DTC	19 (2)	ACCEL. POSITION SENSOR CIRCUIT (IDL SW/RANGE)

CIRCUIT DESCRIPTION

Refer to DTC 19 (1) on page 05–32.

DTC No.	DTC Detection Condition	Trouble Area
19(2)	Condition (a) or (b) continues for 0.05 sec. 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 • ECM
	Condition (a) or (b) continues for 0.5 sec. or more: (a) IDL OFF and VA < 0.6 V (b) IDL OFF and VAS < 0.6 V	
	Conditions (a) and (b) continue for 0.05 sec. 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 05–32.

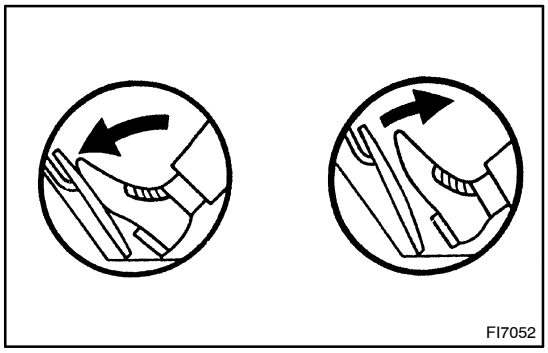
INSPECTION PROCEDURE

HINT:

Read freeze frame data using the 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.

When using hand–held tester:

1	READ VALUE OF HAND–HELD TESTER



(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main switch ON.
(c) Read the IDL signal.

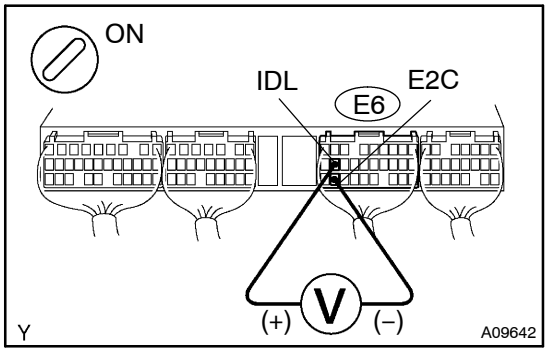
Standard:

Accelerator Pedal	IDL Signal
Fully opened	OFF
Fully closed	ON

OK → **Go to step 4**

NG

2	CHECK ECM



(a) Turn the ignition switch ON.
(b) Check the voltage between the terminals of shown in the table and illustration.

Voltage:

Accelerator Pedal	Voltage
Fully closed	13 – 18 V
Fully opened	0 – 3 V

OK → **CHECK AND REPLACE ECM**

NG

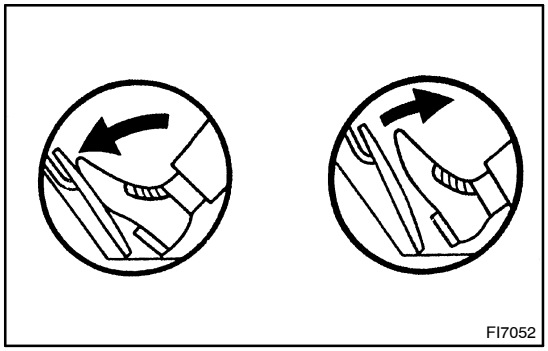
3	CHECK WIRE HARNESS (IDL CIRCUIT FOR ECM ⇔ ACCELERATOR PEDAL POSITION SENSOR) (See page 01–27)

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE ACCELERATOR PEDAL POSITION SENSOR

4	READ VALUE OF HAND–HELD TESTER



(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main switch ON.

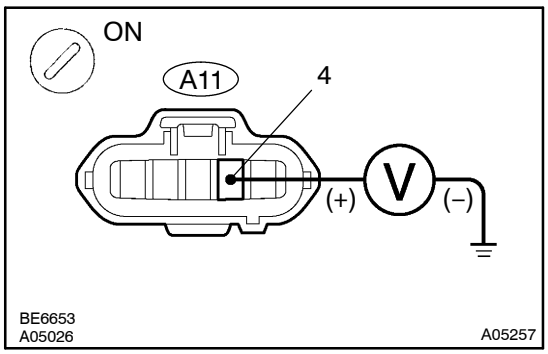
Standard:

Accelerator Pedal	Accelerator pedal opening position expressed as percentage
Fully open	Approx. 65 %
Fully closed	Approx. 18 %

OK → **CHECK FOR INTERMITTENT PROBLEMS**

NG

5	ACCELERATOR PEDAL POSITION SENSOR

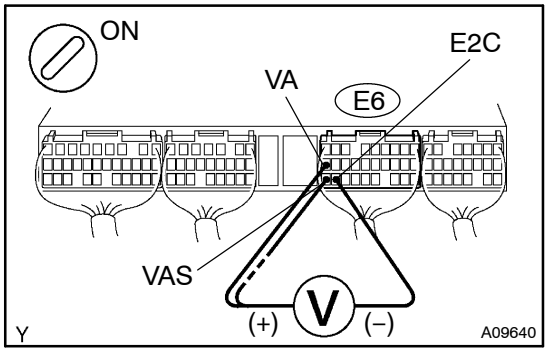


(a) Disconnect the A11 accelerator pedal position sensor connector.
(b) Turn the ignition switch ON.
(c) Measure the voltage between terminal 4 of the A11 accelerator pedal position sensor connector and body ground.
Voltage: 4.5 – 5.5 V

NG → **Go to step 8**

OK

6	ECM



(a) Turn the ignition switch ON.
(b) Check the voltage between the terminals of shown in the table and illustration.
Voltage:

