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Service Information Bulletin

SUBJECT	DATE
Metal in Fuel	February 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DD Platform	Metal in the Fuel System - Two -Filter Fuel System	Updating to replace the OEM supply and return lines.
		Metal in the Fuel System -Three-Filter Fuel System	

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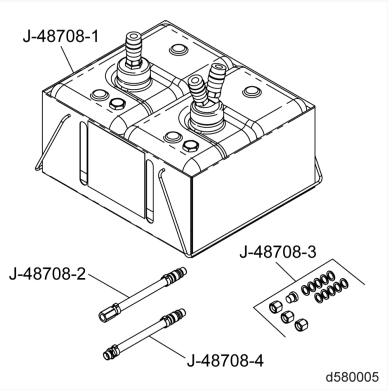
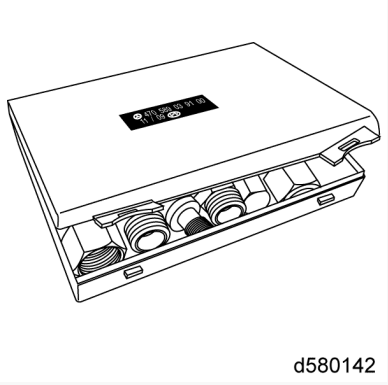
2 Metal in the Fuel System – Two-Filter Fuel System

Table 1.

Service Tools Used in the Procedure		
Tool Number	Tool Description	Tool Graphic
J-48707	Fuel Filter Module Inlet Outlet Hose	
J-48708-1	Fuel Flow Tool	
W470589039100	Fuel System Tool Update Kit Without Motor Control Module (MCM) Cooler	

Check as follows:

1. Remove the fuel filters from the fuel filter module. Inspect the fuel filters and inside of the fuel filter module for metal debris.
   Refer to section "Removal of the Fuel Prefilter – Two Filter System".
   Refer to section "Removal of the Coalescer/Final Filter – Two Filter System ".
   Is any metal debris present?
   a. Yes; Go to step 2.

b. No; reinstall the fuel filters.
   Refer to section "Installation of the Fuel Prefilter – Two Filter System".
   Refer to section "Installation of the Coalescer/Final Filter - Two Filter System".

2. Using a magnet, check the fuel filters and inside of the fuel filter module for magnetic debris. Is any magnetic debris present on the fuel filters or inside of the fuel filter module?
   a. Yes; Go to step 3.
   b. No; replace the fuel filters. Inspect the fuel tank(s) for metal debris. If debris is found in the fuel tank(s), clean the fuel tank(s) refer to OEM procedures.
      Refer to section "Installation of the Fuel Prefilter – Two Filter System".
      Refer to section "Installation of the Coalescer/Final Filter - Two Filter System".
3. Remove the high pressure flange from the high pressure fuel pump. Refer to section "Removal of the High Pressure Fuel Flange - Two-Filter System". Using a magnet, insert the magnet in to the high pressure fuel pump outlet port (1) and check for magnetic debris. Is any magnetic debris present?

Table 2.

