

11 78 610 Replace the lambda oxygen monitoring sensor



WARNING

Hot surfaces.

Risk of burning!

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

PRELIMINARY WORK

1 – Removing the acoustic cover



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RISK OF DAMAGE

Damage to the acoustic cover.

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

- Disassemble or mount the acoustic cover carefully.
- Disassemble or mount snap-lock couplings of the ball pivots one after the other.
- Disassemble or mount acoustic cover only at temperatures $>20^{\circ}\text{C}$.
- Use only distilled water as an auxiliary material during installation, no lubricants.



- Release the acoustic cover (1) towards the top from the rubber mounts (marks).

2 – Removing intake silencer housing



RISK OF DAMAGE

Damage to the clean air line. Damage to the air filter.

For changing the air filter insert, if the upper section of intake filter housing is only raised and not completely removed, the clean air line and the air filter insert may be damaged.

- Do not lift upper section of intake filter housing by force.
- Unfasten clamp.
- Remove upper section of intake filter housing completely.



- Unlock plug connection (1) and disconnect.
- Unfasten clamp (2).
- Pull out and remove the intake silencer housing (3) from the rubber mounts towards the top.

3 – Remove the front oxygen sensor



WARNING

Hot surfaces.

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RISK OF DAMAGE

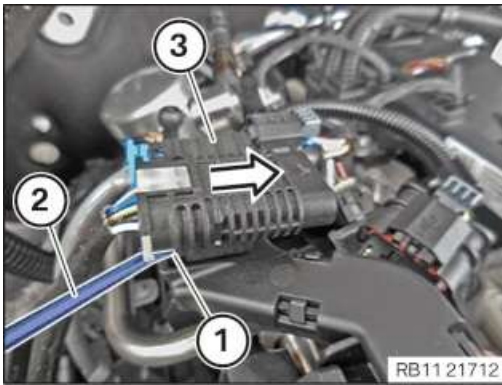
Damage to wires when disconnecting connectors and plug connections.

Sheared wires can cause a short circuit.

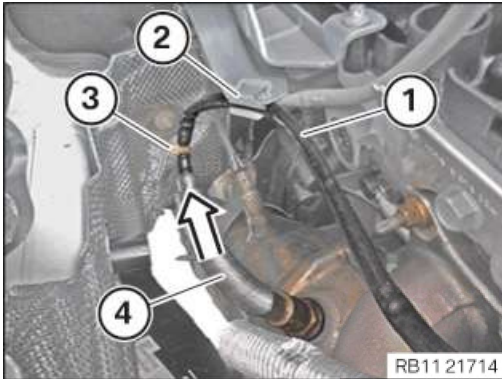
- Do not pull on the wires when disconnecting connectors and plug connections.



- Unlock and loosen connector (1).



- Unlock the locks (1) with a conventional screwdriver (2) and release.
- Feed out the connector (3) in **the direction of arrow** and set aside.



- Detach the line of the front oxygen sensor (1) from the holder (2).
- Unfasten cable strap (3).
- Feed out the heat shield (4) in **direction of arrow** and set it aside.



- Release and remove the control sensor (1) with the special tool.

MAIN WORK

4 – Remove the monitoring oxygen sensor



WARNING

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Risk of burning!

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RISK OF DAMAGE

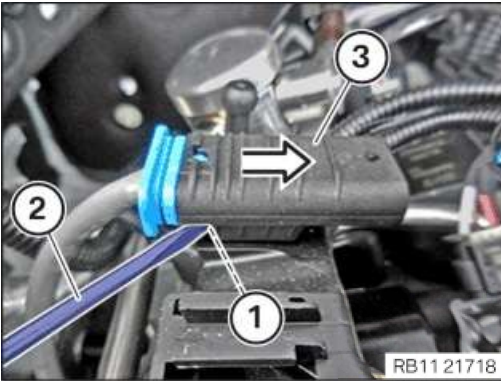
Damage to wires when disconnecting connectors and plug connections.

