

DTC	P0121	THROTTLE/PEDAL POSITION SENSOR/SWITCH "A" CIRCUIT RANGE/PERFORMANCE PROBLEM
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HINT:

This is the purpose of the "throttle position sensor".

CIRCUIT DESCRIPTION

Refer to DTC P0120 on page 05-87.

DTC No.	DTC Detection Condition	Trouble Area
P0121	The following condition is met 4 times. After the vehicle speed has exceeded 19 mph (30 km/h) once, the throttle position sensor output value is out of normal range when the throttle valve is closed at 0 km/h	<ul style="list-style-type: none"> • Throttle position sensor (built in throttle body)

MONITOR DESCRIPTION

The throttle position sensor varies its resistance with the angle of the throttle valve. The ECM applies a regulated reference voltage to the throttle position sensor "+" terminal and calculates the angle of the throttle valve based on the voltage present at the throttle position sensor "signal" terminal.

When the throttle valve is near the fully closed position, the output voltage of the throttle position sensor is low. When it is near the fully open position, the output voltage is high.

The ECM checks the indicated angle of the throttle valve during "stop and go" conditions. If the indicated angle (or voltage) in the "closed throttle" position is out of the specified range, the ECM interprets this as a malfunction in the throttle position sensor and sets a DTC.

MONITOR STRATEGY

Related DTCs	P0121	Throttle position sensor rationality
Required sensors/components	Main sensors	Throttle position sensor
	Related sensors	Vehicle speed sensor
Frequency of operation	Continuous	
Duration	Within 10 seconds	
MIL operation	2 driving cycles	
Sequence of operation	None	

TYPICAL ENABLING CONDITION

Item	Specification	
	Minimum	Maximum
The monitor will run whenever the following DTCs are not present	See "List of Disable a Monitor" (On page 05-25)	
Throttle valve position	Closed angle position	
"Stop and Go"	4 times	–

"Stop and go" is defined as follows:

"Stop" indicates a vehicle speed of 0 mph (0 km/h). "Go" indicates a vehicle speed of 18.6 mph (30 km/h).

TYPICAL MALFUNCTION THRESHOLDS

Detection Criteria	Threshold	
Throttle valve at closed angle position	26.2° or more	
	Less than 7.4°	

COMPONENT OPERATING RANGE

Parameter	Standard Value
Throttle valve at closed angle position	Between 7.5° and 21°

INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand-held tester or the OBD II scan tool. 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	CHECK OTHER DTC OUTPUT(IN ADDITION P0121)
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- (a) Connect the hand-held tester or the OBD II scan tool to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester or the OBD II scan tool main switch ON.
- (c) Select the item "DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES".
- (d) Read the DTCs.

Result:

Display (DTC output)	Proceed to
"P0121" and other DTCs	A
P0121	B

HINT:

If any other codes besides P0121 is output, perform the troubleshooting for those DTCs first.

B		REPLACE THROTTLE POSITION SENSOR
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A

GO TO RELEVANT DTC CHART (See page 05-35)
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