00 11 265 Oil change in the front axle transmission including used oil disposal

Overview of Activities

Additional Information

Preliminary Work

1 Removing the front left wheel

2 Remove the cover of the steering assembly on the left and right

3 Removing the stiffening plate

4 Removing the stiffening plate

5 Removing the stiffening plate

Main Work

6 Check/add front axle transmission oil

7 Draining/topping up front axle differential oil

Postprocesses

8 Installing the stiffening plate

9 Installing the stiffening plate

10 Installing the stiffening plate

11 Install the cover of the steering assembly on the left and right

12 Attaching the front left wheel

General information

⚠ WARNING

Vehicle may slip off the vehicle lift if the vehicle lift is handled incorrectly.

Danger! Life-threatening injuries!

- Observe Safety Information on raising the vehicle using a vehicle lift.
- For additional information see: 00 ... Raise the vehicle using a vehicle lift.

⚠ WARNING

Hot surfaces.

Risk of burning!

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

⚠ CAUTION

Materials harmful to health.

Contact with fluids harmful to health!

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

PRELIMINARY WORK

1–Removing the front left wheel

▸ **Removing the wheel**

TECHNICAL INFORMATION

A wheel lift is recommended for easier wheel removal and installation without exertion (see Retailer Equipment Catalogue).

- Provide wheel lift.

- If several wheels are removed simultaneously: Use a piece of chalk to mark on each tyre the axle and side on which the corresponding wheel is fitted.
- Loosen the wheel bolts (arrows) crosswise and remove the wheel.

  Use the matching adapter from tool set **0 492 518 (36 1 300)** (wheel bolt adapter set) to loosen and tighten the wheel bolt with security code.

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2–Remove the cover of the steering assembly on the left and right

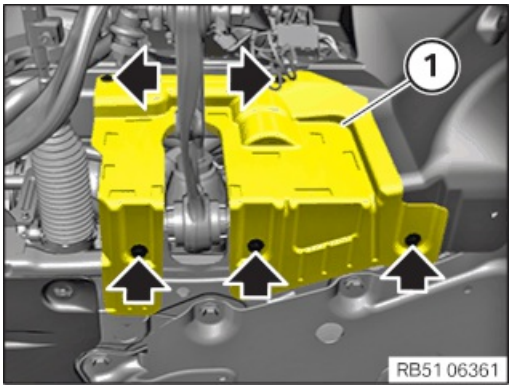
NOTICE

Perform the steps on the left and right side.

▸ **Remove the cover of the steering assembly**

NOTICE

To provide a better overview: Schematic diagram with partially hidden components.



- Release all bolts (arrows).
- Remove cover (1).

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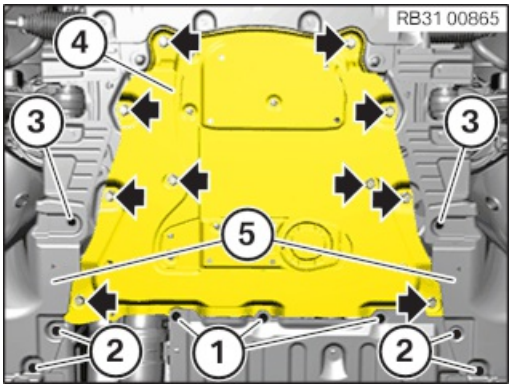
3–Removing the stiffening plate

i TECHNICAL INFORMATION

Secure component against falling.

i TECHNICAL INFORMATION

Driving without stiffening plate is not permissible.



- Loosen screws (1) to (3).
- Remove screws (arrows).
- Feed out the stiffening plate (4) in the area (5) of the wheel arch trim panel and remove.

