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Service Information Bulletin

SUBJECT	DATE
FIS Low Pressure Leak Test	March 2013

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DD Platform	FIS Low Pressure Leak Test- Three-Filter Fuel System	Changed last step in the procedure to refer to the "Potential Fuel Leak Points-Three-Filter System" procedure.
		FIS Low Pressure Leak Test-Two- Filter Fuel System	Changed last step in the procedure to refer to the "Potential Fuel Leak Points-Two-Filter System" procedure.



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2 FIS Low Pressure Leak Test-Three-Filter Fuel System

Table 1.

Service Tools Used in the Procedure	
Tool Number	Description
J-48710	Air Pressure Test, HDE Fuel System
W470589039100	Fuel System Tool Update Kit w/o an MCM cooler
DDDL 7.08 or later	

Test as follows:

1. Shut off the engine, apply the parking brake, chock the wheels, and perform any other applicable safety steps.
2. Remove the Fuel Tank Fill Caps.
3. Remove the fuel feed line at the fuel filter module.



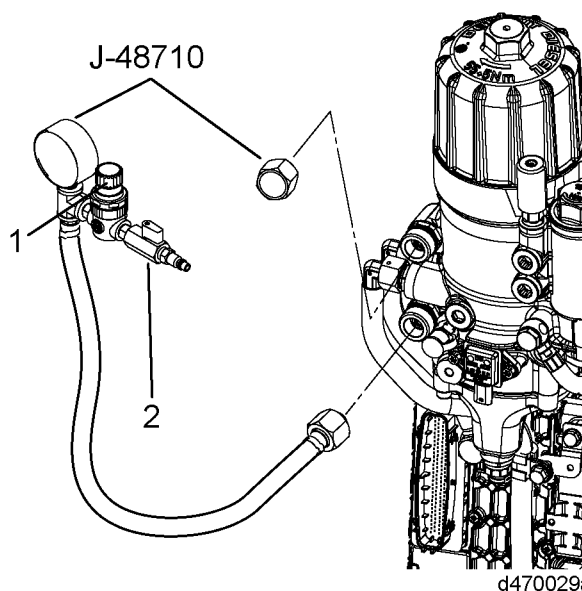
WARNING: PRESSURIZED AIR AND FLYING PARTICLES

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

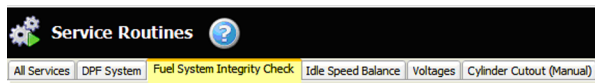
4. Install J-48710 Low Pressure Leak test kit and air hose.
5. Use regulator and adjust the system pressure to 345 kPa (50 psi) . After six minutes, the system should be drained of fuel.
6. Return the regulator to 0 kPa (0 psi) pressure; close the ball valve. Go to step 7.

NOTE: On engines without an MCM cooler, W470589039100 Fuel System Tool Update Kit will be required to install J-48710.

7. Remove the return line and install J-48710 cap onto the return fitting of the module.
8. Install the Fuel Tank Fill Caps.



9. Turn ignition ON (key ON, engine OFF) and connect to the MCM with DDDL and open the "Fuel System Integrity Check" panel under "Service Routines."



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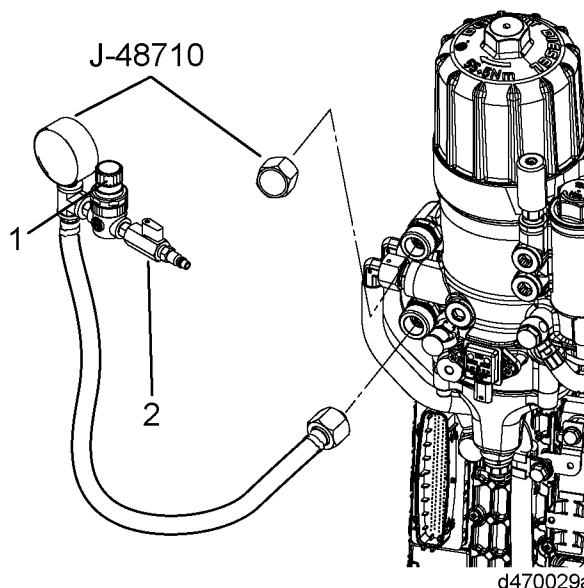
10. Ensure the shutoff valve (2) is in the OFF position.



