





Removing and installing high pressure pump



Overview of Activities

Additional Information



Preliminary Work

- 1 Disconnecting the battery earth lead
- 2 Removing the front right wheel arch cover
- 3 Remove the high pressure line (production date as from 03/2012 Bosch high pressure pump N18)  
- 4 Removing the fuel delivery line on the high pressure pump (production date from 03/2012, Bosch high pressure pump N18)  

Main Work

- 5 Removing the high pressure pump (production date from 03/2012, Bosch N18) 
- 6 Installing the high pressure pump (production date from 03/2012, Bosch N18) 

Postprocesses

- 7 Installing the fuel delivery line on the high pressure pump (production date from 03/2012, Bosch high pressure pump N18)
- 8 Install the high pressure line (production date as from 03/2012 Bosch high pressure pump N18)  
- 9 Installing the front right wheel arch cover
- 10 Connecting the battery earth lead

General information

PRELIMINARY WORK

1–Disconnecting the battery earth lead

Prerequisite

Ignition is switched off.

RISK OF DAMAGE

Damage to battery terminal, the safety battery terminal or the intelligent battery sensor (IBS).

Damaged battery terminals can lead to malfunctions or vehicle electrical system faults.

- Pull off battery terminal from battery pole by carefully moving to and fro. Do not pry off using a tool.

TECHNICAL INFORMATION

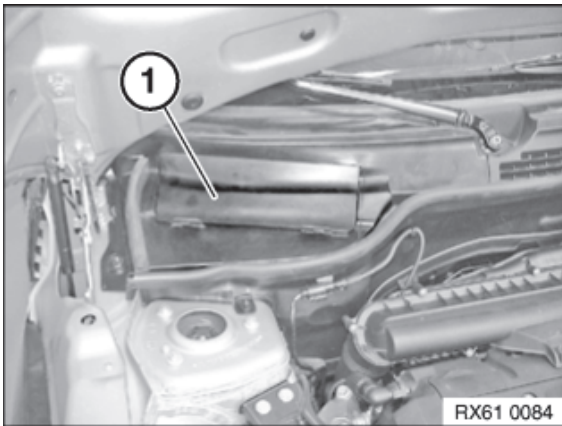
Observe the notes on handling the vehicle battery.

For additional information see:

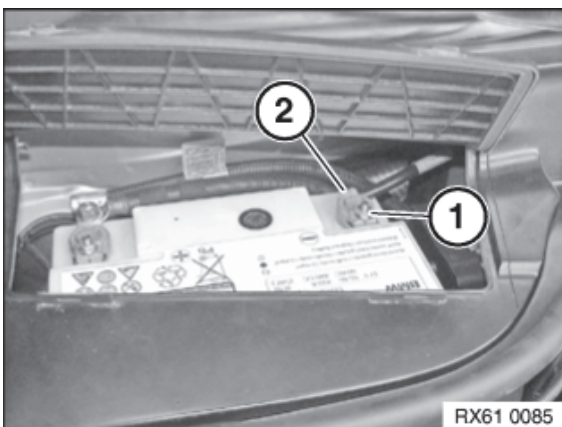
61 00 ... Safety information on handling the vehicle battery

61 00 / 12 00 ... Notes on disconnecting and connecting the vehicle battery

61 12 ... Notes on the intelligent battery sensor (IBS)



- Open the cover (1).



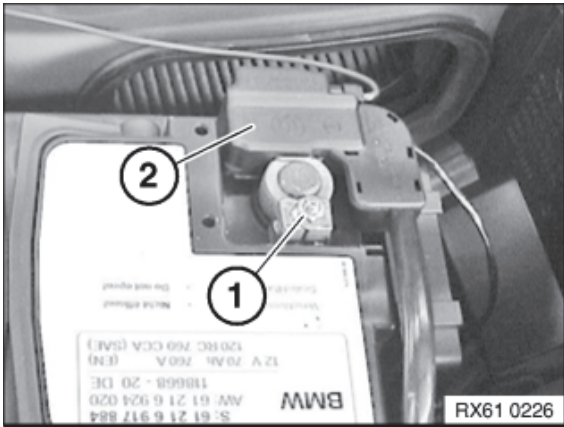
- **Equipment specification without the intelligent battery sensor (IBS):**

Slacken nut (1).

