



| Document Title: Feed pump, checking feed pressure | | Information Type: Service Information | Date: 2014/10/9 |
|---|--|---------------------------------------|---------------------------|
| Profile: EXC, EC290B LR [GB] | | | |

Feed pump, checking feed pressure

Op nbr 233-004

9993720 Nipple 11666052 Pressure gauge 14290262 Adapter 14290266 Hose

1. Remove the banjo bolt assembled to the fuel filter and install adapter (1), nipple (2), hose (3) and pressure gauge (4) to the fuel pressure side connection.

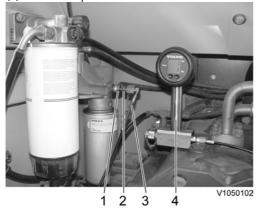


Figure 1

- 1. 14290262 Adapter
- 2. 9993720 Nipple
- 3. 14290266 Hose
- 4. 11666052 Pressure gauge
- 2. Bleed the fuel system according to 233 Fuel system, bleeding.
- 3. Read the fuel feed pressure and check that it is according to .030 Fuel feed pump, specifications
 If the measured pressure is too low:
 - Connect the gauge to the fuel supply connection (5). Bleed the fuel system according to .233 Fuel system, bleeding Read off the fuel feed pressure. If the pressure is according to 030 Fuel feed pump, specifications, the fuel filter may be clogged. Change filter and check the fuel feed pressure again on the outgoing fuel pressure line according to step 1-2.
 - If the pressure still is too low, it may be due to a defective overflow valve, fuel pump or fuel supply. Check the fuel feed pump and that the fuel supply line is not clogged or has an air leak.
- 4. Remove adapter (1), nipple (2), hose (3) and pressure gauge (4), and install the banjo bolt at the fuel filter.
- 5. Bleed the fuel system according to 233 Fuel system, bleeding.



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| Fuel pump, inspection | 233 | Service Information | 2014/10/9 | |
| Profile: | | | | |
| EXC, EC290B LR [GB] | | | | |

Fuel pump, inspection

Op nbr 233-010

NOTE! Take care of fuel spills by using collection containers.

- 1. Place the machine in the service position B. See 991 Service positions
- 2. Open the engine hood.
- 3. Turn belt tensioner (2) clockwise using a socket handle (1/2"), and remove alternator belt (1) from alternator (3) and the tensioner pulley.

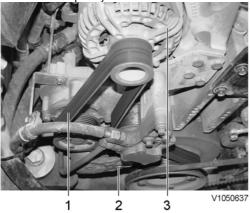


Figure 1

- 1. Alternator belt
- 2. Belt tensioner (socket handle installation position)
- 3. Alternator

NOTE!

The belt adjuster tension is very strong. Therefore pay attention to prevent injury after removing belt.

4. Remove hose (1), pipe (2), screws (4) and fuel feed pump (3).

NOTE!

Cover the ends of the hoses to prevent contamination from entering the fuel system.

NOTE

Pay attention not to drop any fuel on the belt when removing the fuel feed pump.

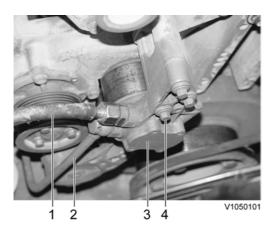


Figure 2

- 1. Hose
- 2. Pipe
- 3. Fuel feed pump
- 4. Mounting screw
- 5. Dismantle the feed pump and check the feed pump drive for damage. If damaged, change the feed pump.



V1050121

Figure 3

- 6. If undamaged, clean all parts very thoroughly and assemble the pump.
- 7. Install the feed pump.
- 8. Install the alternator belt.
- 9. Install the fuel hose and pipe on the feed pump.

NOTE!

Copper washers disassembled should be replaced with new ones.

- 10. Perform the air bleeding operation. See 233 Fuel system, bleeding
- 11. Start the engine and check for leaks.
- 12. Following any action, check the feed pressure.
- 13. Close the engine hood.



| Document Title: | Function Group: | Information Type: Service Information | Date: |
|---------------------------------|-----------------|---------------------------------------|------------------|
| Fuel filter, checking | 233 | | 2014/10/9 |
| Profile: EXC, EC290B LR [GB] | | | |

Fuel filter, checking

Op nbr 233-020

1. Check that the fuel is not contaminated in the bowl under the primary filter. Perform this check to ensure that the primary filter is not clogged.

