

DTC	P0121	Throttle / Pedal Position Sensor / Switch "A" Circuit Range / Performance Problem
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DESCRIPTION**HINT:**

This DTC relates to the Throttle Position (TP) sensor.

Refer to DTC P0120 (see page [ES-97](#)).

DTC No.	DTC Detection Condition	Trouble Area
P0121	After vehicle speed exceeds 30 km/h (18.6 mph) once, Throttle Position (TP) sensor output voltage deviates from the standard range when throttle valve closed at 0 km/h (0 mph) on 4 occasions	Throttle Position (TP) sensor

ES**MONITOR DESCRIPTION**

The resistance of the TP sensor varies in accordance with the throttle valve opening angle. The ECM transmits a standardized reference voltage to the VC terminal of the TP sensor and calculates the throttle valve opening angle based on the voltage received from the VTA terminal of the sensor.

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

The ECM monitors the indicated throttle valve opening angle during stop-and-go driving conditions. If the indicated angle (or voltage) in the closed throttle valve position is outside the specified range, the ECM interprets this as a malfunction in the TP sensor and sets the DTC.

HINT:

When this DTC is set, the ECM enters fail-safe mode. During fail-safe mode, the ECM cuts fuel intermittently. Fail-safe mode continues until a pass condition is detected and the ignition switch is turned OFF.

MONITOR STRATEGY

Related DTCs	P0121: TP sensor rationality
Required Sensors/Components (Main)	TP sensor
Required Sensors/Components (Related)	None
Frequency of Operation	Continuous
Duration	Stop and go is performed 4 times
MIL Operation	2 driving cycles
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Stop and Go	4 times
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Stop-and-go is defined as follows:

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

TYPICAL MALFUNCTION THRESHOLDS

Closed throttle position learning value	Lower than 0.298 or 1.05 V or higher
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COMPONENT OPERATING RANGE

Closed throttle position learning value	0.298 to 1.05 V
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HINT:

Read freeze frame data using the intelligent tester. Freeze frame data records 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 P0121)

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON and turn the tester ON.
- (c) Enter the following menus: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.
- (d) Read DTCs.

ES

Result

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

HINT:

If any DTCs other than P0121 are output, troubleshoot those DTCs first.

B
REPLACE THROTTLE POSITION SENSOR

A

GO TO DTC CHART