Remove the battery earth lead (2) and secure to one side.

- **Equipment specification with the intelligent battery sensor (IBS):**

Slacken nut (1).

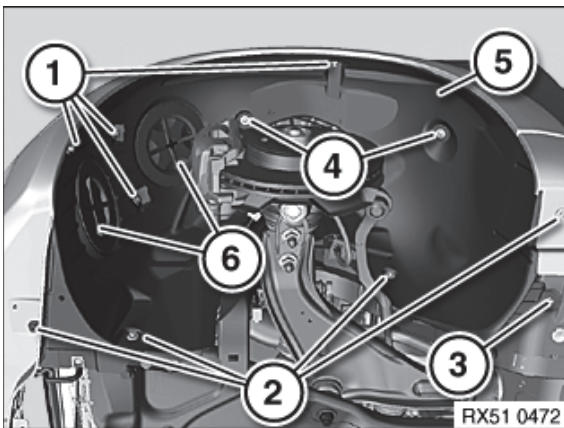


Remove the battery earth lead (2) and secure to one side.

2-Removing the front right wheel arch cover

NOTICE

Description is for left component only. Procedure on the right side is identical.



► Remove front wheel arch cover

- Loosen the screw-in rivets (1) and (2).
- Unscrew nut (3).
- Loosen the screws (4) and remove the wheel arch cover (5).

3-Remove the high pressure line (production date as from 03/2012 Bosch high pressure pump N18)

⚠ WARNING

Working on 12 V vehicle electrical system.

Risk of short circuits! Risk of fire!

- Make sure that **no charger** is connected to the jump start support point in the engine compartment.
- Detach battery earth lead from battery.
- With auxiliary batteries: Detach all battery earth leads from additional batteries.

⚠ WARNING

Working on fuel system.

Risk of fire! Danger of explosion!

- When working on the fuel system, make sure that the workbay is sufficiently ventilated, e.g. using extraction unit.
- Tightly seal off open lines and connections; collect any escaping fuel directly at the point of exit.
- No fire, sparks, open flames or smoking.

⚠ WARNING

Contact with hazardous fluids.

Hazardous to health!

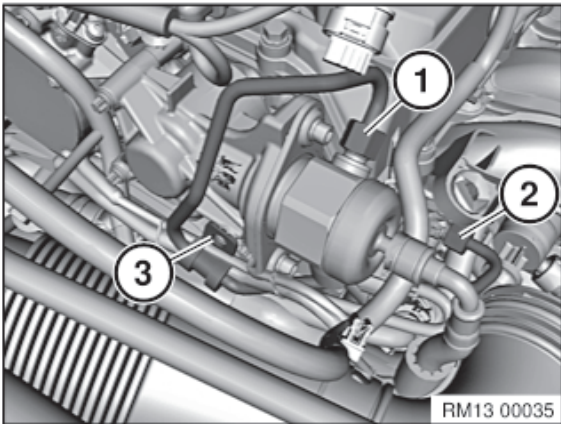
- Note and follow safety information on containers.
- Conduct all work in appropriate personal protective equipment only.

⚠ CAUTION

On releasing high pressure line, fuel may emerge at high speed.

Danger of injury!

- Wear suitable personal protective equipment.
- Allow the cooling system to cool down to a temperature below 40°C before starting installation work.
- Note warnings on cylinder head cover.



- Unfasten nut (1).
- Loosen nut (2).
- Loosen screw (3).
- Seal the rail and the high pressure pump using a matching plug (1) from the set of special tools **0 494 179 (32 1 270)**32 1 270.
- Feed out and remove high pressure line.

