31 00 ... Notes on wheel bearing replacement following accident damage

Wheel bearing facts:

In the event of accidents or driving conditions similar to accidents, shock-like loads to the wheel bearing units can cause slight damage to the bearing track. Despite initial running without noise, with continued use, this results in later noise generation at the wheel bearing.

Procedure:

The wheel bearing must be replaced on the damaged side of the axle if one or several of the following points apply:

- Visible or noticeable damage to the wheel bearing
- Rolling noises, radial/lateral runout on the wheel bearing
- Permissible tolerance for the wheel alignment is exceeded and no longer adjustable without the exchange of additional components
- Damage, permanent deformation or fractures to:
  - Wheel rims (major damage) and simultaneous negative result for wheel alignment
  - Spring struts, swivel bearings, wheel carriers
  - Wishbones
  - Struts or trailing links or anti-roll bar with this function
  - Body-side screwing/attachment points for wheel guide/control components
  - Track rods
  - Steering box fixtures

This guideline is binding for all accident repairs to BMW, MINI and Rolls-Royce vehicles!

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00 02 001 Raising the vehicle using a vehicle lift



Warning!

Danger to life!

Read and follow operating instructions for vehicle hoist.

Do not exceed approved load-carrying capacity and load distribution of vehicle hoist.

Weight compensation may be necessary due to the loading situation of the vehicle.

This also applies in the event of considerable removal of parts or conversions on the vehicle.

Note:

The vehicle hoist must comply with the relevant statutory/country-specific accident prevention regulations and be serviced according to the regulations.



Caution!

Risk of damage!

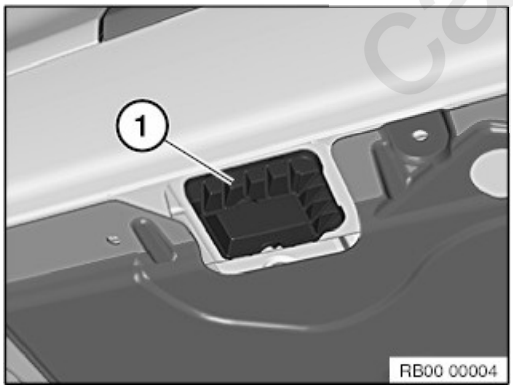
Before driving onto a vehicle hoist, make sure there is sufficient ground clearance between the vehicle hoist and the vehicle.

The vehicle may only be raised with the vehicle hoist at the four jacking points.



Necessary preliminary work:

- For new vehicles: If necessary, remove jacking points from equipment pack and insert from below into openings in front and rear sill areas

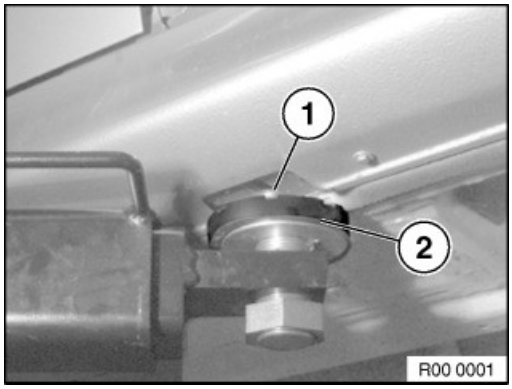


Caution!

All four jacking points (1) must be available!

Never raise the vehicle without the jacking points (1)!

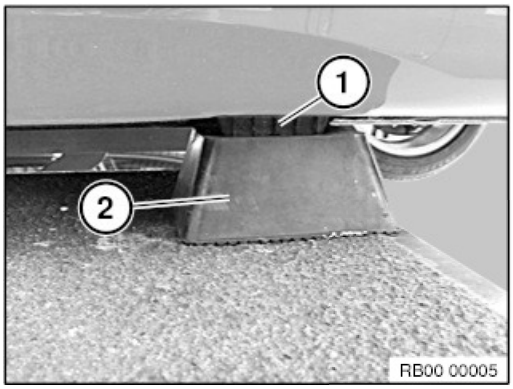
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Caution!

Risk of damage!

Align support plates (2) of lifting platform arms to jacking points (1) in such a way that no adjoining components are touched and thereby damaged.



Caution!

Risk of damage!

Align the rubber block (2) with the jacking points (1) in such a way that no adjoining components are touched and thereby damaged.

Never raise the vehicle without rubber blocks (or rigid foam blocks)!

There is a major risk of damage to the vehicle underbody!

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33 10 053 Removing and installing/replacing temperature sensor

WARNING

Hot exhaust system.

Risk of burning!

- Any work must exclusively be carried out with an exhaust system that has cooled down.

RISK OF DAMAGE

Damage to rear axle differential.

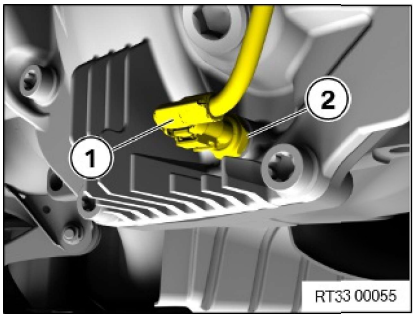
Failure to comply with the oil specifications can result in serious damage to the rear axle differential.

- After completion of repair work, check the transmission oil level in the rear axle differential.
- Use only the approved final drive transmission oil.

1 – Remove the temperature sensor on the rear axle differential

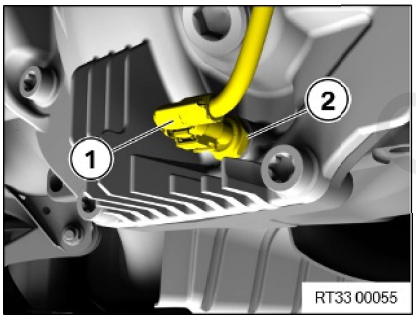
TECHNICAL INFORMATION

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



- Place oil collecting apparatus underneath.
- Unlock plug connection (1) and disconnect.
- Release and remove temperature sensor (2).
- Catch and dispose of emerging rear axle differential oil.

2 – Install the temperature sensor on the rear axle differential



- Install the temperature sensor (2).
- Tighten the temperature sensor (2).

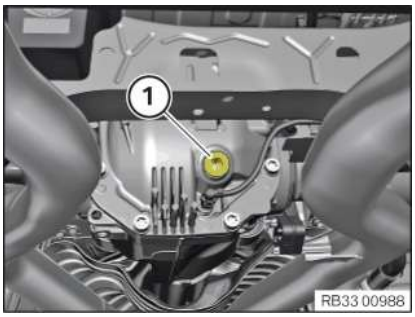
Temperature sensor to oil sump

M12		Tightening torque	14 Nm

- Connect connectors (1) and lock.

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3 – Check/top up oil level in the M-sports differential (rear axle differential with block)



- Release the screw plug (1).
- Check oil level:
- If necessary, pour in rear axle differential oil up to lower edge of opening for oil drain plug (1).

Initial filling capacity of rear axle differential oil for M-sports differential (rear axle differential with block)

M-sports differential	1.0 l

Transmission oil: Hypoid Axle Oil G4

- Renew the screw plug (1).
  Parts: Screw plug with O-ring
- Tighten the screw plug (1).

Oil filler plug on the rear axle differential

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

Additional Information

Overview of Tightening Torques

Temperature sensor to oil sump — Used in step 2

M12		Tightening torque	14 Nm

Oil filler plug on the rear axle differential — Used in step 3

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

Overview Technical Data

Initial filling capacity of rear axle differential oil for M-sports differential (rear axle differential with block) — Used in step 3

M-sports differential	1.0 l

Transmission oil: Hypoid Axle Oil G4

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This documentation refers to special tools that were not yet available when going to press.

33 11 271 Replacing rear cover gasket on rear axle final drive

WARNING

Motor vehicle may slip off the vehicle hoist where components are supported.

Danger! Life-threatening injuries!

- Secure the vehicle hoist against lowering and lifting.

RISK OF DAMAGE

Damage to rear axle differential.

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

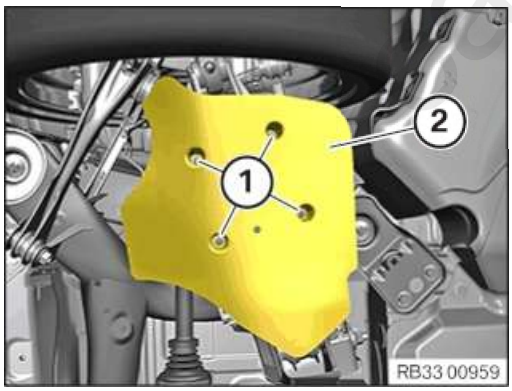
- After completion of repair work, check the transmission oil level in the rear axle differential.
- Use only the approved final drive transmission oil.

PRELIMINARY WORK

1 – Remove the cover of the camber control arm on the left and right

NOTICE

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



▸ **Remove the cover of the camber control arm**

- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

2 – Remove complete exhaust system

WARNING

Hot surfaces.

Risk of burning!

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

CAUTION

Component with heavy weight.

Danger of injury!

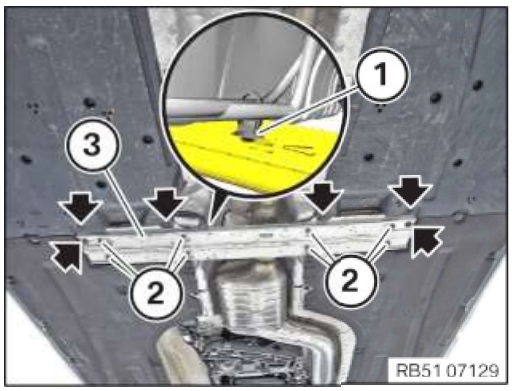
- Note component's centre of gravity.
- Support component using a jack.
- Secure component against falling off the jack.

CAUTION

Heavy component.

Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.



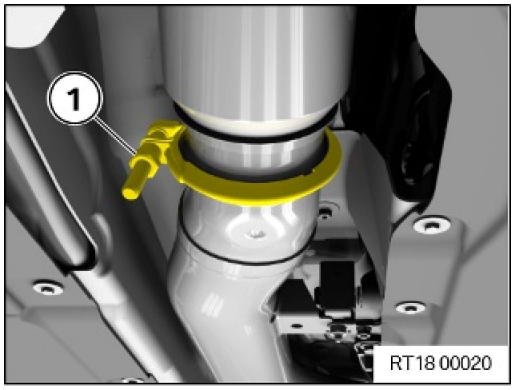
▶ **Remove the connecting support from the tunnel**

- Remove screws (arrows).
- **If installed:** Loosen clamp (1).
- Loosen screws (2).
- Guide out and remove connecting support (3) on the tunnel.



- **Equipment specification 1 (ribbon clamp)**

  Detach the ribbon clamp (1).



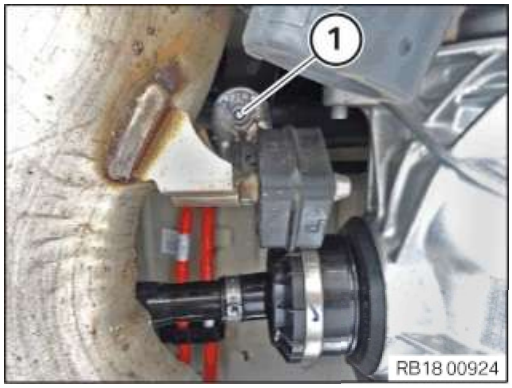
- **Equipment specification 2 (V-clips)**

  Unfasten clamp (1).

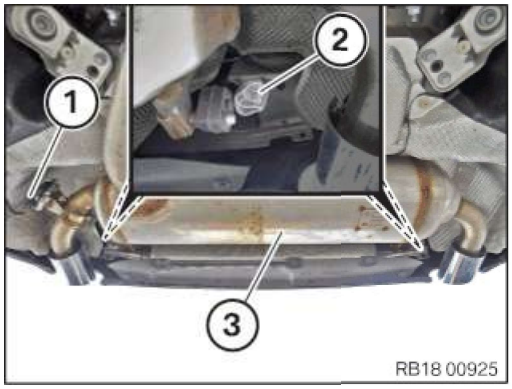
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- Loosen nut (1).



- Release the nut (1) on the rear axle support.

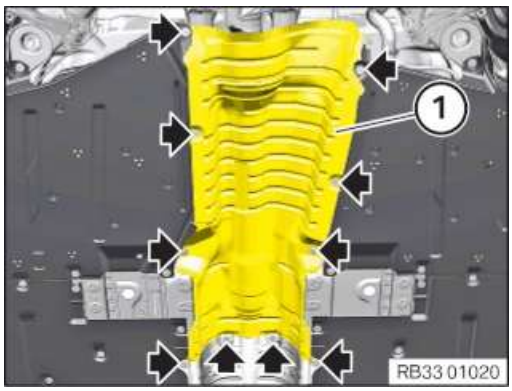


- Unlock plug connection (1) and disconnect.
- Loosen nuts (2).
- Lower and remove the exhaust system (3) with the assistance of a second person.

3 – Remove heat shield at rear.

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Loosen bolts and nuts (arrows).
- Remove the rear heat shield (1).

4 – Drawing off oil in the rear axle differential

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CAUTION

Materials harmful to health.

Health risks in the event of contact with substances that are harmful to health!

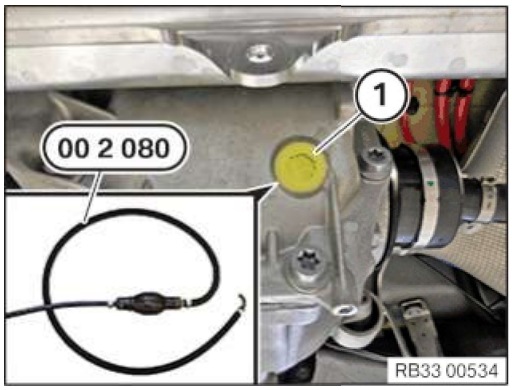
- Observe and comply with the Safety Information on the containers and the notes on the manufacturer's safety data sheet.
- Conduct all work in appropriate personal protective equipment only.

CAUTION

Acid burns may result from skin contact with oil or inhaling oil vapours.

Risk of acid burns from contact with oil!

- Wear safety goggles and protective gloves.
- Ensure adequate ventilation.



- Release oil filler plug (1).
- Draw off the oil using special tool 0 493 337 (00 2 080).

5 – Releasing and lowering rear axle differential

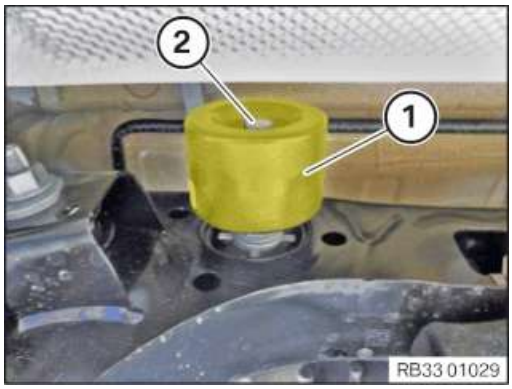
RISK OF DAMAGE

Damage to rear axle differential.

If the rear axle differential drops down, persons can be injured or the rear axle differential can be damaged.

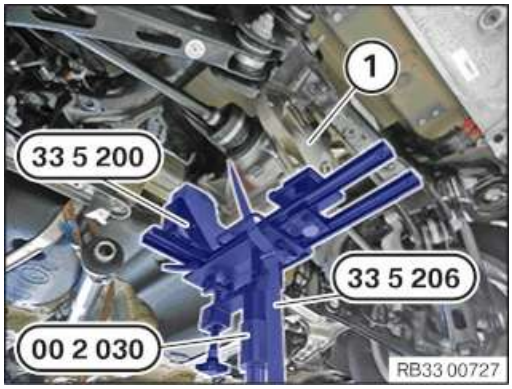
- Secure the rear axle differential using a tensioning strap.

▸ **If installed: Remove vibration absorber**

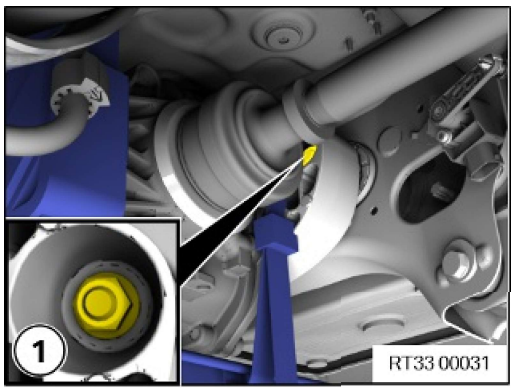


- Loosen screw (2).
- Remove the vibration absorber (1).

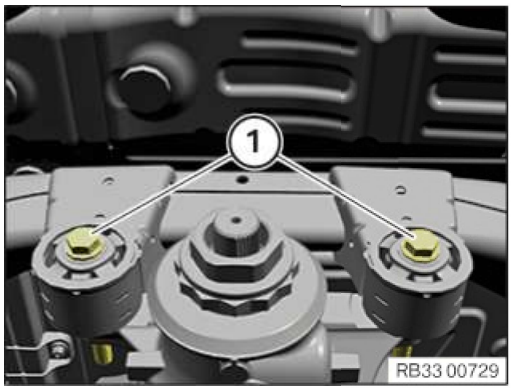
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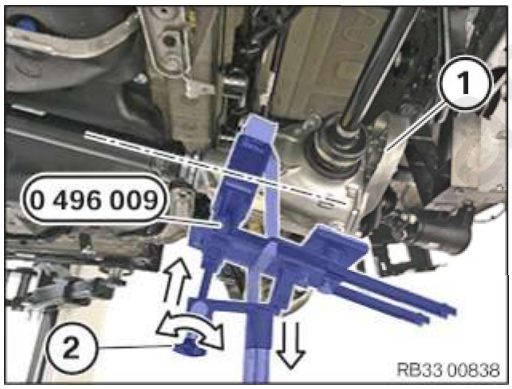
- Place the special tool 0 496 009 (33 5 200) onto the universal jack 0 490 133 (00 2 030).
- Support the rear axle differential (1) with the special tool 0 496 009 (33 5 200).
- Secure the rear axle differential (1) with a tensioning strap on the special tool 0 496 009 (33 5 200).



- Loosen nut (1) on the rear axle support at rear.
- Remove screw.



- Loosen screws (1) on rear axle support at front.



- Lower rear axle differential (1) using the special tool 0 496 009 (33 5 200) only until the cover on the rear axle differential is accessible.

  During lowering, twist the adjusting screw (2) to slightly raise the rear axle differential at the front.

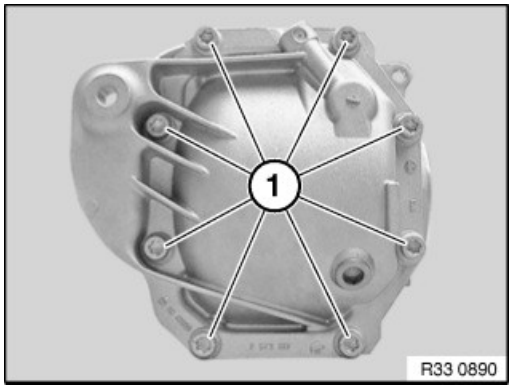
MAIN WORK

6 – Removing the housing cover

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.

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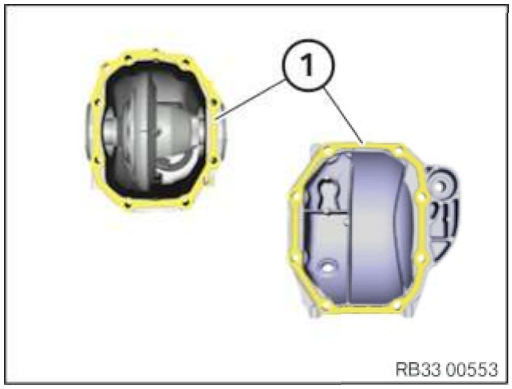


- Loosen screws (1).
- Take off case cover.

7 – Removing the seals and cleaning the sealing surfaces

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Remove the seals from the housing cover and the housing of the rear axle differential using a scraper.
- Clean sealing surfaces (1) on the cover and rear axle differential.

8 – Apply liquid sealing compound

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Have the special tool ready.

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TECHNICAL INFORMATION

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

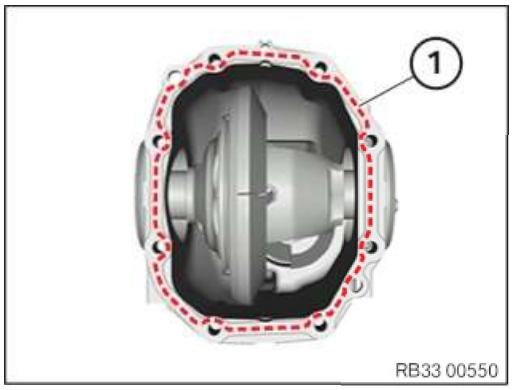
- Position the sealing compound (1) on special tool as shown.

