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Service Information Bulletin

SUBJECT	DATE
Aerated Fuel Test – Two-Filter Fuel System	April 2013

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DD Platform	Aerated Fuel Test – Two-Filter Fuel System	This is a new section for the Two-Filter Fuel System



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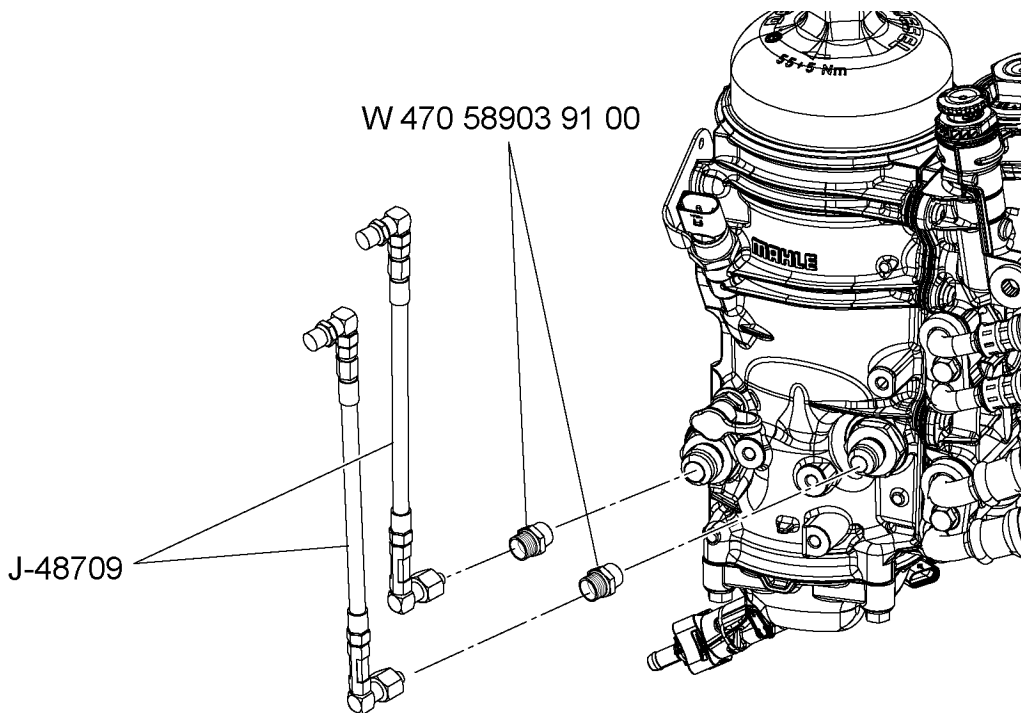
2 Aerated Fuel Test – Two-Filter Fuel System

This condition exists if there is an external leak of the low pressure fuel system, if combustion pressure enters the fuel system or if there is leak of the vehicle side fuel supply system.

Table 1.

Service Tools Used in the Procedure	
Tool Number	Description
J-48708	Fuel Flow Tool
J-48709	Sight Glass Tools
W470589209100	Fuel Flow/Aeration Test Adapters
W470589039100	Fuel System Tool Update Kit w/o MCM cooler
ESOC 350	Fuel Priming Unit
DDDL 7.09 or later	

1. Disconnect the chassis side fuel supply and return lines from the fuel filter module.
2. Using the appropriate adaptors from the W470589039100 Fuel System Tool Update Kit, install the two J-48709 Sight Glass Tools onto the fuel filter module. Connect the other end of the sight glass lines to the chassis side fuel supply and return lines.