Sheared wires can cause a short circuit.

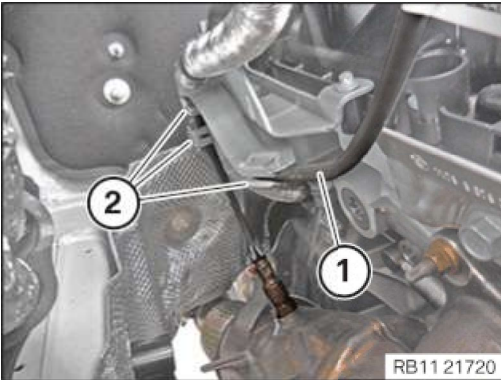
- Do not pull on the wires when disconnecting connectors and plug connections.



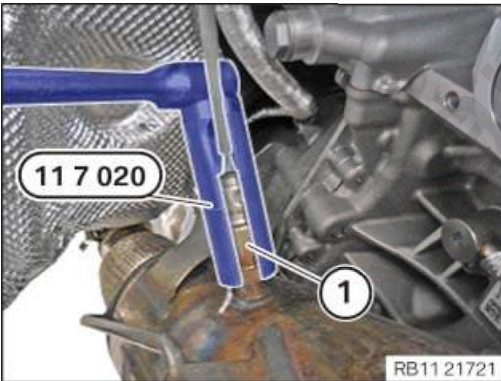
- Unlock and loosen connector (1).



- Unlock the lock (1) with a suitable screwdriver (2).
- Feed out the connector (3) in the direction of the **arrow** and set it aside.



- Detach the line of the monitoring oxygen sensor (1) from the holder (2).



- Release the monitoring oxygen sensor (1) using special tool .
- Remove the monitoring sensor (1).

5 – Install the monitoring oxygen sensor



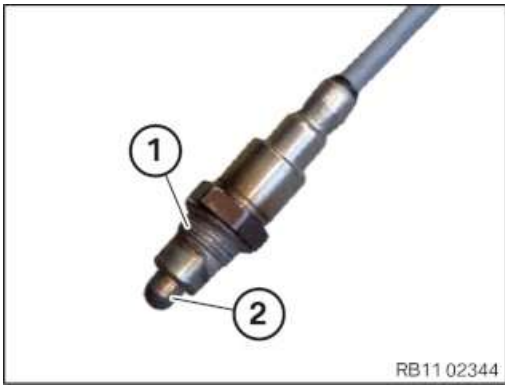
TECHNICAL INFORMATION

New oxygen sensors are to be greased lightly and evenly on the thread.

For oxygen sensors that are reused, the following should be observed:

Lightly and evenly grease the oxygen sensor only on the thread. Do not clean and grease that part of the oxygen sensor which protrudes in the exhaust branch (sensor ceramics).

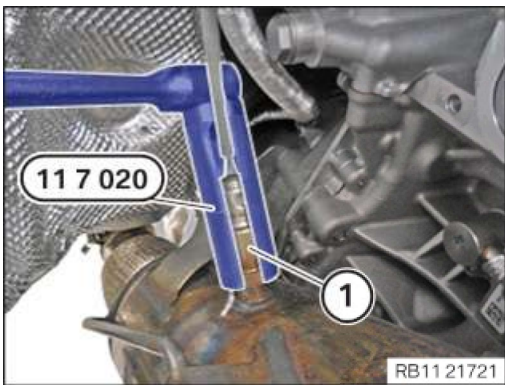
For additional information see: 11 00 ... Overview of consumables in Electronic Parts Catalogue



- Prepare the oxygen sensor.
Do not damage the sensor ceramics.
(1) = Thread
(2) = Sensor ceramics
- Grease the thread (1) of the Lambda monitoring oxygen sensor thinly and evenly.

