

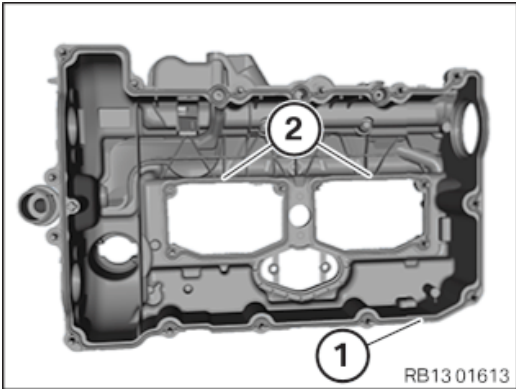
2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)

Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

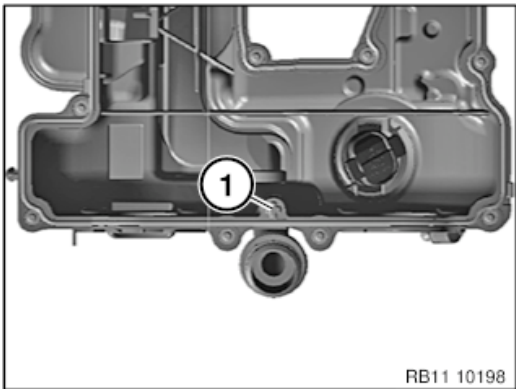
INSTALLING CYLINDER HEAD COVER [REP-TAT-P-1112-02-N20]

Installing cylinder head cover

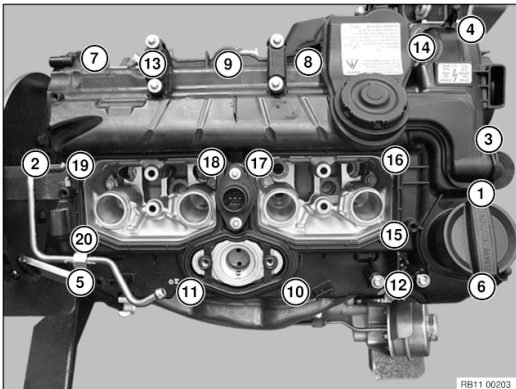
REP-TAT-P-1112-02-N20



- Renew gaskets (1) and (2) .
- **Parts:** Seals



- When attaching the cylinder head cover onto the cylinder head, pay attention to the centring pin (1) .

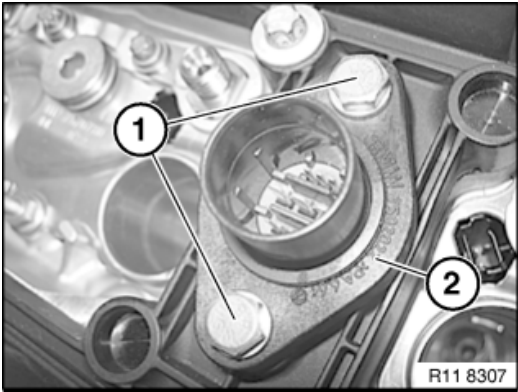


- Insert the cylinder head cover and mount it on the cylinder head.
- Join all bolts of the cylinder head cover with a ½ turn.
- Tighten the bolts from inside to outside.

Tightening torques

Cylinder head cover to cylinder head

M6	9 Nm
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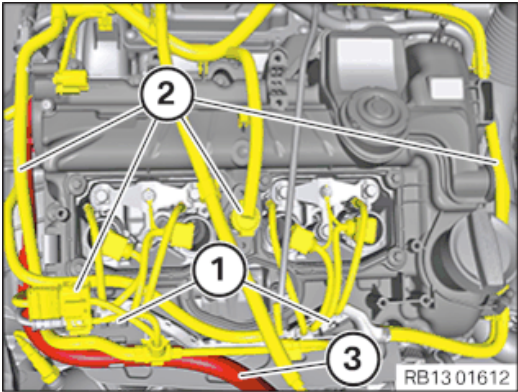


- Install the flange (2) .
- Tighten the screws (1) .

