Spark plugs service »

Preliminary work

Removing the acoustic cover

WARNING

Hot surfaces.

Risk of burning!

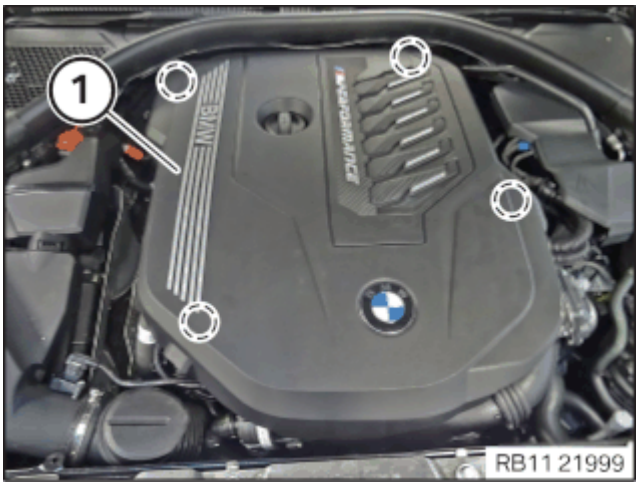
- Perform all work only on components that have cooled down.

RISK OF DAMAGE

Damage to the acoustic cover / design cover.

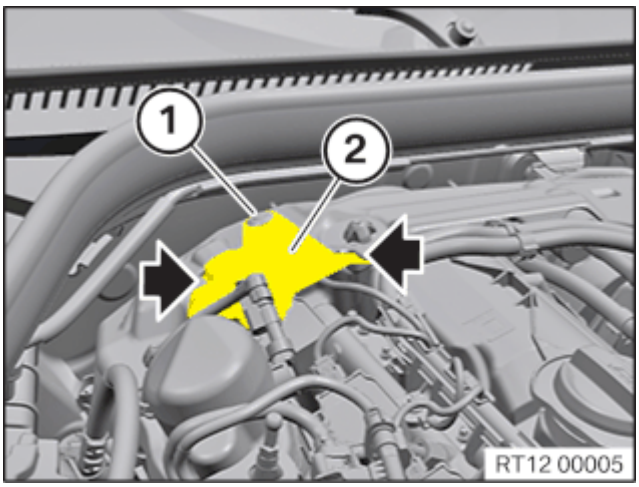
Jerky movements during disassembly and application of excessive force during installation may result in breakage of the acoustic cover / design cover.

- Disassemble or mount the acoustic cover / design cover carefully.
- Disassemble or mount snap-lock couplings of the ball pivots one after the other.
- Disassemble or mount the acoustic cover / design cover only at temperatures > 20 °C.
- Use only distilled water as an auxiliary material during installation, no lubricants.



- Release the acoustic cover (1) upwards out of the rubber mounts (markings).

Releasing the service opening in sound insulation on top of engine



- Loosen service opening (2) in marked areas (arrows) and turn to one side via the pivot point (1).

Removing all ignition coils

NOTE

The description is provided only at one component. The procedure is the same for all other components.

▶ Removing the ignition coil

Further information is available.

WARNING

Hot surfaces.

Risk of burning!

- Perform all work only on components that have cooled down.

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. Do not use any protection or maintenance products (e.g. silicone spray, rubber care products, rust remover, etc.).

RISK OF DAMAGE

Electrostatic discharge.

Damage to or destruction of electrical components.