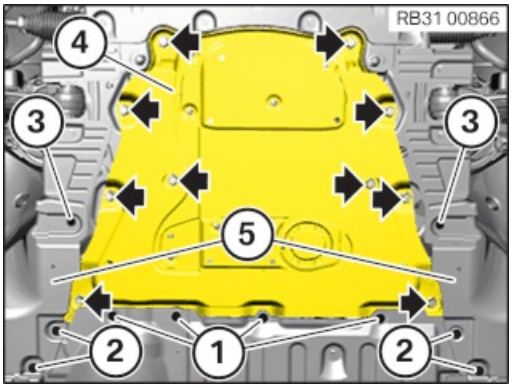
4–Removing the stiffening plate

i TECHNICAL INFORMATION

Secure component against falling.

i TECHNICAL INFORMATION

Driving without stiffening plate is not permissible.



- Loosen screws (1) to (3).
- Remove screws (arrows).
- Feed out the stiffening plate (4) in the area (5) of the wheel arch trim panel and remove.

5–Removing the stiffening plate

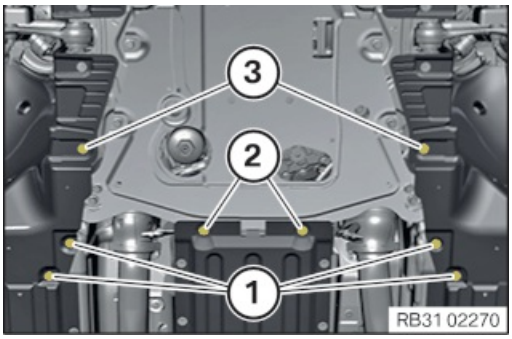
i TECHNICAL INFORMATION

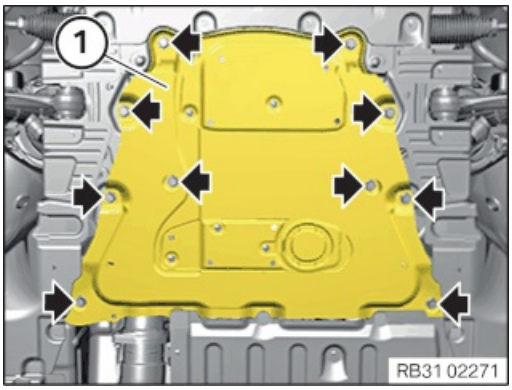
Secure component against falling.

i TECHNICAL INFORMATION

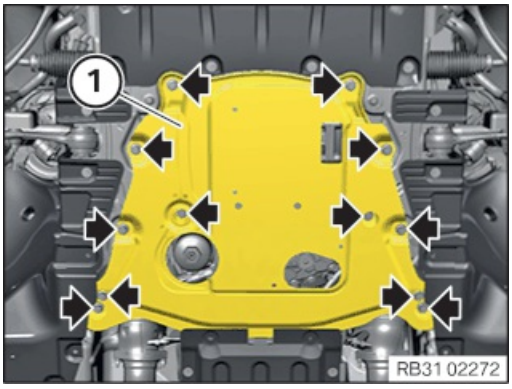
Driving without stiffening plate is not permissible.

- Loosen screws (1) to (3).





- **Version A (N63):**
- Loosen screws (arrows).
- Feed stiffening plate (1) out of wheel arch trim panels and remove.



- **Version B (S68):**
- Loosen screws (arrows).
- Feed stiffening plate (1) out of wheel arch trim panels and remove.

MAIN WORK

6–Check/add front axle transmission oil

Additional information is available.

RISK OF DAMAGE

Damage to the front axle differential.

Failure to comply with the oil specifications can result in serious damage to the front axle differential.

- Use only the approved front axle differential oil.

TECHNICAL INFORMATION

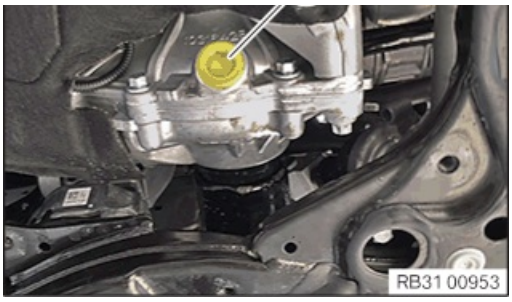
Filling to the lower edge of the oil filler opening means that the front axle differential is overfilled. In some cases, this may lead to emerging oil from the ventilation opening on the front axle differential.