WARNING: PRESSURIZED AIR AND FLYING PARTICLES

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11. Turn regulator (1) counterclockwise until it stops. The regulator is now set to zero pressure.



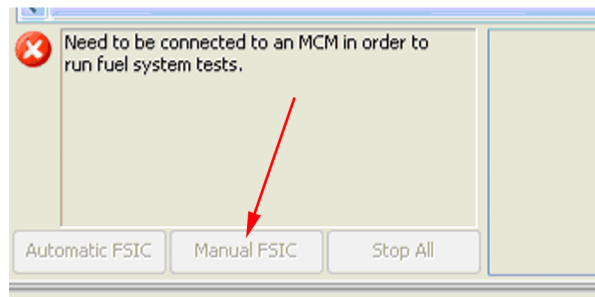
12. Connect tool J-48710 to a shop air hose (551 kPa (80 psi) gauge minimum).
13. Turn the shutoff valve to the ON position.



WARNING: PERSONAL INJURY

To avoid injury from the sudden release of a high-pressure hose connection, wear a face shield or goggles.

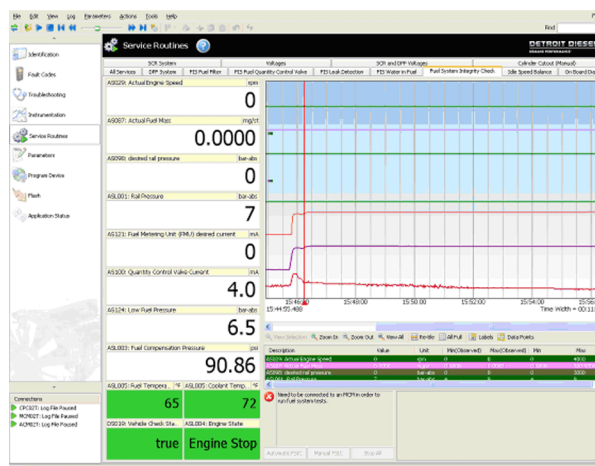
14. Turn the regulator clockwise to increase pressure in the fuel system to 517kPa (75 psi) on the gauge.
15. Once the system pressure has reached 517kPa (75 psi), let the system pressure stabilize for four minutes. Turn the shutoff valve to the OFF position and disconnect shop air from the regulator.
16. Click on the "Manual FSIC" button on the bottom of the Fuel System Integrity Check panel.



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NOTE: The fuel compensation pressure sensor reads in absolute pressure, therefore the pressure should read about 100 kPa (14.5 psi) (depending on elevation) higher than the gauge on the J-48710 Air Pressure Test tool. This reading should be around 620 kPa (90 psi) on the FSIC panel.

17. Monitor the fuel compensation pressure on the FSIC panel. The system pressure should not drop more than 3.4 kPa (0.5 psi) in 10 minutes.



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18. Does the fuel compensation pressure drop more than 3.4 kPa (0.5 psi) in 10 minutes?
 - a. Yes, Go to step 20.
 - b. No, Go to step 19.
19. Was the air hose removed from tool J-48710, and the ball valve closed?
 - a. Yes, return to initial diagnostics that directed you to the fuel system leak test.
 - b. No, Go to step 15.

