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Service Information Bulletin

SUBJECT	DATE
SPN 51/FMI 2 - All Years	February 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DD Platform	SPN 51/FMI 2 - All Years	Entire procedure updated.



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This diagnostic is typically Intake Throttle Position Deviation Error.

This code sets when the intake throttle valve position has a 30% deviation from the position commanded by the Motor Control Module (MCM) when the engine coolant temperature is above 60°C (140°F).

Table 1.

SPN 51/FMI 2	
Description	Intake Throttle Position Deviation Error
Monitored Parameter	Intake Throttle Valve
Typical Enabling Conditions	Engine rpm = 600 rpm or higher, coolant temperature is less than 140°F
Monitor Sequence	None
Execution Frequency	Continuous when enabling conditions met
Typical Duration	Five Seconds
Dash Lamps	MIL, CEL
Engine Reaction	10% Derate
Verification	Engine rpm = 600 rpm or higher

Possible causes:

- Faulty ITV motor
- Faulty ITV position sensor

Check as follows:

NOTE: With the new strategy when the ignition key is turned on, the Intake Throttle Valve (ITV) will cycle two full times, then the ITV will be commanded short increments when the key is turned on.

1. Turn the ignition OFF. Go to step 2.
2. Remove the hose from the Charge Air Cooler (CAC) to the ITV. Go to step 3.
3. Physically move the flap from stop to stop. Is there any binding or clicking noise present when the flap is physically moved?
 - a. Yes; replace the ITV. Refer to section "Removal of the Intake Throttle Valve and Adaptor". Verify repair.
 - b. No; Go to step 4.
4. Connect Diagnostic Link™. Go to step 5.
5. Turn the ignition ON, (key ON, engine OFF). Go to step 6.
6. Using DiagnosticLink™, command the Intake Throttle Valve fully open and fully closed while watching the ITV flap (Service Routines > Intake Throttle Valve). Does the ITV butterfly valve fully close and fully open when commanded?
 - a. Yes; Go to step 7.
 - b. No; replace the ITV.
7. Using the Air Intake Throttle service routine, command the ITV to 20% while monitoring the ITV actual position. Is the actual valve position within +-5% of the commanded position?
 - a. Yes; Go to step 8.
 - b. No; replace the ITV. Refer to section "Removal of the Intake Throttle Valve and Adaptor". Verify repair.
8. Command the ITV to 50% while monitoring the ITV actual position. Is the actual valve position within +-5% of the commanded position?
 - a. Yes; Go to step 9.
 - b. No; replace the ITV. Refer to section "Removal of the Intake Throttle Valve and Adaptor". Verify repair.
9. Command the ITV to 90% while monitoring the ITV actual position. Is the actual valve position within +-5% of the commanded position?

- a. Yes; Go to step 10.
 - b. No; replace the ITV. Refer to section "Removal of the Intake Throttle Valve and Adaptor". Verify repair.
10. Turn the ignition OFF. Go to step 11.
11. Disconnect and inspect the ITV 5-pin connector. Are there any damaged pins, spread pins or the retainer clip missing?
 - a. Yes; repair as necessary. Verify repair.
 - b. No; Go to step 12.
12. Measure the resistance across pins 4 and 5, component side, of the ITV motor connector. Is the resistance less than 10 ohms?
 - a. Yes; Go to step 13.
 - b. No; replace the ITV due to a shorted motor. Refer to section "Removal of the Intake Throttle Valve and Adaptor". Verify repair.
13. Install a test Motor Control Module (MCM).
14. Start and run the engine until the coolant temperature is above 60°C (140°F). Go to step 15.
15. Road test the vehicle. Is code SPN 51/FMI 2 still present?
 - a. Yes; replace the ITV. Verify repair.
 - b. No; replace the MCM. Verify repair.