After having drained the front axle differential oil, repair the front axle differential or upon initial filling of a new replacement front axle differential, the transmission must be filled with 450 ml of oil.

TECHNICAL INFORMATION

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

- Place oil collecting apparatus underneath.
- Release the screw plug (1).

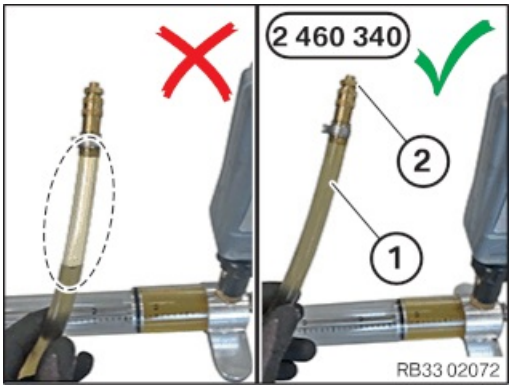


- Drain and dispose of front differential oil.
- Renew the screw plugs (1).

  Parts: Screw plugs
- Tighten the screw plug (1).

Screw plug to front axle transmission

M22	Renew screw plug with O-ring.	Tightening torque	60 Nm



i TECHNICAL INFORMATION

It is **imperative** to ensure that there is no air in the hose when topping up a defined (measured) oil quantity.

- Use the special tool **2 460 340** for topping up.
- When topping up a defined (measured) oil quantity, first fill the hose (1) with oil. To do this, connect an adapter (2).

▸ Topping up oil level with oil spray nozzle

i TECHNICAL INFORMATION

The training video illustrates the methodology for changing the rear axle differential oil using the oil gun special tool.

The training video does not replace the repair instructions.

The training video is not subject to the update service.

We can assume no liability for printing errors or inaccuracies in this document and reserve the right to introduce technical modifications at any time.

- Follow repair instructions!

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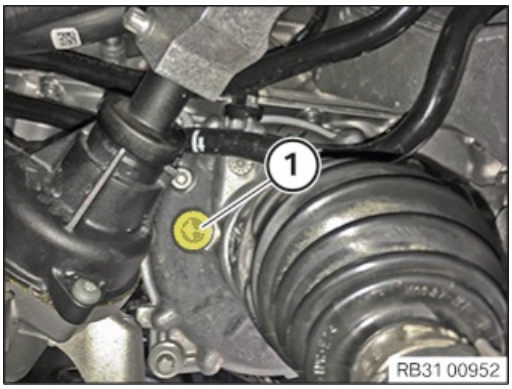


- Release the screw plug (1).
- Fill front axle transmission with front axle transmission oil.

Front axle transmission oil

Front axle differential capacity	450 ml

Transmission oil : Technically suitable front axle transmission oils

- Renew the screw plug (1).
- Tighten the screw plug (1).

Screw plug to front axle transmission

M22	Renew screw plug with O-ring.	Tightening torque	60 Nm

7–Draining/topping up front axle differential oil

RISK OF DAMAGE

Damage to the front axle differential.

Failure to comply with the oil specifications can result in serious damage to the front axle differential.

- Use only the approved front axle differential oil

- Use only the approved front axle differential oil.

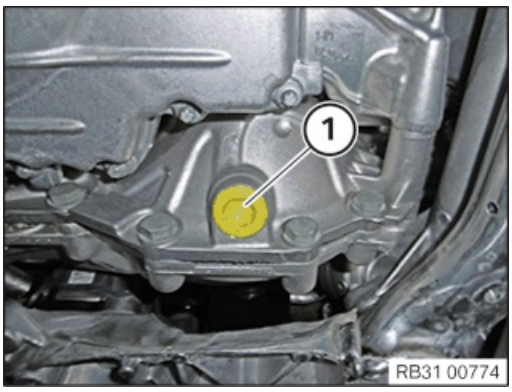
TECHNICAL INFORMATION

Filling to the lower edge of the oil filler opening means that the front axle differential is overfilled. In some cases, this may lead to emerging oil from the ventilation opening on the front axle differential.