  Parts: Sealing compound

Sealing compound

Loctite 5970 liquid sealing compound	50 ml, Cartridge	83190404517

Overview of consumables (Electronic Parts Catalogue)



- Apply liquid sealing compound along the dotted line (1) on the sealing surface of the rear axle differential.

  The sealing bead must run along the inner edge.

Sealing compound

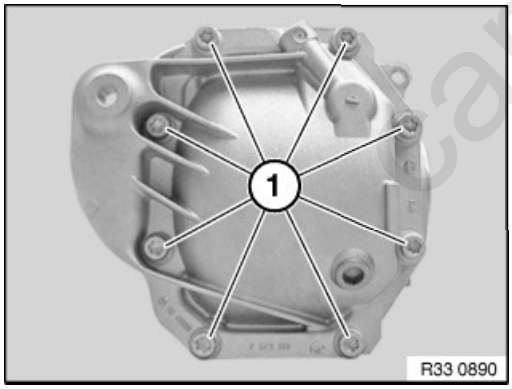
Loctite 5970 liquid sealing compound	50 ml, Cartridge	83190404517

Overview of consumables (Electronic Parts Catalogue)

9 – Installing the housing cover

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Position the housing cover on the rear axle differential.
- Tighten the screws (1).

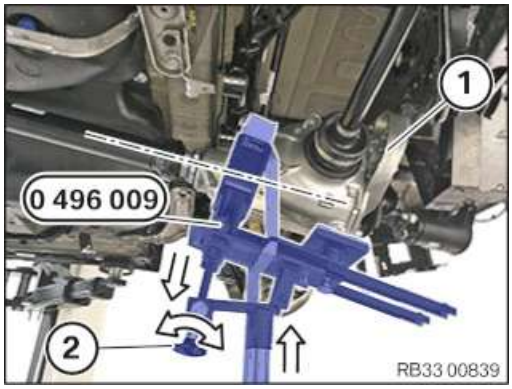
Lid to rear axle differential

M12			140 Nm
M10			90 Nm

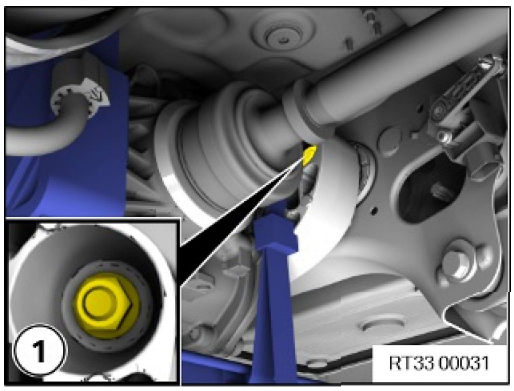
POSTPROCESSES

10 – Lifting and securing the rear axle differential

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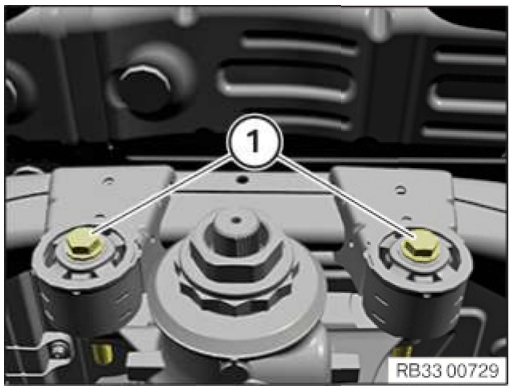


- Lift and position the rear axle differential (1)with the special tool 0 496 009 (33 5 200).
- While lifting the rear axle differential (1), twist the adjusting screw (2) to correct the installation position.



- Replace nut (1) and screw.

  Parts: Nut, bolt
- Insert the screw from the rear.
- Screw on nut (1) by hand.

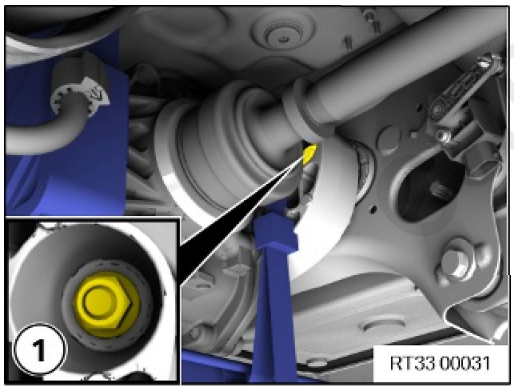


- Renew screws (1).

  Parts: Bolts
- Screw in the screws (1) by hand.
- Tighten the screws (1).

Rear differential to rear axle carrier, front

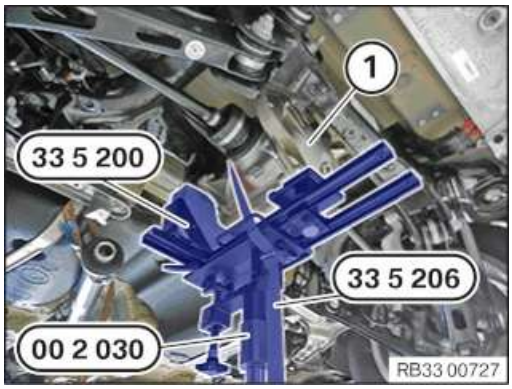
M12x100	Renew screws.	Tightening torque	100 Nm



- Tighten nut (1).

Rear differential to rear axle carrier, rear

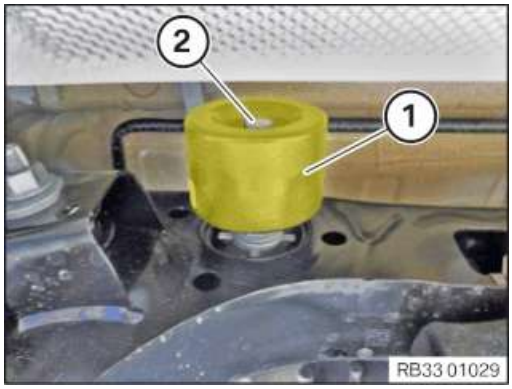
M14x110	Renew screw and nut.	Tightening torque.	175 Nm



- Loosen and remove the tensioning strap from the rear axle differential (1).
- Lower and remove the special tools 0 490 133 (00 2 030) and 0 496 009 (33 5 200).

▸ **If installed: install the vibration absorber**

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- Position the (1) vibration absorber.
- Renew the screw (2).

  Parts: Screw
- Tighten down screw (2).

Vibration absorber to rear axle

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

11 – Check/top up oil level in the rear axle differential

CAUTION

Materials harmful to health.

Health risks in the event of contact with substances that are harmful to health!

- Observe and comply with the Safety Information on the containers and the notes on the manufacturer's safety data sheet.
- Conduct all work in appropriate personal protective equipment only.

CAUTION

Acid burns may result from skin contact with oil or inhaling oil vapours.

Risk of acid burns from contact with oil!

- Wear safety goggles and protective gloves.
- Ensure adequate ventilation.

RISK OF DAMAGE

Damage to rear axle differential.

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

- Use only the approved final drive transmission oil.

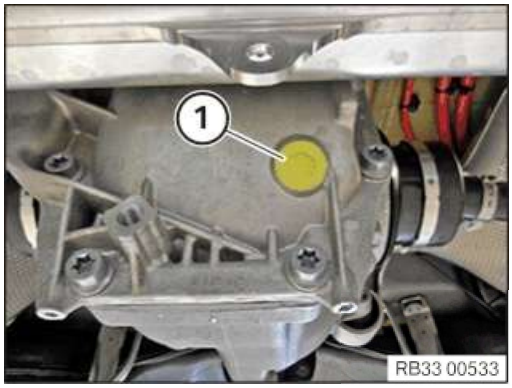
TECHNICAL INFORMATION

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

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- Use the special tool 0 493 337 (00 2 080) to top up the rear axle differential oil.



- Open the oil filler plug (1).
- Check oil level:

  The oil level at the rear axle differential has been adjusted correctly once a small quantity of oil escapes from the opening of the oil filler plug.

  If necessary, top up final drive transmission oil.

Transmission oil

Technically suitable rear axle differential oils	

Main group 33

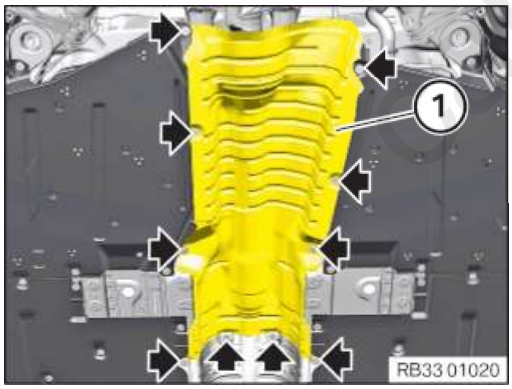
- Replace the oil filler plug (1).

  Parts: Oil filler plug
- Screw in and tighten the oil filler plug (1).

12 – Installing the rear heat shield

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Position the rear heat shield (1).
- Tighten the nuts and bolts (arrows).

Heat shield to vehicle underbody

Screws and nuts		Tightening torque	3 Nm

13 – Installing the complete exhaust system

CAUTION

Component with heavy weight.

Danger of injury!

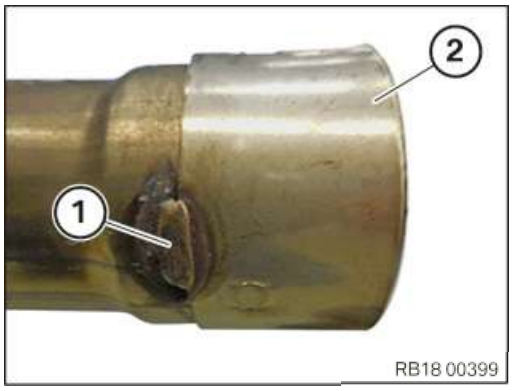
- Note component's centre of gravity.
- Support component using a jack.
- Secure component against falling off the jack.

CAUTION

Heavy component.

Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.



CAUTION

Swarf resulting from sawing or grinding components.

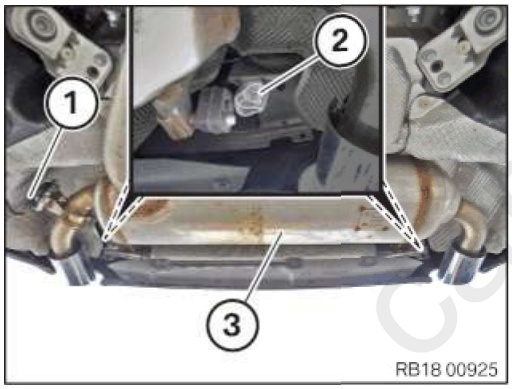
Danger of injury!

- Conduct all work in appropriate personal protective equipment only.
- Wear safety goggles and protective gloves.

- **Equipment specification 1 (ribbon clamp)**

  Open the weld seam (1) with a conventional tool.
- Remove ribbon clamp (2).
- Renew the (2) ribbon clamp.

  Parts: Ribbon cable clamp



- Feed in and install the exhaust system (3) with a second person.
- Renew nuts (2).

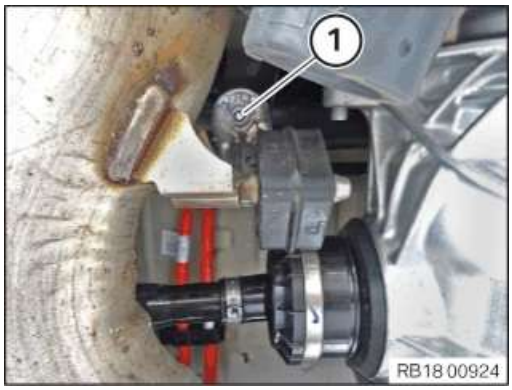
  Parts: Nuts
- Tighten nuts (2).

Rear silencer to body / bumper support

M8	Replace nuts.	Tightening torque	19 Nm

- Connect connectors (1) and lock.

  The connector (1) must engage audibly.



- Renew nut (1).

  Parts: Nut
- Tighten the bolt (1) on the rear axle support.

Exhaust system to rear axle carrier

Nut M8	Renew nut.	Tightening torque	19 Nm

carbagn.com



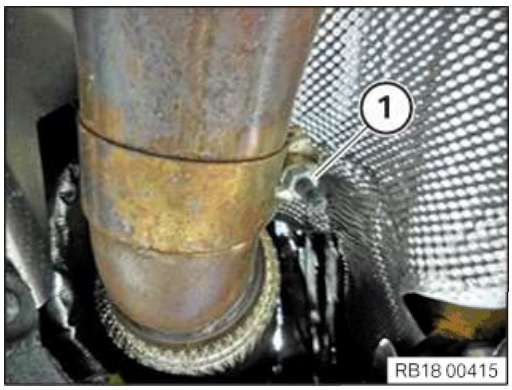
- Renew nut (1).

  Parts: Nut

- Tighten nut (1).

Front silencer / petrol particulate filter on transmission bracket

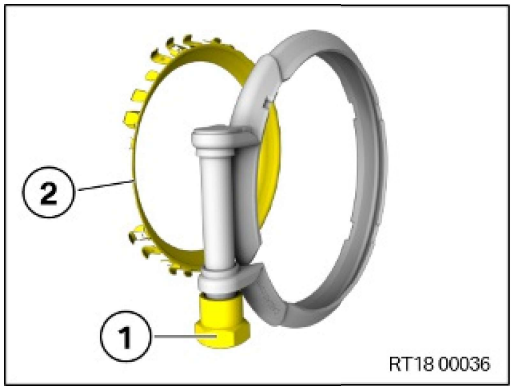
M8	Renew nut.	Tightening torque	19 Nm



- Tighten the ribbon clamp (1).

Exhaust system to catalytic converter

Ribbon cable clamp	Renew flat band clip.	Tightening torque	26 Nm

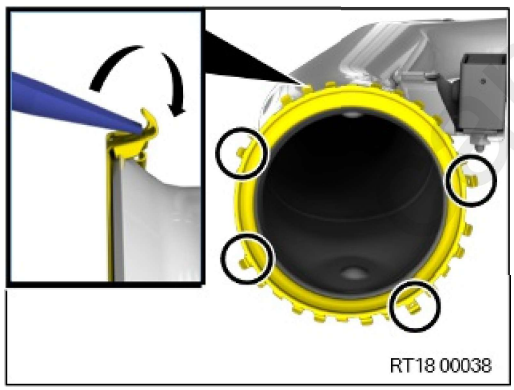


- **Equipment specification 2 (V-clips)**

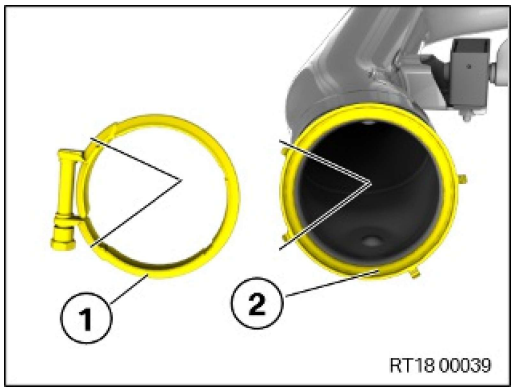
  Renew V-band clamp.

  Parts: V-band clamp

  Unscrew the nut (1) and remove the sealing ring (2).

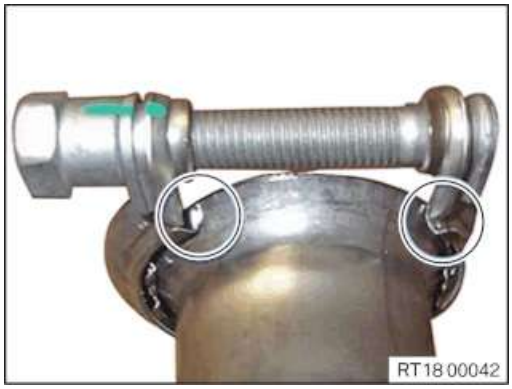


- Bend all sheet metal tabs over with a suitable tool, except those in the marked areas.

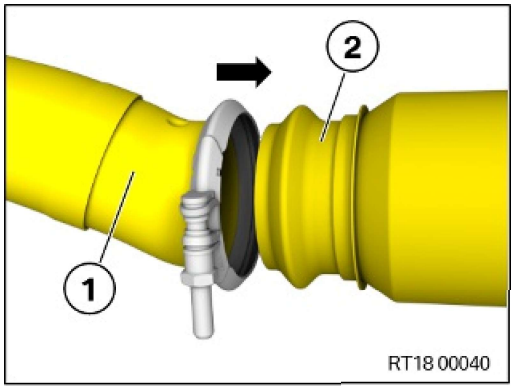


- Mount the V-clip (1) on the sealing ring (2).
- Make sure that the V-clip (1) is positioned correctly on the sealing ring (2).

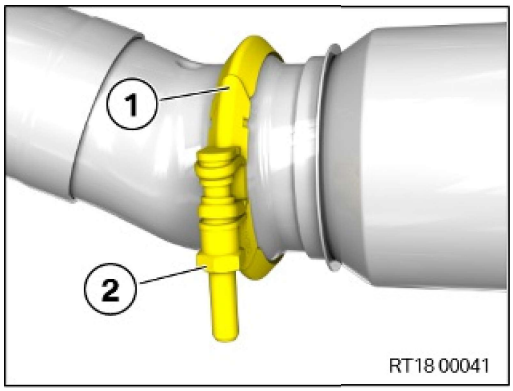
ardiagn.com



- Ensure that the V-clip rests against the sheet metal tabs in the marked areas after mounting.



- Connect the exhaust system (1) with the catalytic converter (2) and position it correctly (arrow).

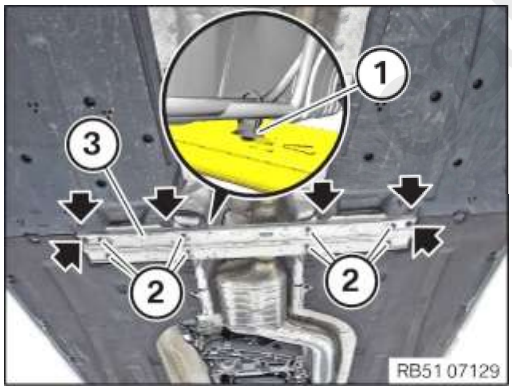


- Make sure that V-clip (1) is fitted correctly.
- Tighten down screw (2).

V-clip to catalytic converter

V-band clamp	Renew V-band clamp.	Tightening torque	22 Nm

▸ **Install the connecting supports on the tunnel**



- Guide in and install connecting support (3) on the tunnel.
- Tighten the screws (2).

Connecting support to tunnel

M8x25 screw		Tightening torque	20 Nm
Screw		Tightening torque	3 Nm

- Tighten screws (arrows).

Connecting support to tunnel

M8x25 screw		Tightening torque	20 Nm
Screw		Tightening torque	3 Nm

- **If installed:** Secure clamps (1).

14 – Install the cover of the camber control arm on the left and right

rdiagn.com

NOTICE

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



▸ **Installing the cover of the camber control arm**

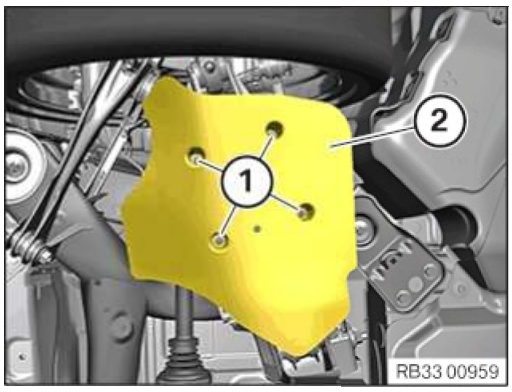
- Note the installation location and direction of installation.

  Direction of installation:

  The arrow on the cover points in the direction of travel.

  Installation location:

  - **L** = left
  - **R** = right



- Position the camber control arm cover (2) on the camber control arm.
- Renew nuts (1).

  Parts: Nuts
- Tighten nuts (1).

