

DTC	19(2)	ACCELERATOR PEDAL POSITION SENSOR CIRCUIT MALFUNCTION (IDLE SWITCH/RANGE)
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CIRCUIT DESCRIPTION

Refer to DTC 19 (1) on page 05-182.

DTC No.	DTC Detecting Condition	Trouble Area
19 (2)	With the ECM sensor completed learning and when the electric potential difference of No. 1 and No. 2 sensors has become more than 1.2 V or less than 0.4 V.	<ul style="list-style-type: none"> • Open or short in accelerator pedal position sensor circuit • Accelerator pedal position sensor • ECM
	Either one of the followings continues more than 2.0 seconds. (b) When the electrical potential difference of No. 1 and No. 2 sensors is beside the specified value. (c) $VPA2 \geq 4.9 \text{ V}$ (d) Accelerator idling criterion voltage of No. 1 and No. 2 in less than 0.04 V.	

WIRING DIAGRAM

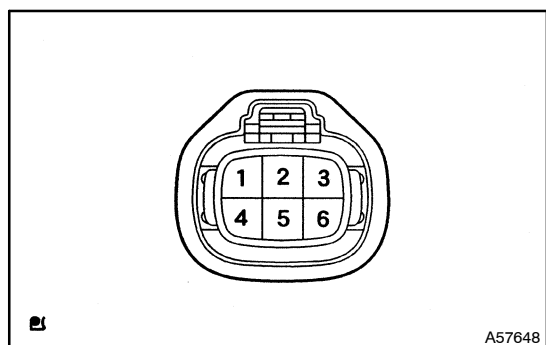
Refer to DTC 19 (1) on page 05-182.

INSPECTION PROCEDURE

HINT:

Read freeze frame data using hand-held tester. Because freeze frame records the engine conditions when the 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	CHECK HARNESS AND CONNECTOR
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- Disconnect the accelerator pedal position sensor connector.
- Turn the ignition switch ON.
- Measure the voltage between terminal 1, 4 and 3, 6 of the wire harness side connector.

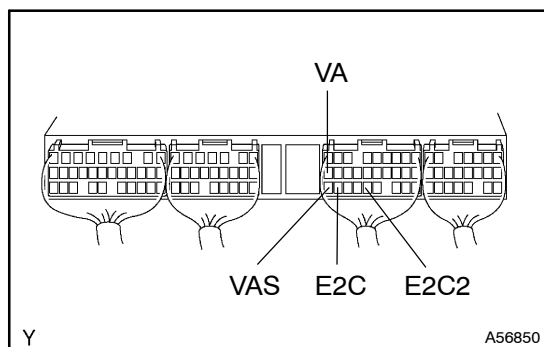
Voltage: 4.5 – 5.5 V

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Go to step 4

OK

2 INSPECT ECM



- (a) Turn the ignition switch ON.
- (b) Measure the voltage between terminals VA and E2C, VAS and E2C2 of the ECM connector.

Voltage:

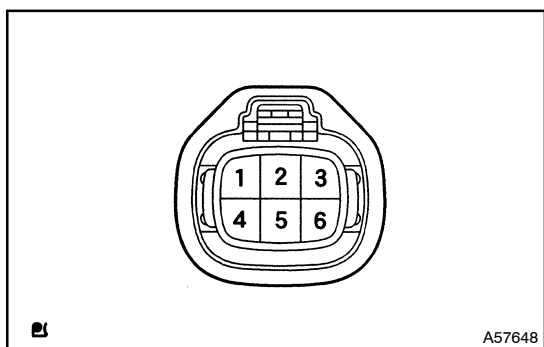
Accelerator pedal	Voltage
Fully closed	VA: 0.5 – 1.1 V VAS: 0.9 – 2.3 V
Fully open	VA: 3.0 – 4.6 V VAS: 3.4 – 5.0 V

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CHECK AND REPLACE ECM

OK

3 CHECK HARNESS AND CONNECTOR (ECM-ACCELERATOR PEDAL POSITION SENSOR)



- (a) Disconnect the accelerator pedal position sensor connector.
- (b) Disconnect the ECM E8 connector.
- (c) Check for open between the terminals VA of the ECM E8 connector and 5 of the accelerator pedal position sensor harness side connector.