4–Removing the fuel delivery line on the high pressure pump (production date from 03/2012, Bosch high pressure pump N18)

⚠ WARNING

Working on fuel system.

Risk of fire! Danger of explosion!

- When working on the fuel system, make sure that the workbay is sufficiently ventilated, e.g. using extraction unit.
- Tightly seal off open lines and connections; collect any escaping fuel directly at the point of exit.
- No fire, sparks, open flames or smoking.

⚠ WARNING

Contact with hazardous fluids.

Hazardous to health!

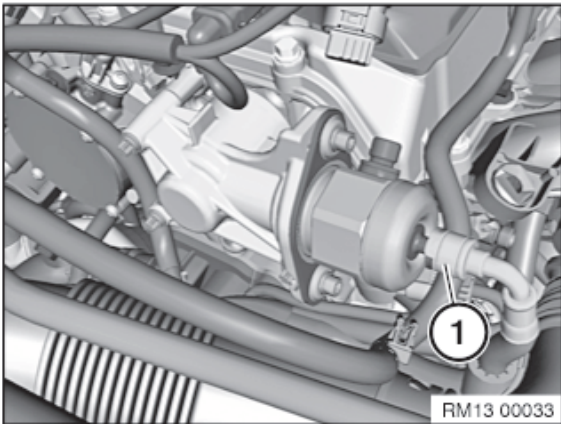
- Note and follow safety information on containers.
- Conduct all work in appropriate personal protective equipment only.

⚠ CAUTION

On releasing high pressure line, fuel may emerge at high speed.

Danger of injury!

- Wear suitable personal protective equipment.
- Allow the cooling system to cool down to a temperature below 40°C before starting installation work.
- Note warnings on cylinder head cover.



- Position special tool **0 496 242 (13 0 250)** on the fuel delivery line (1).
- Position the retaining lugs of the tool in the recess of the quick-release coupling.
- Fix special tool **0 496 242 (13 0 250)** using the knurled screw.

Place a cloth over the fuel delivery line and high pressure pump.

- To unlock the fuel delivery line (1), slide it towards the high pressure pump then pull it off.
- Remove special tool **0 496 242 (13 0 250)** and cloth.
- Plug the fuel line connection of the high pressure pump with the correct plug.
- Close off fuel delivery line with special tool **0 496 567 (13 5 161)**.

MAIN WORK

5–Removing the high pressure pump (production date from 03/2012, Bosch N18)

⚠ WARNING

Working on 12 V vehicle electrical system.

Risk of short circuits! Risk of fire!

- Make sure that **no charger** is connected to the jump start support point in the engine compartment.
- Detach battery earth lead from battery.
- With auxiliary batteries: Detach all battery earth leads from additional batteries.

⚠ WARNING

Contact with hazardous fluids.

Hazardous to health!

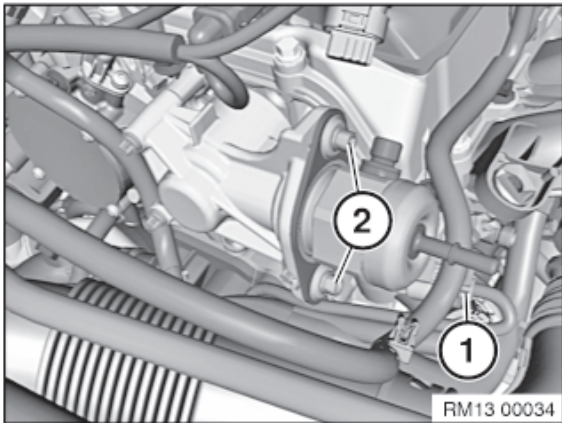
- Note and follow safety information on containers.
- Conduct all work in appropriate personal protective equipment only.

⚠ WARNING

Working on fuel system.

Risk of fire! Danger of explosion!

