

# SFI SYSTEM, Diagnostic DTC:P2111, P2112



DTC Code	DTC Name
P2111	Throttle Actuator Control System - Stuck Open
P2112	Throttle Actuator Control System - Stuck Closed

## SYSTEM DESCRIPTION

The throttle actuator is operated by the ECM, and opens and closes the throttle valve using gears. The opening angle of the throttle valve is detected by the Throttle Position (TP) sensor, which is mounted on the throttle body. The TP sensor provides feedback to the ECM. This feedback allows the ECM to appropriately control the throttle actuator and monitor the throttle opening angle as the ECM responds to driver inputs.

## Tech Tips

This ETCS (Electronic Throttle Control System) does not use a throttle cable.

DTC No.	DTC Detection Condition	Trouble Area
P2111	ECM signals throttle actuator to close, but stuck (1 trip detection logic)	<ul style="list-style-type: none"><li>• Throttle actuator</li><li>• Throttle body</li><li>• Throttle valve</li><li>• Wire harness or connector</li><li>• ECM</li></ul>
P2112	ECM signals throttle actuator to open, but stuck (1 trip detection logic)	<ul style="list-style-type: none"><li>• Throttle actuator</li><li>• Throttle body</li><li>• Throttle valve</li><li>• Wire harness or connector</li><li>• ECM</li></ul>

## MONITOR DESCRIPTION

The ECM determines that there is a malfunction in the ETCS when the throttle valve remains at a fixed angle despite a high drive current from the ECM. The ECM illuminates the MIL and sets a DTC.

If the malfunction is not repaired successfully, a DTC is set when the accelerator pedal is fully depressed and released quickly (to fully open and close the throttle valve) after the engine is next started.

## FAIL-SAFE

When either of these DTCs, as well as other DTCs relating to ETCS (Electronic Throttle Control System) malfunctions, is set, the ECM enters fail-safe mode. During fail-safe mode, the ECM cuts the current to the throttle actuator off, and the throttle valve is returned to a 7° throttle angle by the return spring. The ECM then adjusts the engine output by controlling the fuel injection (intermittent fuel-cut) and ignition timing, in accordance with the accelerator pedal opening angle, to allow the vehicle to continue running at a minimal speed. If the accelerator pedal is depressed firmly and gently, the vehicle can be driven slowly.

Fail-safe mode continues until a pass condition is detected, and the engine switch is then turned off.

## INSPECTION PROCEDURE

### Tech Tips

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.

## PROCEDURE

### CHECK ANY OTHER DTCS OUTPUT (IN ADDITION TO DTC P2111 or P2112)

Connect the intelligent tester to the DLC3.

Turn the engine switch on (IG).

Turn the tester ON.

Enter the following menus: Powertrain / Engine / DTC.

Read the DTCs.

<b>Result</b>	
<b>Display (DTC Output)</b>	<b>Proceed to</b>
P2111 or P2112	A
P2111 or P2112 and other DTCs	B

## Tech Tips

If any DTCs other than P2111 or P2112 are output, troubleshoot those DTCs first.

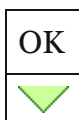


### INSPECT THROTTLE BODY (VISUALLY CHECK THROTTLE VALVE)

Check for contamination between the throttle valve and the housing. If necessary, clean the throttle body. And check that the throttle valve moves smoothly.

<b>OK</b>
Throttle valve is not contaminated with foreign objects and moves smoothly.

NG	▶	REPLACE THROTTLE BODY ASSEMBLY <a href="#">Click here</a>
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### READ VALUE USING INTELLIGENT TESTER (THROTTLE POSITION)

Connect the intelligent tester to the DLC3.

Turn the engine switch on (IG).

Turn the tester on.

Clear DTCs [Click here](#).

Turn the engine switch off and wait for at least 30 seconds.

Turn the engine switch on (IG) and turn the tester on.

Enter the following menus: Powertrain / Engine / Data List / All Data / Throttle Position No. 1, Throttle Position No. 2 and Throttle Position Command.

Read the values displayed on the tester while wiggling the ECM wire harness.

Enter the following menus: Powertrain / Engine / DTC.


Read the DTCs.

### Result

<b>Result</b>	<b>Proceed to</b>
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Result	Proceed to
Value in Data List changes when wire harness is wiggled, or DTC is output	A
Other than above	B

B		CHECK WHETHER DTC OUTPUT RECURS (DTC P2111 OR P2112) <a href="#">Click here</a>
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A


REPAIR OR REPLACE HARNESS OR CONNECTOR (ECM - THROTTLE BODY ASSEMBLY)

As the DTC was stored due to a change in the contact resistance of the connector, repair or replace the wire harness or connector [Click here](#).

NEXT


END

REPLACE THROTTLE BODY ASSEMBLY

Replace the throttle body assembly [Click here](#).

NEXT


CHECK WHETHER DTC OUTPUT RECURS (DTC P2111 OR P2112)

Connect the intelligent tester to the DLC3.

Turn the engine switch on (IG).

Turn the tester ON.

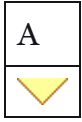
Clear DTCs [Click here](#).

Start the engine, and fully depress and release the accelerator pedal quickly (to fully open and close the throttle valve).

Enter the following menus: Powertrain / Engine / DTC.

Read the DTCs.

<b>Result</b>	
<b>Display (DTC Output)</b>	<b>Proceed to</b>
No DTC	A
P2111 or P2112	B



END