DTC	P2111/41	THROTTLE ACTUATOR CONTROL SYSTEM – STUCK OPEN

DTC	P2112/41	THROTTLE ACTUATOR CONTROL SYSTEM – STUCK CLOSED

CIRCUIT DESCRIPTION

The throttle actuator is operated by the ECM and it opens and closes the throttle valve using gears. The opening angle of the throttle valve is detected by the throttle position sensor which is mounted on the throttle body. It provides feedback to the ECM to control the throttle actuator in order to control the throttle valve opening angle properly in response to the driving condition. If these malfunctions are detected, the ECM shuts down the power for the throttle actuator, and the throttle valve is locked at a certain angle by the return spring. Also, the whole electronically controlled throttle operation is cancelled until the system returns to normal and the ignition switch is turned to OFF.

HINT:

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

DTC No.	DTC Detection Condition	Trouble Area
P2111/41	Throttle actuator locked during ECM ordering it to close (1 trip detection logic)	• Throttle actuator • Throttle body assembly • Throttle valve
P2112/41	Throttle actuator locked during ECM ordering it to open (1 trip detection logic)	• Throttle actuator • Throttle body assembly • Throttle valve

WIRING DIAGRAM

Refer to DTC P2102 on page 05–143.

INSPECTION PROCEDURE

HINT:

Read freeze frame data using the intelligent tester II. 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 OTHER DTC OUTPUT(IN ADDITION TO DTC P2111 AND/OR P2112)

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the ignition switch to ON and turn the intelligent tester II ON.
(c) Select the following menu items: Powertrain / Engine and ECT / DTC.
(d) Read DTCs.

Result:

Display (DTC Output)	Proceed To
P2111 and/or P2112	A
P2111 and/or P2112 and other DTCs	B

HINT:

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

B → **GO TO DTC CHART** (See page 05–29)

A

2	INSPECT THROTTLE W/MOTOR BODY ASSY(VISUALLY CHECK THROTTLE VALVE)

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

OK: The throttle valve is not contaminated with foreign objects and can move smoothly.

NG → **REPLACE THROTTLE W/MOTOR BODY ASSY** (See page 10–7)

OK

3	CHECK IF DTC OUTPUT RECURS(DTC P2111 AND/OR P2112)

(a) Clear DTCs (see page 05–18).
(b) Start the engine, and depress and release the accelerator pedal quickly (to fully open and fully close the throttle valve).
(c) Connect the intelligent tester II to the DLC3.
(d) Turn the ignition switch to ON and turn the intelligent tester II ON.
(e) Select the following menu items: Powertrain / Engine and ECT / DTC.
(f) Read DTCs.

Result:

Display (DTC Output)	Proceed To
No DTC	A
P2111 and/or P2112	B

B → **REPLACE ECM (See page 10–12)**

A

CHECK FOR INTERMITTENT PROBLEMS (See page 05–8)