Tightening torques

Flange to cylinder head cover

5,5 Nm



- Lock the cable channel with the locks (1) on the cylinder head cover.
- Route the wiring harnesses (2) and secure them on the cylinder head cover.
- Connect all connectors and lock audibly.
- Route the positive battery cable (3) and secure it on the cylinder head cover.

Removing And Installing/Sealing Cylinder Head Cover

Back To Step 20

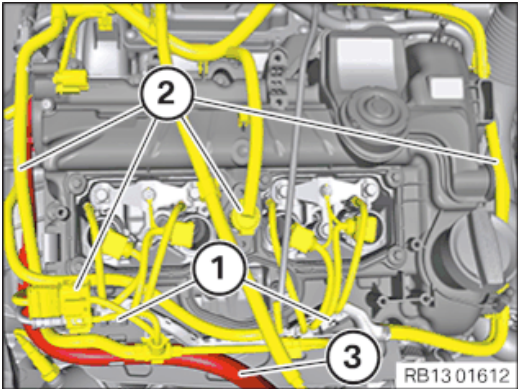
Step 21 of 40

Go To Step 22

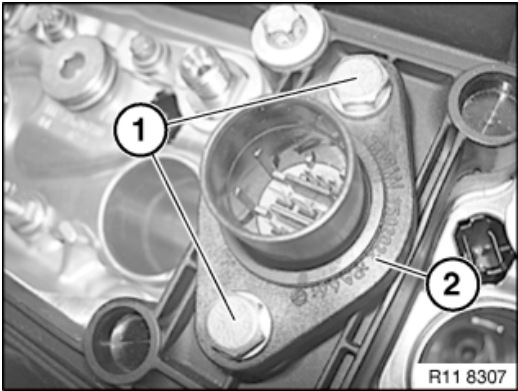
2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)
Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

REMOVING THE CYLINDER HEAD COVER [REP-TAT-P-1112-01-N20]

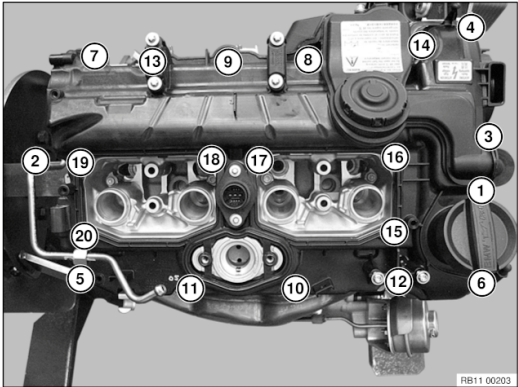
Removing the cylinder head cover
REP-TAT-P-1112-01-N20



- Unlock the cable channel at the locks (1) and detach it from the cylinder head cover.
- Unlock the connectors and wiring harnesses (2) and detach them from the cylinder head cover.
- Set the wiring harnesses (2) aside.
- Disconnect the positive battery cable (3) from the cylinder head cover and set it aside.



- Loosen screws (1) .
- Remove the flange (2) .



- Unscrew bolts (1) to (20) in intervals of 180° from the outside to the inside.
- Feed out and remove the cylinder head cover.

Removing And Installing/Sealing Cylinder Head Cover		
Back To Step 19	Step 20 of 40	Go To Step 21

2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)
Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

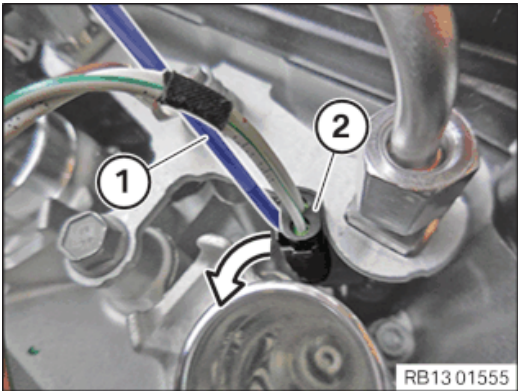
REMOVE HIGH-PRESSURE RAIL [REP-TAT-P-1353-01-N20_1]