After having drained the front axle transmission oil, repair the front axle differential or upon initial filling of a new replacement front axle differential, the transmission must be filled with 600 ml of oil.

TECHNICAL INFORMATION

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



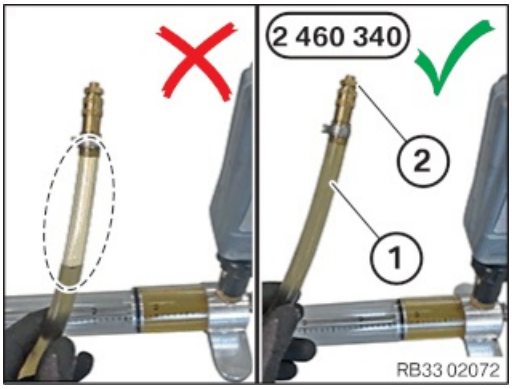
- Place oil collecting apparatus underneath.
- Release the screw plug (1).
- Drain and dispose of front differential oil.
- Renew the screw plugs (1).

  Parts: Screw plugs
- Tighten the screw plug (1).

Screw plug to front axle transmission

M22	Renew screw plug with O-ring.	Tightening torque	60 Nm

- Depending on the oil vessel, use special tool **5 A51 084**(A) or (B)**2 460 340**



TECHNICAL INFORMATION

It is **imperative** to ensure that there is no air in the hose when topping up a defined (measured) oil quantity.

- Use the special tool **2 460 340** for topping up.
- When topping up a defined (measured) oil quantity, first fill the hose (1) with oil. To do this, connect an adapter (2).

▸ Topping up oil level with oil spray nozzle

TECHNICAL INFORMATION

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- Follow repair instructions!

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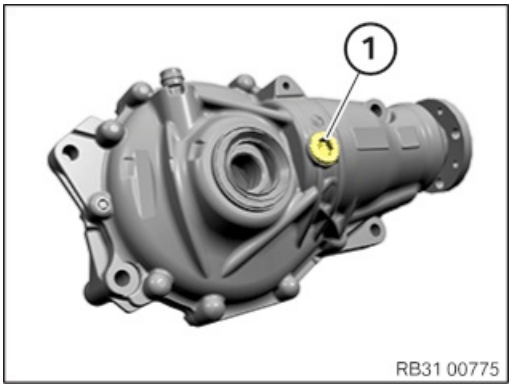


- Release the screw plug (1).
- Fill front axle transmission oil with the special tool **2 460 340** in the front axle transmission.

Front axle transmission oil

Capacity of front axle differential 175AL	600 ml

Transmission oil

Hypoid Axle Oil G2 (up to 02/2020)	500 ml, Bottle	83 22 2 413 511

Transmission oil

Hypoid Axle Oil G5 (from 03/2020)	500 ml, Bottle	83 22 2 471 487

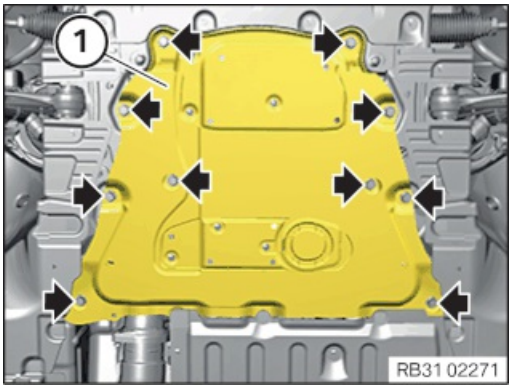
- Renew the screw plug (1).
- Tighten the screw plug (1).

Screw plug to front axle transmission

M22	Renew screw plug with O-ring.	Tightening torque	60 Nm

POSTPROCESSES

8–Installing the stiffening plate

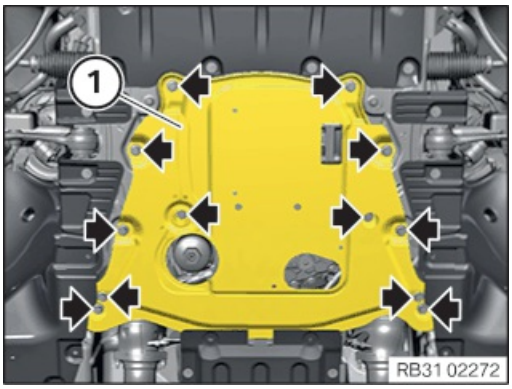


- **Version A (N63):**
- Thread in stiffening plate (1)on the wheel arch trim panels and position on the front axle support.
- Renew the screws (arrows).

