

Instruction Sheet

Fuel Filter Kit



E422KP02 D168

Application

All International® MaxxForce™ 11 and 13 diesel engines

Purpose

Provide a procedure to remove and install the fuel filter element without damaging the stand pipe located in the fuel filter housing.

Kit Contents

Table 1 Fuel Filter Removal and Replacement Kit

Description	Quantity
Element, fuel filter	1
O-ring, fuel filter cap	1
Instruction Sheet	1

Procedure



GOVERNMENT REGULATION: Engine fluids (oil, fuel, and coolant) may be a hazard to human health and the environment. Handle all fluids and other contaminated materials (e.g. filters, rags) in accordance with applicable regulations. Recycle or dispose of engine fluids, filters, and other contaminated materials according to applicable regulations.

! WARNING: To prevent personal injury or death, read all safety instructions in the "Safety Information" section of the *Engine Service Manual*.

! WARNING: To prevent personal injury or death, shift transmission to park or neutral, set parking brake, and block wheels before doing diagnostic or service procedures.

! WARNING: To prevent personal injury or death, comply with the following:

- When draining fuel, store diesel fuel properly in an approved container designed for and clearly marked DIESEL FUEL.
- Do not smoke.
- Keep vehicle away from flames and sparks.

! WARNING: To prevent personal injury or death, do not let engine fluids stay on your skin. Clean skin and nails using hand cleaner and wash with soap and water. Wash or discard clothing and rags contaminated with engine fluids.

Removal

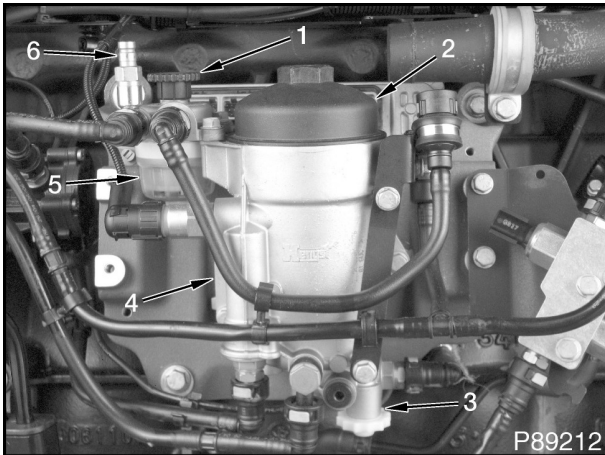


Figure 1 Fuel filter assembly

1. Fuel primer pump
2. Fuel filter cap (screw cap)
3. Water drain valve (closed)
4. Fuel filter housing
5. Fuel strainer
6. Bleeder valve

1. Set the parking brake and shift the transmission to park or neutral.

! WARNING: To prevent personal injury or death, allow engine to cool before working with components.

2. Turn ignition switch to OFF and allow engine to cool before removing components.

! WARNING: To prevent personal injury or death, wear safety glasses with side shields. Limit compressed air pressure to 207 kPa (30 psi).

CAUTION: To prevent engine damage, clean area around fuel filter housing before removing fuel filter cap. This will protect the open fuel filter housing from contaminants falling into the housing. If contaminants do fall in, remove them and blow out fuel filter housing with compressed air before installing a new fuel filter element. Contaminants reaching high-pressure fuel system components may cause component failure.

3. Clean engine compartment components in the area of the fuel filter housing using compressed air, before removing the fuel filter cap. Also, wipe the fuel filter cap clean to prevent contaminants from entering the fuel system. Contaminants may cause engine failure.
4. Loosen the fuel filter cap counterclockwise three and one-half turns to allow the fuel filter housing to vent.
5. Attach a hose to the end of the water drain valve.
6. Put a suitable container under the water drain valve hose.
7. Open the water drain valve and drain the fuel filter assembly.
8. Close the water drain valve.
9. Dispose of fuel properly.

CAUTION: To prevent engine damage, do not remove or install the fuel filter element with the fuel filter cap attached; this will damage the stand pipe located inside the fuel filter housing. Do not remove or unplug the engine wiring harness connector located above the fuel filter housing.