Cover to camber control arm

M6	Replace nuts.	Tightening torque	6 Nm

Additional Information

Overview of Tightening Torques

Lid to rear axle differential — Used in step 9

M12			140 Nm
M10			90 Nm

Rear differential to rear axle carrier, front — Used in step 10

M12x100	Renew screws.	Tightening torque	100 Nm

Rear differential to rear axle carrier, rear — Used in step 10

M14x110	Renew screw and nut.	Tightening torque.	175 Nm

Vibration absorber to rear axle — Used in step 10

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

Heat shield to vehicle underbody — Used in step 12

Screws and nuts		Tightening torque	3 Nm

Rear silencer to body / bumper support — Used in step 13

M8	Replace nuts.	Tightening torque	19 Nm

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Exhaust system to rear axle carrier — Used in step 13

Nut M8	Renew nut.	Tightening torque	19 Nm

Front silencer / petrol particulate filter on transmission bracket — Used in step 13

M8	Renew nut.	Tightening torque	19 Nm

Exhaust system to catalytic converter — Used in step 13

Ribbon cable clamp	Renew flat band clip.	Tightening torque	26 Nm

V-clip to catalytic converter — Used in step 13

V-band clamp	Renew V-band clamp.	Tightening torque	22 Nm

Connecting support to tunnel — Used in step 13

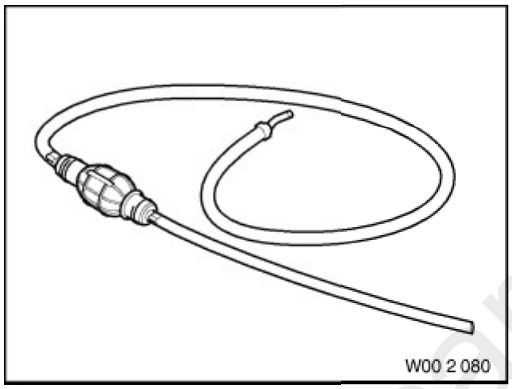
M8x25 screw		Tightening torque	20 Nm
Screw		Tightening torque	3 Nm

Cover to camber control arm — Used in step 14

M6	Replace nuts.	Tightening torque	6 Nm

Overview of Special Tools

0 493 337 (00 2 080) Pump

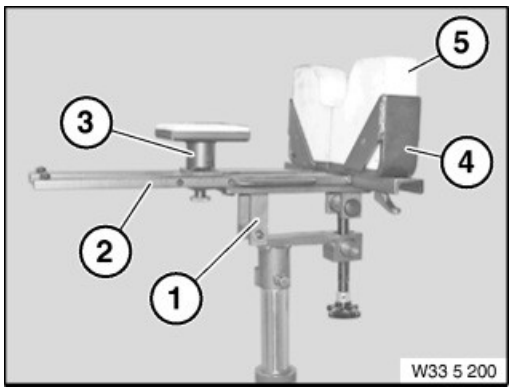


Common — Used in step 411

Usage	(Hand pump) For lifetime oil filling
Included in the tool or work	
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 01 98 (294)

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0 496 009 (33 5 200) Fixture



Common

Used in step 510

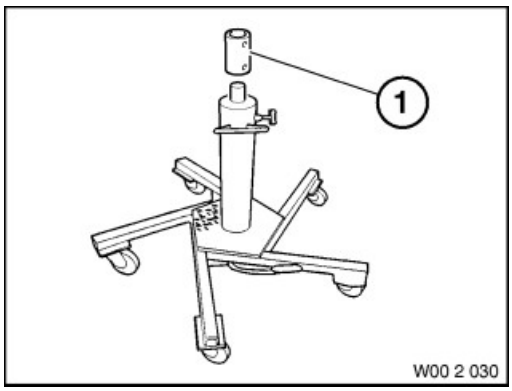
Usage	For holding rear axle final drive during removal and installation. This mounting replaces mounting 33 4 420
Included in the tool or work	
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 01 07 (333)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 496 019 (33 5 201)		**Joint**	
2	0 496 020 (33 5 202)		**Frame** (Main frame)	
3	0 496 077 (33 5 203)		**Upholstery**	
4	0 496 078 (33 5 204)		**Fixture** (Fixture for foam material insert) Discontinued, only available via complete tool	
5	0 496 079 (33 5 205)		**Insert** (Insert) Foam material insert (1 set = 2 pieces)	
5	0 496 080 (33 5 206)		**Belt** (Tensioning strap)	

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0 490 133 (00 2 030) Device



Common Used in step 510

Usage	(universal hydraulic lifter base unit) Chassis and hydraulic lifter - For removing and installing rear axle supports and gearboxes. Also for soft top mounts. Is replaced by 81 22 2 219 012
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	01 05 90 (207)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 490 134 (00 2 031)		**Adapter** (adapter for gearbox holder) Model series: E30, E31, E32, E34, E36	

Links

General repair instructions	Used in step

Operating materials	Used in step
Main group 33	11

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This documentation refers to special tools that were not yet available when going to press.

33 11 272 Replacing the rear axle differential M sport differential cover gasket

WARNING

Motor vehicle may slip off the vehicle hoist where components are supported.

Danger! Life-threatening injuries!

- Secure the vehicle hoist against lowering and lifting.

RISK OF DAMAGE

Damage to rear axle differential.

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

- After completion of repair work, check the transmission oil level in the rear axle differential.
- Use only the approved final drive transmission oil.

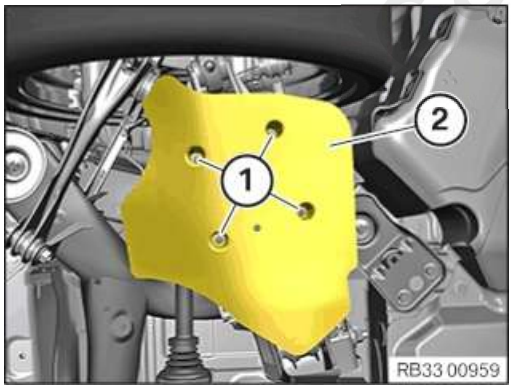
PRELIMINARY WORK

1 – Remove the cover of the camber control arm on the left and right

NOTICE

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

▸ **Remove the cover of the camber control arm**



- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

2 – Remove complete exhaust system

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WARNING

Hot surfaces.

Risk of burning!

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

CAUTION

Component with heavy weight.

Danger of injury!

- Note component's centre of gravity.
- Support component using a jack.
- Secure component against falling off the jack.

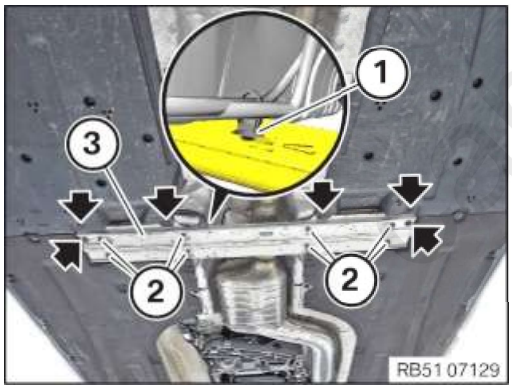
CAUTION

Heavy component.

Heavy components can lead to injury or damage.

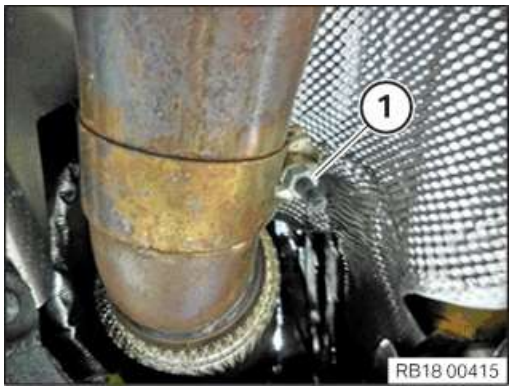
- Remove and install heavy components with the aid of another person/other persons.

...rdrgn.com



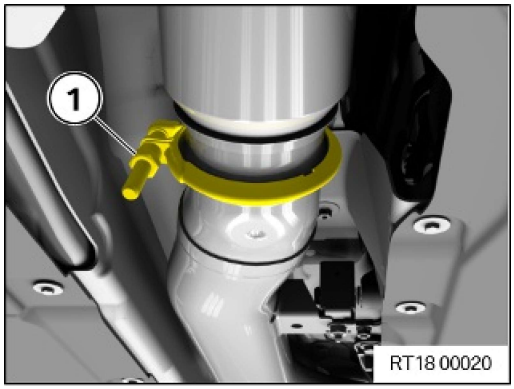
▸ **Remove the connecting support from the tunnel**

- Remove screws (arrows).
- **If installed:** Loosen clamp (1).
- Loosen screws (2).
- Guide out and remove connecting support (3) on the tunnel.



- **Equipment specification 1 (ribbon clamp)**

  Detach the ribbon clamp (1).

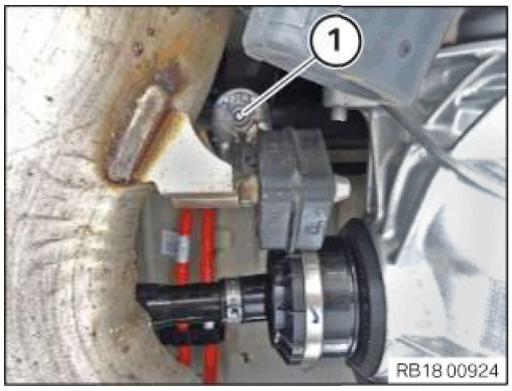


- **Equipment specification 2 (V-clips)**

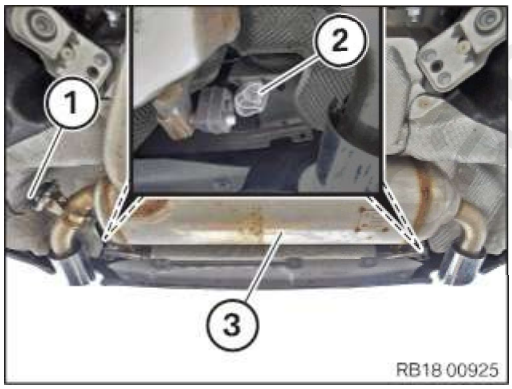
  Unfasten clamp (1).



- Loosen nut (1).



- Release the nut (1) on the rear axle support.



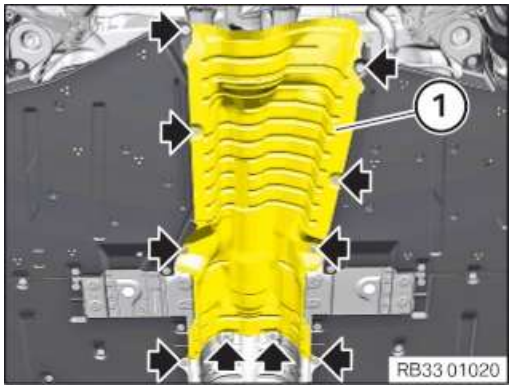
- Unlock plug connection (1) and disconnect.
- Loosen nuts (2).
- Lower and remove the exhaust system (3) with the assistance of a second person.

3 – Remove heat shield at rear.

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.

rdiagn.com



- Loosen bolts and nuts (arrows).
- Remove the rear heat shield (1).

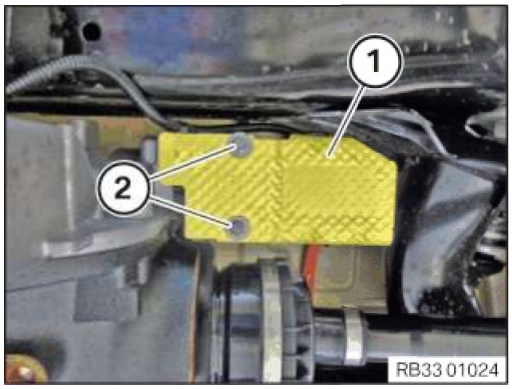
4 – Detaching and lowering the rear axle differential (with GHAS)

RISK OF DAMAGE

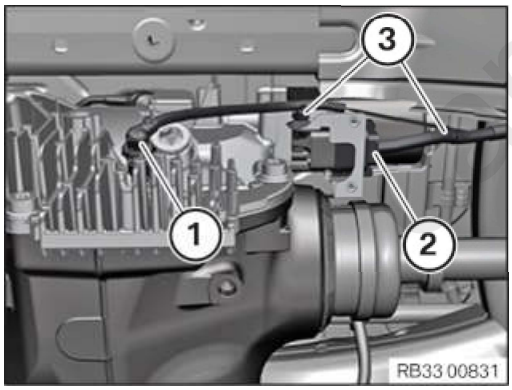
Damage to rear axle differential.

If the rear axle differential drops down, persons can be injured or the rear axle differential can be damaged.

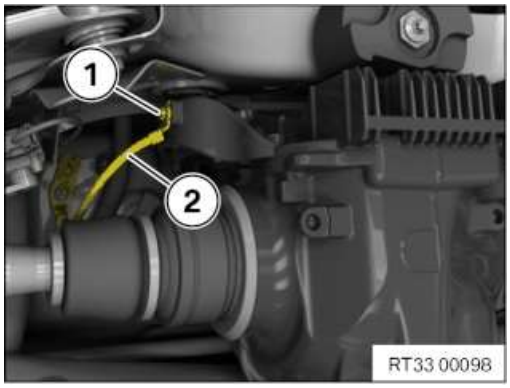
- Secure the rear axle differential using a tensioning strap.



- Loosen screws (2).
- Remove thermal protection(1).



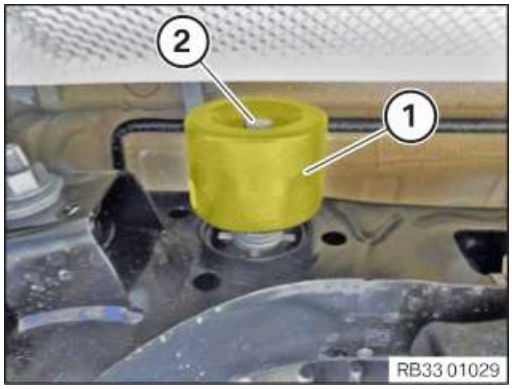
- Unlock and disconnect the plug connections (1) and (2).
- Detach the cables from the brackets (3).



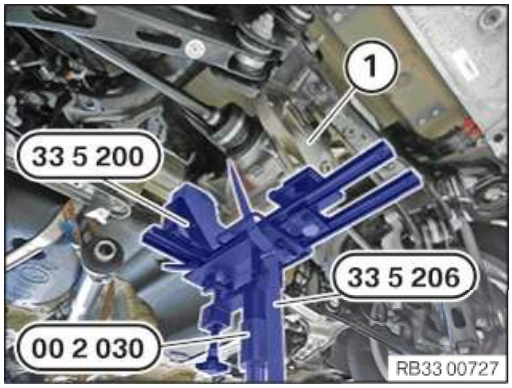
- Loosen screw (1).
- Remove ground strap (2).

▸ **If installed: Remove vibration absorber**

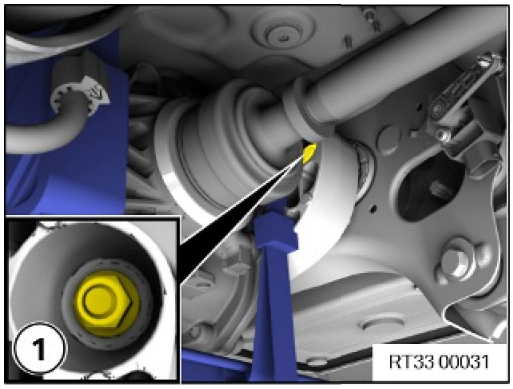
rdiagn.com



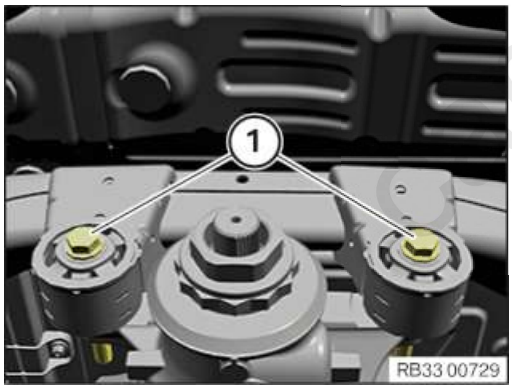
- Loosen screw (2).
- Remove the vibration absorber (1).



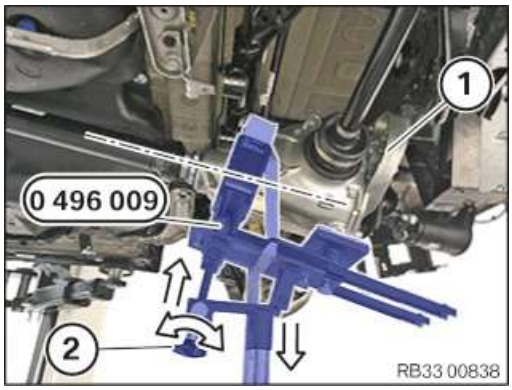
- Place the special tool 0 496 009 (33 5 200) onto the universal jack 0 490 133 (00 2 030).
- Support the rear axle differential (1) with the special tool 0 496 009 (33 5 200).
- Secure the rear axle differential (1) with a tensioning strap on the special tool 0 496 009 (33 5 200).



- Loosen nut (1).
- Move screw toward the rear.



- Loosen screws (1) on rear axle support at front.



- Lower rear axle differential (1) using the special tool 0 496 009 (33 5 200) only until the cover on the rear axle differential is accessible.

  During lowering, twist the adjusting screw (2) to slightly raise the rear axle differential at the front.

5 – Drawing off oil in the rear axle differential

CAUTION

Materials harmful to health.

Health risks in the event of contact with substances that are harmful to health!

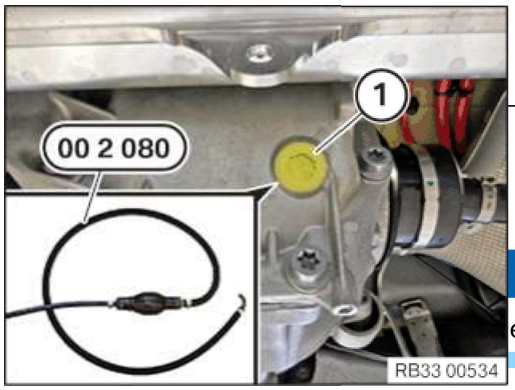
- Observe and comply with the Safety Information on the containers and the notes on the manufacturer's safety data sheet.
- Conduct all work in appropriate personal protective equipment only.

CAUTION

Acid burns may result from skin contact with oil or inhaling oil vapours.

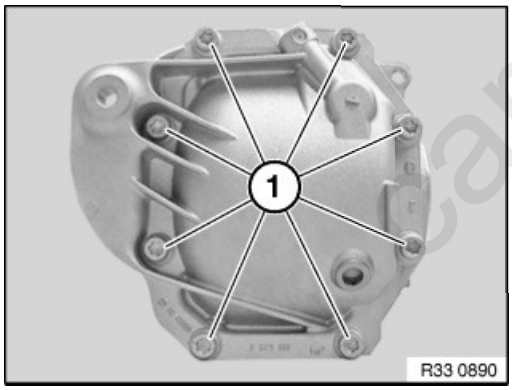
Risk of acid burns from contact with oil!

- Wear safety goggles and protective gloves.
- Ensure adequate ventilation.



- Release oil filler plug (1).
- Draw off the oil using special tool 0 493 337 (00 2 080).

es. Some parts may differ in certain details.

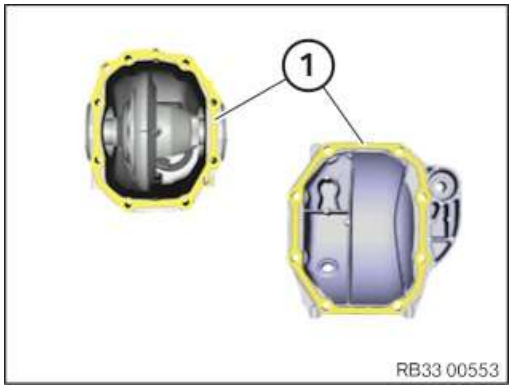


- Loosen screws (1).
- Take off case cover.

7 – Removing the seals and cleaning the sealing surfaces

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Remove the seals from the housing cover and the housing of the rear axle differential using a scraper.
- Clean sealing surfaces (1) on the cover and rear axle differential.

8 – Apply liquid sealing compound

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Have the special tool ready.



TECHNICAL INFORMATION

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

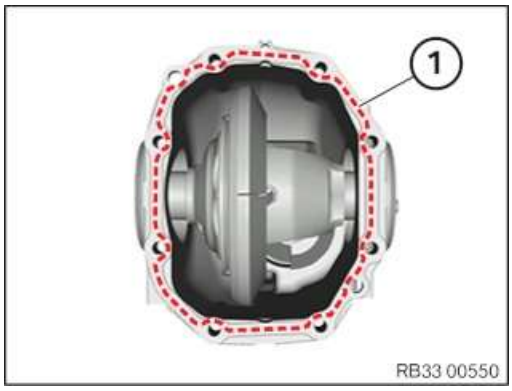
- Position the sealing compound (1) on special tool as shown.

