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Service Information Bulletin

SUBJECT	DATE
Diagnostic Test	November 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084 DDC-SVC-MAN-0184 DDC-SVC-MAN-S184	DD Platform Euro IV	Engine Fuel Leaks - Fuel Dye Method-Two-Filter Fuel System	These are new sections
DDC-SVC-MAN-0084	DD Platform	Engine Fuel Leaks - Fuel Dye Method - Three-Filter Fuel System	



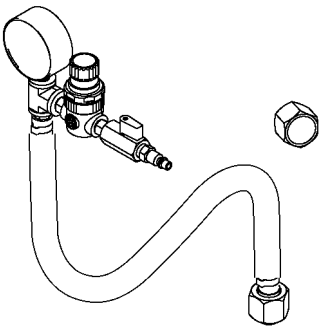
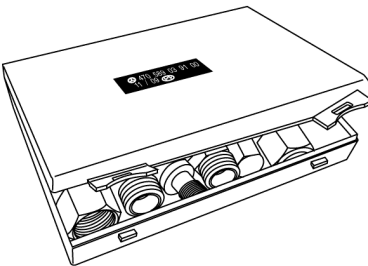
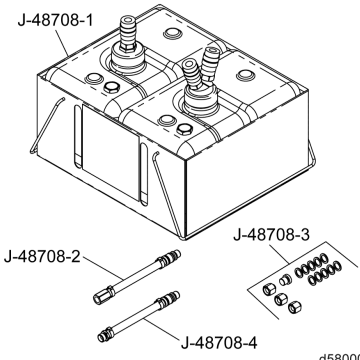
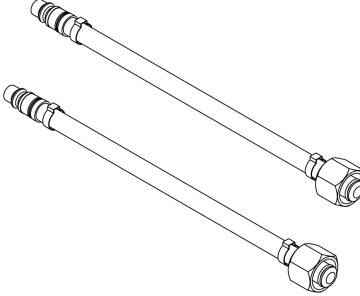
13400 Outer Drive, West, Detroit, Michigan 48239-4001
 Telephone: 313-592-5000
www.demanddetroit.com

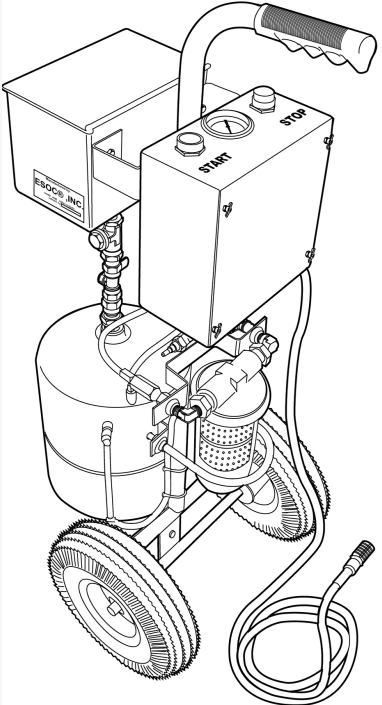
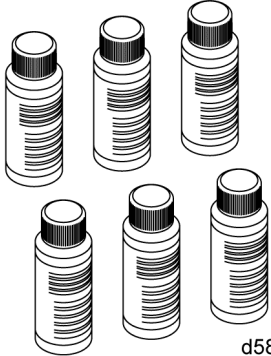
2 Engine Fuel Leaks - Fuel Dye Method - Two-Filter Fuel System

NOTE: This test is only to be performed if a fuel leak is present and a visual inspection of the engine did not pinpoint a fuel leak path.

Service Tools Used in the Procedure

Table 1.

<p>J-48710</p>	<p>Fuel system air pressure tool</p>	 <p>d580007</p>
<p>W470589039100</p>	<p>Fuel System Update kit</p>	 <p>d580142</p>
<p>J-48708</p>	<p>Fuel Flow tool</p>	 <p>J-48708-1 J-48708-2 J-48708-3 J-48708-4</p> <p>d580005</p>
<p>J-48707</p>	<p>FFM in and outlet hose</p>	 <p>d580004</p>

<p>ESOC 350</p>	<p>Fuel Priming Pump</p>	 <p>d580060</p>
<p>J-28431-B (recommended)</p>	<p>Fluorescent Fuel Dye that is diesel compatible</p>	 <p>d580157</p>

Check as follows:

NOTE: When diagnosing an engine fuel leak, the source and location of the leak **MUST** be positively identified prior to repair.