- When working on the fuel system, make sure that the workbay is sufficiently ventilated, e.g. using extraction unit.
- Tightly seal off open lines and connections; collect any escaping fuel directly at the point of exit.
- No fire, sparks, open flames or smoking.



- Unlock connector (1) and pull off.
- Loosen screws (2).
- Remove the high pressure pump and make sure that the pump tappet does not fall out.

Engine oil can escape when pump is detached; have a cleaning cloth ready.

6–Installing the high pressure pump (production date from 03/2012, Bosch N18)

⚠ WARNING

Working on 12 V vehicle electrical system.

Risk of short circuits! Risk of fire!

- Make sure that **no charger** is connected to the jump start support point in the engine compartment.
- Detach battery earth lead from battery.
- With auxiliary batteries: Detach all battery earth leads from additional batteries.

⚠ WARNING

Contact with hazardous fluids.

Hazardous to health!

- Note and follow safety information on containers.
- Conduct all work in appropriate personal protective equipment only.

⚠ WARNING

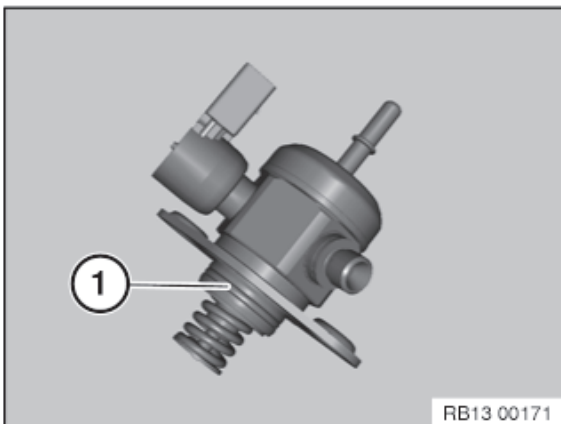
Working on fuel system.

Risk of fire! Danger of explosion!

- When working on the fuel system, make sure that the workbay is sufficiently ventilated, e.g. using extraction unit.
- Tightly seal off open lines and connections; collect any escaping fuel directly at the point of exit.
- No fire, sparks, open flames or smoking.

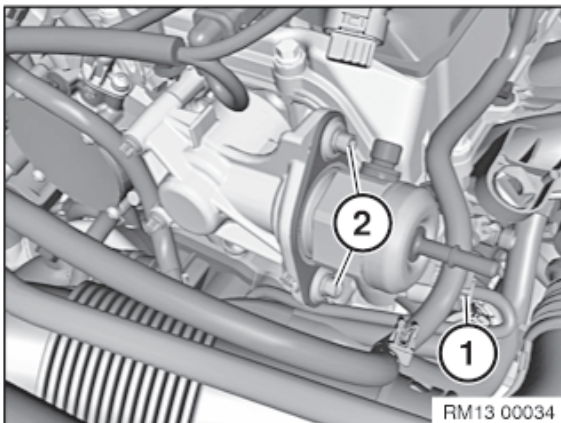
i TECHNICAL INFORMATION

Bonding surfaces must be dry and free of dust and grease. After the adhesive area has been cleaned, it must no longer be touched with bare hands.



- Renew gasket (1).

Parts: Gasket



- Turn the cam of the high-pressure pump drive to the BDC position before installing the high pressure pump.
- To do this, twist the engine if necessary in the direction of engine rotation to the central bolt of the crankshaft.
- Install high pressure pump.
- Renew screws (2).

Parts: Bolts

- Position the screws (2) and tighten them alternately in 90° increments.