**WARNING: PRESSURIZED AIR AND FLYING PARTICLES**

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

20. Attach shop air and open ball valve and pressurize fuel system to 517 kPa (75 psi). Go to step 21.
21. Using a soapy solution, spray connectors, fittings and hoses shown in the “Potential Fuel Leak Points-Three-Filter Fuel System” procedure. Refer to section "Potential Fuel Leak Points - Three-Filter Fuel System". Was a leak found?
 - a. Yes, repair as necessary and verify repairs by performing the leak test.
 - b. No, contact the Customer Support Center at 800-445-1980.

3 FIS Low Pressure Leak Test-Two-Filter Fuel System

Table 2.

Service Tools Used in the Procedure	
Tool Number	Description
J-48710	Air Pressure Test, Fuel System
DDDL 7.09 or later	

Test as follows:

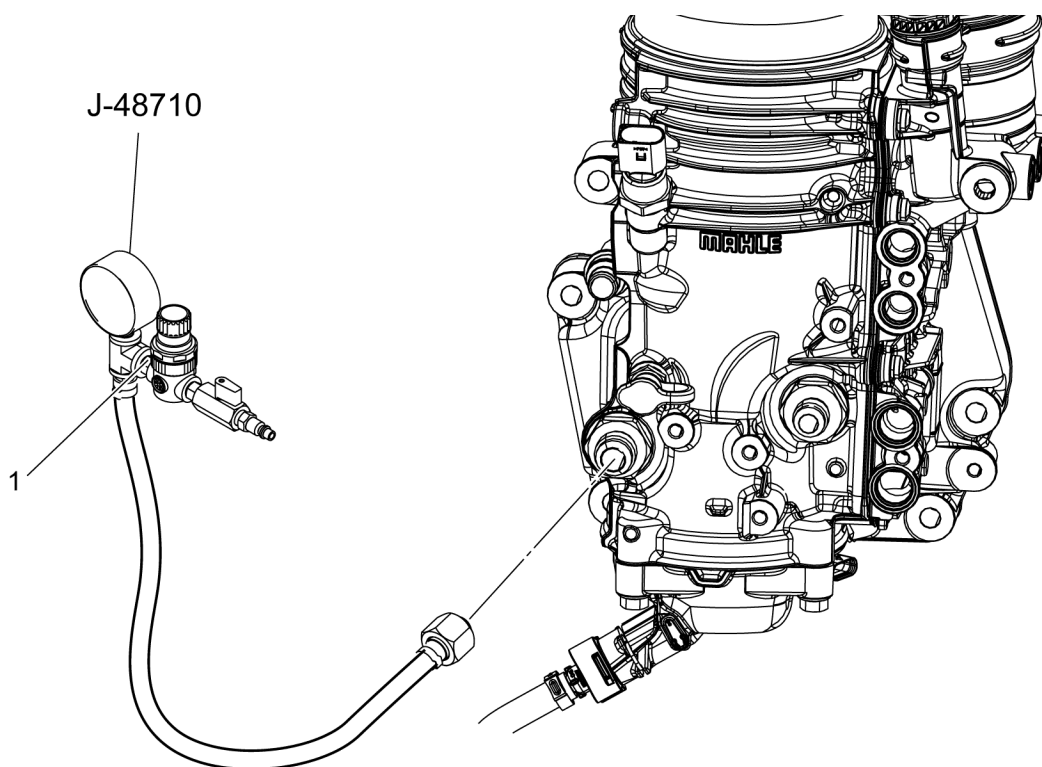
1. With the engine OFF, apply the parking brake, chock the wheels and perform any other applicable safety steps.
2. Remove the fuel tank fill caps.
3. Remove the fuel feed line from the fuel filter module.