Remove high-pressure rail

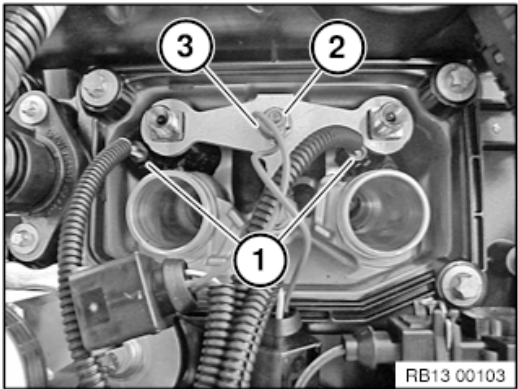
REP-TAT-P-1353-01-N20_1

i TECHNICAL INFORMATION

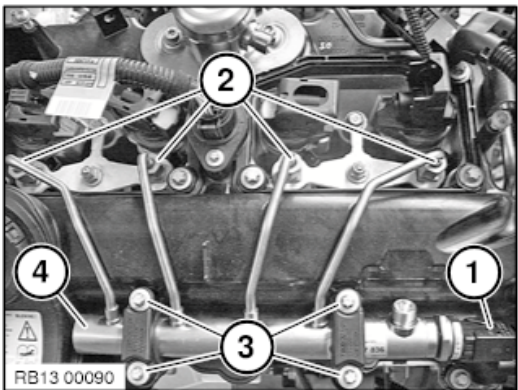
Collect and dispose of emerging fluids. Observe country-specific waste disposal regulations.



- Release and disconnect the plugs (2) on the injectors with a flat-head screwdriver. (1)
- Unlock the lock in the direction of the arrow with a small slotted screwdriver (1) .
- Disconnect the connector (2) on the connector housing from the injector.



- Unlock and detach the connectors (1) from the injectors.
- Loosen nut (2) .
- (3) Remove ground cable.



- Unlock connector (1) and detach.
- Loosen nuts (2) .
- Loosen screws (3) .
- Remove high pressure rail (4) .

Removing And Installing/Sealing Cylinder Head Cover

Back To Step 17

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Go To Step 19

2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)
Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

REMOVE HIGH PRESSURE PUMP [REP-TAT-P-1351-01-N20_1]

Remove high pressure pump

REP-TAT-P-1351-01-N20_1

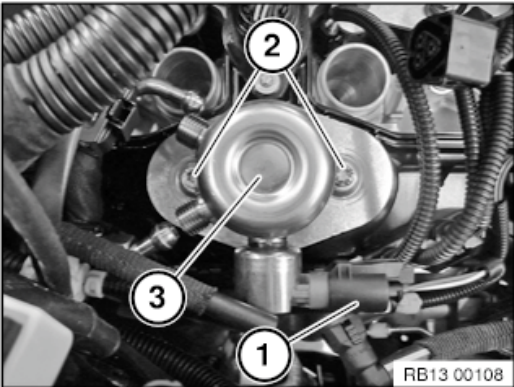
 RISK OF DAMAGE

Contaminant or foreign body.
Contamination can result in malfunctions, loss of function or leaks.

- Adhere to the utmost cleanliness.
- Protect components from contamination e.g. by covering.
- Close off line connections with seal plugs.

 TECHNICAL INFORMATION

Collect and dispose of emerging fluids. Observe country-specific waste disposal regulations.



 TECHNICAL INFORMATION

The high pressure pump can be pre-tensioned by camshaft cams. If when loosening the screws, the high pressure pump is forced out, the engine will have to be turned to bring the camshafts to a different position.

Before installing the high pressure pump, the cam of the high pressure pump drive must be turned to BDC. To do this, twist the engine if necessary in the direction of engine rotation to the central bolt of the crankshaft. Otherwise, you cannot install the high-pressure pump.