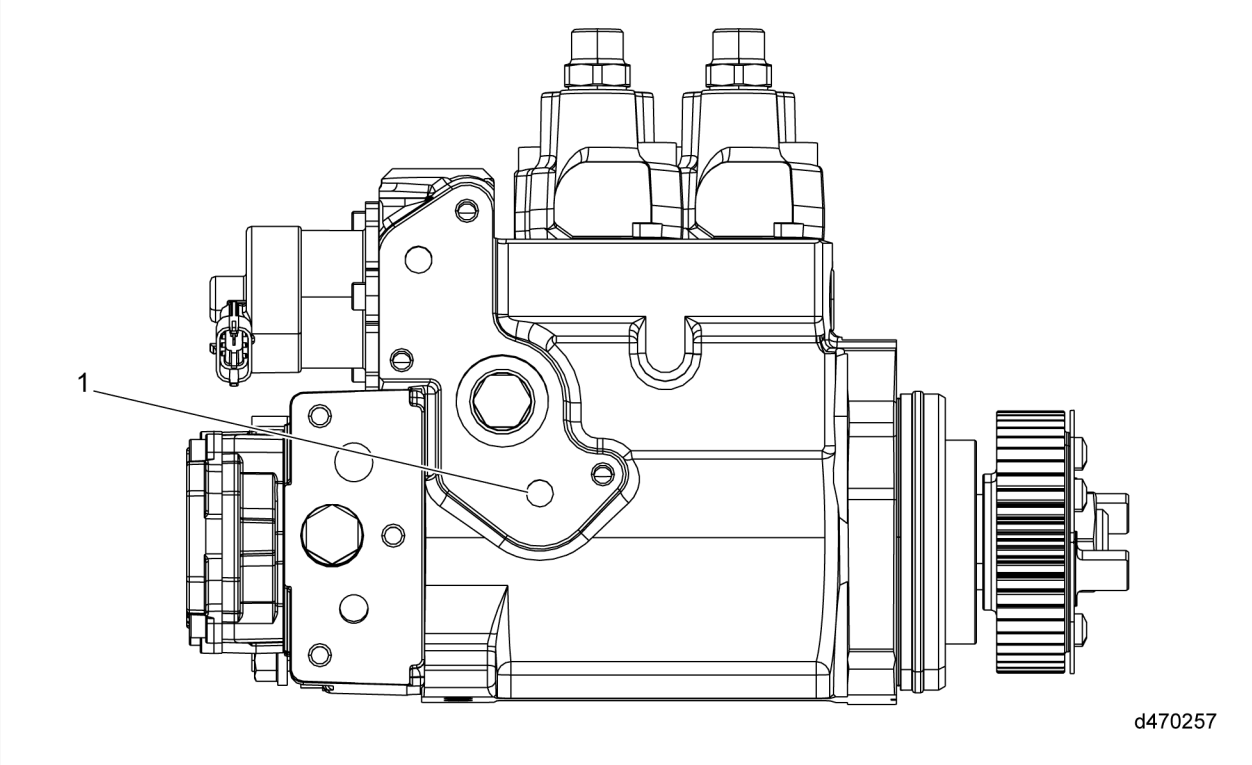
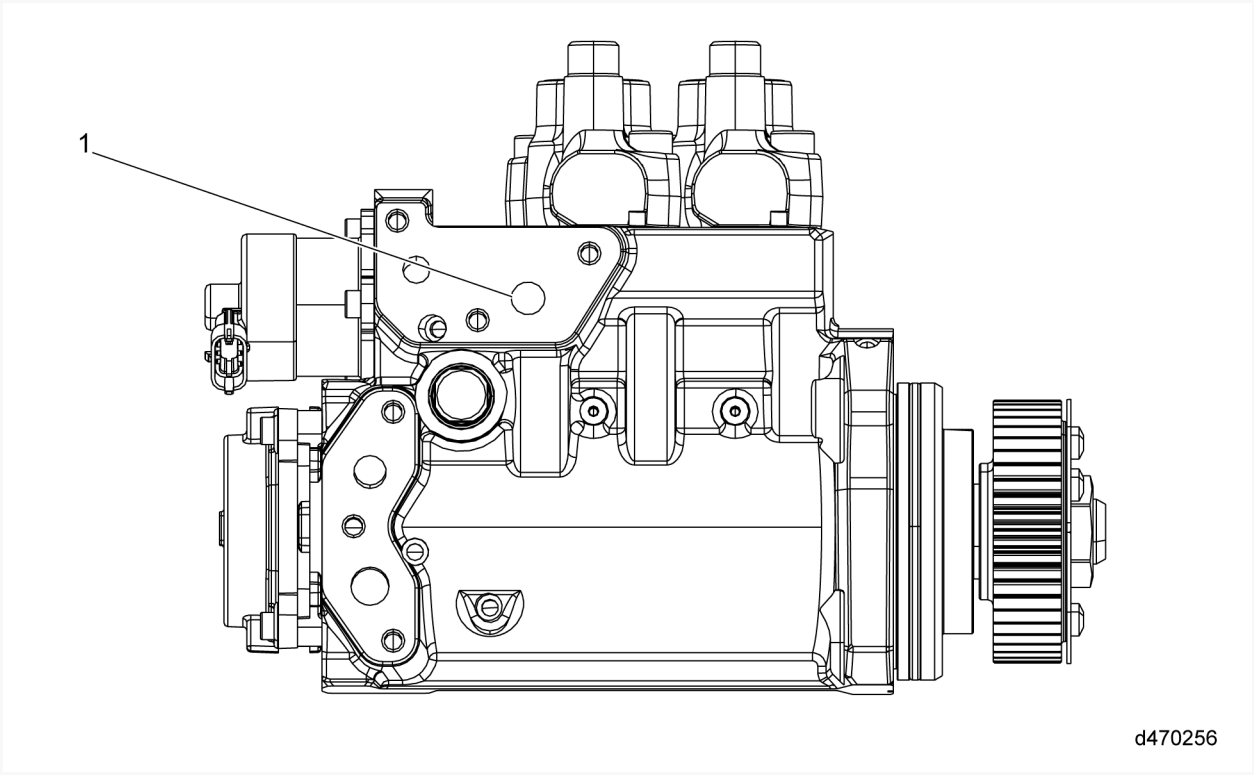
The illustration below shows the location of the high pressure fuel pump outlet port (1) on the KM59 GEN1 high pressure fuel pump.