- Leave the electrical components in their original packaging until they are being installed. Only use the original packaging for returning the product. Always package removed components straight away.
- Read and comply with user information on using the associated special tool 12 7 060.
- Only tap the housings of electrical components. Do not tap pins or multi-pin connectors directly.
- Wear electrically conductive clothing and antistatic shoes (with ESD symbol).
- For additional information see: 61 35 ... Notes on ESD (electrostatic discharge) protection

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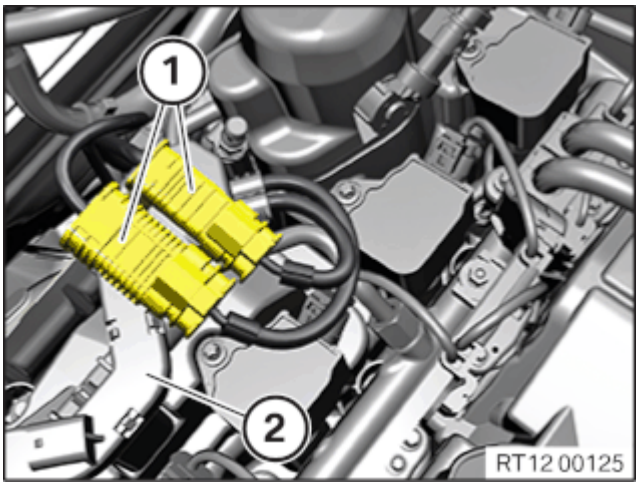
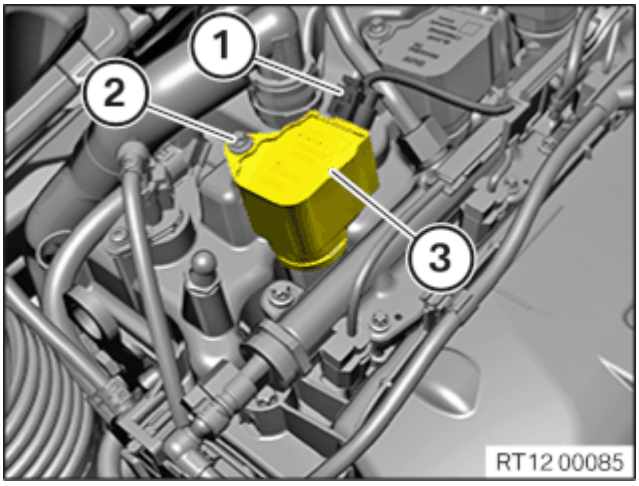


- Release connector (1) of the primary oxygen sensor and the monitoring oxygen sensor from the cable duct (2) and place to one side.



- Unlock plug connection (1) and disconnect.
- Loosen screw (2).
- Remove ignition coil (3).

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Main Works

Removing all spark plugs

⚠ WARNING

Hot surfaces.

Risk of burning!

- Perform all work only on components that have cooled down.

⚠ CAUTION

Swirling dirt particles caused by compressed air.

Injury hazard!

- Collect dirt particles, e.g. when blowing out, use cloth to do so.
- Wear safety goggles.

TECHNICAL INFORMATION

Clean spark plug slot with compressed air.

The spark plug shafts must be cleaned using compressed air after having removed the ignition coils and before removing the spark plugs. After removing the spark plugs, check the sealing surface again for dirt contamination and if necessary, clean with a damp cloth or again with compressed air.

Deposits that have not been removed as prescribed can reach the combustion chamber and cause uncontrolled combustion there. Remaining deposits on the spark plug sealing surfaces may lead to leaks and the spark plugs may come loose during engine operation.

Spark plug threads must not be greased or oiled. Insufficiently tightened spark plugs may cause leaks and the sparks plugs may come loose during engine operation.