- Unlock connector (1) and pull off.
- Loosen screws (2) .
- Remove the high pressure pump (3) .

Removing And Installing/Sealing Cylinder Head Cover		
Back To Step 16	Step 17 of 40	Go To Step 18

2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)

Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

REMOVE FUEL DELIVERY LINE [REP-TAT-P-1353-01-N20_2]

Remove fuel delivery line

REP-TAT-P-1353-01-N20_2

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 leakage 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 instructions on containers.
- Conduct all work in appropriate personal protective equipment only.

RISK OF DAMAGE

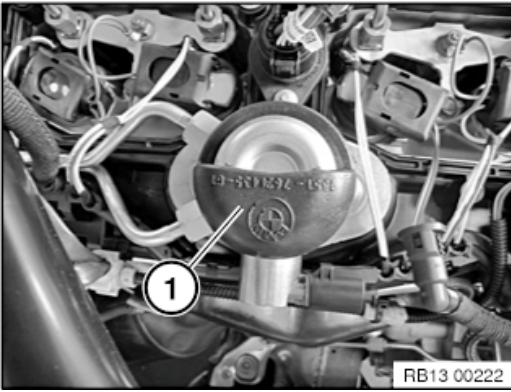
Contaminant or foreign body.

Contamination can result in malfunctions, loss of function or leaks.

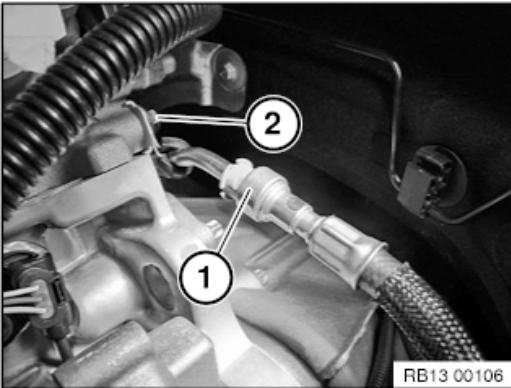
- Adhere to the utmost cleanliness.
- Protect components from contamination e.g. by covering.
- Close off line connections with seal plugs.

TECHNICAL INFORMATION

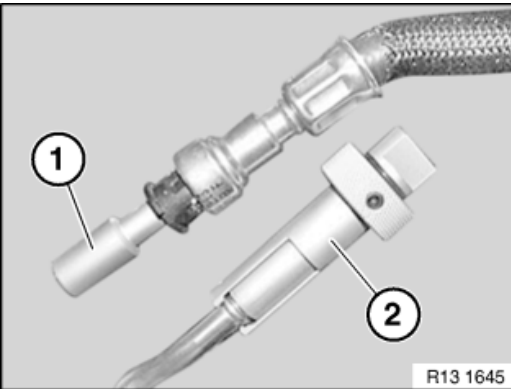
Collect and dispose of emerging fluids. Observe country-specific waste disposal regulations.



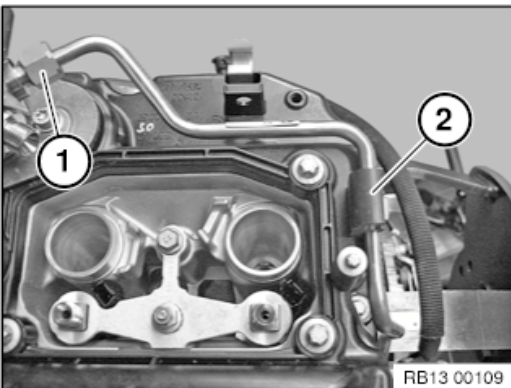
- Remove the sound insulation (1) .



- Disconnect the fuel line from the snap fastener (1) .
- Unscrew the bolt (2) at the rear of the cylinder head.



- Close the fuel lines with the special tool 13 5 161 (1) and the special tool 13 5 162 (2) from the set of special tools **0 496 565** (13 5 160) .



