

<b>DTC</b>	<b>P2121</b>	<b>THROTTLE/PEDAL POSITION SENSOR/SWITCH "D" CIRCUIT RANGE/PERFORMANCE</b>
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## CIRCUIT DESCRIPTION

HINT:

This is repair procedure of "accelerator pedal position sensor".

Refer to DTC P2120 on page [05-184](#) .

DTC No.	DTC Detection Condition	Trouble Area
P2121	Condition (a) and (b) continue for 0.5 seconds: (a) Difference between VPA1 and VPA2 exceeds the threshold (b) IDL is OFF	<ul style="list-style-type: none"> <li>• Accelerator pedal position sensor circuit</li> <li>• Accelerator pedal position sensor</li> <li>• ECM</li> </ul>

## WIRING DIAGRAM

Refer to DTC P2120 on page [05-184](#) .

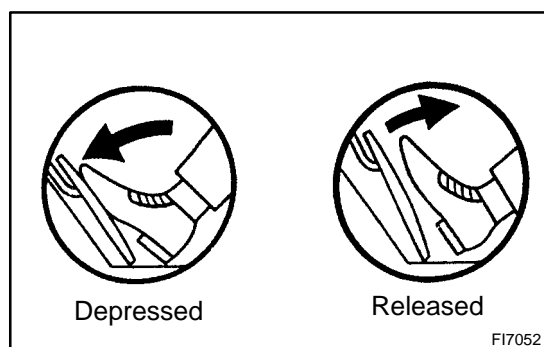
## INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand-held tester or the OBD II scan tool, 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.

**Hand-held tester:**

<b>1</b>	<b>READ VALUE OF HAND-HELD TESTER(ACCEL POS #1 AND ACCEL POS #2)</b>
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- Connect the hand-held tester to the DLC3.
- Turn the ignition switch ON.
- Select the item "DIAGNOSIS/ENHANCED OBD II/DATA LIST/ETCS/ACCEL POS #1 and ACCEL POS #2" and read its value displayed on the hand-held tester.

**Standard:**

Accelerator pedal	ACCEL POS #1	ACCEL POS #2
Released	0.5 to 1.1 V	1.2 to 2.0 V
Depressed	2.6 to 4.5 V	3.4 to 5.3 V

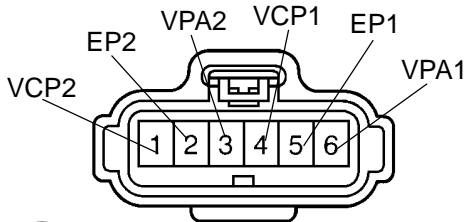
**OK**

**CHECK AND REPLACE ECM**  
(See page [01-35](#) )

**NG**

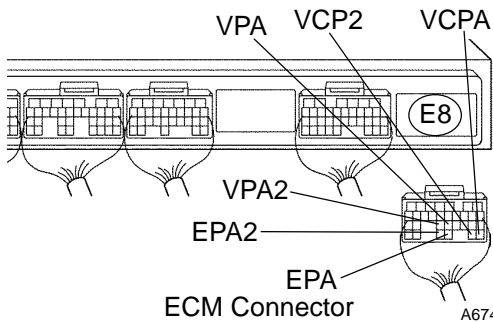
## 2 CHECK HARNESS AND CONNECTOR(ACCELERATOR PEDAL POSITION SENSOR - ECM)

### Wire Harness Side



**A24** Accelerator Pedal Position Sensor Connector

B53781



ECM Connector

A67445

- Disconnect the accelerator pedal position sensor connector.
- Disconnect the ECM E8 connector.
- Check for continuity between the wire harness side connectors.

#### Standard (Check for open):

Symbols (Terminal No.)	Specified condition
VPA1 (A24-6) - VPA (E8-22)	Continuity
EP1 (A24-5) - EPA (E8-28)	
VCP1 (A24-4) - VCPA (E8-26)	
VPA2 (A24-3) - VPA2 (E8-23)	
EP2 (A24-2) - EPA2 (E8-29)	
VCP2 (A24-1) - VCP2 (E8-27)	