NOTE

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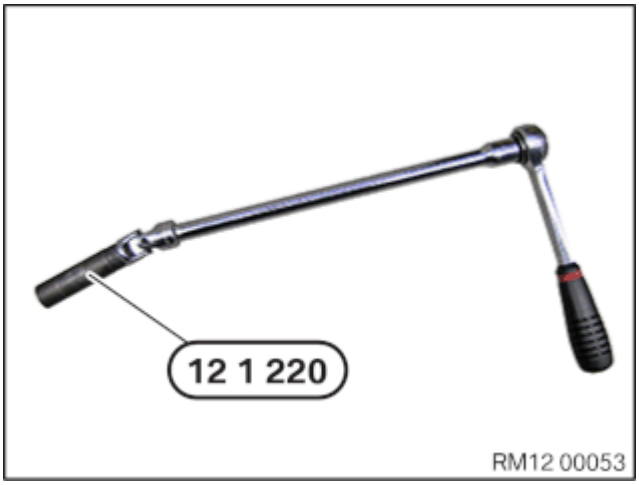
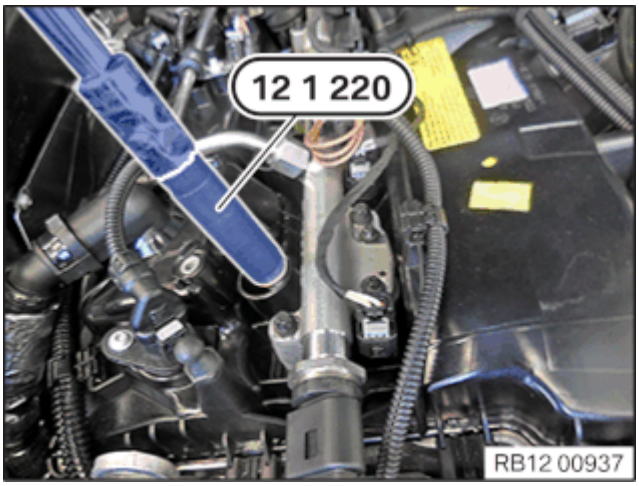


TECHNICAL INFORMATION

Only a swiveling extension for the reversible ratchet may be used. Rigid mounting tool and variable plug connections with rigid option may not be used; there is a risk that the insulator breaks.

- Mount the special tool **0 495 560 (12 1 220)** to a pivotable extension.

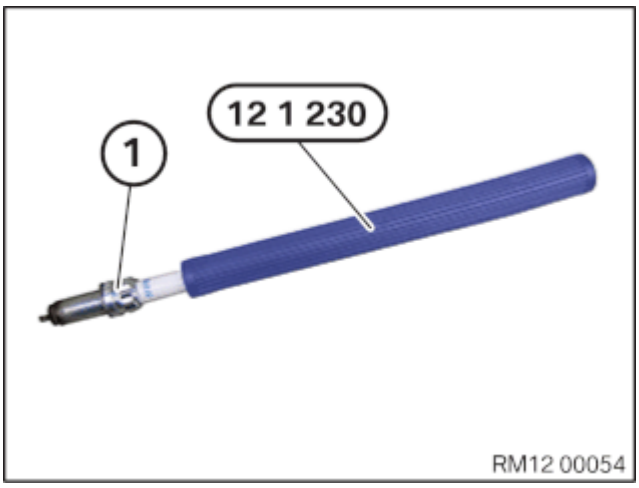


- Unscrew the spark plugs using the special tool 0 495 560 (12 1 220) along with a pivotable extension.

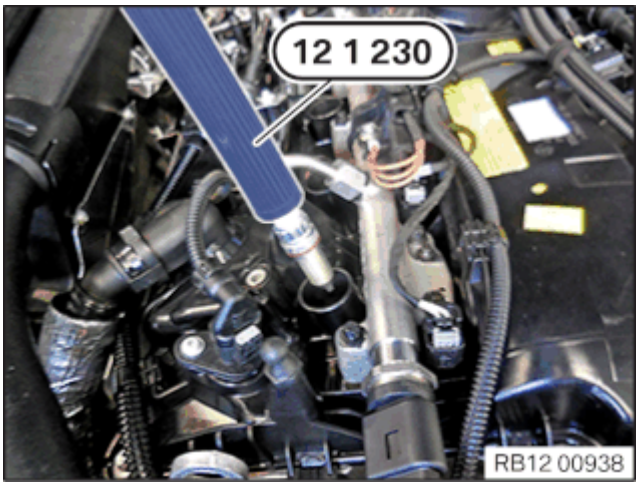
Installing all spark plugs

NOTE

The description is provided only at one component. The procedure is the same for all other components.