- Unfasten nut (1) .
- Detach the fuel feed line from the clamp (2) , feed it out toward the top and remove.

Removing And Installing/Sealing Cylinder Head Cover

Back To Step 15

Step 16 of 40

Go To Step 17

2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)

Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

REMOVING THE HIGH-PRESSURE LINE BETWEEN THE HIGH-PRESSURE RAIL AND THE HIGH-PRESSURE PUMP [REP-TAT-P-1353-01-F10_N20]

Removing the high-pressure line between the high-pressure rail and the high-pressure pump

REP-TAT-P-1353-01-F10_N20

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 leakage fuel directly at the point of exit.
- No fire, sparks, open flames or smoking.

WARNING

Working on 12 V electrical system.

Risk of short circuits! Risk of fire!

- Detach battery ground lead from battery.
- For an auxiliary battery: Disconnect battery ground lead of auxiliary battery.

WARNING

Contact with hazardous fluids.

Hazardous to health!

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

CAUTION

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

Injury hazard!

- Wear suitable personal protective equipment.
- Before performing any installation work, allow cooling system to cool down to less than 40 °C .
- Note warnings on cylinder head cover.

**RISK OF DAMAGE**

Contaminant or foreign body.

Contamination can result in malfunctions, loss of function or leaks.

- Adhere to the utmost cleanliness.
- Protect components from contamination e.g. by covering.
- Close off line connections with seal plugs.

**RISK OF DAMAGE**

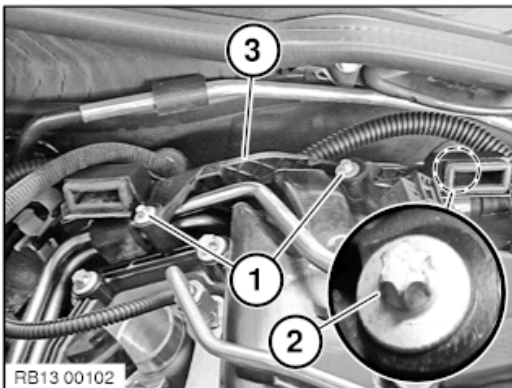
Damage to the ignition coil.

The silicone hose of the ignition coil must not be contaminated by fuel as this can lead to failure of the ignition coil.

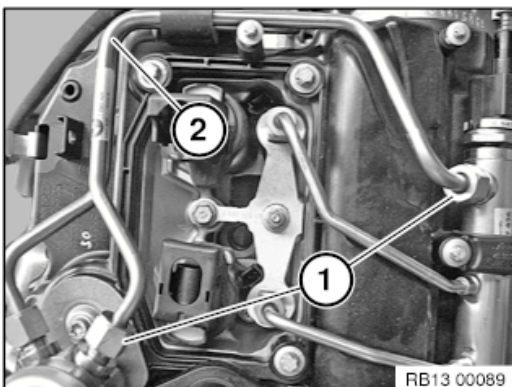
- When working on the fuel system, cover the ignition coils with suitable materials and remove where required.
- Do not oil or grease the silicone tube of the spark plug socket. The silicone tube is coated with talcum powder to reduce the pulling forces.

**TECHNICAL INFORMATION**

Collect and dispose of emerging fluids. Observe country-specific waste disposal regulations.



- Loosen screws (1) .
- Release the screw (2) at the rear cable clip (3) .
- Remove the cable clip (3) upwards.



- Loosen nuts (1) .

**TECHNICAL INFORMATION**

The high pressure line must be renewed in the course of every disassembly. Once the high pressure line has been detached, it may not be used again.

- Unclip the high-pressure line (2) from the holder and remove.