Table 3.

The illustration below shows the location of the high pressure fuel pump outlet port (1) on the KM63 GEN2 high pressure fuel pump.


a. Yes; Go to step 5.
b. No; reinstall the high pressure flange. Refer to section "Installation of the High Pressure Fuel Flange – Two-Filter System ", then Go to step 4.

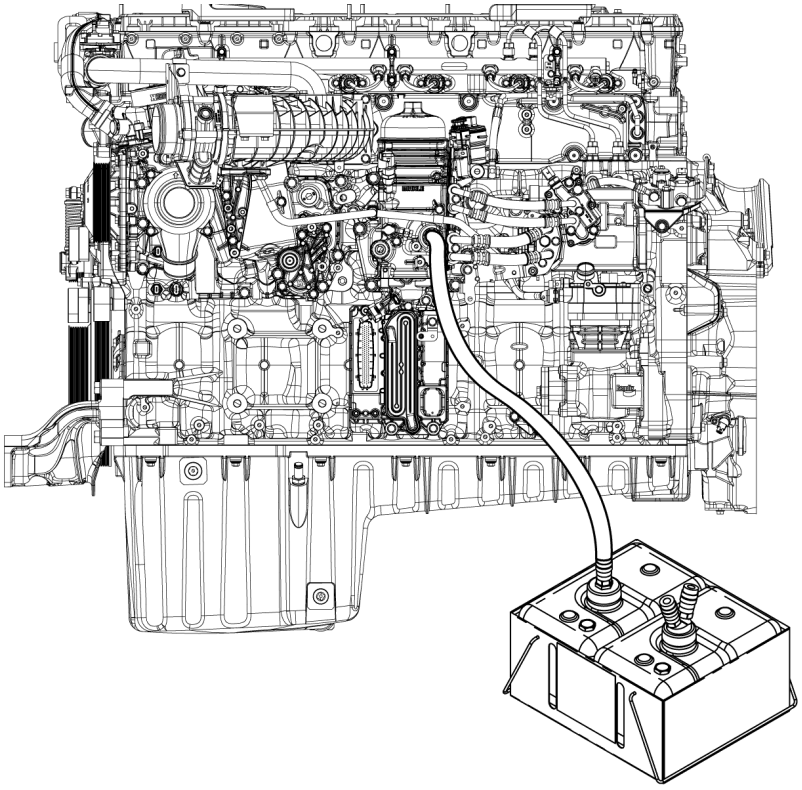
WARNING: ENGINE EXHAUST

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

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.