#### Standard (Check for short):

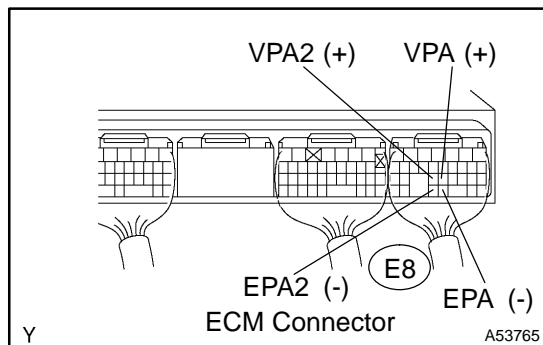
Symbols (Terminal No.)	Specified condition
VPA1 (A24-6) or VPA (E8-22) - Body ground	No continuity
EP1 (A24-5) or EPA (E8-28) - Body ground	
VCP1 (A24-4) or VCPA (E8-26) - Body ground	
VPA2 (A24-3) or VPA2 (E8-23) - Body ground	
EP2 (A24-2) or EPA2 (E8-29) - Body ground	
VCP2 (A24-1) or VCP2 (E8-27) - Body ground	

**NG**

**REPAIR OR REPLACE HARNESS OR CONNECTOR**

**OK**

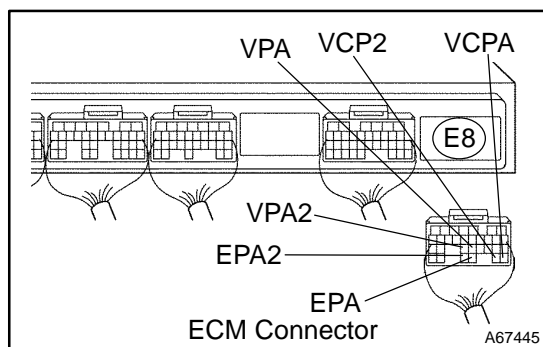
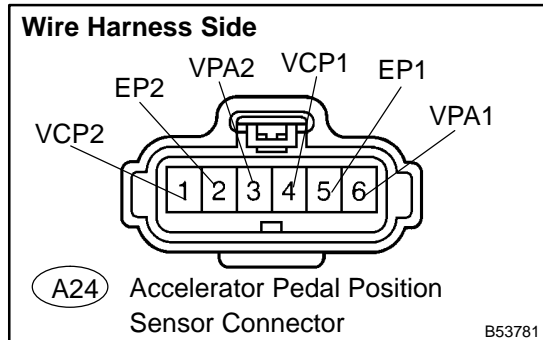
**REPLACE ACCELERATOR PEDAL ROD ASSY (See page 10-12 )**

**OBD II scan tool (excluding hand-held tester):****1 INSPECT ECM(VPA AND VPA2 VOLTAGE)**

- (a) Turn the ignition switch ON.  
 (b) Measure the voltage between the terminals of the E8 ECM connector.

**Standard:**

Accelerator pedal position	Symbols (Terminal No.)	Symbols (Terminal No.)
	VPA (E8-22) - EPA (E8-28)	VPA2 (E8-23) - EPA2 (E8-29)
Released	0.5 to 1.1 V	1.2 to 2.0 V
Depressed	2.6 to 4.5 V	3.4 to 5.3 V

**OK****CHECK AND REPLACE ECM  
(See page 01-35 )****NG****2 CHECK HARNESS AND CONNECTOR(ACCELERATOR PEDAL POSITION SENSOR - ECM)**

- (a) Disconnect the accelerator pedal position sensor connector.  
 (b) Disconnect the ECM E8 connector.  
 (c) Check for continuity between the wire harness side connectors.

**Standard (Check for open):**

Symbols (Terminal No.)	Specified condition
VPA1 (A24-6) - VPA (E8-22)	Continuity
EP1 (A24-5) - EPA (E8-28)	
VCP1 (A24-4) - VCPA (E8-26)	
VPA2 (A24-3) - VPA2 (E8-23)	
EP2 (A24-2) - EPA2 (E8-29)	
VCP2 (A24-1) - VCP2 (E8-27)	

**Standard (Check for short):**

Symbols (Terminal No.)	Specified condition
VPA1 (A24-6) or VPA (E8-22) - Body ground	No continuity
EP1 (A24-5) or EPA (E8-28) - Body ground	
VCP1 (A24-4) or VCPA (E8-26) - Body ground	
VPA2 (A24-3) or VPA2 (E8-23) - Body ground	
EP2 (A24-2) or EPA2 (E8-29) - Body ground	
VCP2 (A24-1) or VCP2 (E8-27) - Body ground	

**NG****REPAIR OR REPLACE HARNESS OR CONNECTOR****OK****REPLACE ACCELERATOR PEDAL ROD ASSY (See page 10-12 )**