Removing And Installing/Sealing Cylinder Head Cover		
Back To Step 14	Step 15 of 40	Go To Step 16

2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)
Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

REMOVE BOTH SOLENOID VALVES [REP-TAT-P-1136-01-N20]

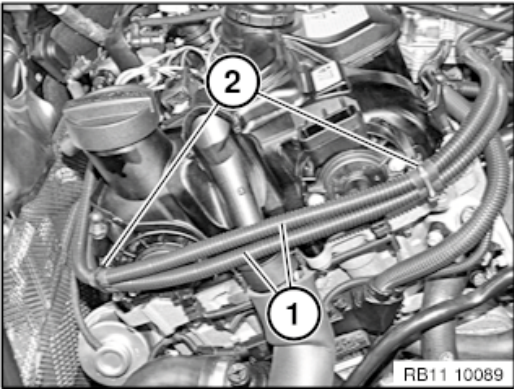
Remove both solenoid valves
REP-TAT-P-1136-01-N20

i TECHNICAL INFORMATION

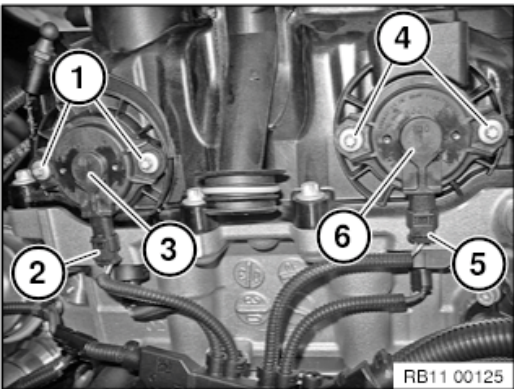
Cleanliness is imperative for the removal or installation of solenoid valves.

Possible malfunctions if valves are contaminated are as follows:

- Rough engine running
- Fault memory entry
- Faulty emission values
- Low engine power



- Detach the cable (1) from the brackets (2) .



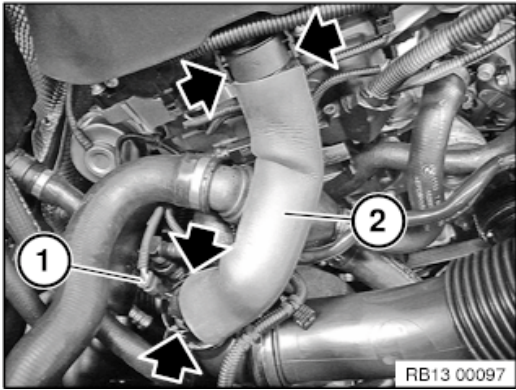
- Loosen screws (1) .
- Unlock connector (2) and pull off.
- Remove the solenoid valve (3) on the exhaust side.
- Loosen screws (4) .
- Unlock connector (5) and pull off.
- Remove the solenoid valve (6) on the intake side.

Removing And Installing/Sealing Cylinder Head Cover		
Back To Step 12	Step 13 of 40	Go To Step 14

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Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

REMOVE ENGINE VENTILATION LINE [REP-TAT-P-1115-01-8]

Remove engine ventilation line
REP-TAT-P-1115-01-8



- Unlock connector (1) and pull off.
- Unlock clamps (arrows).
- Detach the engine ventilation line (2) from the cylinder head cover and from the bottom clean air pipe.
- Feed out and remove engine ventilation line.

Removing And Installing/Sealing Cylinder Head Cover		
Back To Step 11	Step 12 of 40	Go To Step 13

2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)

Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

REMOVE VACUUM PUMP [REP-TAT-P-1166-01-F30]

Remove vacuum pump

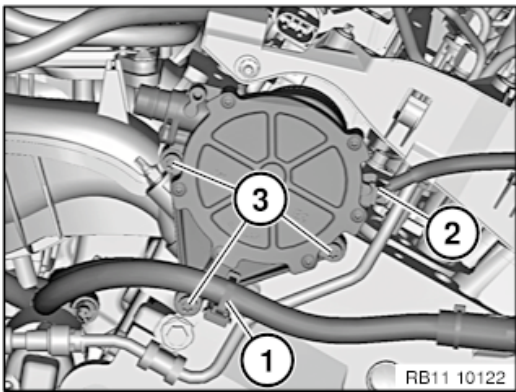
REP-TAT-P-1166-01-F30

 NOTICE

The figure shows the rear of the engine.

