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Service Information Bulletin

SUBJECT	DATE
MCM SPN 2791/FMI 2 - GHG14	February 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	GHG14 DD Platform	SPN 2791/FMI 2 - GHG14	Updated section to include two TS Letters, new graphic, adjusted format for yes/no responses, and four new steps.



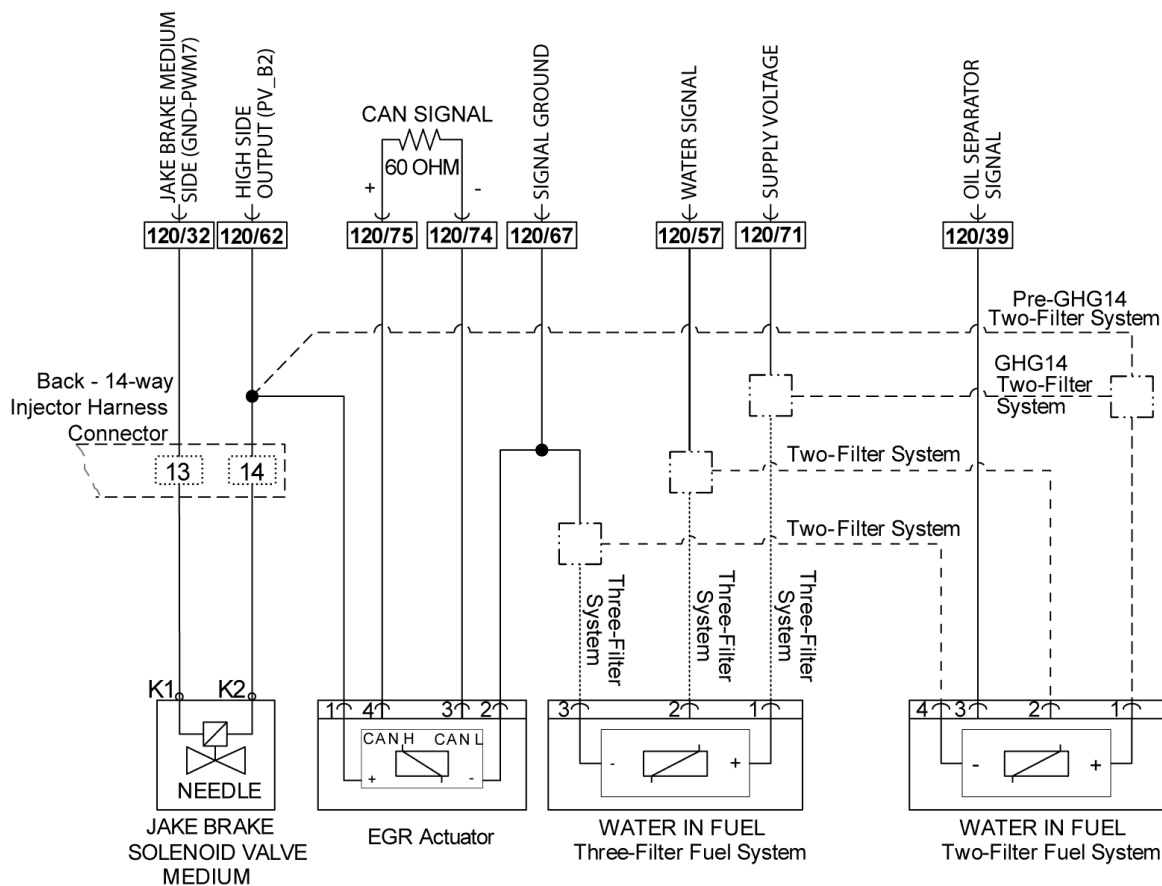
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This diagnostic is typically EGR Valve Actuator, Position Deviation Error.

Table 1.

