

DTC	P2121	THROTTLE/PEDAL POSITION SENSOR/SWITCH "D" CIRCUIT RANGE/PERFORMANCE
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HINT:

This DTC relates to the Accelerator Pedal Position (APP) sensor.

CIRCUIT DESCRIPTION

Refer to DTC P2120 on page [05-286](#).

DTC No.	DTC Detection Conditions	Trouble Areas
P2121	Difference between VPA1 and VPA2 less than 0.4 V, or more than 1.2 V for 0.5 seconds (1 trip detection logic)	<ul style="list-style-type: none"> • APP sensor • ECM

MONITOR DESCRIPTION

When the difference between the voltage outputs of VPA1 and VPA2 deviates from the standard range, the ECM determines that there is a malfunction in the APP sensor. The ECM then illuminates the MIL and sets the DTC.

If the malfunction has not been repaired successfully, the DTC is set 1 second after the engine is started.

MONITOR STRATEGY

Related DTCs	P2121: APP sensor rationality
Required Sensors/Components (Main)	APP sensor
Required Sensors/Components (Related)	—
Frequency of Operation	Continuous
Duration	0.5 seconds
MIL Operation	Immediate
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever following DTCs not present	None
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TYPICAL MALFUNCTION THRESHOLDS

Difference between VPA1 voltage (learned value) and VPA2 voltage (learned value)	Less than 0.4 V, or more than 1.2 V
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FAIL-SAFE

When any of DTCs P2120, P2121, P2122, P2123, P2125, P2127, P2128 and P2138 are set, the ECM enters fail-safe mode. If either of the 2 sensor circuit malfunctions, the ECM uses the remaining circuit to calculate the accelerator pedal position to allow the vehicle to continue driving. If both of the circuits malfunction, the ECM regards the accelerator pedal as being released. As a result, the throttle valve is closed and the engine idles.

Fail-safe mode continues until a pass condition is detected, and the ignition switch is turned to OFF.

WIRING DIAGRAM

Refer to DTC P2120 on page [05-286](#).

INSPECTION PROCEDURE

HINT:

Read freeze frame data using a hand-held tester or OBD II scan tool. Freeze frame data record the engine condition when malfunctions are detected. When troubleshooting, freeze frame data can help determine if the vehicle was moving or stationary, if the engine was warmed up or not, if the air-fuel ratio was lean or rich, and other data, from the time the malfunction occurred.

1 CHECK ANY OTHER DTCS OUTPUT(IN ADDITION TO DTC P2121)

- (a) Connect a hand-held tester or OBD II scan tool to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the tester or scan tool ON.
- (d) On the tester, select the following menu items: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.
- (e) Read DTCs.
- (f) If using an OBD II scan tool, refer to the instruction manual.

Result:

Display (DTC Output)	Proceed To
P2121	A
P2121 and other DTCs	B

HINT:

If any DTCs other than P2121 are output, troubleshoot those DTCs first.

B →

GO TO DTC CHART (See page 05-54)

A

2 REPLACE ACCELERATOR PEDAL ASSY

NEXT

3 CHECK WHETHER DTC OUTPUT RECURS(DTC P2121)

- (a) Connect the hand-held tester or OBD II scan tool to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the tester or scan tool ON.
- (d) Clear DTCs (see page 05-44).
- (e) Allow the engine to idle for a minute.
- (f) Rev up the engine several times.
- (g) On the tester, select the following menu items: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.
- (h) Read DTCs.
- (i) If using an OBD II scan tool, refer to the instruction manual.

Result:

Display (DTC Output)	Proceed To
P2121	A
No output	B

B **CHECK FOR INTERMITTENT PROBLEMS**
(See page 05-12)

A

REPLACE ECM (See page 10-32)