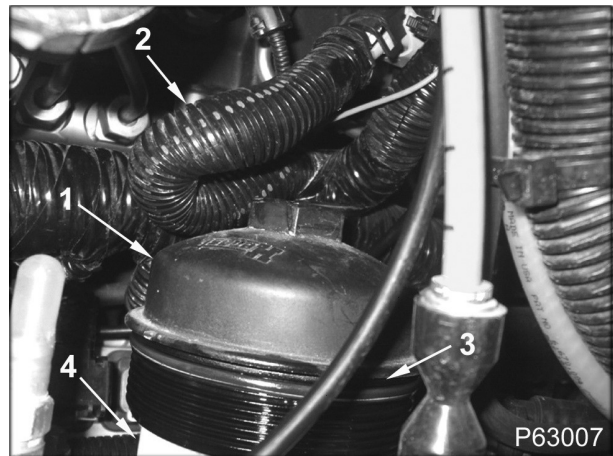


Figure 2 Fuel filter cap and element removal

1. Fuel filter cap (screw cap)
2. Engine wiring harness
3. O-ring (screw cap)
4. Fuel filter element

Removal (cont.)

10. Push in or hold aside the engine wiring harness, located above the fuel filter cap, to allow more clearance when removing the fuel filter cap and element. Do not unplug the engine wiring harness connector.

CAUTION:To prevent engine damage, do not break the fuel filter stand pipe when removing the fuel filter element from the fuel filter housing. The fuel filter stand pipe is approximately one inch taller than the fuel filter housing.

11. Continue loosening the fuel filter cap. Once the fuel filter cap has been loosened from the fuel filter housing, lift the fuel filter cap and element half way out of the fuel filter housing.

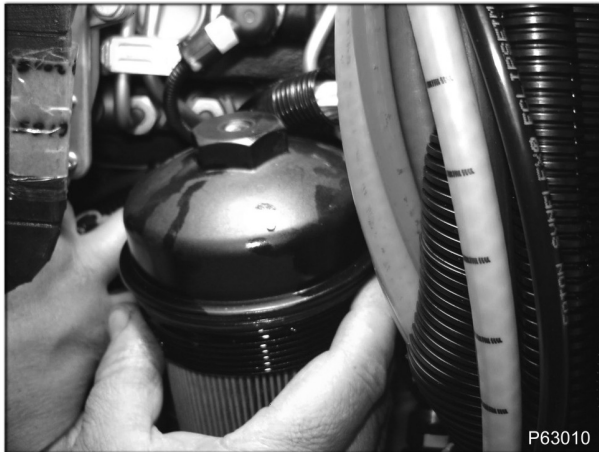


Figure 3 Fuel filter cap removal

12. Remove the fuel filter cap from the fuel filter element by holding the element vertically and pushing up on the cap. The cap will snap off the fuel filter element. Place the fuel filter cap on the side.