In case of impurities, the filter is probably clogged. Replace the primary filter and clean the water collection bowl. In winter, check if the water in the water collection bowl has frozen. Any ice will cause a clog. In case of suspected impurities in the tank, clean the tank.

Draining water collection bowl

2. Open valve (1) on the water collection bowl and collect waste fuel in a suitable container.



Figure 1



| Document Title: | Function Group: | Information Type: Service Information | Date: |
|------------------------------|-----------------|---------------------------------------|------------------|
| Fuel system, bleeding | 233 | | 2014/10/9 |
| Profile: EXC, EC290B LR [GB] | | | |

Fuel system, bleeding

Op nbr 233-001

- 1. Place the machine in the service position B. See 991 Service positions
- 2. Turn off the main electric power with the battery disconnect switch.



3. V1050099

Figure 1

1. Priming pump on filter head

Turn the priming pump counterclockwise to unlock the plunger. Pump approximately 200 to 300 strokes until a heavy resistance can be felt. Push the plunger down and turn clockwise to lock into position.

NOTE!

Air bleeding may not be performed using the starter motor.

4. Turn on the electric power, start the engine and let it idle at low idle speed for a few minutes. If the engine is difficult to start, bleed again with the priming pump.

NOTE

The priming pump must not be used when the engine is running.



| Document Title: Fuel filters, replacing | Information Type: Service Information | Date: 2014/10/9 |
|---|---------------------------------------|---------------------------|
| Profile: EXC, EC290B LR [GB] | | |

Fuel filters, replacing

Op nbr 233-014

9996671 Oil filter wrench

A reduction in engine power can be caused by a clogged fuel filter. If the filter becomes clogged quickly, check fuel for contamination and clean fuel tank if necessary.

- 1. Place the machine in the service position B. See 991 Service positions
- 2. Loosen the fuel filter with a filter wrench (Tool part no.: 9996671), and remove.



V104982

Figure 1 Removal, filter

- 3. Clean the sealing surface of the filter head.
- 4. Lightly oil the rubber seal of the new filter, or moisten with diesel fuel.
- 5. Screw on the filter by hand until the seal makes contact, then tighten another half turn.
- 6. Perform the air bleeding operation. See 233 Fuel system, bleeding



| Document Title: Fuel filter extra, replacing | Function Group: 233 | Information Type: Service Information | Date: 2014/10/9 |
|--|------------------------|---------------------------------------|---------------------------|
| Profile: EXC, EC290B LR [GB] | | | |

Fuel filter extra, replacing

Op nbr 233-015

11666167 Disassembly tool 9996671 Oil filter wrench

A reduction in engine power can be caused by a clogged fuel filter. If the filter becomes clogged quickly, check fuel for contamination and clean fuel tank if necessary.

- 1. Place the machine in the service position B. See $\underline{091 \text{ Service positions}}$
- 2. Turn priming pump (B) counterclockwise to unlock the plunger. Turn shut off valve (A) clockwise 90°.

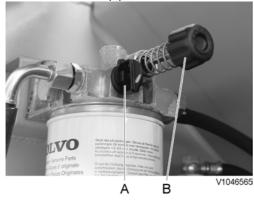


Figure 1

- A. Shut off valve
- B. Priming pump
- 3. Disconnect wire harness connector (1).



Figure 2

Disconnect, wire harness connector

- 4. Loosen drain valve (2) to drain the sediment from water separator bowl (3).
- 5. Loosen the fuel separator bowl with a filter wrench (Tool part no.: 11666167), and remove.
- 6. Loosen the fuel separator filter with a filter wrench, and remove.
- 7. Clean the sealing surface of the filter head.
- 8. Lightly oil the rubber seal of the new filter, or moisten with diesel fuel.
- 9. Screw on the filter by hand until the seal makes contact, then tighten another half turn. (Tool part no.: 9996671)
- 10. Screw on the filter bowl by hand until the seal makes contact, then tighten another half turn. (Tool part no.: 11666167)
- 11. Perform the air bleeding operation. See 233 Fuel system, bleeding

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