Expendable materials

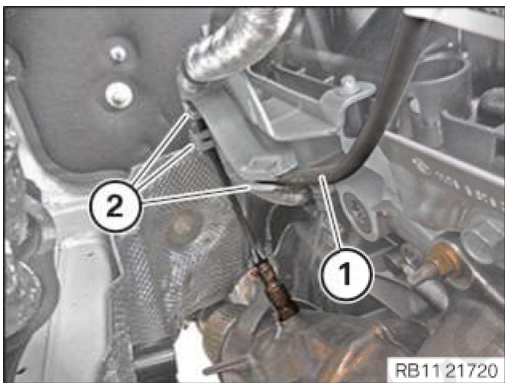
Brake block paste	3 g, Bag	83192158851
* TU = Trade Unit. TU numbers cannot be ordered! For invoicing purposes only.	100 g, Tube	83192158852
	5 g, TU*	83230140233



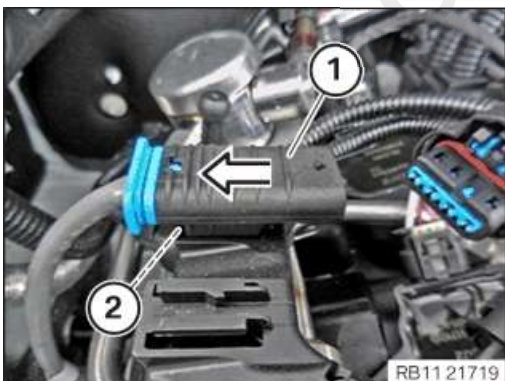
- Feed in the monitoring oxygen sensor (1) and install.
- Tighten monitoring oxygen sensor (1) using special tools [0 493 751 \(11 9 150\)](#) and [0 491 075 \(11 7 030\)](#).

Monitoring oxygen sensor to catalytic converter

M18X1.5		Tightening torque	50 Nm
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- Guide monitoring oxygen sensor line (1) into holder (2) and install it.



- Insert and install the connector (1) in the **direction of arrow**.
- Ensure that the lock (2) engages audibly.



- Connect and lock the connector (1).
- Make sure the connector (1) engages audibly.

POSTPROCESSES

6 – Install the front oxygen sensor



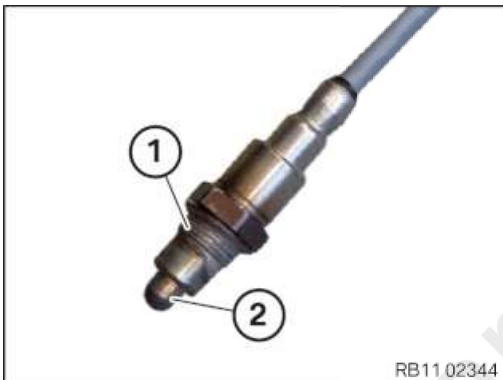
TECHNICAL INFORMATION

New oxygen sensors are to be greased lightly and evenly on the thread.

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Lightly and evenly grease the oxygen sensor only on the thread. Do not clean and grease that part of the oxygen sensor which protrudes in the exhaust branch (sensor ceramics).

For additional information see: 11 00 ... Overview of consumables in Electronic Parts Catalogue



- Prepare the oxygen sensor.
Do not damage the sensor ceramics.
(1) = Thread
(2) = Sensor ceramics
- Apply a thin and even coat of grease to the thread (1) of the front oxygen sensor.