High pressure pump

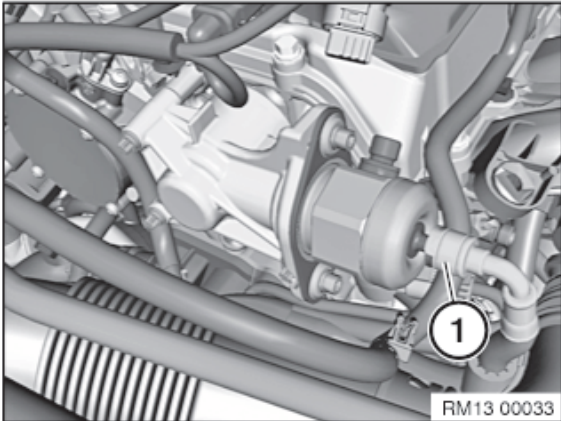
Renew screws.

12 Nm

- Connect connectors (1) and lock.



7–Installing the fuel delivery line on the high pressure pump (production date from 03/2012, Bosch high pressure pump N18)



- Check the retaining lugs of the lock for damage.
- Fuel lines with damaged retaining lugs must be renewed.
- Remove the plug from the fuel line connection of the high pressure pump.
- Loosen the knurled screw and remove special tool **0 496 242 (13 0 250)**.
- Push the fuel delivery lines (1) towards the connection for the high pressure pump (2) and lock them.

The retaining lugs at the quick-release coupling of the fuel delivery lines must engage audibly.

8–Install the high pressure line (production date as from 03/2012 Bosch high pressure pump N18)

⚠ WARNING

Working on fuel system.

Risk of fire! Danger of explosion!

- When working on the fuel system, make sure that the workbay is sufficiently ventilated, e.g. using extraction unit.
- Tightly seal off open lines and connections; collect any escaping fuel directly at the point of exit.
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⚠ WARNING

Contact with hazardous fluids.

Hazardous to health!

- Note and follow safety information on containers.
- Conduct all work in appropriate personal protective equipment only.

⚠ CAUTION

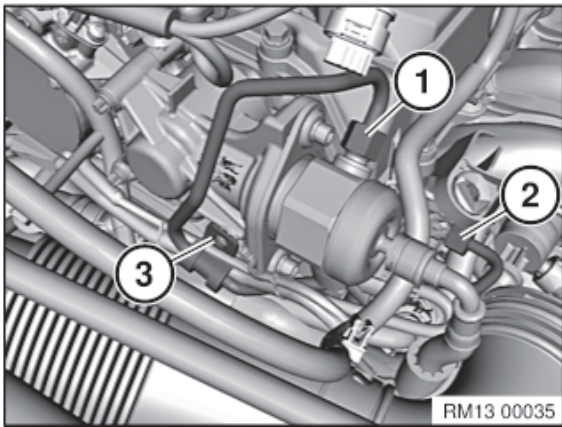
On releasing high pressure line, fuel may emerge at high speed.

Danger of injury!

- Wear suitable personal protective equipment.
- Allow the cooling system to cool down to a temperature below 40°C before starting installation work.
- Note warnings on cylinder head cover.

- **Strictly adhere to the following sequence:**

1. Insert the high pressure line.
2. Apply nuts (1) and (2) hand-tight.
3. Tighten screw (3) on the retaining clip.
4. Tighten the nut (2) on the high-pressure rail.
5. Tighten the nut (1) on the high pressure pump.



6. Check fuel system for tightness.

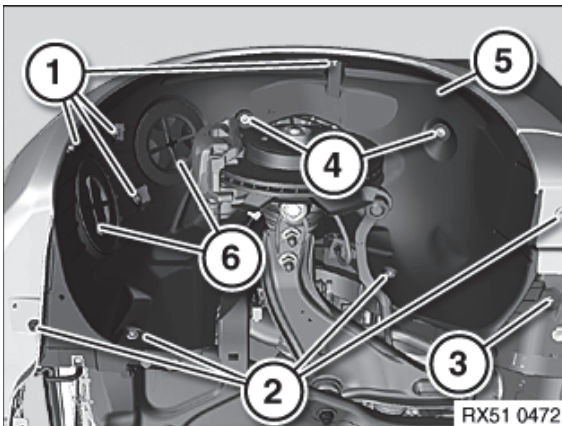
High-pressure pipe

Coupling nut		30 Nm
Screw for retaining clip		8 Nm

9—Installing the front right wheel arch cover

NOTICE

Description is for left component only. Procedure on the right side is identical.