4. Remove the chassis return line from the fuel filter module. Install J-48707 fuel filter module inlet/ outlet hose and W470589039100 Fuel System Tool Update Kit without a Motor Control Module (MCM) cooler on to the chassis return line fitting on the fuel filter module. Install the opposite end of J-48707 on to J-48708-1 fuel flow tool. Run the engine at idle until J-48708-1 is full with fuel. Using a magnet, check the fuel in J-48708 for magnetic debris. Is any magnetic debris present?



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a. Yes; Go to step 5.
b. No; drain the fuel out of J-48708-1 and repeat step 4. If magnetic debris is found after repeating step 4, go to step 5. If magnetic debris is not found after repeating step 4, replace the fuel filters and inspect the fuel tank(s) for debris. If metal debris is found in the fuel tank(s), clean the fuel tank(s). Refer to OEM procedures.
Refer to section "Installation of the Fuel Prefilter – Two Filter System".
Refer to section "Installation of the Coalescer/Final Filter - Two Filter System".
Inspect the fuel tank(s) for metal debris. If metal debris is found in the fuel tank(s), clean the fuel tank(s); refer to OEM procedures.

5. Remove the Pressure Limiting Valve (PLV). Refer to section "Removal of the Pressure Limiting Valve - Two-Filter System". Using a magnet, check the inside of the fuel rail for magnetic debris.
Is any magnetic debris present?
a. Yes; replace the following components:
   - High pressure fuel pump. Refer to section "Removal of the High Pressure Fuel Pump – Two-Filter System".
   - Fuel filter module. Refer to section "Removal of the Fuel Filter Module – Two-Filter System".
   - High pressure fuel injector lines. Refer to section "Removal of the High Pressure Fuel Injector Lines - Two-Filter System".
   - High pressure fuel rail feed lines. Refer to section "Metal in the Fuel System – Two-Filter Fuel System".
   - Fuel injectors. Refer to section "Aerated Fuel Test – Two-Filter Fuel System".
   - High pressure flange. Refer to section "Metal in the Fuel System – Two-Filter Fuel System".
   - Frame-mounted filter (if equipped).
   - OEM supply and return lines. Refer to OEM procedures

   Clean the following components:
   - Low pressure lines. Refer to section "Removal of the Low Pressure Fuel Pump Lines - Two-Filter System".
   - Doser supply line.
   - Return lines. Refer to section "Removal of the Needle, Amplifier, and Pressure Limiting Valve (PLV) Return Lines – Two-Filter System".
   - Fuel rail. Refer to section "Metal in the Fuel System – Two-Filter Fuel System".
   - Frame -mounted filter housing (if equipped).
   - Fuel tank(s). Refer to OEM procedures.

b. No; replace the following:
   - High pressure fuel pump. Refer to section "Removal of the High Pressure Fuel Pump – Two-Filter System".

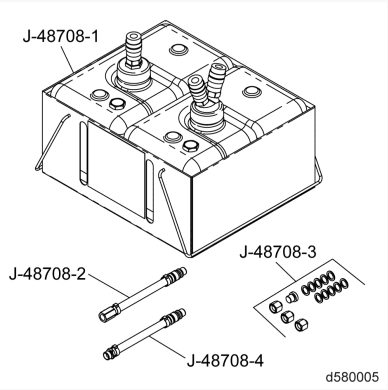
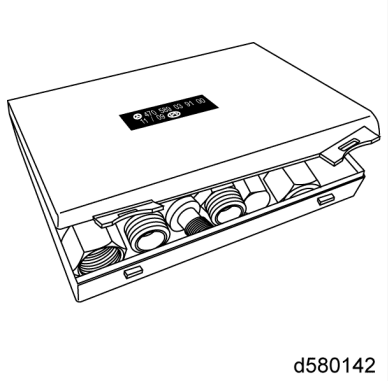
- High pressure fuel rail feed lines. Refer to section "Metal in the Fuel System – Two-Filter Fuel System".
- Fuel filter module. Refer to section "Removal of the Fuel Filter Module – Two-Filter System".
- High pressure flange. Refer to section "Metal in the Fuel System – Two-Filter Fuel System".
- Frame-mounted filter (if equipped).
- OEM supply and return lines. Refer to OEM procedures.