  Parts: Sealing compound

Sealing compound

Loctite 5970 liquid sealing compound	50 ml, Cartridge	83190404517

Overview of consumables (Electronic Parts Catalogue)



- Apply liquid sealing compound along the dotted line (1) on the sealing surface of the rear axle differential.

  The sealing bead must run along the inner edge.

Sealing compound

Loctite 5970 liquid sealing compound	50 ml, Cartridge	83190404517

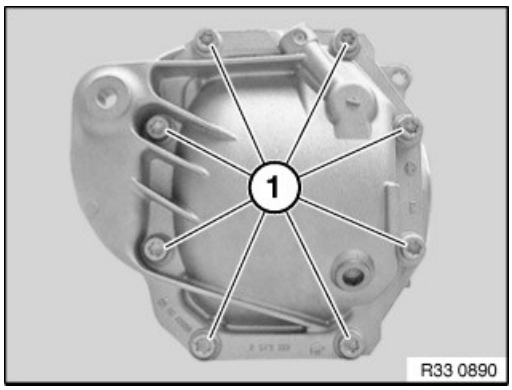
Overview of consumables (Electronic Parts Catalogue)

9 – Installing the housing cover

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NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



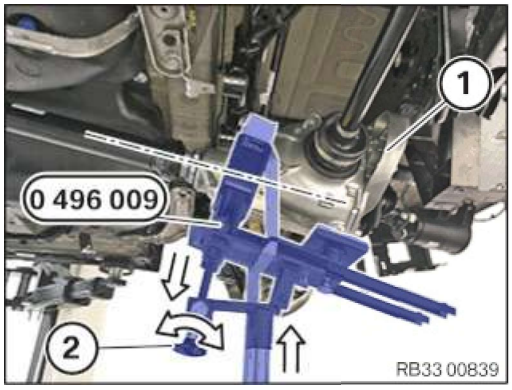
- Position the housing cover on the rear axle differential.
- Tighten the screws (1).

Lid to rear axle differential

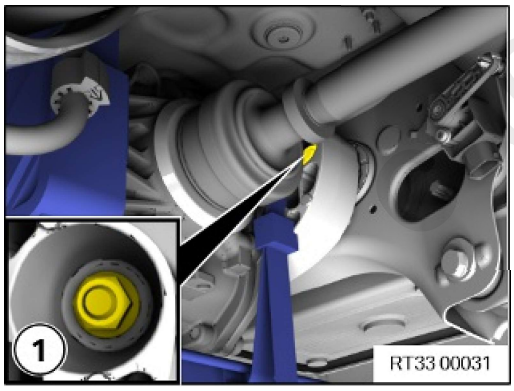
M12			140 Nm
M10			90 Nm

POSTPROCESSES

10 – Raise rear axle differential and secure (with GHAS)

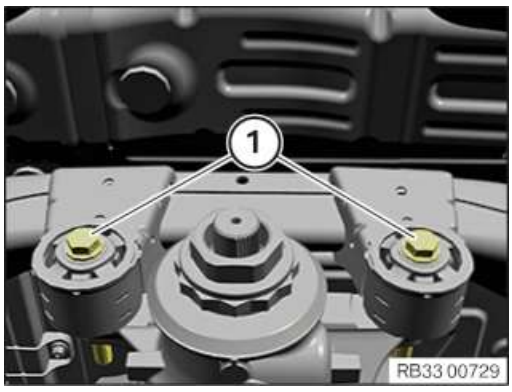


- Lift and position the rear axle differential (1)with the special tool 0 496 009 (33 5 200).
- While lifting the rear axle differential (1), twist the adjusting screw (2) to correct the installation position.



- Renew screw and nut (1).

  Parts: Nut, bolt
- Insert the screw.
- Screw on nut (1) by hand.



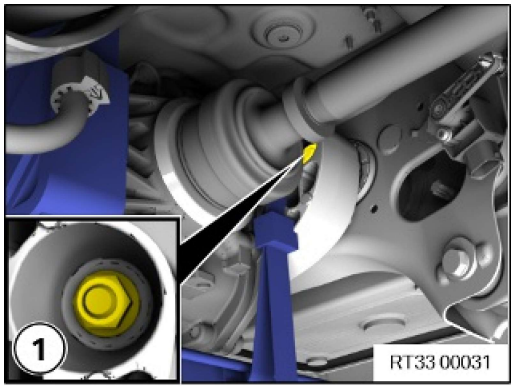
- Renew screws (1).

  Parts: Bolts
- Screw in the screws (1) by hand.
- Tighten the screws (1).

Rear differential to rear axle carrier, front

M12x100	Renew screws.	Tightening torque	100 Nm

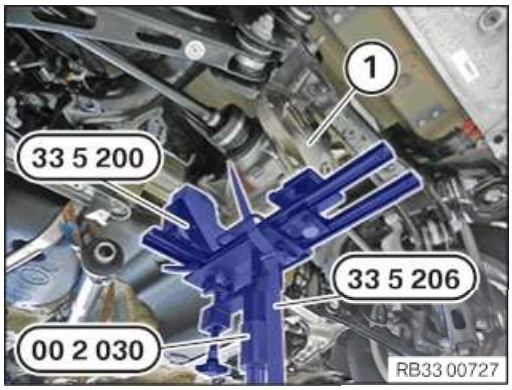
diagn.com



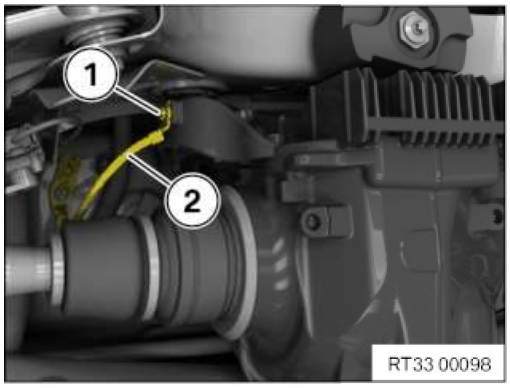
- Tighten nut (1).

Rear differential to rear axle carrier, rear

M14x110	Renew screw and nut.	Tightening torque.	175 Nm



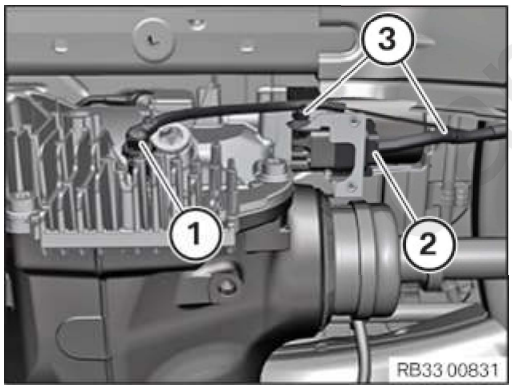
- Loosen and remove the tensioning strap from the rear axle differential (1).
- Lower and remove the special tools 0 490 133 (00 2 030) and 0 496 009 (33 5 200).



- Position the ground strap (2) on the rear axle differential.
- Tighten down screw (1).

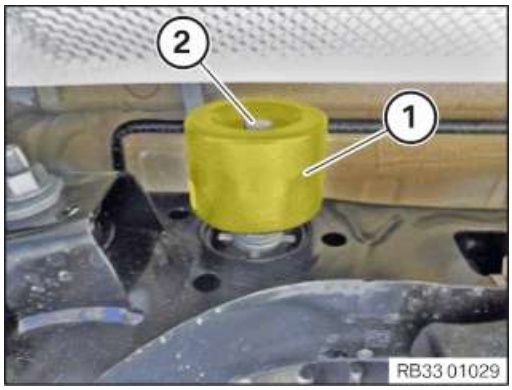
Ground strap to rear axle differential

M6x20		Tightening torque	8 Nm



- Secure the cables on the brackets (3).
- Connect the connector (1) and (2) and audibly lock it.

▶ **If installed: install the vibration absorber**



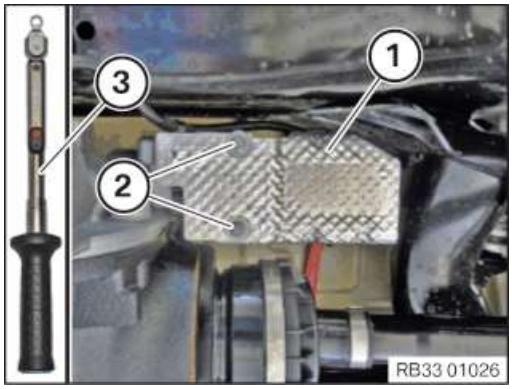
- Position the (1) vibration absorber.
- Renew the screw (2).

  Parts: Screw
- Tighten down screw (2).

Vibration absorber to rear axle

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

mydiagn.com



- Prepare the torque wrench (3) as shown with the attachment part.
- Position the heat shield (1).
- Tighten the screws (2).

Heat shield to servomotor

M5x10		Tightening torque	5 Nm

11 – Check/top up oil level in the rear axle differential

CAUTION

Materials harmful to health.

Health risks in the event of contact with substances that are harmful to health!

- Observe and comply with the Safety Information on the containers and the notes on the manufacturer's safety data sheet.
- Conduct all work in appropriate personal protective equipment only.

CAUTION

Acid burns may result from skin contact with oil or inhaling oil vapours.

Risk of acid burns from contact with oil!

- Wear safety goggles and protective gloves.
- Ensure adequate ventilation.

RISK OF DAMAGE

Damage to rear axle differential.

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

- Use only the approved final drive transmission oil.

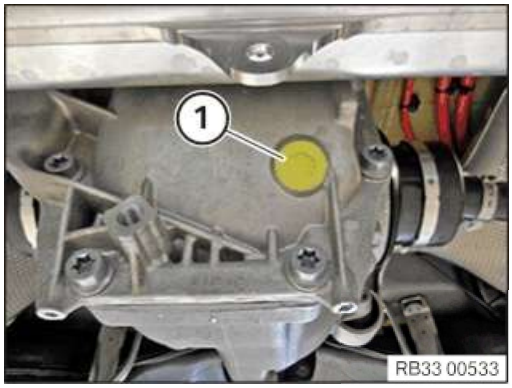
TECHNICAL INFORMATION

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

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- Use the special tool 0 493 337 (00 2 080) to top up the rear axle differential oil.



- Open the oil filler plug (1).
- Check oil level:

  The oil level at the rear axle differential has been adjusted correctly once a small quantity of oil escapes from the opening of the oil filler plug.

  If necessary, top up final drive transmission oil.

Transmission oil

Technically suitable rear axle differential oils	

Main group 33

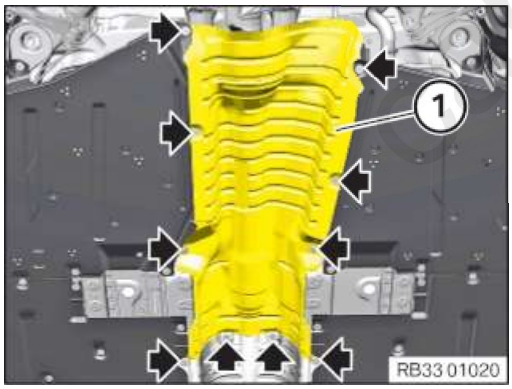
- Replace the oil filler plug (1).

  Parts: Oil filler plug
- Screw in and tighten the oil filler plug (1).

12 – Installing the rear heat shield

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Position the rear heat shield (1).
- Tighten the nuts and bolts (arrows).

Heat shield to vehicle underbody

Screws and nuts		Tightening torque	3 Nm

13 – Installing the complete exhaust system

CAUTION

Component with heavy weight.

Danger of injury!

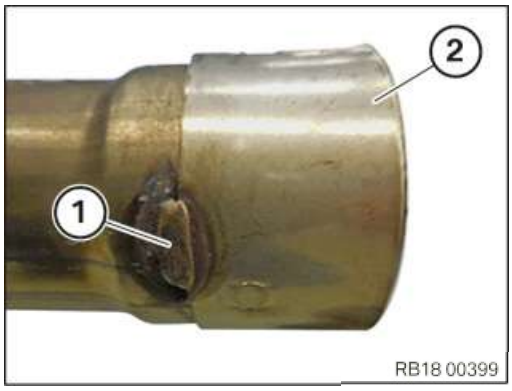
- Note component's centre of gravity.
- Support component using a jack.
- Secure component against falling off the jack.

CAUTION

Heavy component.

Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.



CAUTION

Swarf resulting from sawing or grinding components.

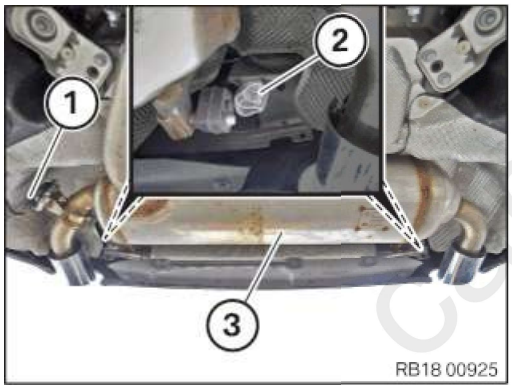
Danger of injury!

- Conduct all work in appropriate personal protective equipment only.
- Wear safety goggles and protective gloves.

- **Equipment specification 1 (ribbon clamp)**

  Open the weld seam (1) with a conventional tool.
- Remove ribbon clamp (2).
- Renew the (2) ribbon clamp.

  Parts: Ribbon cable clamp



- Feed in and install the exhaust system (3) with a second person.
- Renew nuts (2).

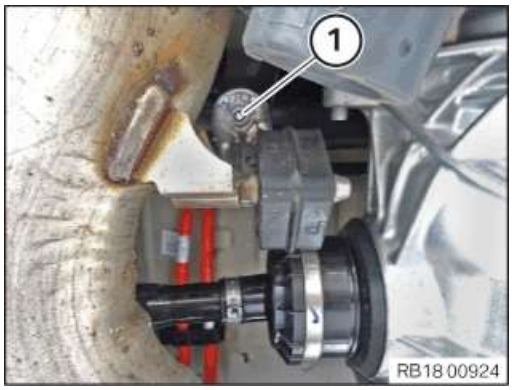
  Parts: Nuts
- Tighten nuts (2).

Rear silencer to body / bumper support

M8	Replace nuts.	Tightening torque	19 Nm

- Connect connectors (1) and lock.

  The connector (1) must engage audibly.



- Renew nut (1).

  Parts: Nut
- Tighten the bolt (1) on the rear axle support.

Exhaust system to rear axle carrier

Nut M8	Renew nut.	Tightening torque	19 Nm

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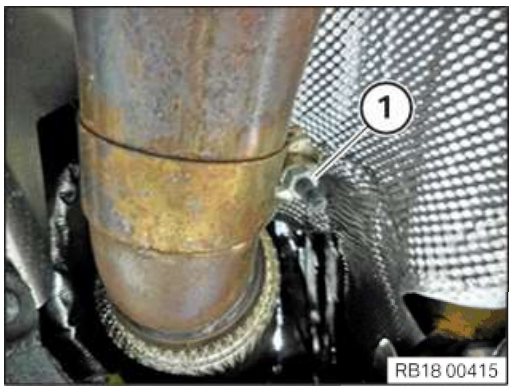
- Renew nut (1).

  Parts: Nut

- Tighten nut (1).

Front silencer / petrol particulate filter on transmission bracket

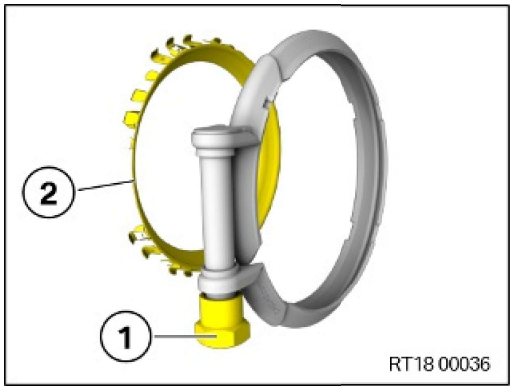
M8	Renew nut.	Tightening torque	19 Nm



- Tighten the ribbon clamp (1).

Exhaust system to catalytic converter

Ribbon cable clamp	Renew flat band clip.	Tightening torque	26 Nm

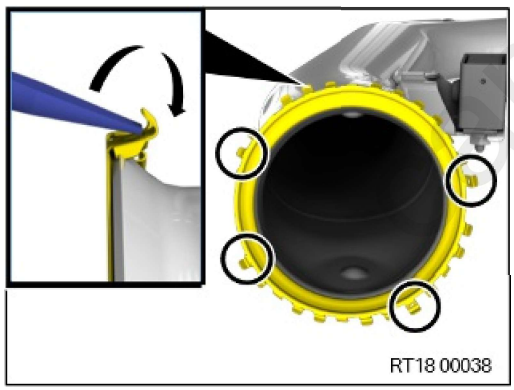


- **Equipment specification 2 (V-clips)**

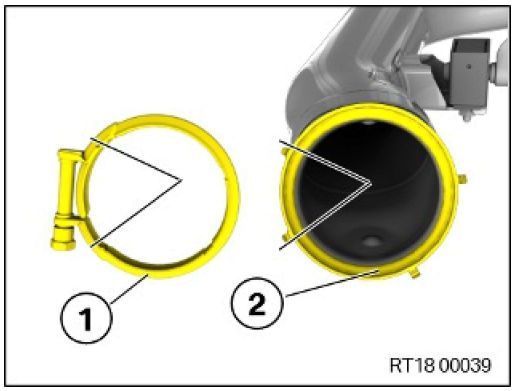
  Renew V-band clamp.

  Parts: V-band clamp

  Unscrew the nut (1) and remove the sealing ring (2).

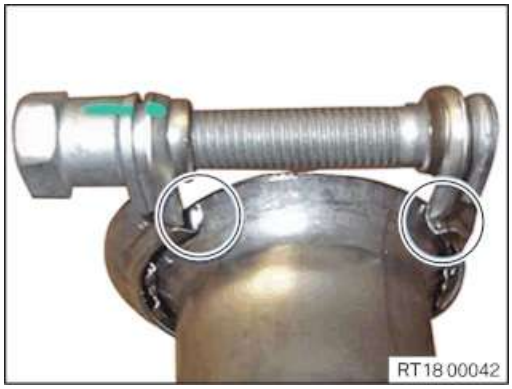


- Bend all sheet metal tabs over with a suitable tool, except those in the marked areas.

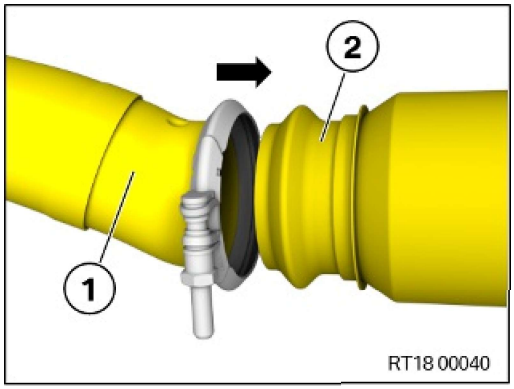


- Mount the V-clip (1) on the sealing ring (2).
- Make sure that the V-clip (1) is positioned correctly on the sealing ring (2).

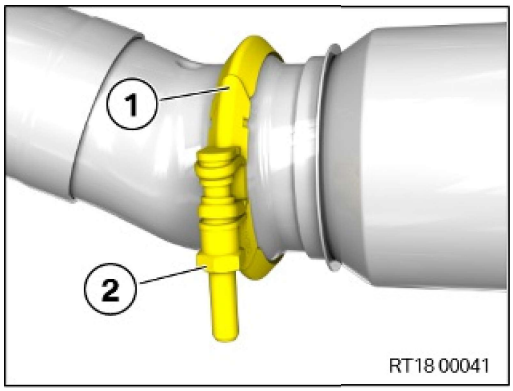
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- Ensure that the V-clip rests against the sheet metal tabs in the marked areas after mounting.



- Connect the exhaust system (1) with the catalytic converter (2) and position it correctly (arrow).

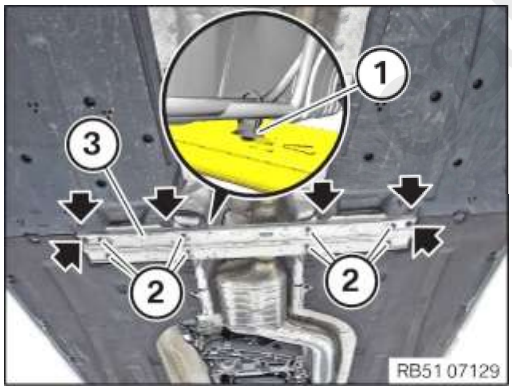


- Make sure that V-clip (1) is fitted correctly.
- Tighten down screw (2).