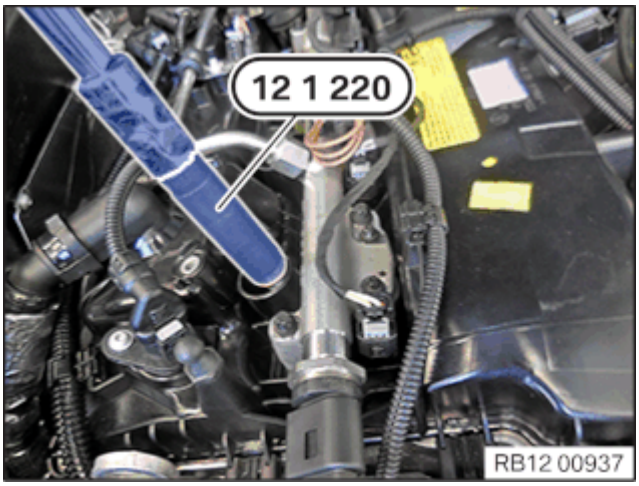
- Insert spark plug (1) in the special tool 0 496 065 (12 1 230).



TECHNICAL INFORMATION

Do not drop the spark plug into the spark plug shaft. This can lead to a reduction of the electrode gap and can thus impair smooth running of the engine, especially in idle position.

- Screw the spark plugs into the engine hand-tight with the special tool 0 496 065 (12 1 230).



TECHNICAL INFORMATION

Only a swiveling extension for the reversible ratchet may be used. Rigid mounting tool and variable plug connections with rigid option may not be used; there is a risk that the insulator breaks.

- Tighten the spark plugs with the torque wrench, the special tool **0 495 560 (12 1 220)** and with a pivotable extension.

Tightening torques

Spark plugs	
M12x1.25	Tightening torque 23Nm

Follow-up works

Installing all ignition coils

NOTE

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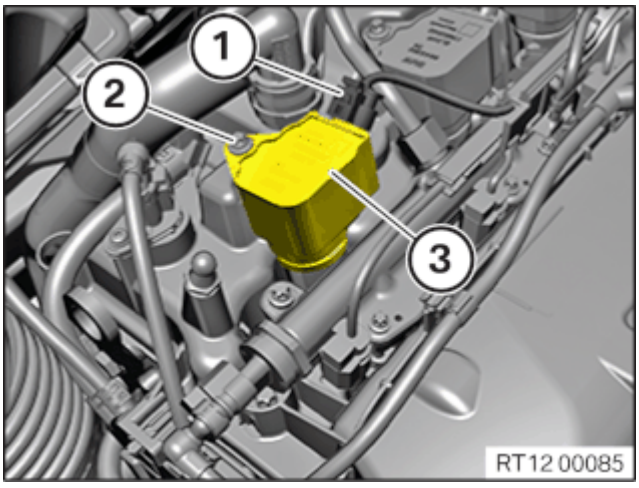
▶ Install ignition coil



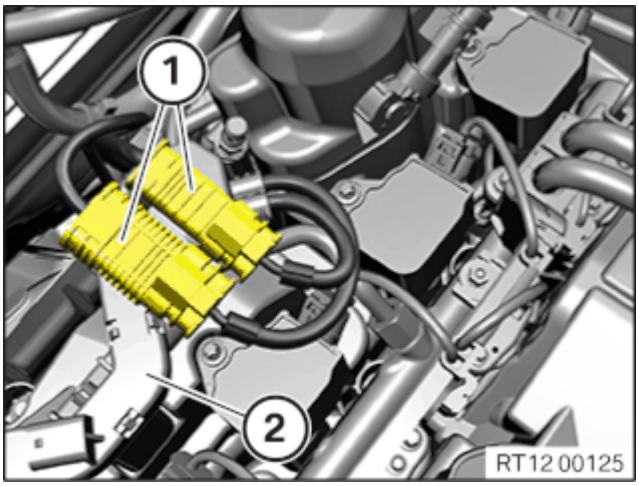
- Install ignition coil (3).
- Tighten down screw (2).

Tightening torques

Ignition coil	
Screw	Tightening torque 8Nm

- Connect connectors (1) and lock.