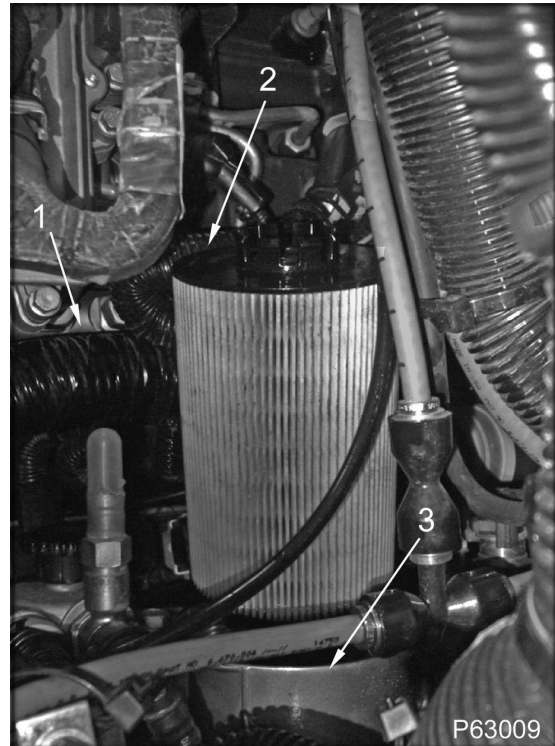


Figure 4 Fuel filter element removal

1. Engine wiring harness
2. Fuel filter element
3. Fuel filter housing

13. Pull the fuel filter element straight up out of the fuel filter housing. This eliminates side pressure on the stand pipe. If the engine wiring harness is in the way of the fuel filter element, push lightly on the wiring harness for additional clearance. Do not unplug the engine wiring connector.
14. Remove the O-ring from the fuel filter cap.
15. Dispose of the fuel filter element and O-ring from the fuel filter cap according to applicable regulations.

Installation

CAUTION:To prevent engine damage, do not remove or install the fuel filter element with the fuel filter cap attached; this will damage the stand pipe that is located inside the fuel filter housing. Do not remove or unplug the engine wiring harness connector that is located above the fuel filter housing.

Installation (cont.)

1. Carefully clean all mating surfaces.
2. Coat a new O-ring for the fuel filter cap with clean diesel fuel and install onto the fuel filter cap.
3. Coat the threads of the fuel filter cap with clean diesel fuel. Set fuel filter cap aside for installation.

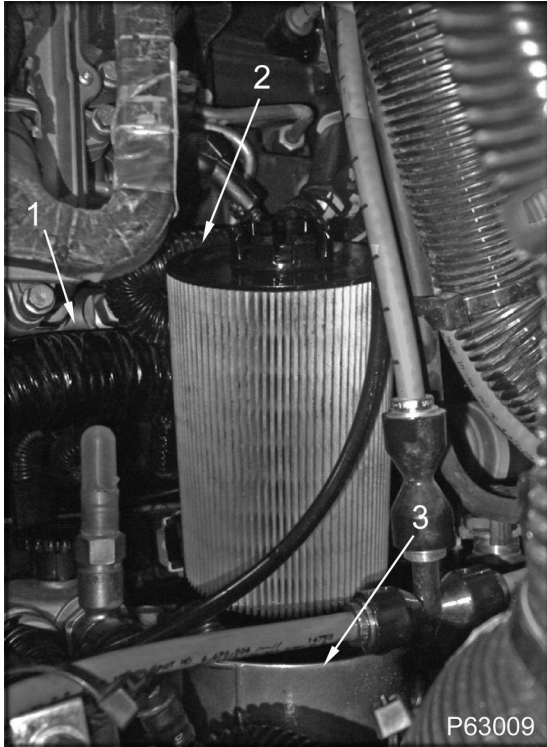


Figure 5 Fuel filter element installation

1. Engine wiring harness
2. Fuel filter element
3. Fuel filter housing

4. Push in or hold aside the wiring harness located above the fuel filter housing to allow more clearance when installing the fuel filter element.
5. Install the fuel filter element into the fuel filter housing. When the fuel filter element is inserted approximately half way into the fuel filter housing, hold the fuel filter element in this position and install the fuel filter cap onto the fuel filter element.
6. Secure the fuel filter cap onto the fuel filter element by pushing down on the fuel filter cap while holding onto the fuel filter element. The fuel filter cap will snap onto the fuel filter element.
7. Once the fuel filter cap has been installed to the fuel filter element, continue inserting the fuel filter element into the fuel filter housing.
8. Secure the fuel filter cap and element to the fuel filter housing by turning the fuel filter cap clockwise until finger-tight.

CAUTION: To prevent engine damage, tighten fuel cap on fuel filter assembly.

9. Tighten the fuel filter cap to 20 to 25 Nm (15 to 18 lbf-ft).
10. Prime the fuel system before starting the vehicle. See "Section 4 - Engine Operation, Priming the Fuel System" in the *Engine Operation and Maintenance Manual*.