V-clip to catalytic converter

V-band clamp	Renew V-band clamp.	Tightening torque	22 Nm

▸ **Install the connecting supports on the tunnel**



- Guide in and install connecting support (3) on the tunnel.
- Tighten the screws (2).

Connecting support to tunnel

M8x25 screw		Tightening torque	20 Nm
Screw		Tightening torque	3 Nm

- Tighten screws (arrows).

Connecting support to tunnel

M8x25 screw		Tightening torque	20 Nm
Screw		Tightening torque	3 Nm

- **If installed:** Secure clamps (1).

14 – Install the cover of the camber control arm on the left and right

rdiagn.com

NOTICE

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

▶ **Installing the cover of the camber control arm**



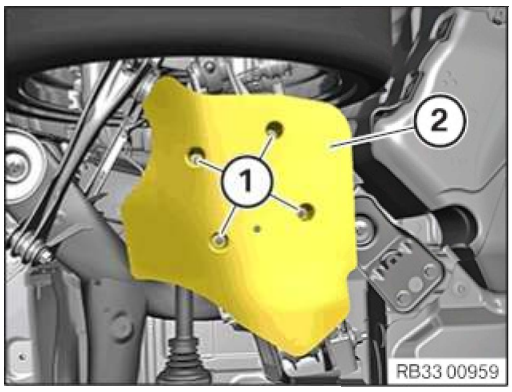
- Note the installation location and direction of installation.

  Direction of installation:

  The arrow on the cover points in the direction of travel.

  Installation location:

  - **L** = left
  - **R** = right



- Position the camber control arm cover (2) on the camber control arm.
- Renew nuts (1).

  Parts: Nuts
- Tighten nuts (1).

Cover to camber control arm

M6	Replace nuts.	Tightening torque	6 Nm

Additional Information

Overview of Tightening Torques

Lid to rear axle differential — Used in step 9

M12			140 Nm
M10			90 Nm

Rear differential to rear axle carrier, front — Used in step 10

M12x100	Renew screws.	Tightening torque	100 Nm

Rear differential to rear axle carrier, rear — Used in step 10

M14x110	Renew screw and nut.	Tightening torque.	175 Nm

Ground strap to rear axle differential — Used in step 10

M6x20		Tightening torque	8 Nm

Vibration absorber to rear axle — Used in step 10

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

Heat shield to servomotor — Used in step 10

M5x10		Tightening torque	5 Nm

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Heat shield to vehicle underbody — Used in step 12

Screws and nuts		Tightening torque	3 Nm

Rear silencer to body / bumper support — Used in step 13

M8	Replace nuts.	Tightening torque	19 Nm

Exhaust system to rear axle carrier — Used in step 13

Nut M8	Renew nut.	Tightening torque	19 Nm

Front silencer / petrol particulate filter on transmission bracket — Used in step 13

M8	Renew nut.	Tightening torque	19 Nm

Exhaust system to catalytic converter — Used in step 13

Ribbon cable clamp	Renew flat band clip.	Tightening torque	26 Nm

V-clip to catalytic converter — Used in step 13

V-band clamp	Renew V-band clamp.	Tightening torque	22 Nm

Connecting support to tunnel — Used in step 13

M8x25 screw		Tightening torque	20 Nm
Screw		Tightening torque	3 Nm

Cover to camber control arm — Used in step 14

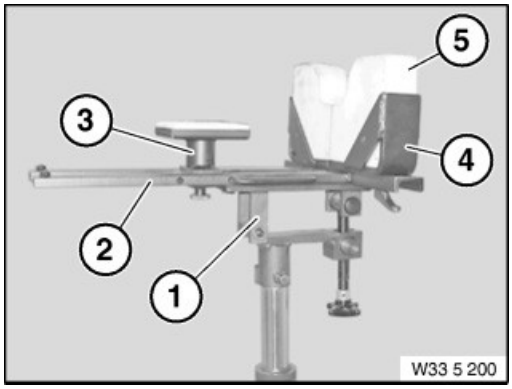
M6	Replace nuts.	Tightening torque	6 Nm

Overview of Special Tools

0 496 009 (33 5 200) Fixture

Used in step 410

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Common

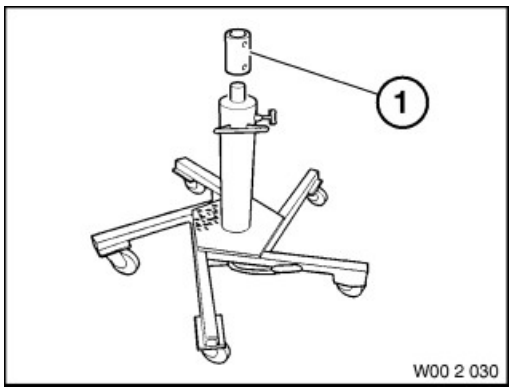
Usage	For holding rear axle final drive during removal and installation. This mounting replaces mounting 33 4 420
Included in the tool or work	
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 01 07 (333)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 496 019 (33 5 201)		**Joint**	
2	0 496 020 (33 5 202)		**Frame** (Main frame)	
3	0 496 077 (33 5 203)		**Upholstery**	
4	0 496 078 (33 5 204)		**Fixture** (Fixture for foam material insert) Discontinued, only available via complete tool	
5	0 496 079 (33 5 205)		**Insert** (Insert) Foam material insert (1 set = 2 pieces)	
5	0 496 080 (33 5 206)		**Belt** (Tensioning strap)	

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0 490 133 (00 2 030) Device



Common Used in step 410

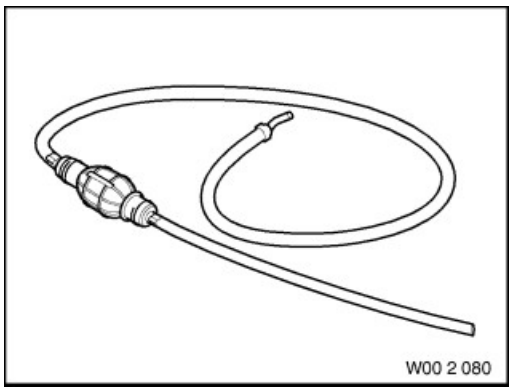
Usage	(universal hydraulic lifter base unit) Chassis and hydraulic lifter - For removing and installing rear axle supports and gearboxes. Also for soft top mounts. Is replaced by 81 22 2 219 012
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	01 05 90 (207)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 490 134 (00 2 031)		**Adapter** (adapter for gearbox holder) Model series: E30, E31, E32, E34, E36	

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0 493 337 (00 2 080) Pump



Common	Used in step 511
Usage	(Hand pump) For lifetime oil filling
Included in the tool or work	
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 01 98 (294)

Links

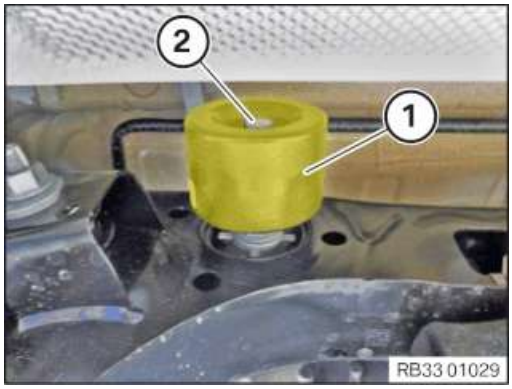
General repair instructions	Used in step

Operating materials	Used in step
Main group 33	11

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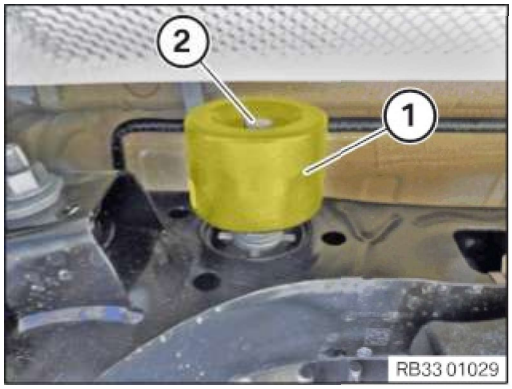
33 31 017 Remove and install/replace the vibration absorber on the rear axle differential

1 – Remove the vibration absorber on the rear axle differential



- Loosen screw (2).
- Remove the vibration absorber (1).

2 – Install the vibration absorber on the rear axle differential



- Position the (1) vibration absorber.
- Renew the screw (2).

  Parts: Screw
- Position and tighten the screw (2).

Vibration absorber to rear axle

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

Additional Information

Overview of Tightening Torques

Vibration absorber to rear axle Used in step 2

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

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33 31 015 Removing and installing/replacing the vibration absorber on the rear axle support

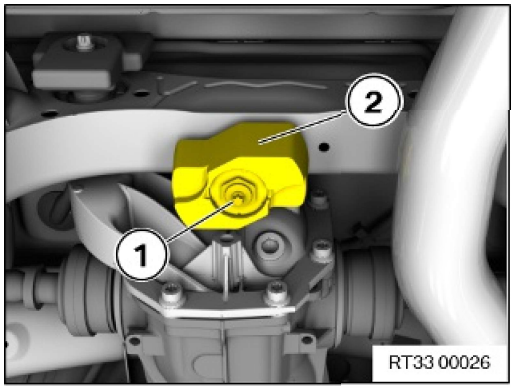
WARNING

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

Danger! Life-threatening injuries!

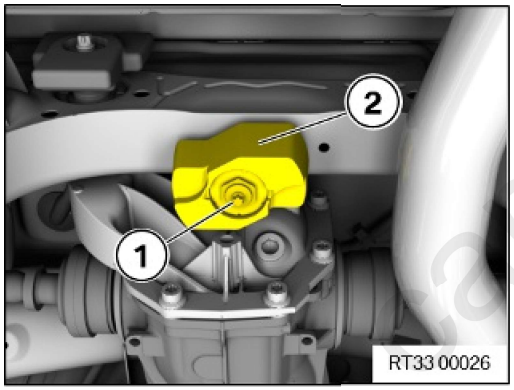
- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

1 – Remove the vibration damper on the rear axle support



- Loosen screw (1).
- Remove the vibration absorber (2).

2 – Install the vibration absorber on the rear axle support



- Renew the screw (1).

  Parts: Screw
- Position the vibration absorber (2).
- Tighten down screw (1).

Vibration absorber to rear axle support

M12	Renew screw.	Tightening torque	28 Nm

Additional Information

Overview of Tightening Torques

Vibration absorber to rear axle support Used in step 2

M12	Renew screw.	Tightening torque	28 Nm

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

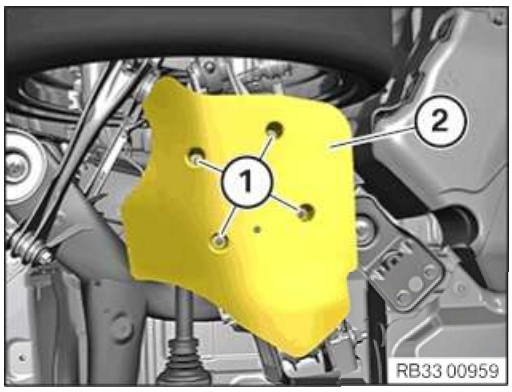
carfiagn.com

33 32 188 Removing and installing/replacing left or right camber control arm cover

NOTICE

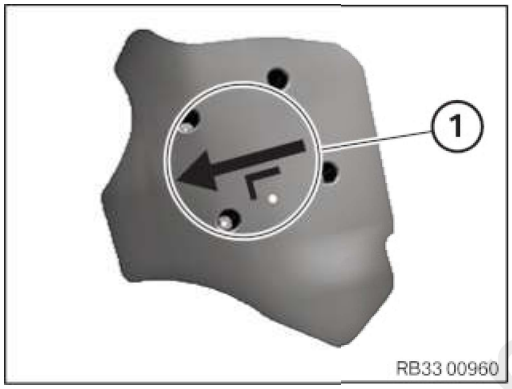
Description is for left component only. Procedure on the right side is identical.

1 – Remove the cover of the camber control arm



- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

2 – Installing the cover of the camber control arm



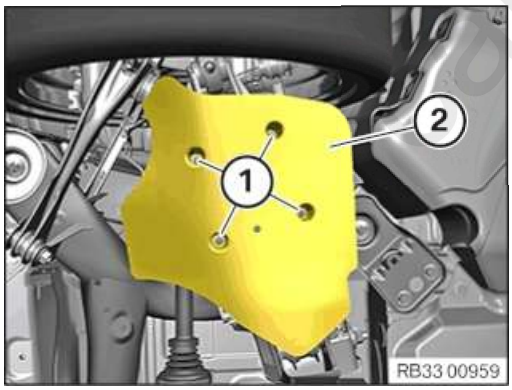
- Note the installation location and direction of installation.

  Direction of installation:

  The arrow on the cover points in the direction of travel.

  Installation location:

  - **L** = left
  - **R** = right



- Position the camber control arm cover (2) on the camber control arm.
- Renew nuts (1).

  Parts: Nuts
- Tighten nuts (1).

Cover to camber control arm

M6	Replace nuts.	Tightening torque	6 Nm

Additional Information

Overview of Tightening Torques

Cover to camber control arm Used in step 2

M6	Replace nuts.	Tightening torque	6 Nm

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33 32 180 Removing and installing/replacing left or right track control arm

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

TECHNICAL INFORMATION

Perform wheel alignment after installation.

NOTICE

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

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PRELIMINARY WORK

1 – Remove rear left or right wheel

▶ **Removing the wheel**



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to remove the wheel (see workshop equipment).

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

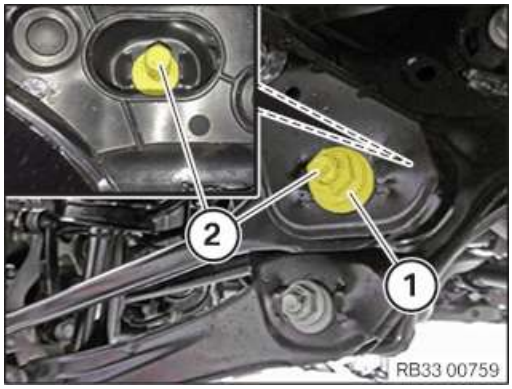


- If several wheels are removed simultaneously: Use a piece of chalk to mark on each tyre the axle and side on which the corresponding wheel is fitted.
- Release the wheel bolts (arrows) crosswise and remove the wheel.
- To release and tighten wheel bolts with a security code: Use a suitable adapter from the tool set .

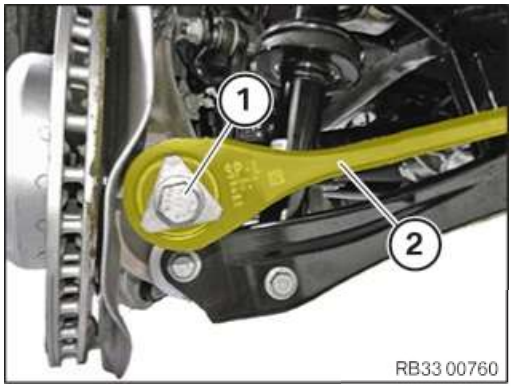
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MAIN WORK

2 – Removing the track control arm

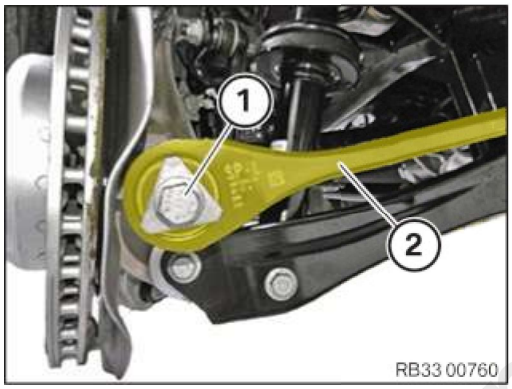


- Loosen nut (1).
- Remove the eccentric washer.
- Remove the eccentric bolt (2).



- Loosen screw (1).
- Remove the track control arm (2).

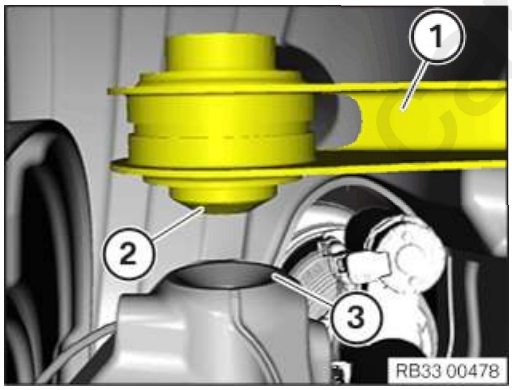
3 – Installing the track control arm



- Position the track control arm (2).
- Renew the screw (1).

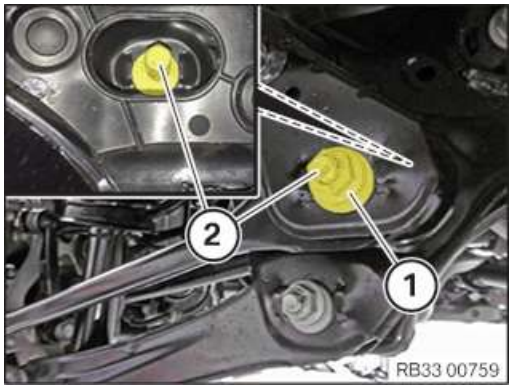
  Parts: Screw
- Screw in the bolt (1) by a few turns.

Note: Do not yet tighten the screw (1).



- When installing the track control arm (1), make sure that the tapered side (2) of the rubber mount points in the direction of the wheel carrier (3).

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TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

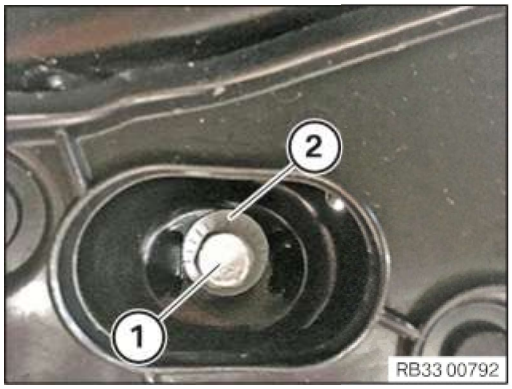
- Renew the nut (1) and eccentric bolt (2).

  Parts: Nut, eccentric bolt
- Install the eccentric bolt (2).

  Note **positioning of the eccentric bolt** (2) **(see next step).**
- Position eccentric washer .
- Tighten the nut (1) in normal position.

Toe arm to rear axle support

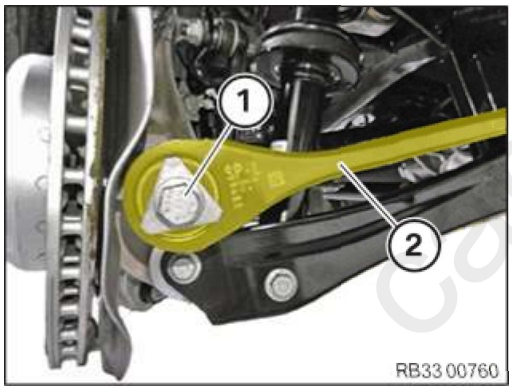
M12	Replace the eccentric bolt, cam and disc. Tighten in normal position.	Tightening torque	108 Nm



TECHNICAL INFORMATION

The vehicle ride height may change as a result of turning the eccentric bolts for the adjustment of toe and camber. When renewing the bolts, make sure the eccentric bolts are correctly positioned to keep the ride height change to a minimum during the adjustment work.

- Position the eccentric bolt (1) during renewal in a way that the eccentric (2) points vertically upwards!



TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Tighten down screw (1).

Toe arm to wheel carrier

M12	Renew screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

POSTPROCESSES

4 – Install rear left or right wheel

▸ **Mounting the wheel**

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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.

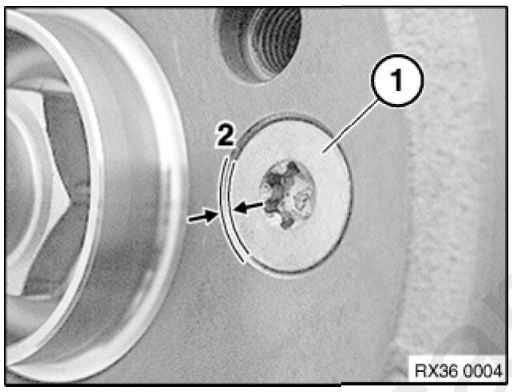
- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool 2 344 011.