  Parts: Screws
- Tighten screws (arrows).

Stiffening plate to front axle support

M10	Renew screws.	Jointing torque	56 Nm
		Angle of rotation	90 °



- **Version B (S68):**
- Thread in stiffening plate (1)on the wheel arch trim panels and position on the front axle support.
- Renew the screws (arrows).
- Tighten screws (arrows).

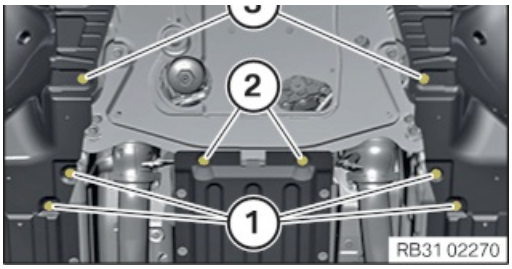
Stiffening plate to front axle support

M10	Renew screws.	Jointing torque	56 Nm
		Angle of rotation	90 °

- Tighten the screws (3).

Steering assembly cover

Thermoplastic		Tightening torque	2.6 Nm



hexagon bolt			

- Tighten the screws (2).

Underbody panelling/frame

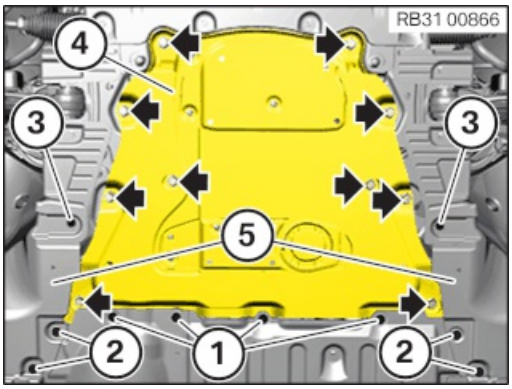
Hexagon screw		Tightening torque	3 Nm

- Tighten the screws (1).

Wheel arch cover

Thermoplastic hexagon screw		Tightening torque	2,6 Nm
Plastic nut		Tightening torque	2,6 Nm

9–Installing the stiffening plate



- Guide stiffening plate (4) into area (5) of the wheel arch trim panel and position it on the front axle support.
- Renew the screws (arrows).

  Parts: Screws
- Tighten screws (arrows).

Stiffening plate to front axle support

M10	Renew screws.	Jointing torque	56 Nm
		Angle of rotation	90 °

- Tighten the screws (3).

Steering assembly cover

Thermoplastic hexagon bolt		Tightening torque	2.6 Nm

- Tighten the screws (2).

Wheel arch cover

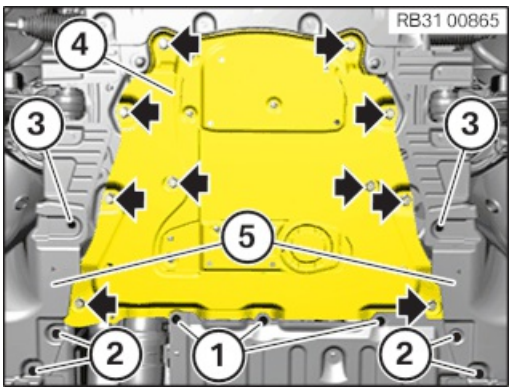
Thermoplastic hexagon screw		Tightening torque	2,6 Nm
Plastic nut		Tightening torque	2,6 Nm

- Tighten the screws (1).

Underbody panelling/frame

Hexagon screw		Tightening torque	3 Nm

10–Installing the stiffening plate



- Guide stiffening plate (4) into area (5) of the wheel arch trim panel and position it on the front axle support.
- Renew the screws (arrows).