  The connector (1) must engage audibly.



- Attach connector (1) of the primary oxygen sensor and the monitoring oxygen sensor to the cable duct(2) .

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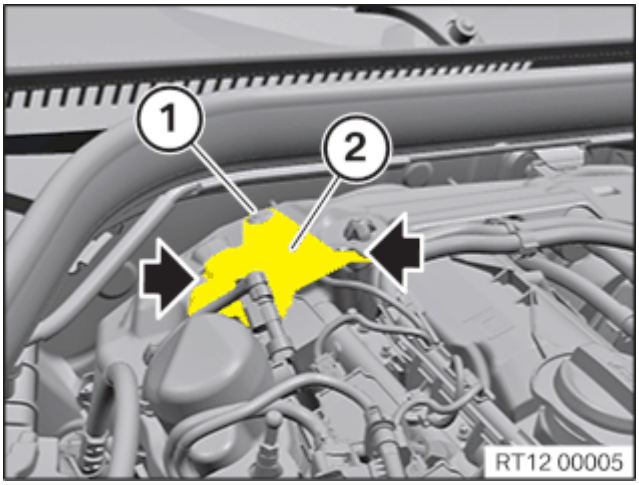
Mounting the service opening in the sound insulation on top of the engine



- Maneuver sound insulation (2) over pivot point (1) into installation position and maneuver into marked areas (arrows).

Installing acoustic cover

RISK OF DAMAGE

Damage to the acoustic cover / design cover.

Jerky movements during disassembly and application of excessive force during installation may result in breakage of the acoustic cover / design cover.

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- Disassemble or mount snap-lock couplings of the ball pivots one after the other.
- Disassemble or mount the acoustic cover / design cover only at temperatures > 20 °C.
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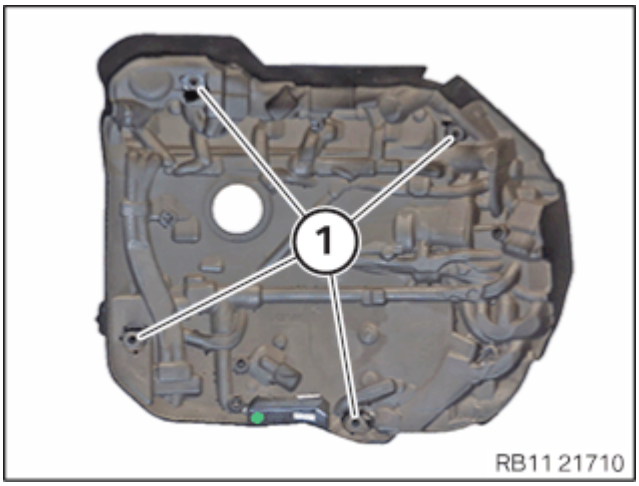
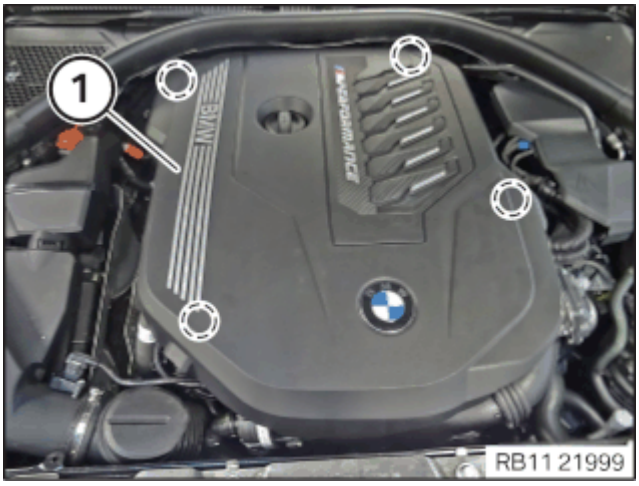


- Check that rubber mount (1) fits correctly in acoustic cover.



- Install acoustic cover (1) and attach it in the rubber mounts (marks).