Expendable materials

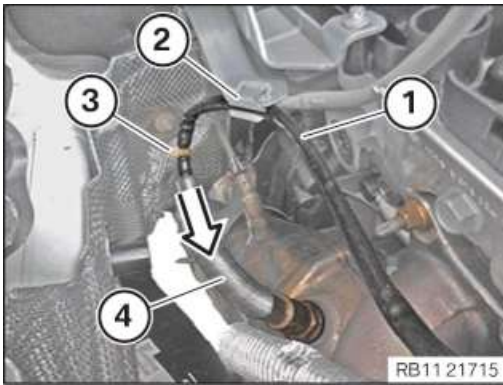
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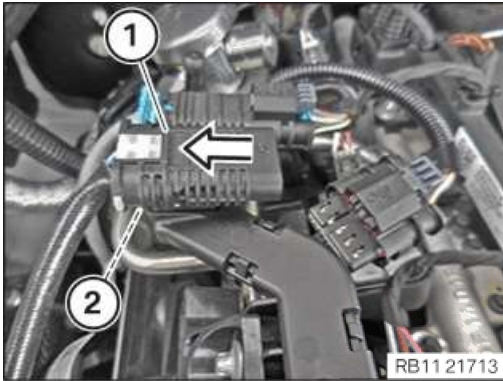
- Screw the control sensor (1) in and tighten it with the special tool .

Front oxygen sensor to catalytic converter

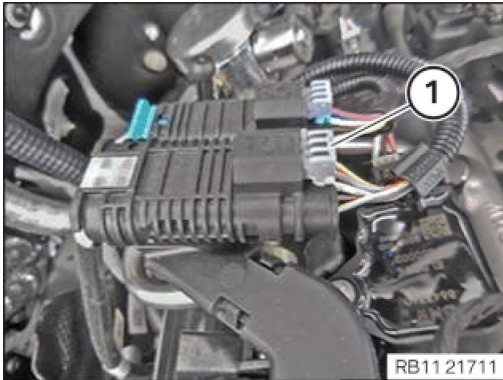
M18X1.5		Tightening torque	50 Nm
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- Guide in the heat protection (4) in the **direction of arrow** and install.
 - Renew the cable straps (3).
- Parts:** Cable strap
- Guide in and install the cable strap (3).
 - Feed in and install the line of the front oxygen sensor (1) in the holder (2).

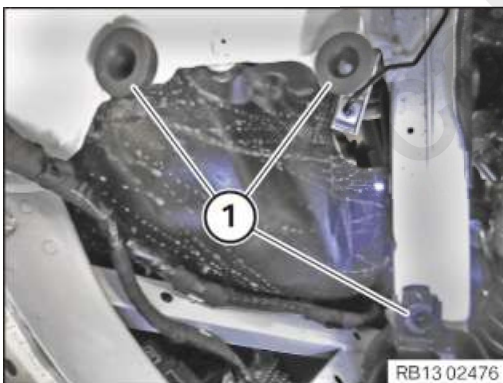


- Insert and install the connector (1) in the **direction of arrow**.
- Ensure that the lock (2) engages audibly.



- Connect and lock the connector (1).
- Make sure the connector (1) engages audibly.

7 – Installing intake silencer housing



- Check the rubber mount (1) for correct fit.



- Feed the intake filter housing (3) in and engage it in the rubber mounts.
- Tighten clamp (2).

Clean air pipe to upper section of intake filter housing

Clamp		Tightening torque	3 Nm
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- Connect connectors (1) and lock.
- The connector (1) must engage audibly.

8 – Install acoustic cover

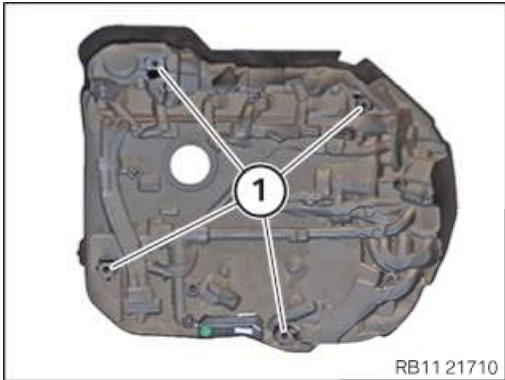


RISK OF DAMAGE

Damage to the acoustic cover.