Accelerator Pedal	Voltage
Fully closed	0.6 – 1.3 V
Fully open	3.0 – 4.5 V

OK → **CHECK AND REPLACE ECM**

NG

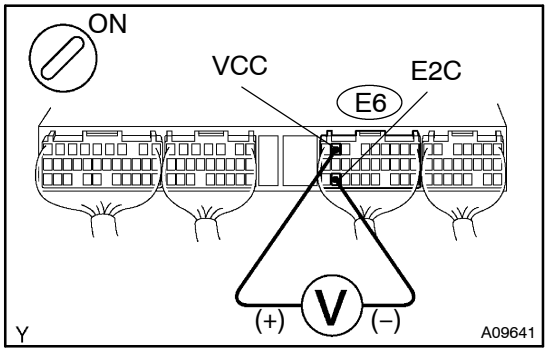
7	CHECK WIRE HARNESS (VA AND VAS CIRCUIT FOR ECM ⇔ ACCELERATOR POSITION SENSOR) (See page 01–27)

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE ACCELERATOR PEDAL

8	CHECK ECM



(a) Turn the ignition switch ON.
(b) Check the voltage between the terminals of shown in the table and illustration.
Voltage: 4.5 – 5.5 V

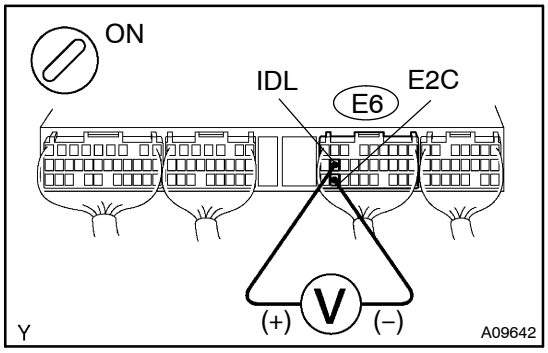
NG → **CHECK AND REPLACE ECM**

OK

CHECK WIRE HARNESS (VCC CIRCUIT FOR ECM ⇔ ACCELERATOR PEDAL POSITION SENSOR) (See page 01–27)

When not using hand–held tester:

1	CHECK ECM



(a) Turn the ignition switch ON.
(b) Check the voltage between the terminals of shown in the table and illustration.
Voltage:

Accelerator Pedal	Voltage
Fully closed	10 – 17 V
Fully opened	0 – 3 V

OK → **Go to step 3**

NG

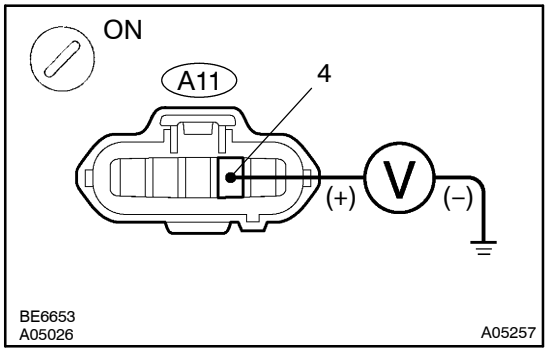
2	CHECK WIRE HARNESS (IDL CIRCUIT FOR ECM ⇔ ACCELERATOR PEDAL POSITION SENSOR) (See page 01–27)

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE ACCELERATOR PEDAL

3 CHECK ACCELERATOR PEDAL POSITION SENSOR

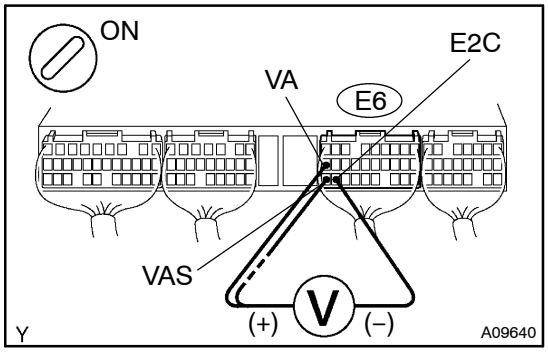


(a) Disconnect the A11 accelerator pedal position sensor connector.
(b) Turn the ignition switch ON.
(c) Measure the voltage between terminal 4 of the A11 accelerator pedal position sensor connector and body ground.
Voltage: 4.5 – 5.5 V

NG → **Go to step 6**

OK

4 CHECK ECM



(a) Turn the ignition switch ON.
(b) Check the voltage between the terminals of shown in the table and illustration.
Voltage:

Accelerator Pedal	Voltage
Fully closed	0.6 – 1.3 V
Fully opened	3.0 – 4.5 V

OK → **CHECK AND REPLACE ECM**

NG

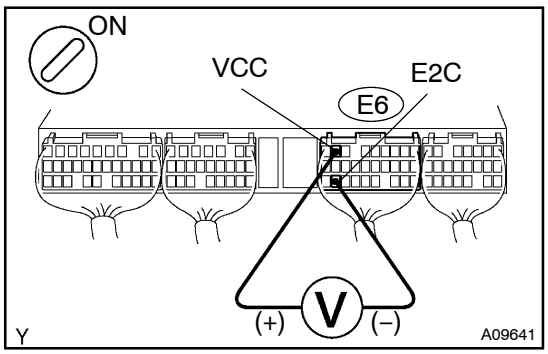
5 CHECK WIRE HARNESS (VA AND VAS CIRCUIT FOR ECM ⇔ ACCELERATOR PEDAL POSITION SENSOR) (See page 01–27)

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE ACCELERATOR PEDAL

6	CHECK ECM



(a) Turn the ignition switch ON.
(b) Check the voltage between the terminals of shown in the table and illustration.
Voltage: 4.5 – 5.5 V

NG → **CHECK AND REPLACE ECM**

OK

CHECK WIRE HARNESS (VCC CIRCUIT FOR ECM ⇔ ACCELERATOR PEDAL POSITION SENSOR) (See page 01–27)