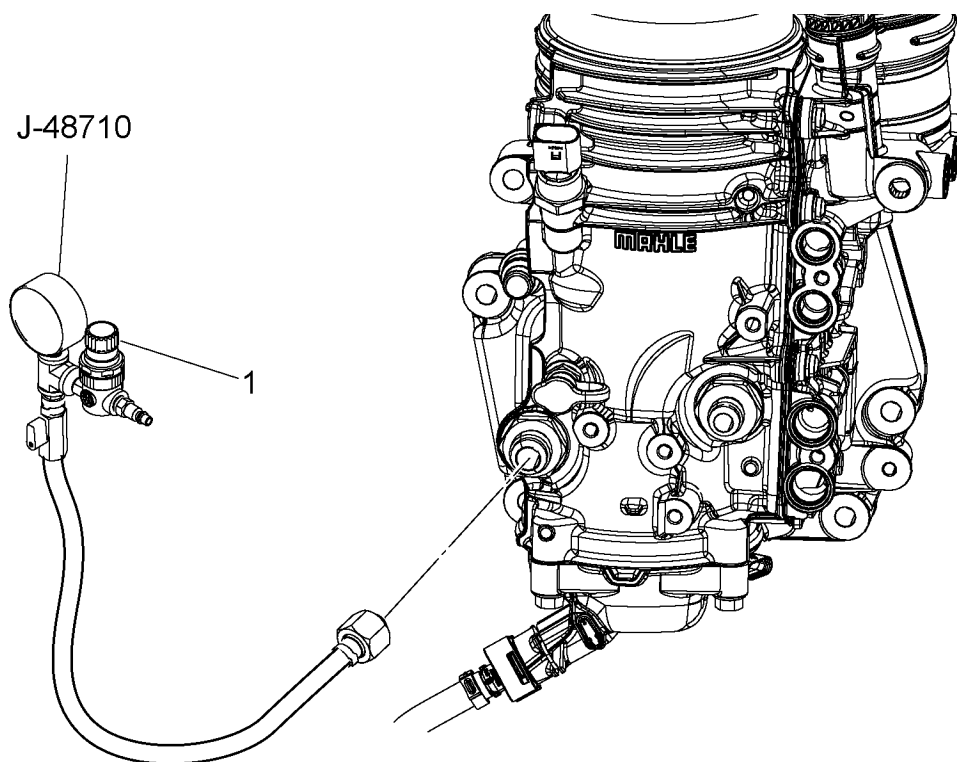
1. With the engine OFF, apply the parking brake, chock the wheels and perform any other applicable safety steps.
2. Remove the fuel tank fill caps.
3. Check if ESOC 350 is empty. If not, prime the fuel filter module, Refer to section "Priming the Fuel System Using ESOC 350 Fuel Priming Pump - Two-Filter System" until the ESOC is empty.
4. Remove the fuel feed line from the fuel filter module.



WARNING: PRESSURIZED AIR AND FLYING PARTICLES

To avoid injury to eye or face, wear a face shield or goggles when conducting a pressure test.

5. Install J-48710 tool (1) on to the fuel filter module.



d470237a

6. Connect an air supply to J-48710 tool.
7. Pressurize the fuel system to 345 kPa (50 psi) for six minutes.
8. Remove the J-48710 tool.

NOTE: It will take a few minutes for the dye in the test bottle to make its way into the high pressure system and up to the fuel injectors.

NOTE: When configuring the amount of dye to be added. Consider this procedure will be run with approximately two gallons of fuel.

9. Add diesel fuel compatible fuel dye, per manufacturer's recommendation, to the two fitting container on the Fuel flow tool J-48708.
10. Remove the OEM Fuel return line off the fuel filter module.
11. Connect Fuel System Update Kit W470589039100 connectors to Fuel Filter Module supply and return fittings.
12. Install the FFM in and outlet Hoses J-48707 to Fuel System Update kit W470589039100.
13. Connect the other end of the FFM in and outlet hoses J-48707 to the Fuel Flow tool J-48708.

NOTE: 0.8 L of fuel is in the module after the above draining is performed. This amount is compensated for when priming.

14. Measure 6.8 L of Diesel fuel into the single fitting container of the Fuel Flow tool J-48708.
15. Add fuel from the single fitting container of the Fuel Flow tool J-48708 to the ESOC 350.
16. Prime the fuel system Refer to section "Priming the Fuel System Using ESOC 350 Fuel Priming Pump - Two-Filter System" until the ESOC 350 is empty.



WARNING: PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.



WARNING: PERSONAL INJURY

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

- Always start and operate an engine in a well ventilated area.
- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.