WARNING: PRESSURIZED AIR AND FLYING PARTICLES

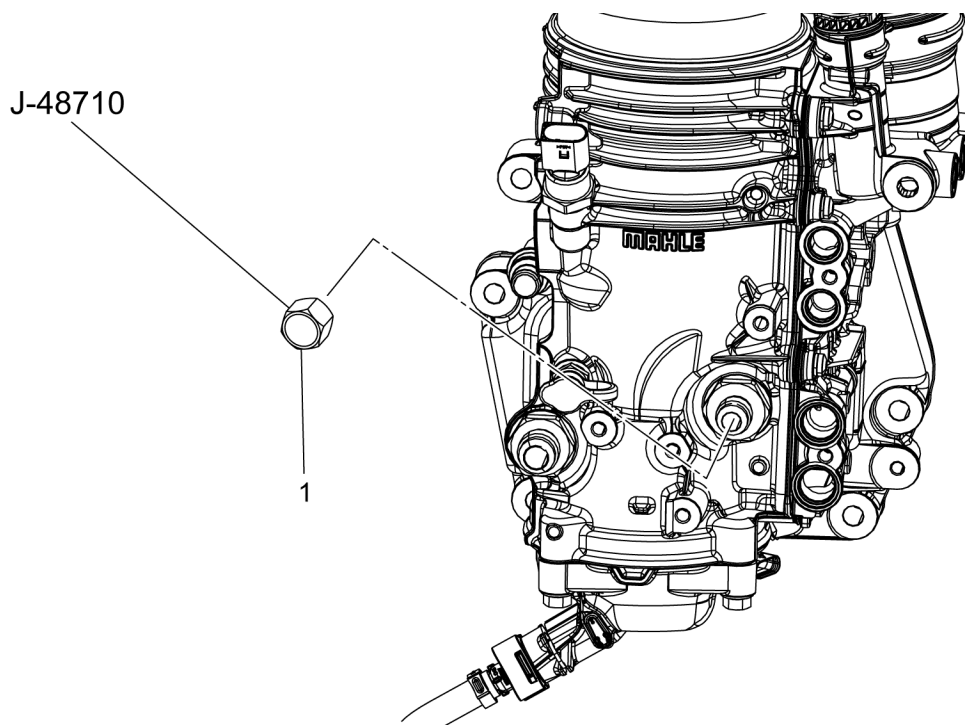
To avoid injury to eye or face, wear a face shield or goggles when conducting a pressure test.

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



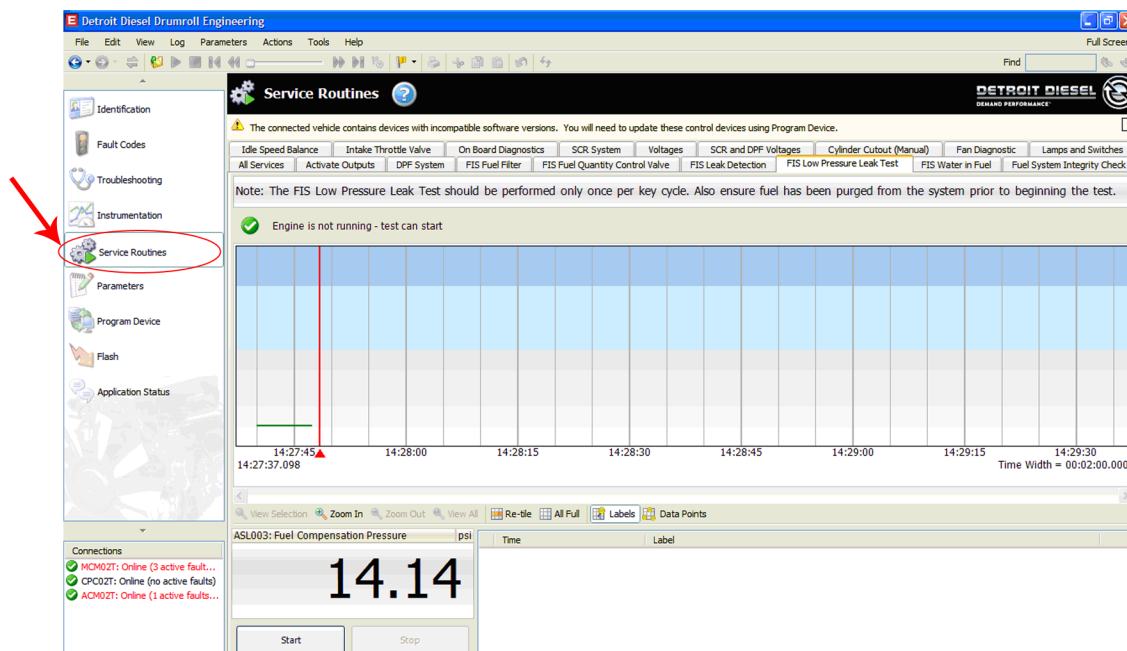
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5. Connect an air supply to J-48710 tool.
6. Pressurize the fuel system to 345 kPa (50 psi) for six minutes.
7. Close the ball valve on J-48710 tool.
8. Remove the return line from the fuel filter module and install J-48710 cap tool (1) on the fuel filter module return line fitting.