  Parts: Screws
- Tighten screws (arrows).

Stiffening plate to front axle support

M10	Renew screws.	Jointing torque	56 Nm
		Angle of rotation	90 °

- Tighten the screws (3).

Steering assembly cover

Thermoplastic hexagon bolt		Tightening torque	2.6 Nm

- Tighten the screws (2).

Wheel arch cover

Thermoplastic hexagon screw		Tightening torque	2,6 Nm
Plastic nut		Tightening torque	2,6 Nm

- Tighten the screws (1).

Underbody panelling/frame

Hexagon screw		Tightening torque	3 Nm

11–Install the cover of the steering assembly on the left and right

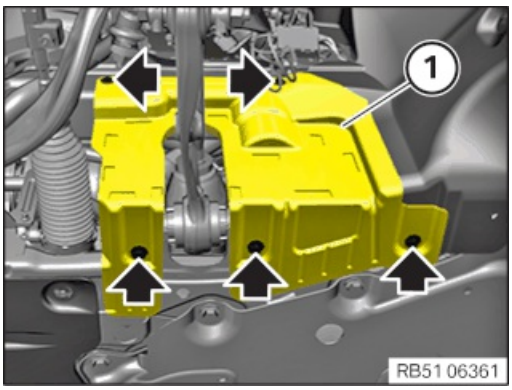
NOTICE

Perform the steps on the left and right side.

▸ Install the cover of the steering assembly

NOTICE

To provide a better overview: Schematic diagram with partially hidden components.



- Insert the cover (1).
- Tighten all bolts (arrows).

Steering assembly cover

Thermoplastic hexagon bolt		Tightening torque	2.6 Nm

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12–Attaching the front left wheel

▸ Mounting the wheel

▹ Cleaning the contact surfaces between the brake disc and the wheel rim

Additional information is available.

TECHNICAL INFORMATION

The contact surface between the brake disc and the wheel rim must be clean and free from oil and grease. There is otherwise a risk of the wheel becoming loose at a later time.

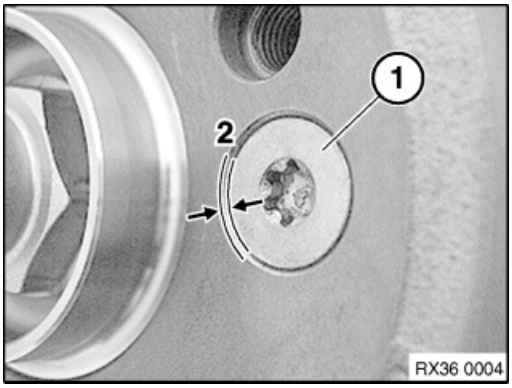
- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool **2 344 011**.

Do not operate special tool **2 344 011** with an impact screwdriver.

- Degrease the contact surfaces with the universal cleaner (see BMW Group parts sales and distribution).
- If there are grease residues in the area of the wheel bolt holes, remove and clean the brake disc.

- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool **2 344 011**.

  Do not operate special tool **2 344 011** with an impact screwdriver.
- Degrease the contact surfaces with the universal cleaner (see BMW Group parts sales and distribution).



- Check that the mounting bolt (1) for the brake disc is securely fitted.

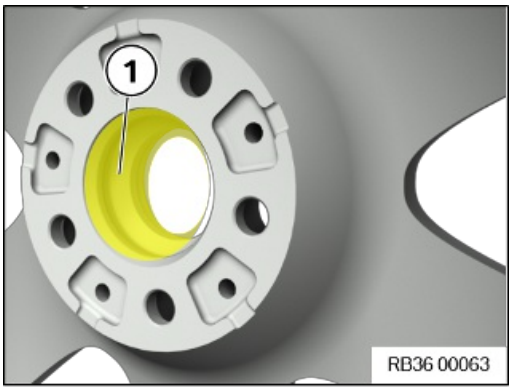
  The mounting bolt (1) for the brake disc may **not** protrude on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8		Tightening torque	16 Nm