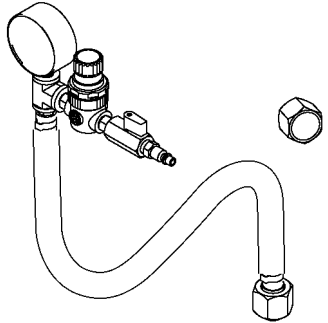
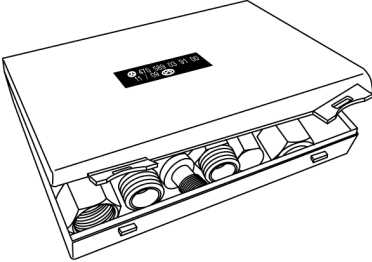
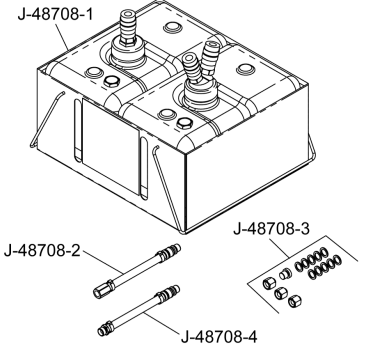
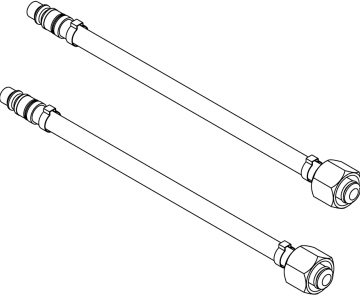
17. Start engine and allow it to reach operating temperature 60°C (140°F). To perform the test, run the engine at 900 rpm.
18. Using the black light, inspect the fuel system for the source of the fuel leak. Refer to section "Potential Fuel Leak Points - Two-Filter Fuel System".

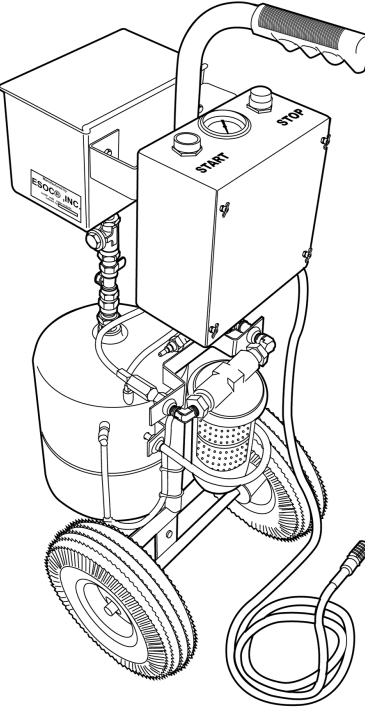
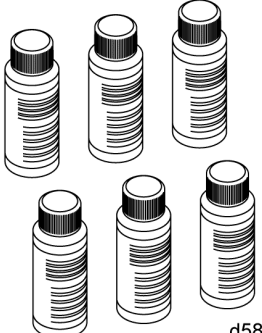
3 Engine Fuel Leaks - Fuel Dye Method - Three-Filter Fuel System

NOTE: This test is only to be performed if a fuel leak is present and a visual inspection of the engine did not pinpoint a fuel leak path.

Service Tools Used in the Procedure

Table 2.

<p>J-48710</p>	<p>Fuel system air pressure tool</p>	 <p>d580007</p>
<p>W470589039100</p>	<p>Fuel System Update kit</p>	 <p>d580142</p>
<p>J-48708</p>	<p>Fuel Flow tool</p>	 <p>J-48708-1 J-48708-2 J-48708-3 J-48708-4</p> <p>d580005</p>
<p>J-48707</p>	<p>FFM in and outlet hose</p>	 <p>d580004</p>

ESOC 350	Fuel Priming Pump	 <p style="text-align: right;">d580060</p>
J-28431-B (recommended)	Fluorescent Fuel Dye that is diesel compatible	 <p style="text-align: right;">d580157</p>

Check as follows:

NOTE: When diagnosing an engine fuel leak, the source and location of the leak **MUST** be positively identified prior to repair.