 NOTICE

To provide a better overview: Shown with engine removed.



- Disconnect the positive battery cable (1) from the vacuum pump.
- Carefully pull the vacuum line (2) to the exhaust turbocharger off.
- Unscrew the bolts (3) and remove the vacuum pump toward the rear.

Removing And Installing/Sealing Cylinder Head Cover

Back To Step 10

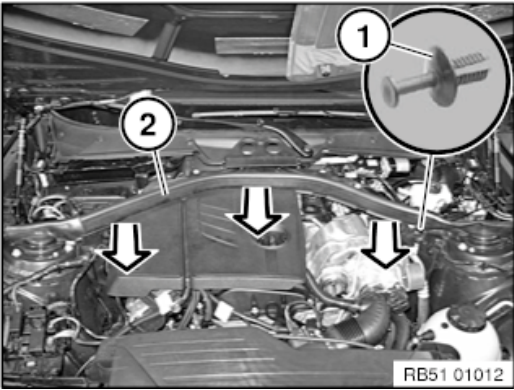
Step 11 of 40

Go To Step 12

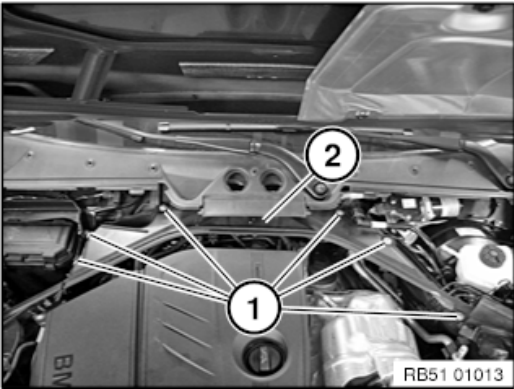
2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)
Vehicle > Engine, Cooling and Exhaust > Engine > Cylinder Head Assembly > Valve Cover > Service and Repair > Removal and Replacement

REMOVING THE SOUND INSULATION ON THE BULKHEAD UPPER PART CENTRE [REP-TAT-P-5175-01-F30]

Removing the sound insulation on the bulkhead upper part centre
REP-TAT-P-5175-01-F30



- Detach positive battery cable from the sealing (2) .
- Loosen expanding rivet (1) .
- Unclip the sealing (2) in the direction of arrow.



- Loosen screws (1) .
- Remove the sound insulation (2) .

Removing And Installing/Sealing Cylinder Head Cover		
Back To Step 7	Step 8 of 40	Go To Step 9

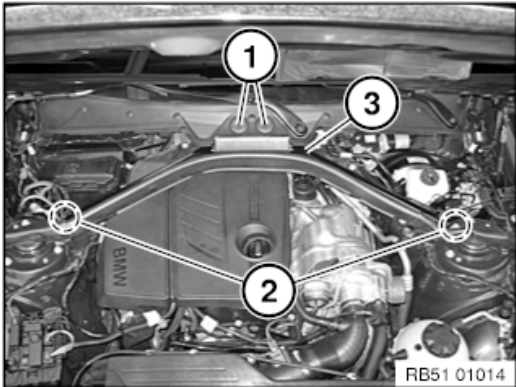
2013 BMW 320i Sedan (F30) L4-2.0L Turbo (N20)
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REMOVE TRAILING LINK AT SPRING BOLT [REP-TAT-P-5171-01-F30_2]

Remove trailing link at spring bolt
REP-TAT-P-5171-01-F30_2

i TECHNICAL INFORMATION

Driving without the strut brace or tension strut is not permitted.



- Unclip covers (1) of the screws and release the screws (1) underneath.
- Release screw (2) and remove tension strut (3) .

Removing And Installing/Sealing Cylinder Head Cover		
Back To Step 6	Step 7 of 40	Go To Step 8