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

- Disassemble or mount the acoustic cover carefully.
- Disassemble or mount snap-lock couplings of the ball pivots one after the other.
- Disassemble or mount acoustic cover only at temperatures $>20\text{ }^{\circ}\text{C}$.
- Use only distilled water as an auxiliary material during installation, no lubricants.



- Check the rubber mount (1) for correct fit in the acoustic cover.



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

Additional Information

Overview of Tightening Torques

Monitoring oxygen sensor to catalytic converter

Used in step 5

M18X1.5	Tightening torque	50 Nm
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Front oxygen sensor to catalytic converter

Used in step 6

M18X1.5	Tightening torque	50 Nm
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Clean air pipe to upper section of intake filter housing

Used in step 7

Clamp	Tightening torque	3 Nm
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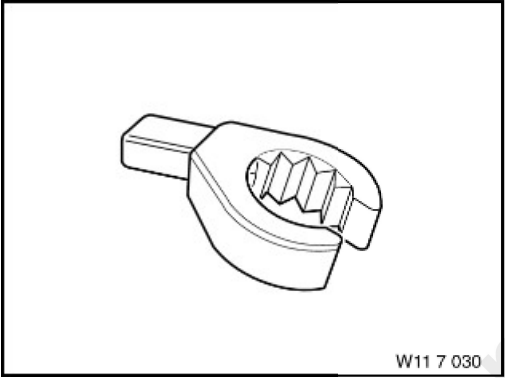
Overview of Special Tools

0 493 751 (11 9 150) Extension



Common		Used in step	5
Usage	(Socket wrench extension) For loosening and tightening the oxygen sensor		
Included in the tool or work			
Storage location	C41		
Replaced by			
In connection with			
SI-Number	01 15 00 (609)		

0 491 075 (11 7 030) Socket wrench insert



Common		Used in step	5
Usage	(Socket wrench insert 22 mm) For loosening and tightening the oxygen sensor		
Included in the tool or work			
Storage location	A9		
Replaced by			
In connection with			
SI-Number	01 06 95 (963)		

Links

General repair instructions	Used in step
11 00 ... Overview of consumables (Electronic Parts Catalogue)	56

11 78 510 Replacing oxygen sensor



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PRELIMINARY WORK

1 – Removing the acoustic cover



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- Disassemble or mount acoustic cover only at temperatures $>20^{\circ}\text{C}$.
- Use only distilled water as an auxiliary material during installation, no lubricants.



- Release the acoustic cover (1) towards the top from the rubber mounts (marks).

2 – Removing intake silencer housing



RISK OF DAMAGE

Damage to the clean air line. Damage to the air filter.

For changing the air filter insert, if the upper section of intake filter housing is only raised and not completely removed, the clean air line and the air filter insert may be damaged.

- Do not lift upper section of intake filter housing by force.
- Unfasten clamp.
- Remove upper section of intake filter housing completely.



- Unlock plug connection (1) and disconnect.
- Unfasten clamp (2).
- Pull out and remove the intake silencer housing (3) from the rubber mounts towards the top.

MAIN WORK

3 – Remove the front oxygen sensor



WARNING

Hot surfaces.

Risk of burning!

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RISK OF DAMAGE

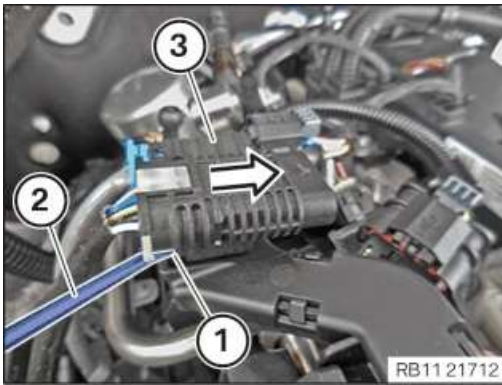
Damage to wires when disconnecting connectors and plug connections.

Sheared wires can cause a short circuit.