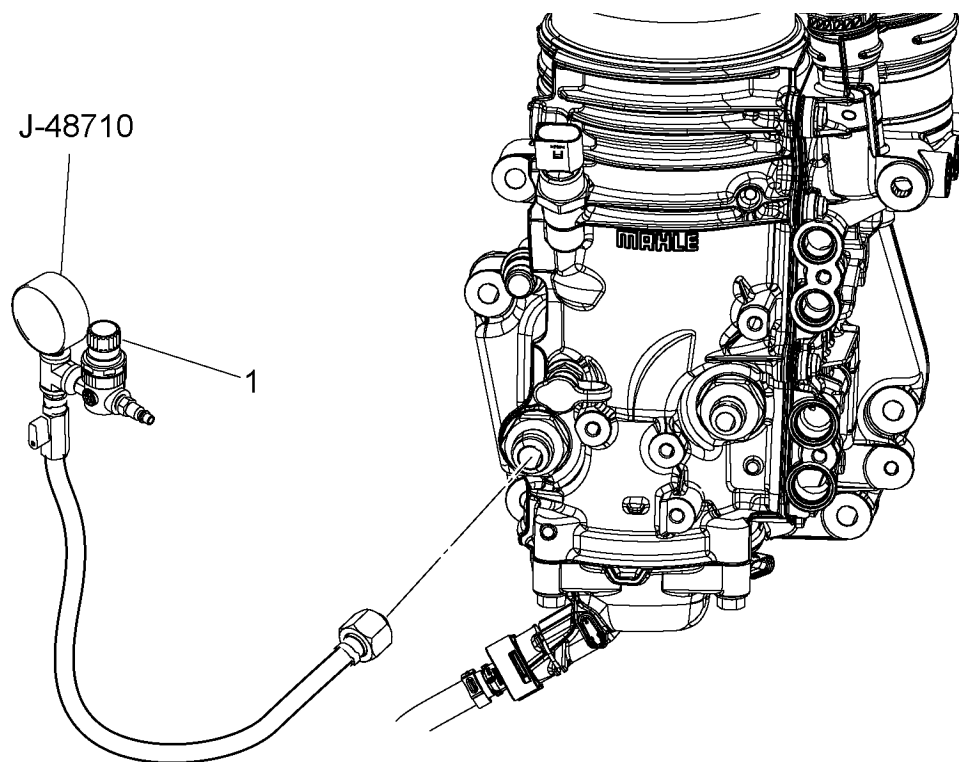
1. With the engine OFF, apply the parking brake, chock the wheels and perform any other applicable safety steps.
2. Remove the fuel tank fill caps.
3. Check if ESOC 350 Fuel Priming Pump is empty. If not, prime the fuel filter module, Refer to section "Priming the Fuel System Using ESOC 350 Fuel Priming Pump - Three-Filter System" until the ESOC is empty.
4. Remove the fuel feed line from the fuel filter module.



WARNING: PRESSURIZED AIR AND FLYING PARTICLES

To avoid injury to eye or face, wear a face shield or goggles when conducting a pressure test.

5. Install J-48710 tool (1) on to the fuel filter module.



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6. Connect an air supply to J-48710 tool.
7. Pressurize the fuel system to 345 kPa (50 psi) for six minutes.
8. Remove the J-48710 tool.

NOTE: It will take a few minutes for the dye in the test bottle to make its way into the high pressure system and up to the fuel injectors.

NOTE: When configuring the amount of dye to be added, consider this procedure will be run with approximately two gallons of fuel.

9. Add diesel fuel compatible fuel dye, per manufacturer's recommendation, to the two-fitting container on the Fuel flow tool J-48708.
10. Remove the OEM fuel return line off the fuel filter module.
11. If fuel filter module is equipped with SAE fittings (post EPA07), connect Fuel System Update Kit W470589039100 connectors to Fuel Filter Module supply and return fittings.
12. Install the FFM inlet and outlet hoses J-48707 to Fuel System Update kit W470589039100.
13. Connect the other end of the FFM inlet and outlet hoses J-48707 to the fuel flow tool J-48708.

NOTE: 0.8 L of fuel is in the module after the above draining is performed. This amount is compensated for when priming.

14. Measure 6.8 L of diesel fuel into the single-fitting container of the fuel flow tool J-48708.
15. Add fuel from the single-fitting container of the Fuel flow tool J-48708 to the ESOC 350 Fuel Priming Pump.
16. Prime the fuel system; Refer to section "Priming the Fuel System Using ESOC 350 Fuel Priming Pump - Three-Filter System" until the ESOC 350 is empty.



WARNING: PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

**WARNING: PERSONAL INJURY**

To avoid injury from hot surfaces, wear protective gloves, or allow engine to cool before removing any component.

**WARNING: PERSONAL INJURY**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

- Always start and operate an engine in a well ventilated area.
- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.

17. Start engine and allow it to reach operating temperature 60°C (140°F). To perform the test, run the engine at 900 rpm.
18. Using the black light, inspect the fuel system for the source of the fuel leak. Refer to section "Potential Fuel Leak Points - Three-Filter Fuel System".