  Do not operate special tool 2 344 011 with an impact screwdriver.
- Degrease the contact surfaces with the universal cleaner (see BMW Group Parts).
- In the event of grease residue 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).



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

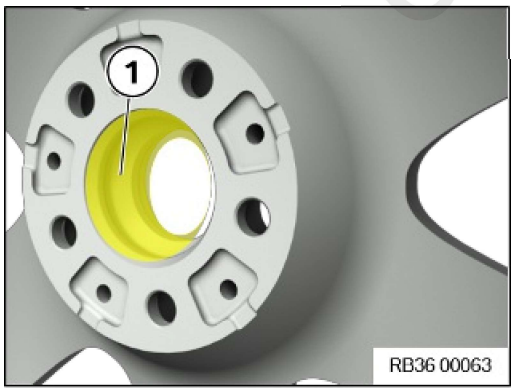
  The mounting bolt (1) for the brake disc may not protrude under any circumstances on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub

M8	Renew screw.	Tightening torque	16 Nm



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

Expendable materials

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

catalagn.com



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

Expendable materials

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



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to install the wheel (see workshop equipment).

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

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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.

- Renew corroded wheel bolts.

  Parts: Wheel bolts
- Clean the wheel bolts.
- Check wheel bolts and threads for damage, renew the wheel bolts if necessary.
- Join and tighten the wheel bolts (arrows).

Wheel bolts

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

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5 – Perform chassis alignment check

- Perform the introductory wheel alignment in accordance with equipment manufacturer's instructions.
- If necessary, adjust the front axle and the rear axle.
- Perform the final wheel alignment in accordance with equipment manufacturer's instructions.
- Save and print out test record.

Additional Information

Overview of Tightening Torques

Toe arm to rear axle support Used in step 3

M12	Replace the eccentric bolt, cam and disc. Tighten in normal position.	Tightening torque	108 Nm

Toe arm to wheel carrier — Used in step 3

M12	Renew screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

Brake disc to front wheel hub — Used in step 4

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub — Used in step 4

M8	Renew screw.	Tightening torque	16 Nm

Wheel bolts — Used in step 4

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

Overview of Special Tools

2 344 011 Tool

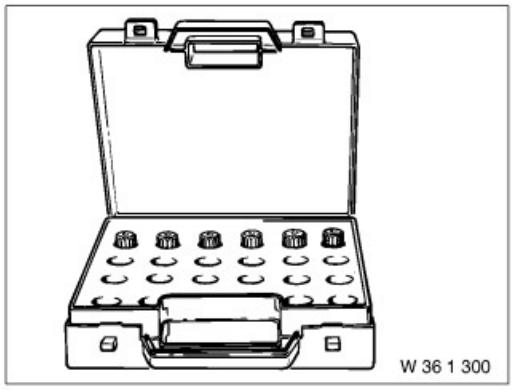


Common — Used in step 4

Usage	Tool (wheel hub grinder) for cleaning the connection of the wheel rim (wheel contact face) to the wheel hub.
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	08 08 12 (872)

Replacement tools:

0 495 221 (36 1 323) Wheel stud



Common — Used in step 1

Usage	(Code 30) Code 39 available separately, (see EPC) under 36 13 1 181 259
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

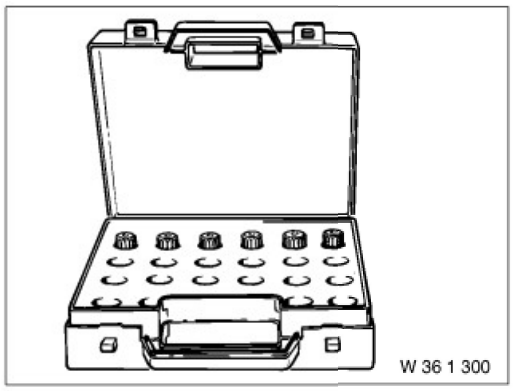
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0 495 224 (36 1 326) Wheel stud



Common	Used in step 1
Usage	(Code 33) With centring bore available separately, (see EPC) under 36 13 6 765 546
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 225 (36 1 327) Wheel stud



Common	Used in step 1
Usage	(Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 226 (36 1 328) Wheel stud



Common	Used in step 1
Usage	(Code 35) With centring bore available separately, (see EPC) under 36 13 6 762 340
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 227 (36 1 329) Wheel stud



Common	Used in step 1
Usage	(Code 36) With centring bore available separately (see EPC) under 36 13 6 762 341
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

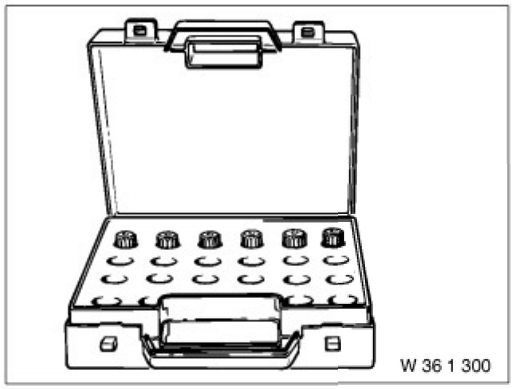
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0 495 228 (36 1 331) Wheel stud



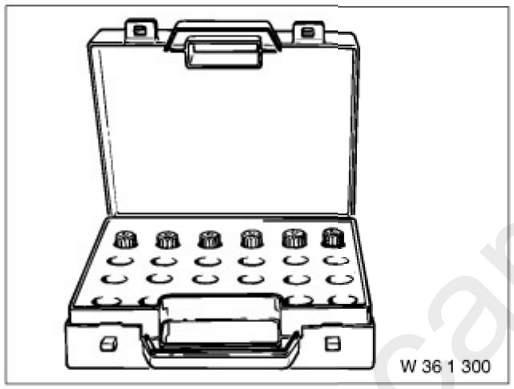
Common	Used in step 1
Usage	(Code 37) With centring bore available separately (see EPC) under 36 13 6 762 342
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 229 (36 1 332) Wheel stud



Common	Used in step 1
Usage	(Code 38) With centring bore available separately (see EPC) under 36 13 6 762 343
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 230 (36 1 333) Wheel stud



Common	Used in step 1
Usage	(Code 40) With centring bore available separately (see EPC) under 36 13 6 762 344
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

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33 32 021 Replacing left or right trailing arm

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

NOTICE

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

1 – Remove trailing arm



- Release the nut (2) and (4).
- Remove the screws (3).
- Remove the trailing arm (1).

2 – Installing the trailing arm

TECHNICAL INFORMATION

Tighten the screw connection in the normal position.



- Position the trailing arm (1).
- Renew screws (3) and nuts (2) and (4).

  Parts: Bolts, nuts
- Install screws (3).
- Screw on nut (2) and (4) by hand.

▸ **Measure ride height of rear axle and adjust to normal position**

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- Set vehicle down on its wheels (e.g. On a drive-on-ramp-lift).
- Measure vehicle ride height (A).
- Load or unload vehicle until the vehicle ride height (A) is within the tolerance.

G20_Hinterradantrieb, Standard suspension

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm



- Tighten nut (2).

Trailing arm to rear axle support

M12	Renew screw and nut. Tighten in normal position.	Tightening torque	100 Nm

- Tighten nut (4).

Trailing arm to wheel carrier

M12	Renew screw and nut. Tighten in normal position.	Tightening torque	100 Nm

Additional Information

Overview of Tightening Torques

Trailing arm to rear axle support Used in step 2

M12	Renew screw and nut. Tighten in normal position.	Tightening torque	100 Nm

Trailing arm to wheel carrier Used in step 2

M12	Renew screw and nut. Tighten in normal position.	Tightening torque	100 Nm

Overview Technical Data

G20_Hinterradantrieb, Standard suspension Used in step 2

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung Used in step 2

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

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33 32 071 Replacing one upper wishbone

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

TECHNICAL INFORMATION

Perform wheel alignment after installation.

NOTICE

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

PRELIMINARY WORK

1 – Remove rear left or right wheel

▸ **Removing the wheel**



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to remove the wheel (see workshop equipment).

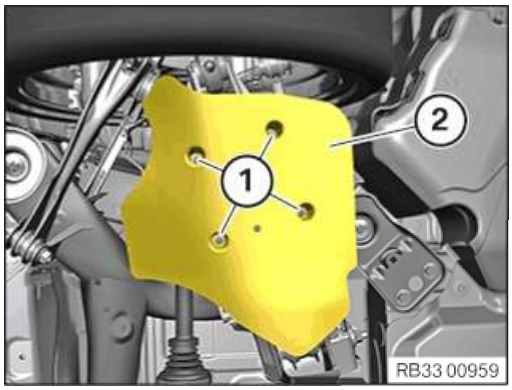
  This process is intended to prevent damage to the brake disc.

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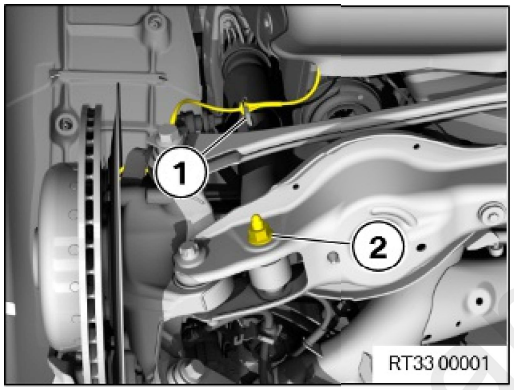
- If several wheels are removed simultaneously: Use a piece of chalk to mark on each tyre the axle and side on which the corresponding wheel is fitted.
- Release the wheel bolts (arrows) crosswise and remove the wheel.
- To release and tighten wheel bolts with a security code: Use a suitable adapter from the tool set .

2 – Remove the cover of the camber control arm



- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

3 – Releasing the rear shock absorber from the camber control arm



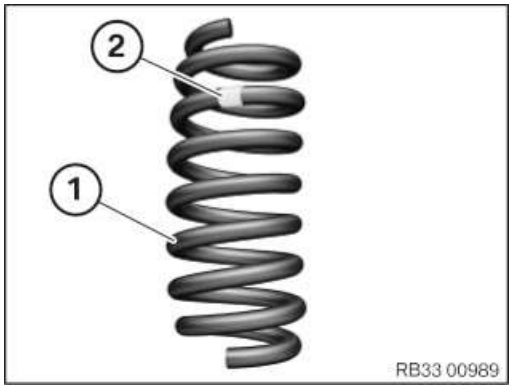
- Unclip the cable from the holder (1).
- Loosen nut (2).
- Pull out screw.

4 – Remove coil spring

TECHNICAL INFORMATION

Do not operate special tool with an impact screwdriver.

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TECHNICAL INFORMATION

Incorrect assembly is possible. Ensure correct installation position.

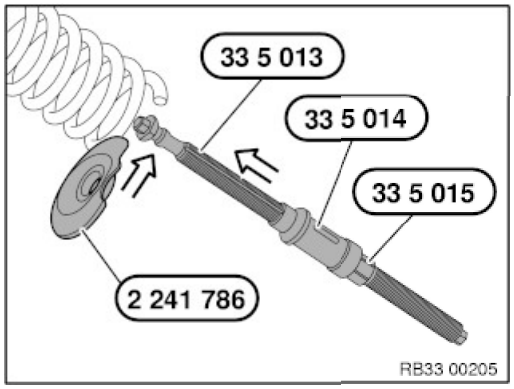
- The installation position of the coil spring(1) is marked with a label (2).

  The label (2) is attached at the top end of the coil spring (1) and is marked as “top”

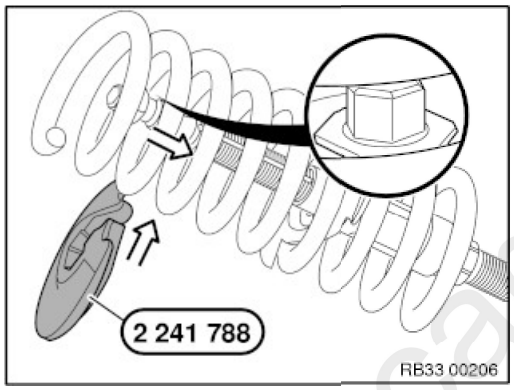
- Check coil spring (1) for availability of label (2)

  If the label (2) on the installed coil spring (1) is missing and it has to be fixed after repair, then the installation position of the coil spring (1) must be marked necessarily.

Note: Mark the installation position of the coil spring, by attaching an adhesive tape at the top end of spring.



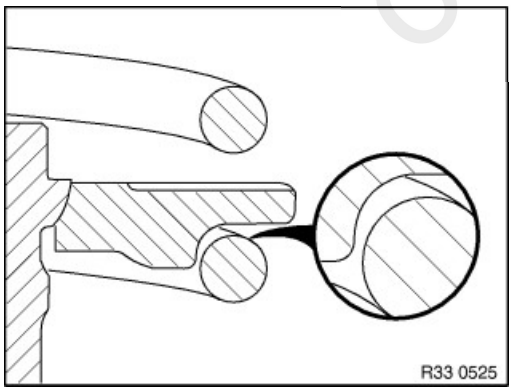
- Insert lower spring cup centrally into coil spring and turn to lowest winding.
- Drive spindle , , from below through the camber control arm and the bottom spring cup .



- Insert top spring cup sideways into coil spring and turn to the uppermost winding.

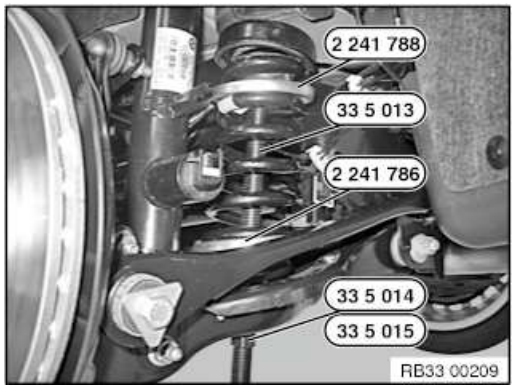
  Make sure spindle (hexagonal) is correctly seated in upper spring cup !

- Pull spindle down.



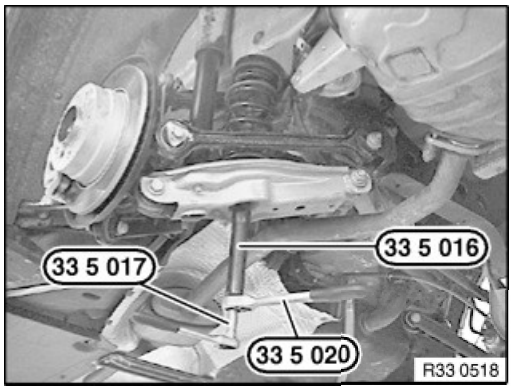
- Make sure coil spring is correctly positioned in spring cups.

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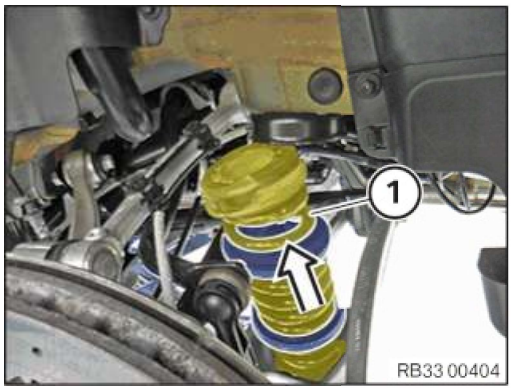
- Check and correct the position of the special tools , and , , and correct if required.

  The special tools must be aligned centrally, in order to obtain the largest possible contact surface on the coil spring.



- Tensioning the coil spring using the special tools and .

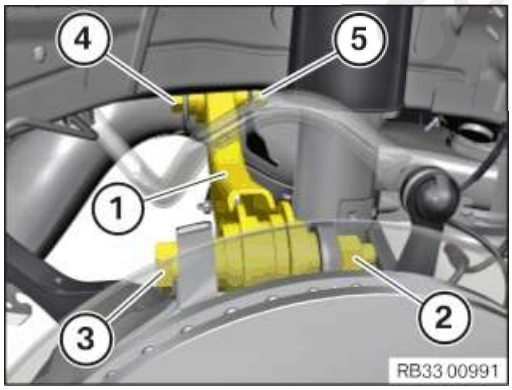
  Counter support the spindle of the spring tensioner with the special tool .



- Remove coil spring (1) upwards.

MAIN WORK

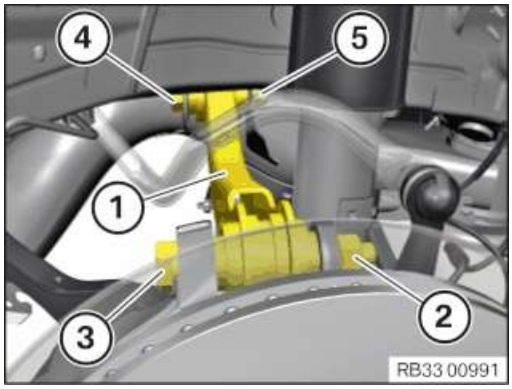
5 – Remove top wishbone



- Release the nut (2) and (5).
- Remove screws (3) and (4).
- Remove top wishbone (1).

6 – Install top wishbone

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TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Position the upper wishbone (1).
- Renew the screws (3) and (4) and nuts(2) and (5)

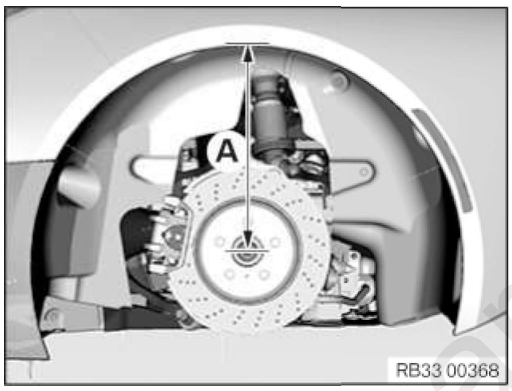
  Parts: Bolts, nuts
- Install screw (4) and screw in the nut (5) by hand.

  Do not yet tighten screw connections with specified torque.
- Install screw (3) and screw in the nut (2) by hand.

  Do not yet tighten screw connections with specified torque.



- Secure special tool 2 358 630 with wheel studs to drive flange.
- Insert the workshop jack into the special tool 2 358 630.



TECHNICAL INFORMATION

To raise the wheel carrier, the spring absolutely must be tensioned or removed!

Do not move the wheel carrier to normal position against the spring force.

- **Adjusting normal position:**

  Push wheel carrier up to dimension A with workshop jack and special tool 2 358 630.

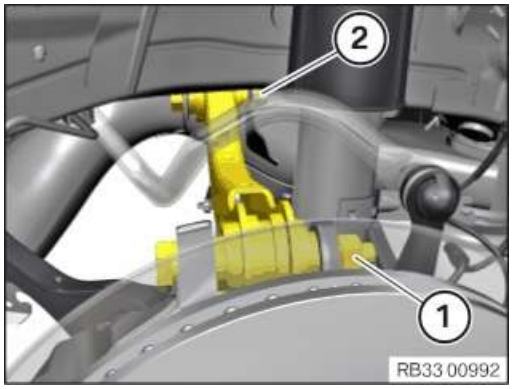
G20_Hinterradantrieb, Standard suspension

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

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- Tighten nut (2).

Upper wishbone to rear axle carrier

M12	Renew screw and nut. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

- Tighten nut (1).

Upper wishbone to wheel carrier

M12	Renew screw and nut. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °



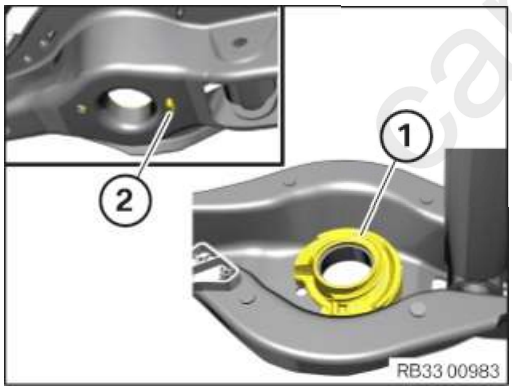
- Lower the universal jack and put it away.
- Remove special tool 2 358 630.

POSTPROCESSES

7 – Install the coil springs

TECHNICAL INFORMATION

Do not operate special tool with an impact screwdriver.