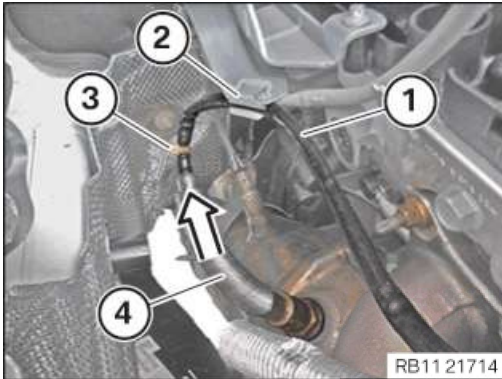
- Do not pull on the wires when disconnecting connectors and plug connections.



- Unlock and loosen connector (1).



- Unlock the locks (1) with a conventional screwdriver (2) and release.
- Feed out the connector (3) in **the direction of arrow** and set aside.



- Detach the line of the front oxygen sensor (1) from the holder (2).
- Unfasten cable strap (3).
- Feed out the heat shield (4) in **direction of arrow** and set it aside.



- Release and remove the control sensor (1) with the special tool .

4 – Install the front oxygen sensor



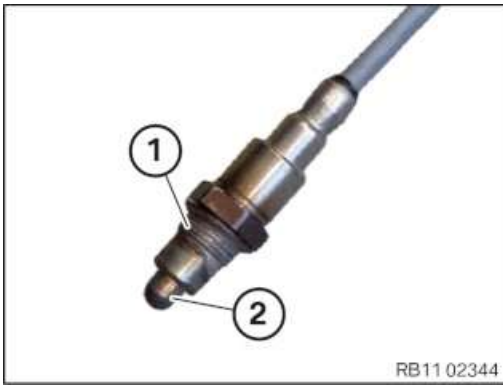
TECHNICAL INFORMATION

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- Prepare the oxygen sensor.
Do not damage the sensor ceramics.
(1) = Thread
(2) = Sensor ceramics
- Apply a thin and even coat of grease to the thread (1) of the front oxygen sensor.

Expendable materials

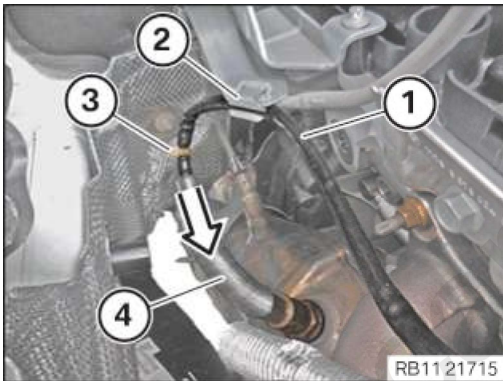
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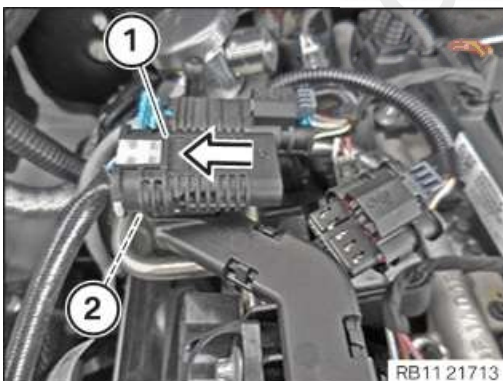
- Screw the control sensor (1) in and tighten it with the special tool .