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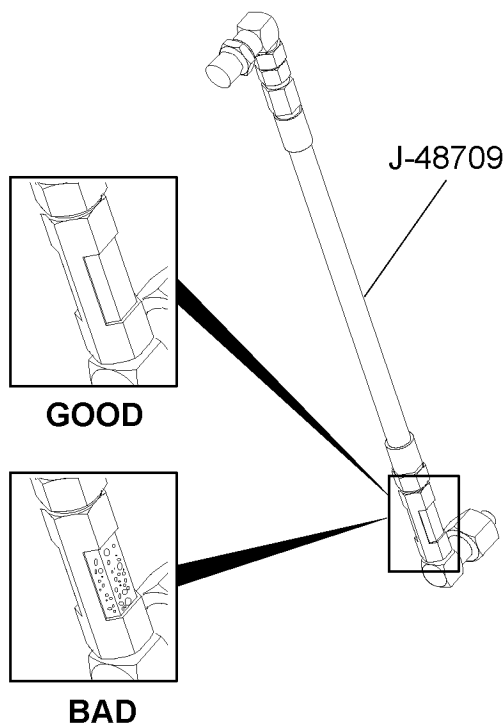
3. Prime the fuel system using the hand priming pump or the ESOC 350 fuel priming pump. Refer to section "Priming the Fuel System Using ESOC 350 Fuel Priming Pump - Two-Filter System".
4. Connect the DDDL to the vehicle, access the Service Routines section and select the Fuel System Integrity Check (FSIC) tab.

**WARNING: ENGINE EXHAUST**

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

NOTE: Use a flashlight behind the sight glass lens to make any air bubbles more visible.

5. Carry out the FSIC routine and watch the fuel inlet and outlet flow through the sight glasses for air bubbles.



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6. Is the fuel aerated in the fuel supply line?
 - a. Yes; repair the fuel supply chassis lines from the fuel tank(s) to the fuel filter module.
 - b. No; Go to step 7.
7. Is the fuel aerated in the fuel return line?
 - a. Yes; Go to step 8.
 - b. No; return to initial diagnostics that referred you to this procedure "Aerated Fuel Test - Two-Filter Fuel System."
8. Carry out a low pressure leak test. Refer to section "FIS Low Pressure Leak Test-Two-Filter Fuel System". Does the low pressure leak test pass?
 - a. Yes, Go to step 9.
 - b. No, repair the leak(s) as necessary.
9. Install the W470589209100 Fuel Flow/Aeration Test Adapters for the needle and amplifier return lines flow test. Refer to Tool Letter 12 TL-7 (<http://www.ddcsn.com/cps/rde/xbcr/ddcsn/12TL7.pdf>) for installation instructions.
10. Carry out the FSIC routine and observe the fuel flow from the amplifier and needle return circuits through the clear lines.
 - a. If there is any air coming out of the needle or amplifier return lines, Go to step 12.
 - b. If there is no air coming out of the needle or amplifier return lines, Go to step 11.

NOTE: If there is no air coming out of the needle or amplifier return lines, the initial concern may have been caused by a loose line, cylinder head fitting or damaged cylinder head fitting sealing washer.

11. Remove the special service tools, install the cylinder head fittings with new sealing washers, reconnect the fuel return lines, then Go to step 1. to verify if the fuel is still aerated. Refer to Tool Letter 12 TL-7 (<http://www.ddcsn.com/cps/rde/xbcr/ddcsn/12TL7.pdf>) for the needle and amplifier return lines flow test tool removal instructions.
12. Perform a cranking compression test using DDDL. Is any cylinder below 90% compression?
 - a. Yes; Go to step 13.
 - b. No; contact the Customer Support Center at (800) 445-1980.
13. Remove the injector for the cylinder(s) found with compression below 90%. Refer to section "Removal of the Fuel Injector - Two-Filter System".
14. Remove and discard the fuel injector cup(s). Refer to section "Removal of the Fuel Injector Cup - Two-Filter System".
15. Install new injector cup(s). Refer to section "Installation of the Fuel Injector Cup - Two-Filter System".
16. Install the injector(s) removed with new hold down bolt(s), O-ring seals and copper washer(s). Refer to section "Installation of the Fuel Injector - Two-Filter System".
17. Repeat the cranking compression test using DDDL. Contact the Customer Support Center at (800) 445-1980 if any of the cylinder compression is below 90%.