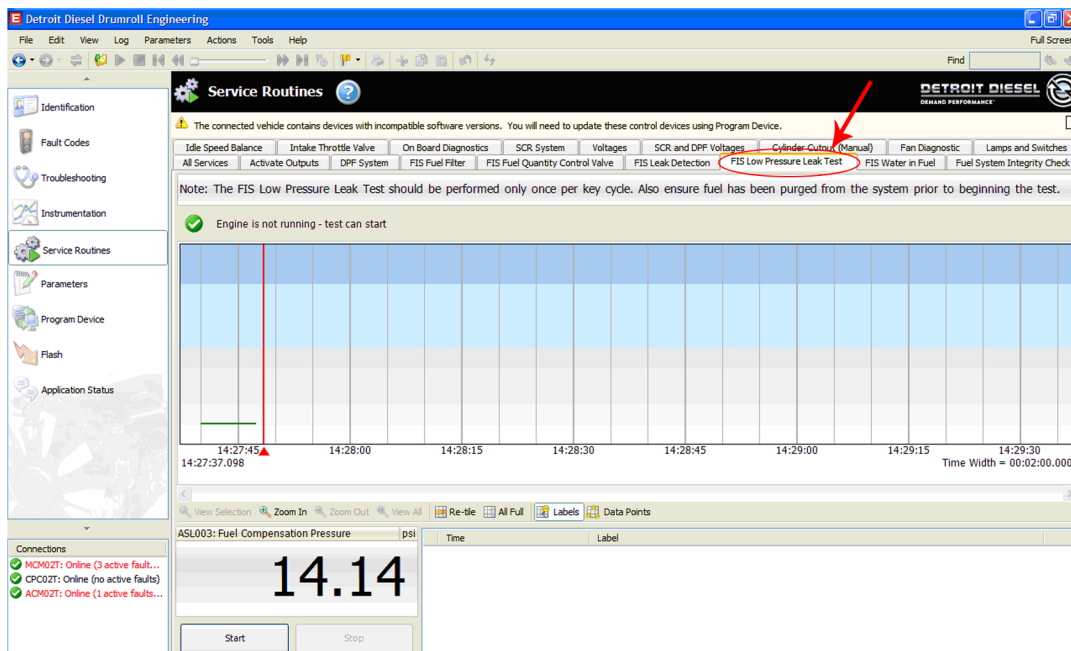
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9. Install the fuel tank fill caps.
10. Ignition ON, engine OFF, connect to the MCM using DDDL.
11. Click the “service routines” tab in DDDL.



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12. Click the “FIS Low Pressure Leak Test” tab in DDDL.