Clean the following components:

- Fuel tank(s). Refer to OEM procedures.
- Low pressure lines. Refer to section "Removal of the Low Pressure Fuel Pump Lines - Two-Filter System".
- Doser supply line.
- Return lines. Refer to section "Removal of the Needle, Amplifier, and Pressure Limiting Valve (PLV) Return Lines – Two-Filter System"
- Frame-mounted filter housing (if equipped).

3 Metal in the Fuel System – Three-Filter Fuel System

Table 4.

Service Tools Used in the Procedure		
Tool Number	Tool Description	Tool Graphic
J-48707	Fuel Filter Module Inlet Outlet Hose	
J-48708-1	Fuel Flow Tool	
W470589039100	Fuel System Tool Update Kit Without Motor Control Module (MCM) Cooler	

Check as follows:

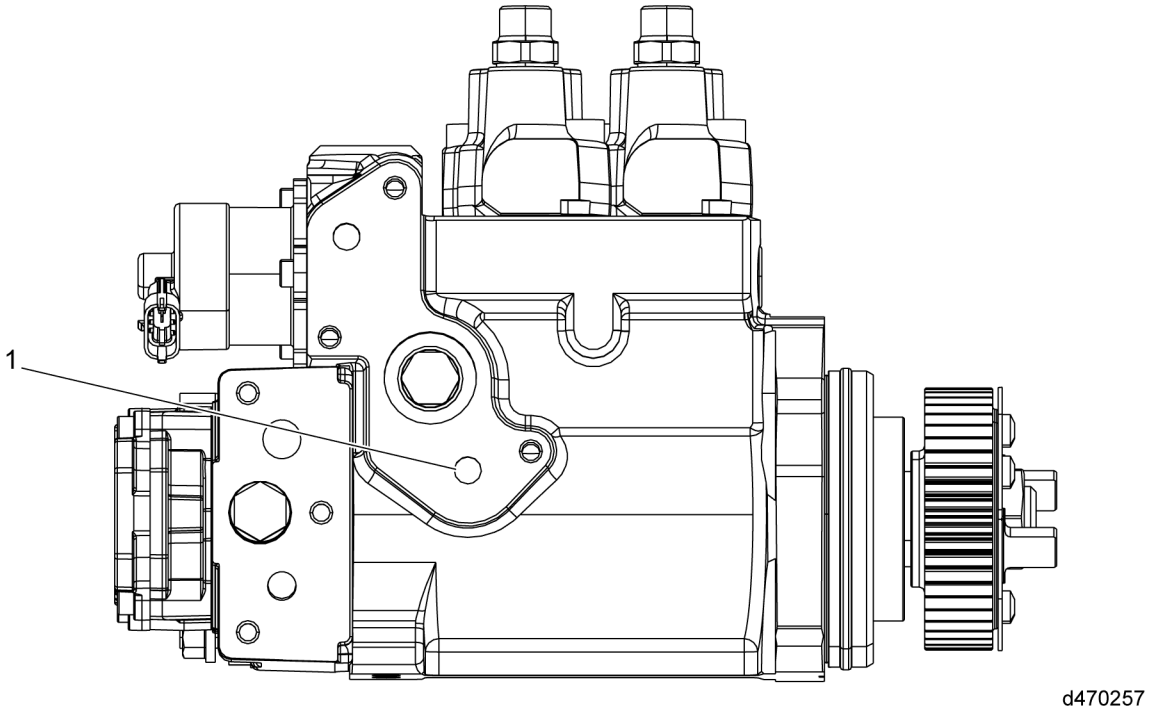
1. Remove the fuel filters from the fuel filter module. Inspect the fuel filters and inside of the fuel filter module for metal debris.
   Refer to section "Removal of the Fuel Prefilter - Three-Filter System".
   Refer to section "Removal of the Water Separator/Coalescer - Three-Filter System".
   Refer to section "Removal of the Final Filter - Three-Filter System".
   Is any metal debris present?

