DIDS3−01

DTC	P2119	Throttle Actuator Control Throttle Body Range Performance

CIRCUIT DESCRIPTION

The Electric Throttle Control System (ETCS) is composed of a throttle motor that operates the throttle valve, a throttle position sensor that detects the opening angle of the throttle valve, an accelerator pedal position sensor that detects the accelerator pedal position, and the ECM that controls the ETCS system.
The ECM operates the throttle motor to position the throttle valve for proper response to driver inputs. The throttle position sensor, mounted on the throttle body, detects the opening angle of the throttle valve and provides this signal to the ECM so that the ECM can regulate the throttle motor.

DTC No.	DTC Detection Condition	Trouble Area
P2119	Throttle opening angle continues to vary greatly from target throttle opening angle (1 trip detection logic)	• Electric throttle control system • Throttle body

MONITOR DESCRIPTION

The ECM determines the ”actual” throttle angle based on the throttle position sensor signal. The ”actual” throttle position is compared to the ”target” throttle position commanded by the ECM. If the difference of these two values exceeds a specified limit, the ECM interprets this as a fault in the ETCS (Electronic Throttle Control System). The ECM turns on the MIL and a DTC is set.

FAIL SAFE

If the ETCS (Electronic Throttle Control System) has a malfunction, the ECM cuts off current to the throttle control motor. The throttle control valve returns to a predetermined opening angle (approximately 16°) by the force of the return spring. The ECM then adjusts the engine output by controlling the fuel infection (intermittent fuel−cut) and ignition timing in accordance with the accelerator pedal opening angle to enable the vehicle to continue at a minimum speed.
If the accelerator pedal is depressed firmly and slowly, the vehicle can be driven slowly.
If a ”pass” condition is detected and then the ignition switch is turned OFF, the fail−safe operation will stop and the system will return to normal condition.

MONITOR STRATEGY

Related DTCs	P2119	Electronic throttle control system failure
Required sensors/components	Main sensors	Throttle actuator motor
	Related sensors	Throttle position sensor
Frequency of operation	Continuous	
Duration	1 sec.	
MIL operation	Immediate	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

The monitor will run whenever this DTC is not present	See page DI−437	
System guard*	ON	
*System guard is ON when the following conditions are set:	−	
Throttle actuator	ON	
Throttle actuator duty calculation	Executing	
Throttle position sensor	Fail determined	
Throttle actuator current−cut operation	Not executing	
Throttle actuator power supply	4 V	−
Throttle actuator	Fail determined	

TYPICAL MALFUNCTION THRESHOLDS

Detection Criteria	Threshold
Either of the following conditions is met:	Condition (a) or (b)
(a) Commanded closed throttle position−current closed throttle position	0.3 V or more
(b) Commanded open throttle position−current open throttle position	0.3 V or more

COMPONENT OPERATING RANGE

Standard Value
Commanded throttle position and current throttle position are nearly the same

WIRING DIAGRAM

Refer to DTC P0120 on page DI−548.

INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand−held tester. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, if the engine was warmed up or not, if the air−fuel ratio was lean or rich, as well as other data from the time when a malfunction occurred.

1	Are there any other codes (besides DTC P2119) being output?

PREPARATION:

(a) Connect the hand−held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand−held tester main switch ON.
(c) When using hand−held tester, enter the following menu: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.

CHECK:

Read the DTC using the hand−held tester.

RESULT:

Display (DTC Output)	Proceed to
P2119	A
”P2119” and other DTC	B

HINT:

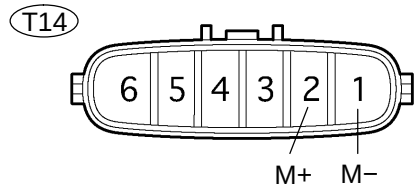
If any other codes besides P2119 are output, perform the troubleshooting for those DTCs first.

B → **Go to DTC chart (See page DI−462).**

A

2	Check throttle control motor.

Component Side:
Throttle Control Motor and Sensor



PREPARATION:

Disconnect the throttle control motor and sensor connector.

CHECK:

Measure the resistance between terminals of the throttle control motor.

OK:

Standard:

Tester Connection	Specified Condition
M+ (T14−2) − M− (T14−1)	0.3 to100 Ω (20°C (68°F))

NG → **Replace throttle body (See page SF−44).**

OK

3	**Replace ECM and check DTC (Check if DTC outputs reoccur).**

PREPARATION:

(a) Replace ECM.
(b) Clear DTCs (see page DI−462).
(c) Start and warm up the engine.
(d) Run the engine at idle for 15 seconds or more.

CHECK:

Read the DTC using the hand−held tester (See page DI−462).

OK:

No DTC output.

OK → **System is normal.**

NG

Replace throttle body (See page SF−44).