Brake disc to rear wheel hub

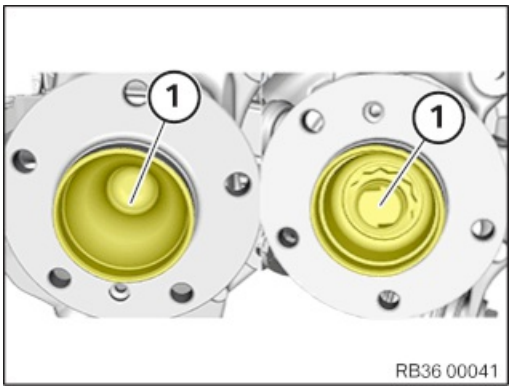
M8		Tightening torque	16 Nm



- Thinly grease the wheel centring (1) in the wheel rim.

Expendable materials

Brake pad paste * TU = Trade Unit. TU numbers cannot be ordered! For invoicing purposes only.	3 g, Bag	83 19 2 158 851
	100 g, Tube	83 19 2 158 852
	5 g, TU*	83 23 0 140 233



- Lightly grease the front and rear wheel hubs in this area (1) to protect from corrosion.

Expendable materials

Brake pad paste * TU = Trade Unit. TU numbers cannot be ordered! For invoicing purposes only.	3 g, Bag	83 19 2 158 851
	100 g, Tube	83 19 2 158 852
	5 g, TU*	83 23 0 140 233

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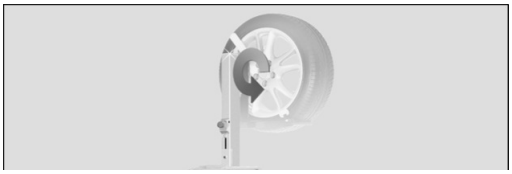
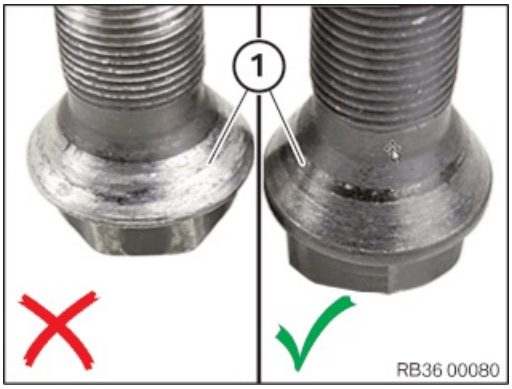


- In vehicles with carbon ceramic brake: The wheel lift must be used to install the wheel (see workshop equipment).

  This process is intended to prevent damage to the brake disc.

Check

- **Check wheel bolts for wear.**



Result

» Places (> 30%) of the bearing surface (1) of the taper on the screw head show a silver wear.

Measure

- Replace wheel bolts.

i TECHNICAL INFORMATION

A wheel lift is recommended for easier wheel removal and installation without exertion (see Retailer Equipment Catalogue).

- Provide wheel lift.

i TECHNICAL INFORMATION

Never use impact screwdrivers or electric screwdrivers to screw in and tighten the wheel bolts.

The wheel rim must rest uniformly against the brake disc.

In the case of non-original BMW wheel bolts/wheel rims, it may be necessary to retighten the wheel bolts on account of setting properties (refer to the documentation from the manufacturer).

Do not apply oil to new wheel bolts.

Recutting a damaged thread (wheel bolt/wheel hub) is not permissible!

- Renew corroded wheel bolts (arrows).
- Clean the wheel bolts (arrows).
- Check the wheel bolts (arrows) and threads for damage, renew the wheel bolts (arrows), if necessary.
- Position and tighten the wheel bolts (arrows).

Wheel bolts

M 14/width across flats 17	Screw in wheel bolts and evenly apply crosswise by hand to centre the wheel rim.	Tightening torque	140 Nm
	Tighten wheel bolts crosswise to the specified tightening torque with a calibrated torque wrench.	Check	140 Nm

	calibrated torque wrench. Check all wheel bolts in the same order or retighten to the specified tightening torque again.		

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