a. Yes; Go to step 2.
b. No; reinstall the fuel filters.
   Refer to section "Installation of the Fuel Prefilter - Three-Filter System".
   Refer to section "Installation of the Water Separator/Coalescer - Three-Filter System".
   Refer to section "Installation of the Final Filter - Three-Filter System".

2. Using a magnet, check the fuel filters and inside of the fuel filter module for magnetic debris. Is any magnetic debris present on the fuel filters or inside of the fuel filter module?
   a. Yes; Go to step 3.
   b. No; replace the fuel filters and inspect the fuel tank(s) for metal debris. If debris is found in the fuel tank(s), clean the fuel tank(s). Refer to OEM procedures.
      Refer to section "Installation of the Fuel Prefilter - Three-Filter System".
      Refer to section "Installation of the Water Separator/Coalescer - Three-Filter System".
      Refer to section "Installation of the Final Filter - Three-Filter System".

NOTICE: Every time a high pressure flange is installed on the three-filter fuel system, a new high pressure flange gasket MUST be installed with the high pressure flange.

3. Remove the high pressure flange from the high pressure fuel pump. Refer to section "Removal of the High Pressure Fuel Flange - Three-Filter System". Using a magnet, insert the magnet in to the high pressure fuel pump outlet port (1) and check for magnetic debris. Is any magnetic debris present?



   a. Yes; Go to step 5.
   b. No; reinstall the high pressure flange. Refer to section "Installation of the High Pressure Fuel Flange - Three-Filter System", then Go to step 4.

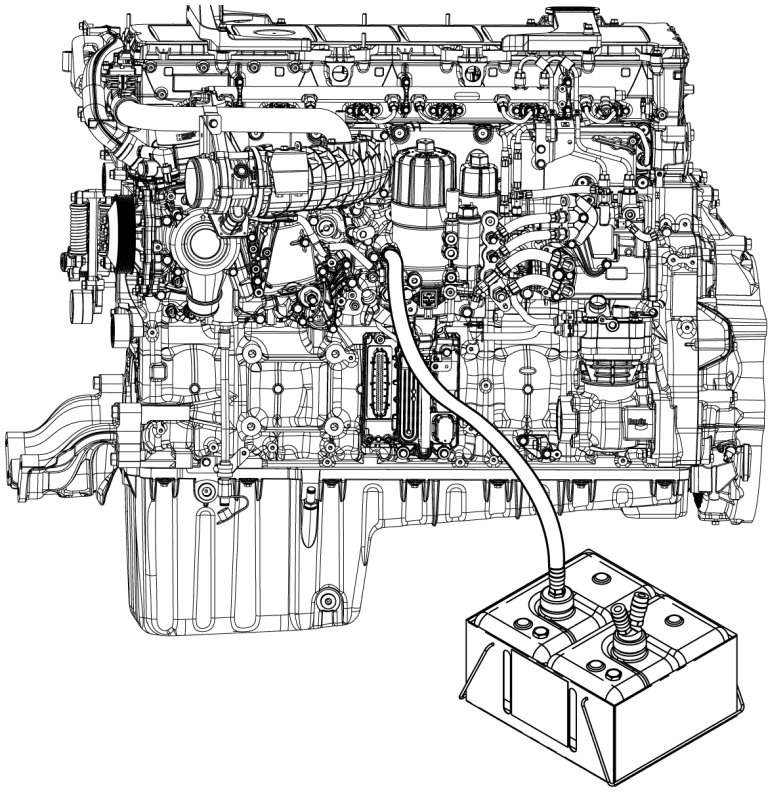
WARNING: ENGINE EXHAUST

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

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.