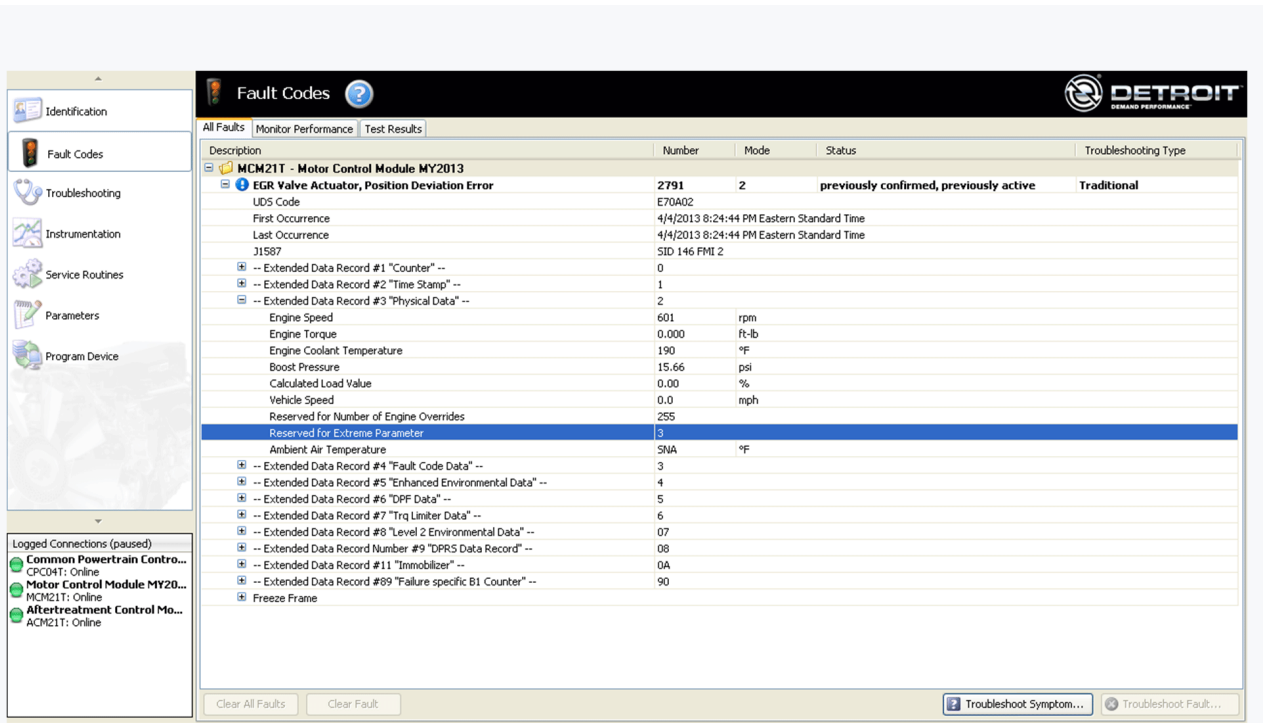
SPN 2791/FMI 2	
Description	EGR Valve Position Incorrect
Monitored Parameter	EGR Position Error
Typical Enabling Conditions	EGR in closed-loop control, EGR flow must vary, CAC outlet temperature greater than 0°C (32°F), engine speed 1200 to 2500 rpm, engine torque 500 to 2500 N·m (369 to 1844 lb·ft), coolant temperature greater than 65°C (149°F), ambient temperature greater than -8°C (18°F) ambient, barometric pressure greater than 755 mbar, engine must not have been in regeneration mode for greater than 5 minutes.
Monitor Sequence	None
Execution Frequency	Always enabled
Typical Duration	5 seconds
Dash Lamps	MIL, CEL
Engine Reaction	None
Verification	When ambient temperature greater than -8°C (18°F), barometric pressure greater than 755 mbar, and engine has not been in regeneration mode for greater than 5 minutes, warm up engine such that coolant temperature greater than 65°C (149°F). Run vehicle, varying throttle to vary EGR flow, insuring engine is operating in closed-loop EGR control and CAC outlet temperature is greater than 0°C (32°F).