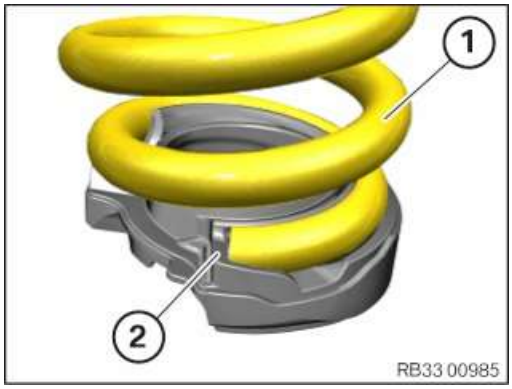
- Check bottom spring pad (1) for damage, renew if necessary.
- Check bottom spring pad (1) for correct position on the camber control arm, correct the position if necessary.

  The plastic tab (2) must be positioned in the bore hole.

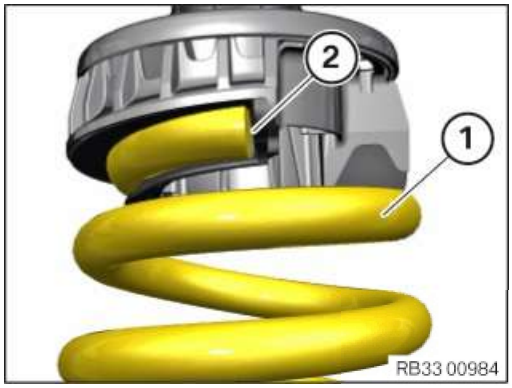


- Install coil spring (1) from the top and position it.

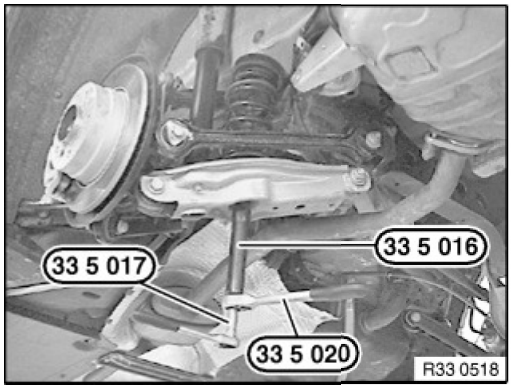
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- Move the coil springs (1) of the bottom spring pad (2) so that they are positively locked to the system.



- Position the top spring pad such that the end of the coil spring (1) moves to the system at the base (2).

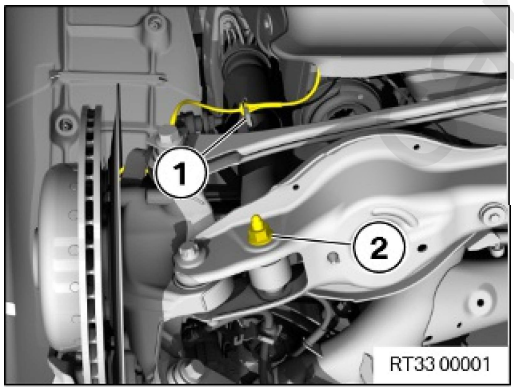


- Release the tension on the coil spring using the special tools and .

  Note the installation position of the coil spring while releasing the tension.

  Counter support the spindle of the spring tensioner with the special tool .
- Remove special tools.

8 – Securing the rear shock absorber on the camber control arm



- Clip in cable into the holder (1).
- Support the wheel carrier with the universal jack.
- Lift the wheel carrier with the universal jack to the point where the screw can be inserted.
- Position the shock absorbers on the camber control arm.
- Renew screw and nut (2).

  Parts: Bolt, nut
- Install the screw.

TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Tighten nut (2) hand-tight.
- Remove the universal jack from under the vehicle.

9 – Install rear left or right wheel

▸ **Mounting the wheel**

mydiagn.com



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.

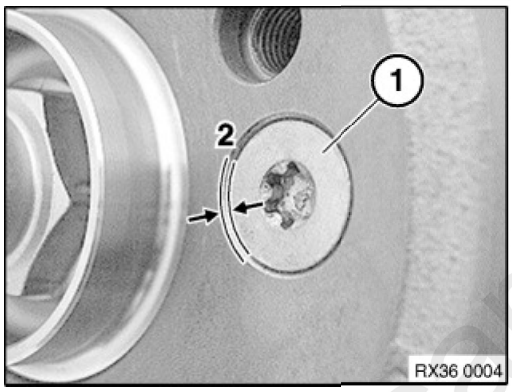
- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool 2 344 011.

  Do not operate special tool 2 344 011 with an impact screwdriver.
- Degrease the contact surfaces with the universal cleaner (see BMW Group Parts).
- In the event of grease residue 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).



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

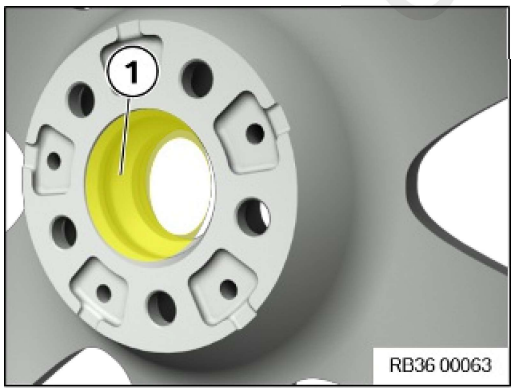
  The mounting bolt (1) for the brake disc may not protrude under any circumstances on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub

M8	Renew screw.	Tightening torque	16 Nm



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

Expendable materials

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

catalagn.com



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

Expendable materials

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



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to install the wheel (see workshop equipment).

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

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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.

- Renew corroded wheel bolts.

  Parts: Wheel bolts
- Clean the wheel bolts.
- Check wheel bolts and threads for damage, renew the wheel bolts if necessary.
- Join and tighten the wheel bolts (arrows).

Wheel bolts

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

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10 – Measure ride height of rear axle and adjust to normal position



- Set vehicle down on its wheels (e.g. On a drive-on-ramp-lift).
- Measure vehicle ride height (A).
- Load or unload vehicle until the vehicle ride height (A) is within the tolerance.

G20_Hinterradantrieb, Standard suspension

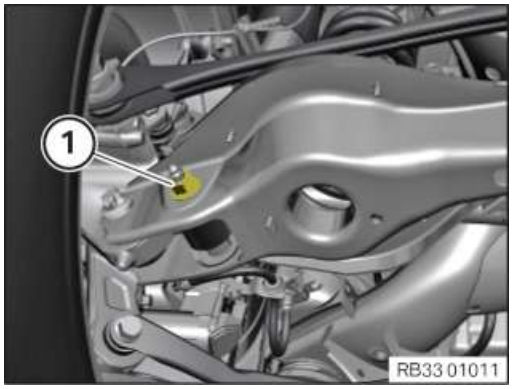
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

11 – Tighten screw connection on the camber control arm.

. . – Tighten screw connection on the camber control arm.



TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Tighten the nut (1) in normal position.

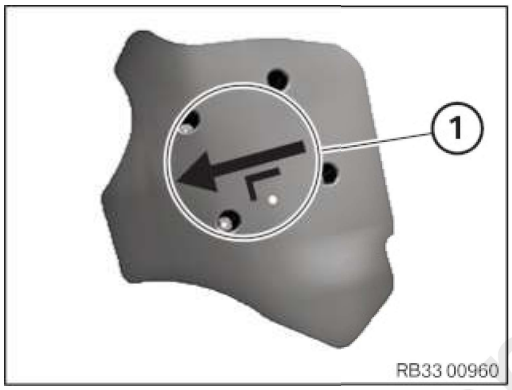
Shock absorber to camber arm

M12	Renew nut and screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

12 – Perform chassis alignment check

- Perform the introductory wheel alignment in accordance with equipment manufacturer's instructions.
- If necessary, adjust the front axle and the rear axle.
- Perform the final wheel alignment in accordance with equipment manufacturer's instructions.
- Save and print out test record.

13 – Installing the cover of the camber control arm



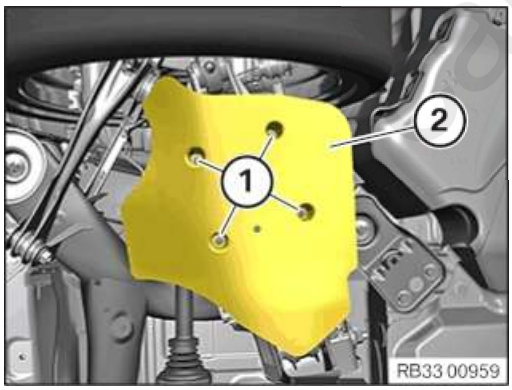
- Note the installation location and direction of installation.

  Direction of installation:

  The arrow on the cover points in the direction of travel.

  Installation location:

  - **L** = left
  - **R** = right



- Position the camber control arm cover (2) on the camber control arm.
- Renew nuts (1).

  Parts: Nuts
- Tighten nuts (1).

Cover to camber control arm

M6	Replace nuts.	Tightening torque	6 Nm

Additional Information

Overview of Tightening Torques

Upper wishbone to rear axle carrier Used in step 6

M12	Renew screw and nut. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

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Upper wishbone to wheel carrier — Used in step 6

M12	Renew screw and nut. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

Brake disc to front wheel hub — Used in step 9

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub — Used in step 9

M8	Renew screw.	Tightening torque	16 Nm

Wheel bolts — Used in step 9

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

Shock absorber to camber arm — Used in step 11

M12	Renew nut and screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

Cover to camber control arm — Used in step 13

M6	Replace nuts.	Tightening torque	6 Nm

Overview of Special Tools

2 358 630 Adapter



Common — Used in step 6

Usage	Adapter for workshop jack for screwing-on at existing 120 mm hole-circle diameter and new 112 mm hole-circle diameter on wheel hub. Contour-graphic silhouette foil is included in delivery specification. Further information on the contour-graphic silhouette foil can be found in service information 00 22 13 (969).
Included in the tool or work	
Storage location	A74
Replaced by	
In connection with	
SI-Number	01 21 14 (110)

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2 344 011 Tool

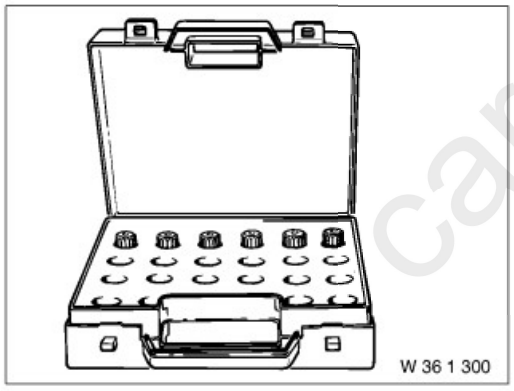


Common	Used in step 9
Usage	Tool (wheel hub grinder) for cleaning the connection of the wheel rim (wheel contact face) to the wheel hub.
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	08 08 12 (872)

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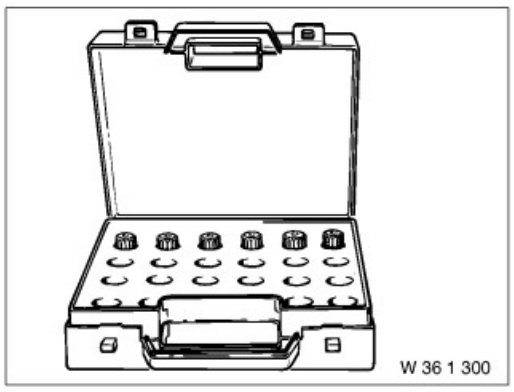
Replacement tools:

0 495 221 (36 1 323) Wheel stud



Common	Used in step 1
Usage	(Code 30) Code 39 available separately, (see EPC) under 36 13 1 181 259
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 224 (36 1 326) Wheel stud



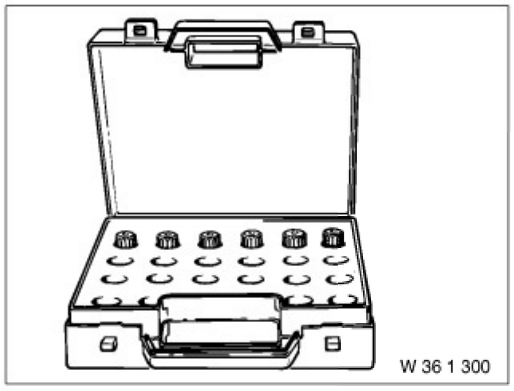
Common	Used in step 1
Usage	(Code 33) With centring bore available separately, (see EPC) under 36 13 6 765 546
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 225 (36 1 327) Wheel stud



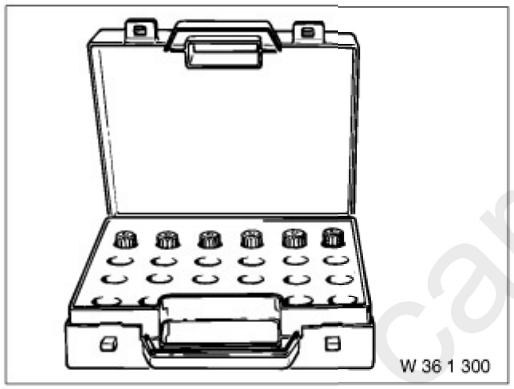
Common	Used in step 1
Usage	(Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 226 (36 1 328) Wheel stud



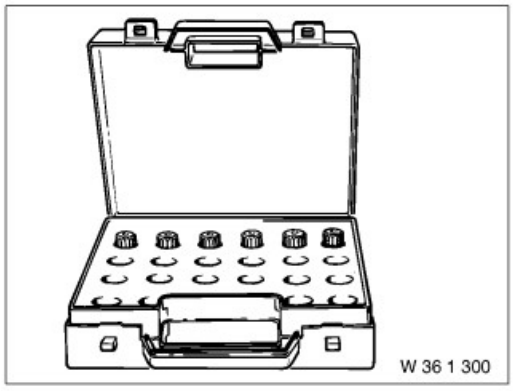
Common	Used in step 1
Usage	(Code 35) With centring bore available separately, (see EPC) under 36 13 6 762 340
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 227 (36 1 329) Wheel stud



Common	Used in step 1
Usage	(Code 36) With centring bore available separately (see EPC) under 36 13 6 762 341
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 228 (36 1 331) Wheel stud



Common	Used in step 1
Usage	(Code 37) With centring bore available separately (see EPC) under 36 13 6 762 342
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

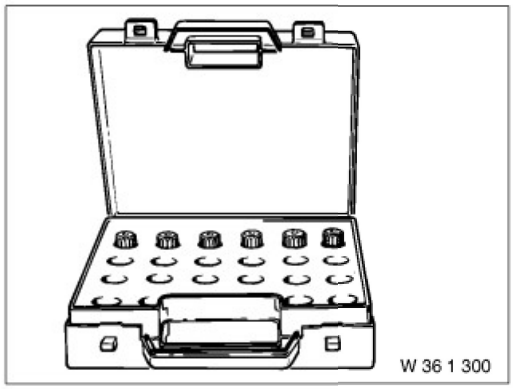
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0 495 229 (36 1 332) Wheel stud



Common	Used in step 1
Usage	(Code 38) With centring bore available separately (see EPC) under 36 13 6 762 343
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 230 (36 1 333) Wheel stud



Common	Used in step 1
Usage	(Code 40) With centring bore available separately (see EPC) under 36 13 6 762 344
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

Overview Technical Data

G20_Hinterradantrieb, Standard suspension	Used in step 610
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung	Used in step 610
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

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33 33 001 Replacing left or right rear axle support compression strut

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

RISK OF DAMAGE

Damage to the components on the rear axle.

If both compression struts are removed simultaneously, it can cause serious damage to the rear axle.

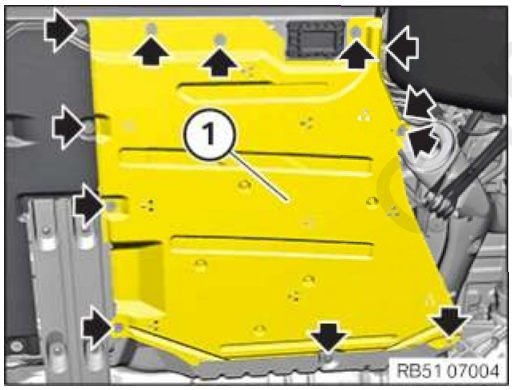
- Renew or remove compression strut only individually.
- When lowering or removing the rear axle: Support rear axle support before both compression struts are removed.

NOTICE

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

PRELIMINARY WORK

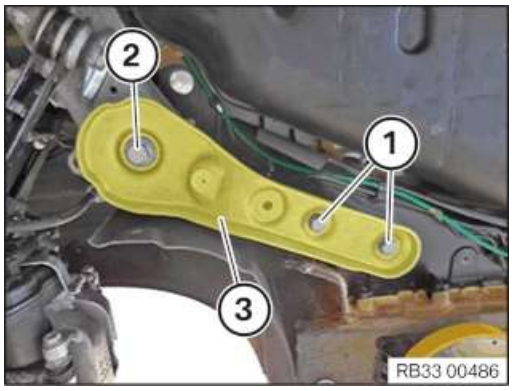
1 – Removing the tank cover



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

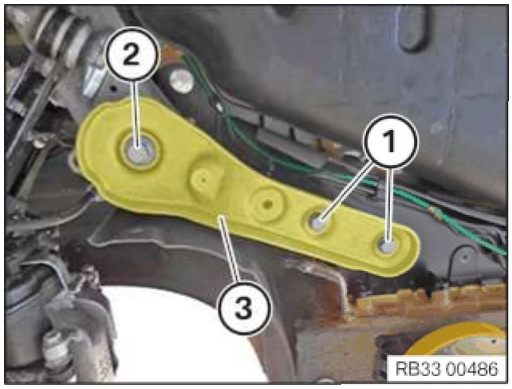
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2 – Remove compression strut



- Loosen screws (1).
- Loosen screw (2).
- Remove compression strut (3).

3 – Install compression strut



- Renew screws (1).

  Parts: Bolts
- Position compression strut (3).
- Screw in screws (1) and (2).
- Tighten down screw (2).

Rear axle carrier to body

M12		Tightening torque	108 Nm

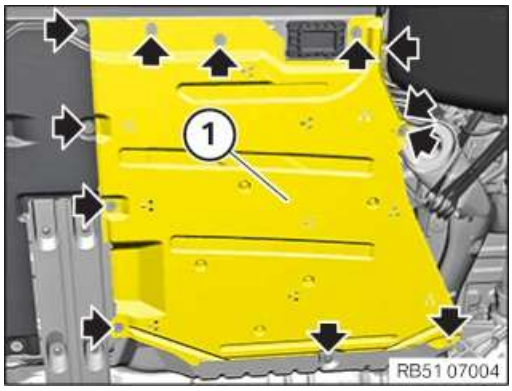
- Tighten the screws (1).

Compression strut on body

M10	Renew screws.	Jointing torque	47 Nm
		Angle of rotation	45 °

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4 – Installing tank cover



- Position the tank cover (1).
- Tighten all bolts (arrows).

Underbody panelling

Screw		Tightening torque	3 Nm

Additional Information

Overview of Tightening Torques

Rear axle carrier to body — Used in step 3

M12		Tightening torque	108 Nm

Compression strut on body — Used in step 3

M10	Renew screws.	Jointing torque	47 Nm
		Angle of rotation	45 °

Underbody panelling — Used in step 4

Screw		Tightening torque	3 Nm

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

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33 33 012 Replacing rear left or right compression strut for rear axle support

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

RISK OF DAMAGE

Damage to the components on the rear axle.

If both compression struts are removed simultaneously, it can cause serious damage to the rear axle.

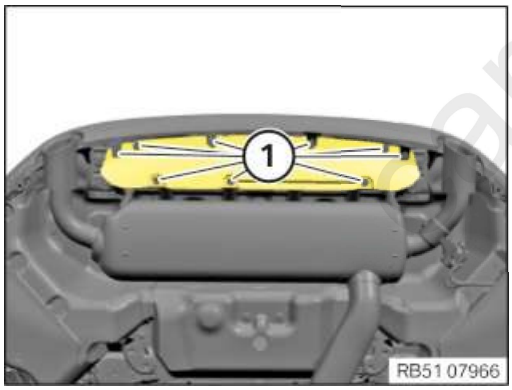
- Renew or remove compression strut only individually.
- When lowering or removing the rear axle: Support rear axle support before both compression struts are removed.

NOTICE

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

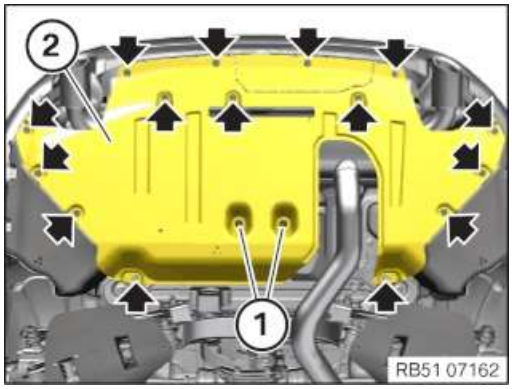
PRELIMINARY WORK

1 – Removing the rear diffuser



- **Version 1:**
- Release screws and nuts (1).