Front oxygen sensor to catalytic converter

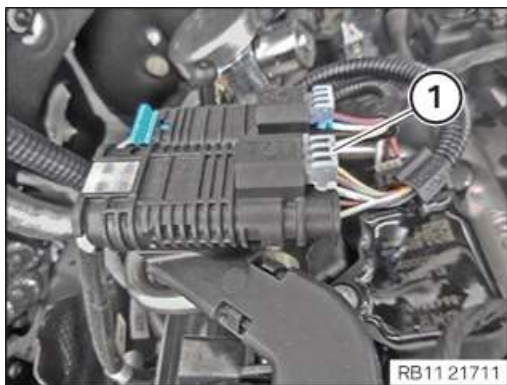
M18X1.5		Tightening torque	50 Nm
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- Guide in the heat protection (4) in the **direction of arrow** and install.
- Renew the cable straps (3).
- Parts:** Cable strap
- Guide in and install the cable strap (3).
- Feed in and install the line of the front oxygen sensor (1) in the holder (2).



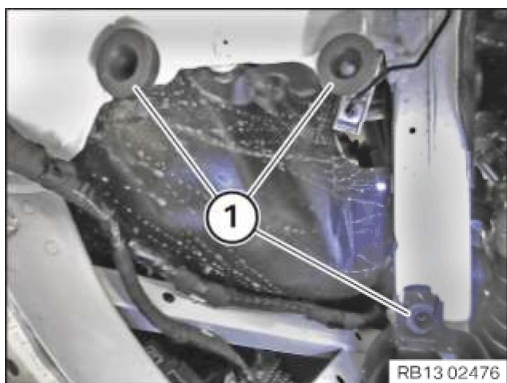
- Insert and install the connector (1) in the **direction of arrow**.
- Ensure that the lock (2) engages audibly.



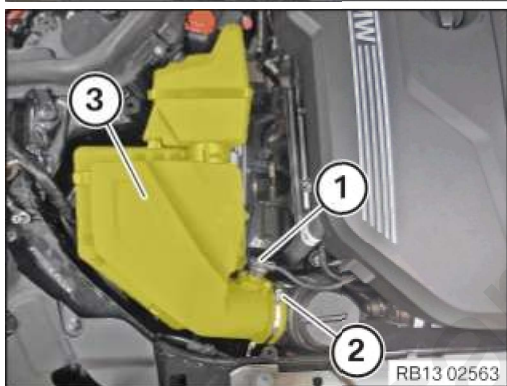
- Connect and lock the connector (1).
- Make sure the connector (1) engages audibly.

POSTPROCESSES

5 – Installing intake silencer housing



- Check the rubber mount (1) for correct fit.



- Feed the intake filter housing (3) in and engage it in the rubber mounts.
- Tighten clamp (2).

Clean air pipe to upper section of intake filter housing

Clamp	Tightening torque	3 Nm
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- Connect connectors (1) and lock.
The connector (1) must engage audibly.

6 – Install acoustic cover

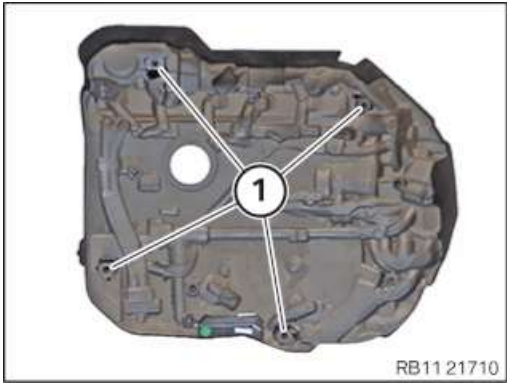


RISK OF DAMAGE

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- Disassemble or mount snap-lock couplings of the ball pivots one after the other.
- Disassemble or mount acoustic cover only at temperatures $>20^{\circ}\text{C}$.
- Use only distilled water as an auxiliary material during installation, no lubricants.



- Check the rubber mount (1) for correct fit in the acoustic cover.



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

Additional Information

Overview of Tightening Torques

Front oxygen sensor to catalytic converter			Used in step	4
M18X1.5		Tightening torque		50 Nm
Clean air pipe to upper section of intake filter housing			Used in step	5
Clamp		Tightening torque		3 Nm

Overview of Special Tools

Links

General repair instructions	Used in step
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