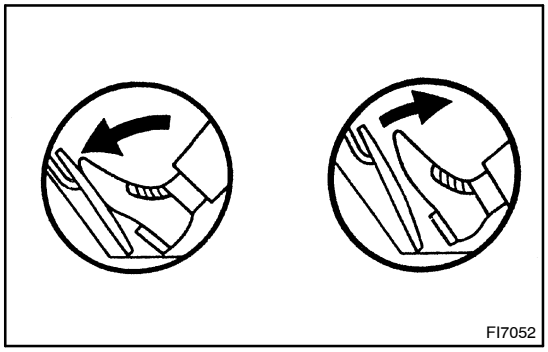
INSPECTION PROCEDURE

When using hand–held tester:

HINT:

Read freeze frame data using hand–held tester, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, it 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 hand–held tester to DLC3, read IDL signal.**



PREPARATION:

(a) Connect the hand–held tester to the DLC3.

(b) Turn the ignition switch ON and push the hand–held tester main switch ON.

CHECK:

Read the IDL signal.

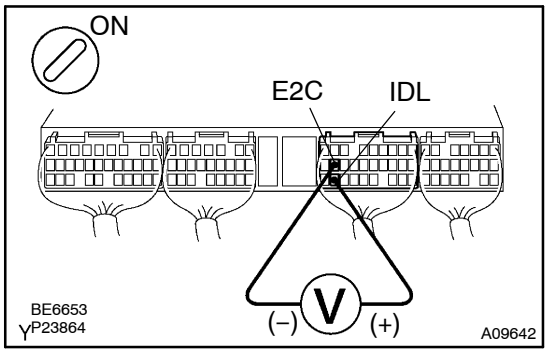
OK:

Accelerator Pedal	IDL Signal
Fully released	OFF
Fully depressed	ON

OK → **Go to step 4.**

NG

2	Check voltage between terminals IDL and E2C of engine ECU connector.



PREPARATION:

(a) Remove the glove compartment door.

(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminals IDL and E2C of the engine ECU connector.

OK:

Accelerator Pedal	Voltage
Fully released	9 – 14 V
Fully depressed	0 – 3 V

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

NG

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

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

OK

Replace accelerator pedal.

4	Connect hand–held tester, read accelerator pedal operating percentage (See page DI–42, step 1).

OK → **Check for intermittent problems (See page DI–4).**

OK

5	Check voltage between terminal VCC of wire harness side connector and body ground (See page DI–42, step 2).

NG → Go to step 8.

OK

6	Check voltage between terminals VA, VAS and E2C of engine ECU connector (See page DI–42, step 3).

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

NG

7	Check for open and short in harness and connector in VA or VAS circuit between engine ECU and accelerator pedal position sensor (See page IN–20).

NG → Repair or replace harness or connector.

OK

Replace accelerator pedal.

8	Check voltage between terminals VCC and E2C of engine ECU connector (See page DI–42, step 5).

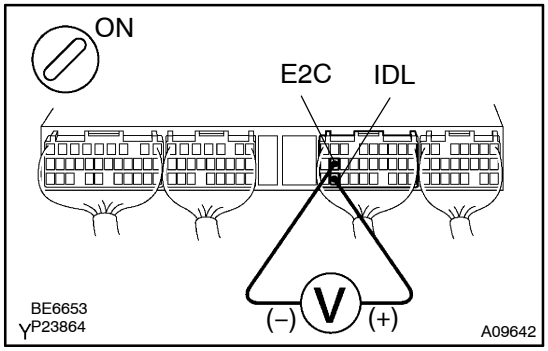
NG → Check and replace engine ECU (See page IN–20).

OK

Check for open in harness and connecter in VCC circuit between engine ECU and accelerator pedal position sensor (See page IN–20).

When not using hand–held tester:

1	**Check voltage between terminals IDL and E2C of engine ECU connector.**



PREPARATION:

(a) Remove the glove compartment door.

(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminals IDL and E2C of the engine ECU connector.

OK:

Accelerator Pedal	Voltage
Fully released	9 – 14 V
Fully depressed	0 – 3 V

OK	**Go to step 3.**

NG

2	**Check for open and short in harness and connector in IDL circuitbetween engine ECU and accelerator pedal position sensor (See page IN–20).**

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

OK

Replace accelerator pedal.

3	**Check voltage between terminal 4 of wire harness side connector and body-ground (See page DI–42, step 2).**

NG	**Go to step 6.**

OK

4	Check voltage between terminals VA, VAS and E2C of engine ECU connector (See page DI–42, step 3).

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

NG

5	Check for open and short in harness and connector in VA or VAS circuit between engine ECU and accelerator pedal position sensor (See page IN–20).

NG → Repair or replace harness or connector.

OK

Replace accelerator pedal.

6	Check voltage between terminals VCC and E2C of engine ECU connector (See page DI–42, step 5).

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

OK

Check for open in harness and connector in VCC line between engine ECU and accelerator pedal position sensor (See page IN–20).