4. Remove the chassis return line from the fuel filter module. Install J-48707 fuel filter module inlet/ outlet hose and W470589039100 Fuel System Tool Update Kit without a Motor Control Module (MCM) cooler on to the chassis return line fitting on the fuel filter module. Install the opposite end of J-48707 on to J-48708-1 fuel flow tool. Run the engine at idle until J-48708-1 is full with fuel. Using a magnet, check the fuel in J-48708 for magnetic debris. Is any magnetic debris present?



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   a. Yes; Go to step 5.
   b. No; drain the fuel out of J-48708-1 and repeat step 4. If magnetic debris is found after repeating step 4, go to step 5. If magnetic debris is not found after repeating step 4, replace the fuel filters and inspect the fuel tank(s) for metal debris. If metal debris is found in the fuel tank(s), clean the fuel tank(s). Refer to OEM procedures.
      Refer to section "Installation of the Fuel Prefilter - Three-Filter System".
      Refer to section "Installation of the Water Separator/Coalescer - Three-Filter System".
      Refer to section "Installation of the Final Filter - Three-Filter System".
5. Remove the Pressure Limiting Valve (PLV). Refer to section "Removal of the Pressure Limiting Valve - Three-Filter System". Using a magnet, check the inside of the fuel rail for magnetic debris. Is any magnetic debris present?
   a. Yes; replace the following components:
      - High pressure fuel pump. Refer to section "Removal of the High Pressure Fuel Pump - Three-Filter System"
      - Fuel filter module. Refer to section "Removal of the Fuel Filter Module - Three-Filter System".
      - High pressure fuel injector lines. Refer to section "Metal in the Fuel System – Three-Filter Fuel System".
      - High pressure fuel rail feed lines. Refer to section "Metal in the Fuel System – Three-Filter Fuel System".
      - Fuel injectors. Refer to section "Removal of the Fuel Injector - Three-Filter System".
      - High pressure flange. Refer to section "Removal of the High Pressure Fuel Flange - Three-Filter System".
      - Frame-mounted filter housing (if equipped).
      - OEM supply and return lines. Refer to OEM procedures.

      Clean the following components:

- Low pressure lines. Refer to section "Removal of the Low Pressure Fuel Pump Lines - Three-Filter System".
- Low pressure flange. Refer to section "Removal of the Low Pressure Fuel Flange - Three-Filter System".
- Doser supply line. Refer to section "Removal of the Hydrocarbon Doser Block Feed Line".
- Return lines. Refer to section "Removal of the Needle, Amplifier, and Pressure Limiting Valve Return Lines - Three-Filter System".
- Fuel rail. Refer to section "Removal of the Fuel Rail - Three-Filter System".
- Frame-mounted filter housing (if equipped).
- Fuel tank(s). Refer to OEM procedures.

b. No; replace the following:
   - High pressure fuel pump. Refer to section "Removal of the Fuel Prefilter - Three-Filter System".
   - Fuel filter module. Refer to section "Removal of the Fuel Filter Module - Three-Filter System".
   - High pressure fuel rail feed lines. Refer to section "Metal in the Fuel System – Three-Filter Fuel System".
   - High pressure flange. Refer to section "Removal of the High Pressure Fuel Flange - Three-Filter System".
   - Frame mounted filter (if equipped).
   - OEM supply and return lines. Refer to OEM procedures.

   Clean the following components:
   - Fuel tank(s). Refer to OEM procedures.
   - Low pressure lines. Refer to section "Removal of the Low Pressure Fuel Pump Lines - Three-Filter System".
   - Doser supply line. Refer to section "Removal of the Hydrocarbon Doser Block Feed Line".
   - Return lines. Refer to section "Removal of the Needle, Amplifier, and Pressure Limiting Valve Return Lines - Three-Filter System".
   - Frame-mounted filter housing (if equipped).