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Check as follows:

1. Using DiagnosticLink™, check SPN 2791/FMI 2 extended data record #3 "physical data." Refer to the chart below for the extreme parameter value.



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Table 2.

Extreme Parameter Value	Parameter Action to Take
Reserved Extreme	Parameter Action to Take
3, 4, 9, 10, 22, 23, 65535	Go to step 2.
15, 255	Go to step 5.
8, 11	Go to step 10.
5, 7, 20	Replace EGR actuator.
	For DD13, Refer to section "Removal of the DD13 Exhaust Gas Recirculation Valve Actuator".
	For DD15 and DD16, Refer to section "Removal of the DD15 and DD16 Exhaust Gas Recirculation Valve".

2. Turn the ignition OFF.
3. Disconnect the Exhaust Gas Recirculation (EGR) valve actuator pull rod. Inspect the ball sockets on the pull rod for free movement. Refer to Service Letter 13 TS 30 for EGR linkage hardware update. Do the sockets rotate or move freely and are part numbers correct?
 - a. Yes; Go to step 4.
 - b. No; replace the EGR valve actuator pull rod or lever as needed.
 For the DD13: Refer to section "Removal of the Exhaust Gas Recirculation Valve Actuator Pull Rod".
 For the DD15 and DD16: Refer to section "Removal of the Exhaust Gas Recirculation Valve Actuator Pull Rod".
 Go to step 14.
4. Physically move the EGR butterfly from stop-to-stop to check for full travel (some drag is normal). Does the EGR butterfly move stop-to-stop?
 - a. Yes; replace the EGR valve actuator.
 For the DD13: Refer to section "Removal of the DD13 Exhaust Gas Recirculation Valve Actuator".
 For the DD15 and DD16: Refer to section "Removal of the DD15 and DD16 Exhaust Gas Recirculation Valve".
 Go to step 14.
 - b. No; replace the EGR valve.

For the DD13: Refer to section "Removal of the Exhaust Manifold".

For the DD15 and DD16: Refer to section "Removal of the DD15 and DD16 Exhaust Gas Recirculation Valve".

Go to step 14.

5. Turn the ignition OFF.
6. Disconnect the EGR valve actuator harness connector.
7. Turn the Ignition ON (key ON, engine OFF).
8. Measure the voltage between pins 1 and 2 of the EGR valve actuator connector (engine harness side). Is the voltage greater than 11 volts?
 - a. Yes; Reconnect the EGR valve actuator harness connector. Go to step 10.
 - b. No; Go to step 9.
9. Measure the voltage between pin 1 of the EGR valve actuator connector and battery ground. Is the voltage greater than 11 volts?
 - a. Yes; repair the wire between pin 2 of the EGR valve actuator connector (engine harness side) and pin 67 of the MCM 120-pin connector. Go to step 14.
 - b. No; repair wire between pin 1 of the EGR valve actuator connector harness and pin 62 of the MCM 120-pin connector. Go to step 14.
10. Verify software update per Service Letter 13 TS 36. Is the software at the latest level?
 - a. Yes; Go to step 11.
 - b. No; Using DiagnosticLink, program software package. Go to step 14.
11. Install a test MCM.
12. Clear fault codes and cycle the ignition.
13. Perform verification road test to duplicate fault conditions. Does SPN 2791/FMI 2 become active?
 - a. Yes; Replace the EGR valve actuator.

For the DD13: Refer to section "Removal of the DD13 Exhaust Gas Recirculation Valve Actuator".

For the DD15 and DD16: Refer to section "Removal of the DD15 and DD16 Exhaust Gas Recirculation Valve".

Go to step 14.
 - b. No; replace the MCM. Refer to section "Removal of the Motor Control Module". Go to step 14.
14. Perform verification road test to verify repairs.