Resistance: 1 Ω or less

- (d) Check for short between the terminals VA and VAS of the ECM E8 connector.

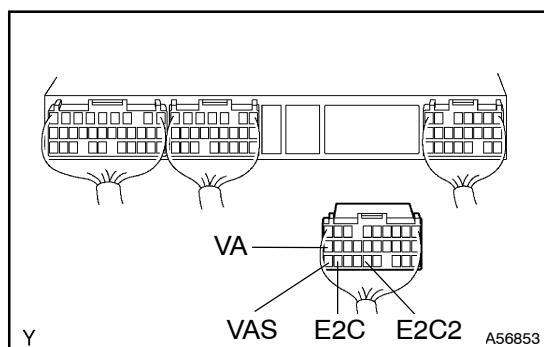
Resistance: 1 MΩ or more

- (e) Check for open between the terminals VAS of the ECM E8 connector and 2 of the accelerator pedal position sensor harness side connector.

Resistance: 1 Ω or less

- (f) Check for short between the terminals VA and E2C, VAS and E2C2 of the ECM E8 connector.

Resistance: 1 MΩ or more



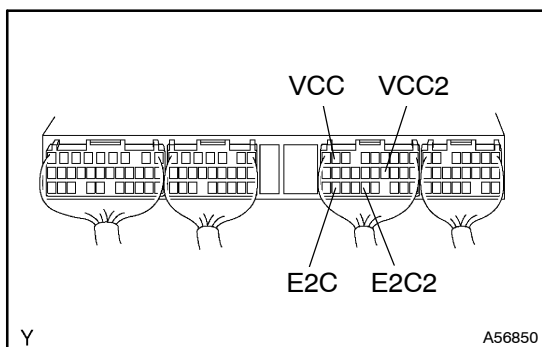
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REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

REPLACE ACCELERATOR PEDAL ASSY

4 INSPECT ECM



- (a) Turn the ignition switch ON.
- (b) Measure the voltage between terminals VCC and E2C, VCC2 and E2C2 of the ECM connector.

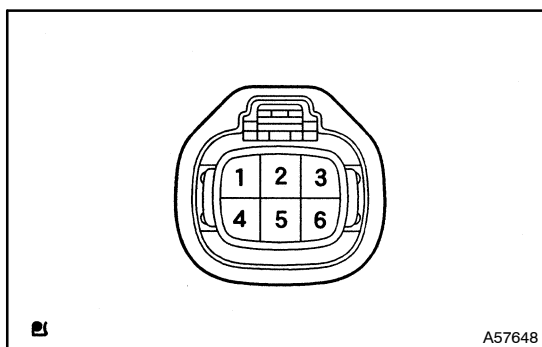
Voltage: 4.5 – 5.5 V

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CHECK AND REPLACE ECM

OK

5 CHECK HARNESS AND CONNECTOR (ECM-ACCELERATOR PEDAL POSITION SENSOR)

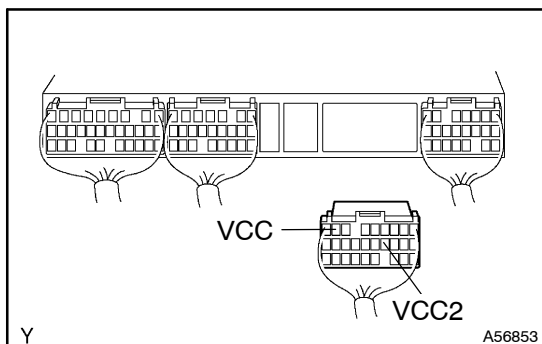


- (a) Disconnect the accelerator pedal position sensor connector.
- (b) Disconnect the ECM E8 connector.
- (c) Check for open between the terminals VCC of the ECM E8 connector and 4 of the accelerator pedal position sensor harness side connector.

Resistance: 1 Ω or less

- (d) Check for open between the terminals VCC2 of the ECM E8 connector and 6 of the accelerator pedal position sensor harness side connector.

Resistance: 1 Ω or less



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**REPAIR OR REPLACE
HARNESS AND CONNECTOR**

OK

CHECK AND REPLACE ECM