► Installing the wheel arch cover at the front

- Insert the wheel arch cover (5) and tighten the screws (4).
- Tighten nut (3).
- Secure the screw-in rivets (1) and (2).

10—Connecting the battery earth lead

RISK OF DAMAGE

Damage to battery terminal, the safety battery terminal or the intelligent battery sensor (IBS).

Damaged battery terminals can lead to malfunctions or vehicle electrical system faults.

- Pull off battery terminal from battery pole by carefully moving to and fro. Do not pry off using a tool.

i TECHNICAL INFORMATION

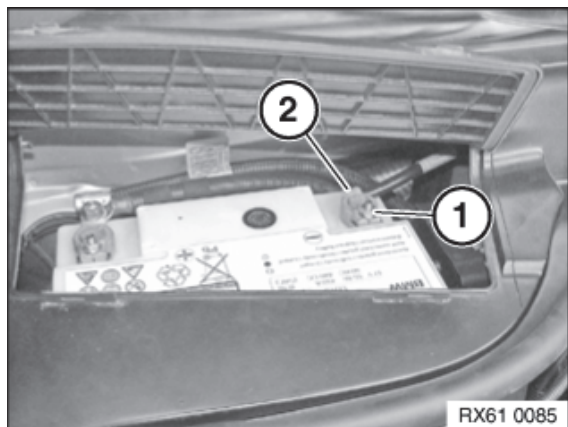
Observe the notes on handling the vehicle battery.

For additional information see:

61 00 ... Safety information on handling the vehicle battery

61 00 / 12 00 ... Notes on disconnecting and connecting the vehicle battery

61 12 ... Notes on the intelligent battery sensor (IBS)



• Equipment specification without the intelligent battery sensor (IBS):

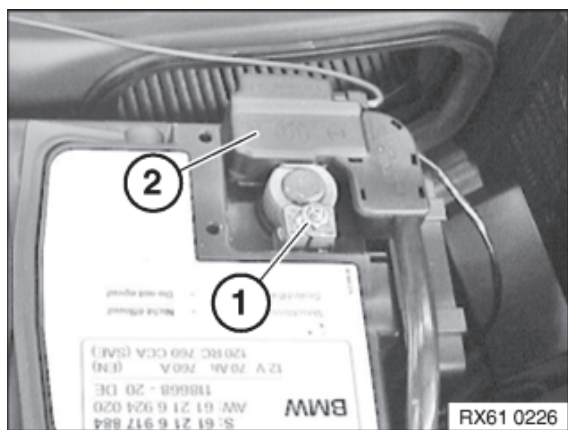
Place the battery earth lead (2) on the negative battery terminal.

Tighten nut (1).

Battery terminal



5 Nm



• Equipment specification with the intelligent battery sensor (IBS):

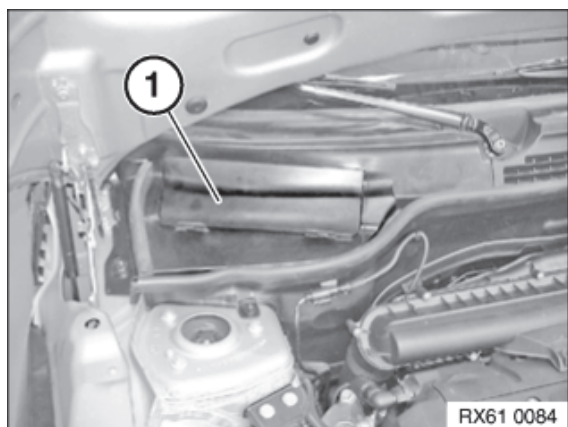
Place the battery earth lead (2) on the negative battery terminal.

Tighten nut (1).

Battery terminal



5 Nm



• Close the cover (1).