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WARNING: PRESSURIZED AIR AND FLYING PARTICLES

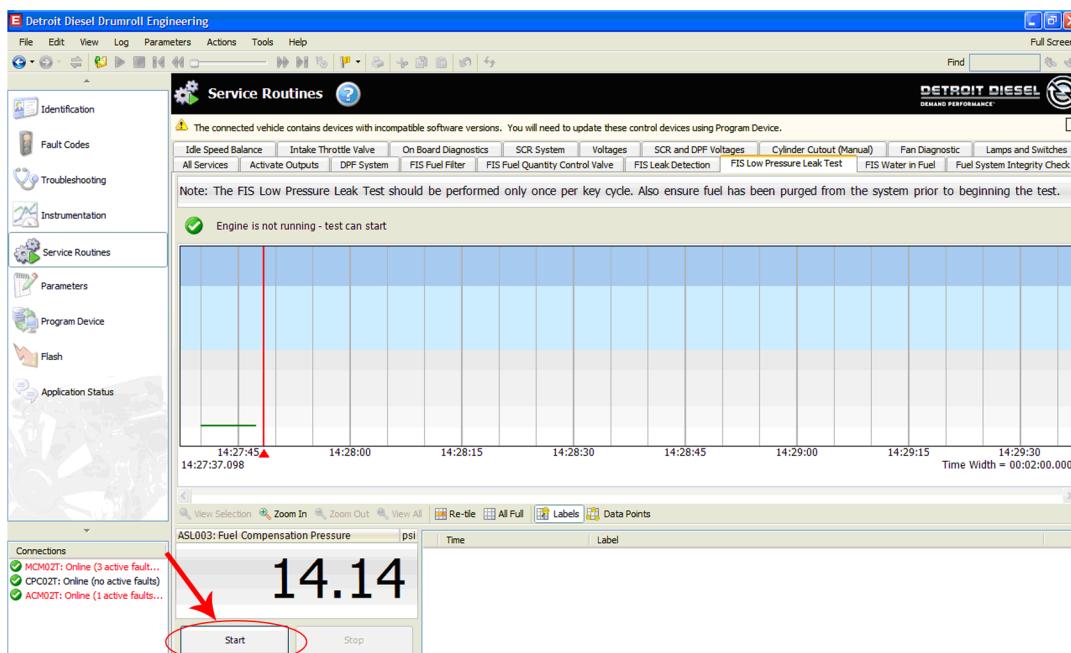
To avoid injury to eye or face, wear a face shield or goggles when conducting a pressure test.

13. Using J-48710 tool, pressurize the fuel system to 517 kPa (75 psi) for four minutes.
14. Close the ball valve and disconnect the air supply from J-48710 tool.

NOTE: The fuel compensation pressure will increase after the “Start” button has been pressed.

NOTE: The fuel compensation pressure sensor reads in absolute pressure, therefore the pressure should read about 100 kPa (14.5 psi) (depending on elevation) more than the fuel pressure gauge on the J-48710 tool. The fuel compensation sensor will read close to 620 kPa (90 psi) of pressure when the J-48710 tool is reading 517 kPa (75 psi).

15. Press the “Start” button on DDDL.



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16. Once the test is complete, review the DDDL log file test results.
17. Did the fuel system pass the FIS Low Pressure Leak Test?
 - a. Yes; slowly remove the J-48710 cap tool from the fuel filter module. Remove the J-48710 tool from the fuel filter module. Install the fuel feed line and return line on to the fuel filter module. Return to the initial diagnostics that directed you to the FIS Low Pressure Leak Test.
 - b. No; Go to step 18.



WARNING: PRESSURIZED AIR AND FLYING PARTICLES

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18. Connect an air supply to the J-48710 tool.
19. Open the ball valve and pressurize the fuel system to 517 kPa (75 psi).
20. Using a soapy solution, spray connectors, fittings and hoses shown in the "Potential Fuel Leak Points-Two-Filter Fuel System" procedure. Refer to section "Potential Fuel Leak Points - Two-Filter Fuel System". Was a leak found?
 - a. Yes; repair as necessary. Repeat the FIS Low Pressure Leak Test to verify the repair.
 - b. No; contact the Detroit™ Customer Support Center at 800-445-1980.