  Remove the diffuser.



- **Version 2:**
- Loosen nuts (1).
- Remove screws (arrows).
- Guide out and remove rear diffuser (2).

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2 – Removing the rear compression strut



- Loosen screws (2).
- Loosen screw (3).
- Remove compression strut (1).

3 – Installing the rear compression strut



- Renew screws (2).

  Parts: Bolts
- Position compression strut (1).
- Screw in screws (2) and (3).
- Tighten down screw (3).

Rear axle carrier to body

M12		Tightening torque	108 Nm

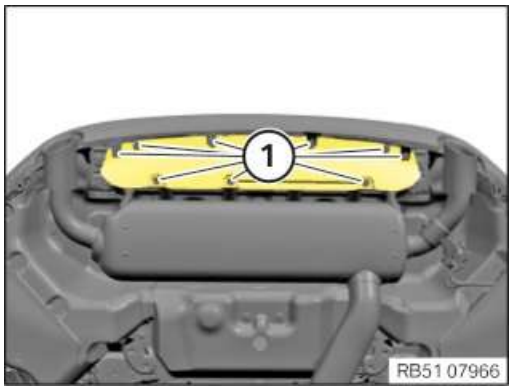
- Tighten the screws (2).

Compression strut on body

M10	Renew screws.	Jointing torque	47 Nm
		Angle of rotation	45 °

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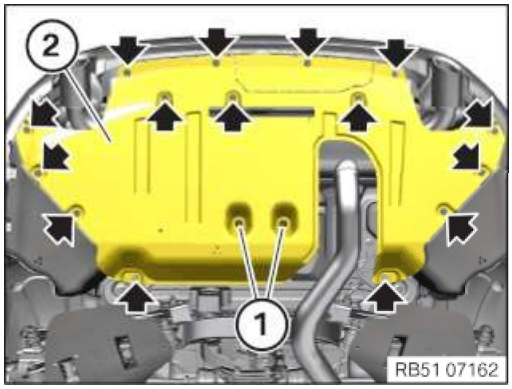
4 – Installing the rear diffuser



- **Version 1:**
- Install diffuser and tighten the nuts.

Diffuser

Nut and screws		Tightening torque	3 Nm



- **Version 2:**
- Feed in and position the diffuser (2)
- Tighten screws (arrows).

Diffuser

Nut and screws		Tightening torque	3 Nm

- Tighten nuts (1).

Diffuser

Nut and screws		Tightening torque	3 Nm

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Additional Information

Overview of Tightening Torques

Rear axle carrier to body — Used in step 3

M12		Tightening torque	108 Nm

Compression strut on body — Used in step 3

M10	Renew screws.	Jointing torque	47 Nm
		Angle of rotation	45 °

Diffuser — Used in step 4

Nut and screws		Tightening torque	3 Nm

Links

Repair instructions	Used in step

00 .. ... Raising the vehicle using a vehicle hoist

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33 52 010 Removing and installing rear left or right shock absorber

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

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1 – Remove rear left or right wheel

▶ **Removing the wheel**



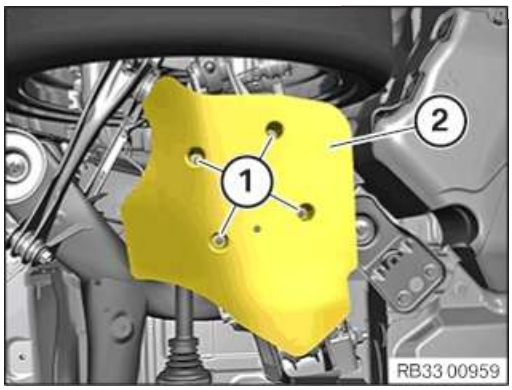
- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to remove the wheel (see workshop equipment).

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



- 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.
- Release the wheel bolts (arrows) crosswise and remove the wheel.
- To release and tighten wheel bolts with a security code: Use a suitable adapter from the tool set .

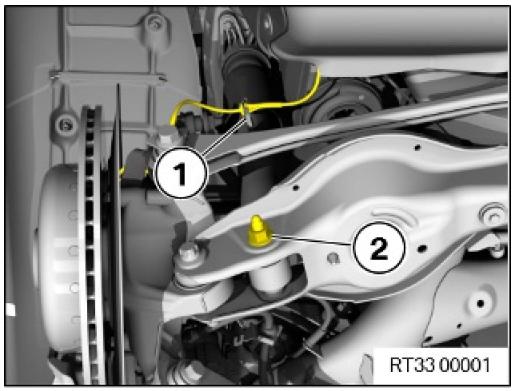
2 – Remove the cover of the camber control arm



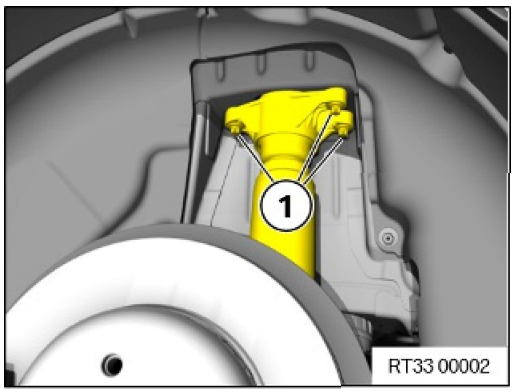
- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

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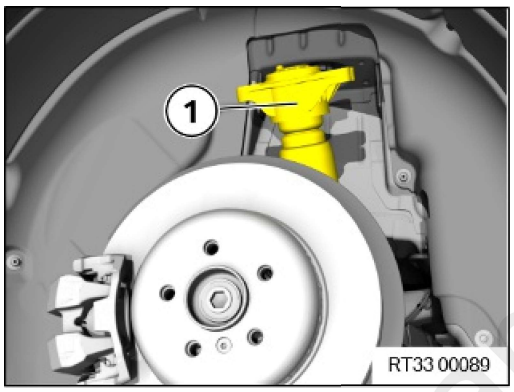
3 – Remove rear shock absorber



- Unclip the cable from the holder (1).
- Loosen nut (2).
- Pull out screw.

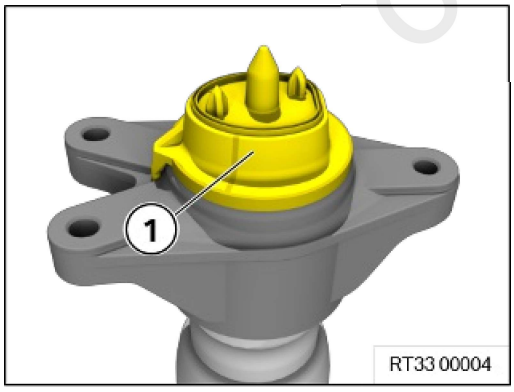


- Loosen screws (1).



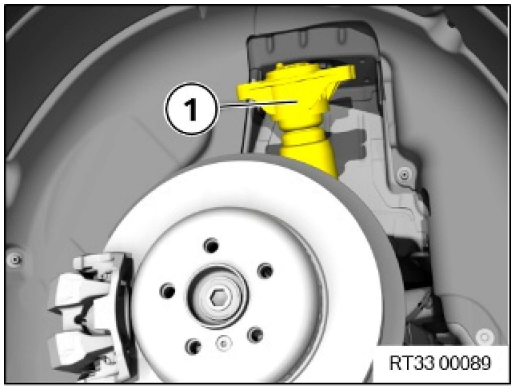
- Press the shock absorbers (1) together and guide upwards out of the wheel arch.

4 – Installing the rear shock absorber

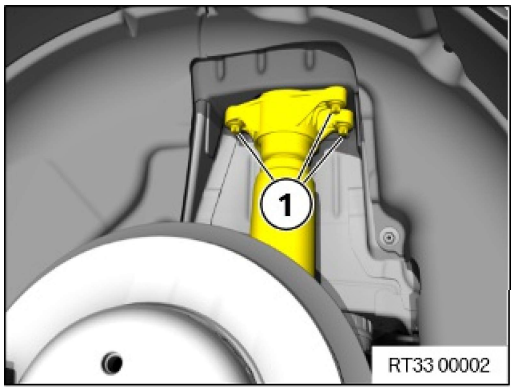


- Check the sealing caps (1) for damage; renew if necessary.

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- Press shock absorbers (1) together and install in the wheel arch.

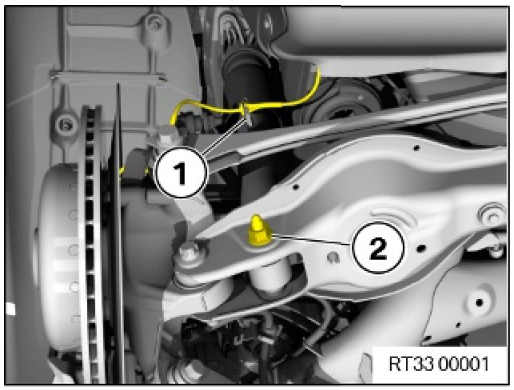


- Position the shock absorbers on the body.
- Renew screws (1).

  Parts: Bolts
- Tighten the screws (1).

Nut and locknut/self-locking nut

M8x40	Renew screws.	Tightening torque	28 Nm



- Clip in cable into the holder (1).
- Support the wheel carrier with the universal jack.

Note: Support wheel carrier only! Do not push against the spring force of the coil spring!

- Lift the wheel carrier with the universal jack to the point where the screw can be inserted.
- Position the shock absorbers on the camber control arm.
- Renew screw and nut (2).

  Parts: Bolt, nut
- Install the screw.

TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Tighten the nut (2) hand-tight.
- Remove the universal jack from under the vehicle.

POSTPROCESSES

5 – Install rear left or right wheel

▸ **Mounting the wheel**

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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.

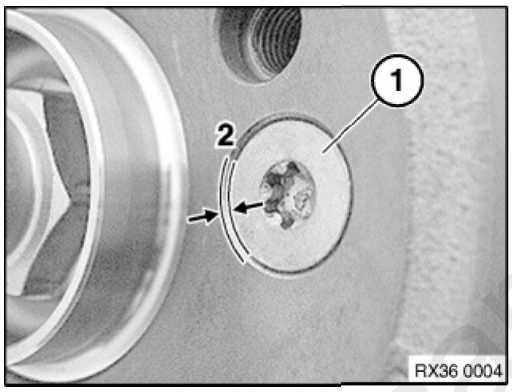
- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool 2 344 011.

  Do not operate special tool 2 344 011 with an impact screwdriver.
- Degrease the contact surfaces with the universal cleaner (see BMW Group Parts).
- In the event of grease residue 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).



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

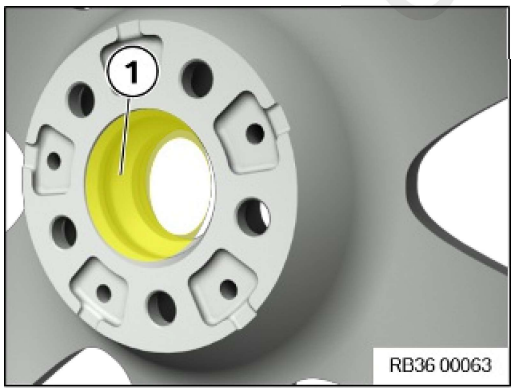
  The mounting bolt (1) for the brake disc may not protrude under any circumstances on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub

M8	Renew screw.	Tightening torque	16 Nm



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

Expendable materials

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

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

Expendable materials

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



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to install the wheel (see workshop equipment).

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

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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.

- Renew corroded wheel bolts.

  Parts: Wheel bolts
- Clean the wheel bolts.
- Check wheel bolts and threads for damage, renew the wheel bolts if necessary.
- Join and tighten the wheel bolts (arrows).

Wheel bolts

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

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6 – Measure ride height of rear axle and adjust to normal position



- Set vehicle down on its wheels (e.g. On a drive-on-ramp-lift).
- Measure vehicle ride height (A).
- Load or unload vehicle until the vehicle ride height (A) is within the tolerance.

G20_Hinterradantrieb, Standard suspension

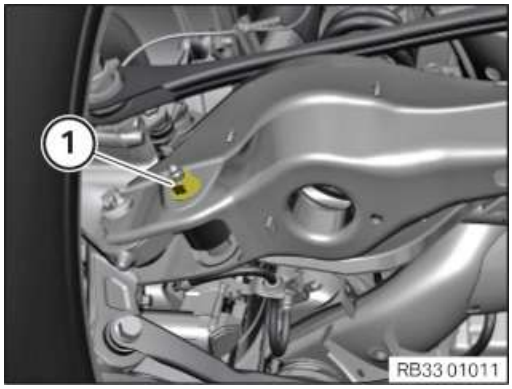
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

7 – Tighten screw connection on the camber control arm.

. – Tighten screw connection on the camber control arm.



TECHNICAL INFORMATION

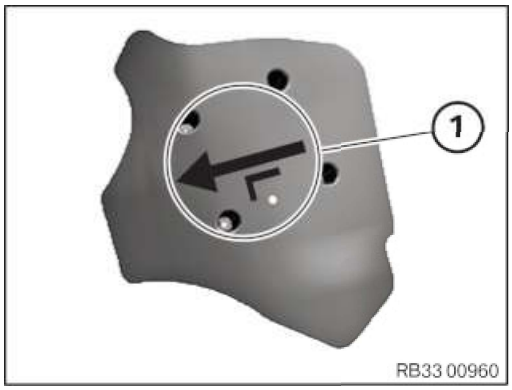
Tighten the screw connection in the normal position.

- Tighten the nut (1) in normal position.

Shock absorber to camber arm

M12	Renew nut and screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

8 – Installing the cover of the camber control arm



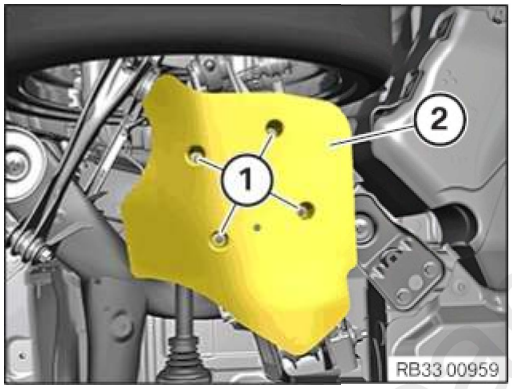
- Note the installation location and direction of installation.

  Direction of installation:

  The arrow on the cover points in the direction of travel.

  Installation location:

  - **L** = left
  - **R** = right



- Position the camber control arm cover (2) on the camber control arm.
- Renew nuts (1).

  Parts: Nuts
- Tighten nuts (1).

Cover to camber control arm

M6	Replace nuts.	Tightening torque	6 Nm

Additional Information

Overview of Tightening Torques

Nut and locknut/self-locking nut — Used in step 4

M8x40	Renew screws.	Tightening torque	28 Nm

Brake disc to front wheel hub — Used in step 5

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub — Used in step 5

M8	Renew screw.	Tightening torque	16 Nm

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Wheel bolts Used in step 5

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

Shock absorber to camber arm Used in step 7

M12	Renew nut and screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

Cover to camber control arm Used in step 8

M6	Replace nuts.	Tightening torque	6 Nm

Overview of Special Tools

2 344 011 Tool



Common Used in step 5

Usage	Tool (wheel hub grinder) for cleaning the connection of the wheel rim (wheel contact face) to the wheel hub.
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	08 08 12 (872)

Replacement tools:

0 495 221 (36 1 323) Wheel stud



Common Used in step 1

Usage	(Code 30) Code 39 available separately, (see EPC) under 36 13 1 181 259
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

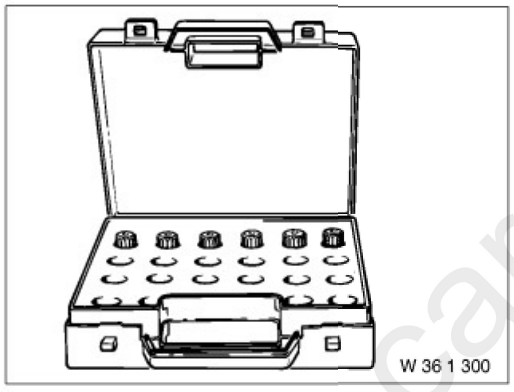
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0 495 224 (36 1 326) Wheel stud



Common	Used in step 1
Usage	(Code 33) With centring bore available separately, (see EPC) under 36 13 6 765 546
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 225 (36 1 327) Wheel stud



Common	Used in step 1
Usage	(Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 226 (36 1 328) Wheel stud



Common	Used in step 1
Usage	(Code 35) With centring bore available separately, (see EPC) under 36 13 6 762 340
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

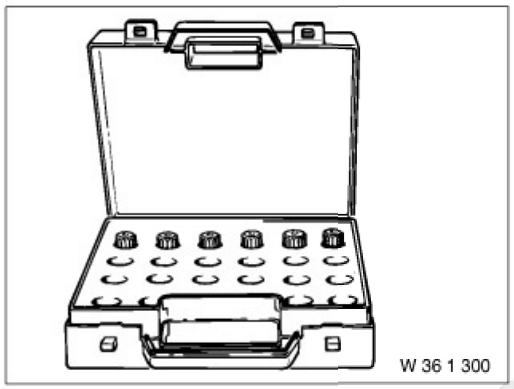
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0 495 227 (36 1 329) Wheel stud



Common	Used in step 1
Usage	(Code 36) With centring bore available separately (see EPC) under 36 13 6 762 341
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 228 (36 1 331) Wheel stud



Common	Used in step 1
Usage	(Code 37) With centring bore available separately (see EPC) under 36 13 6 762 342
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 229 (36 1 332) Wheel stud



Common	Used in step 1
Usage	(Code 38) With centring bore available separately (see EPC) under 36 13 6 762 343
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

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0 495 230 (36 1 333) Wheel stud



Common	Used in step 1
Usage	(Code 40) With centring bore available separately (see EPC) under 36 13 6 762 344
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

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Overview Technical Data

G20_Hinterradantrieb, Standard suspension	Used in step 6
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung	Used in step 6
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

33 52 012 Replacing rear left or right side shock absorber

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

PRELIMINARY WORK

1 – Remove rear left or right wheel

▸ **Removing the wheel**



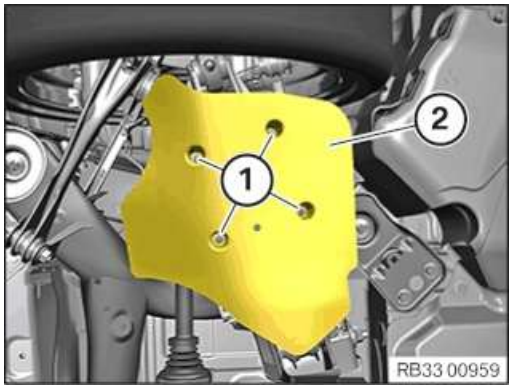
- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to remove the wheel (see workshop equipment).

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



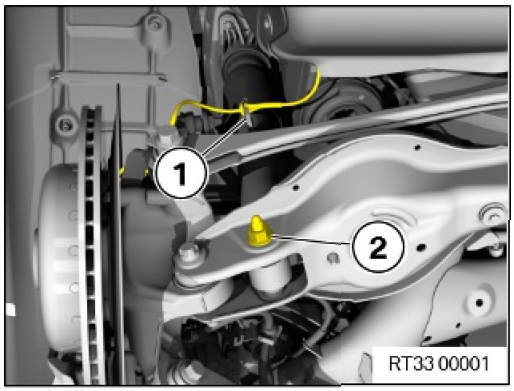
- If several wheels are removed simultaneously: Use a piece of chalk to mark on each tyre the axle and side on which the corresponding wheel is fitted.
- Release the wheel bolts (arrows) crosswise and remove the wheel.
- To release and tighten wheel bolts with a security code: Use a suitable adapter from the tool set .

2 – Remove the cover of the camber control arm

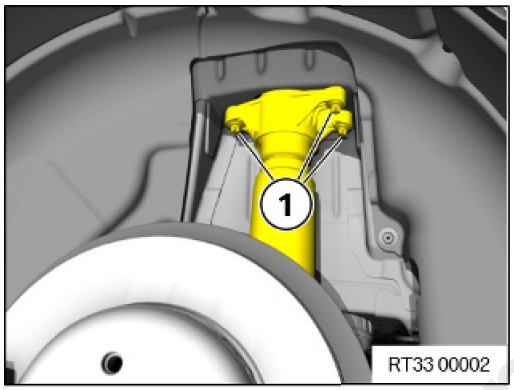


- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

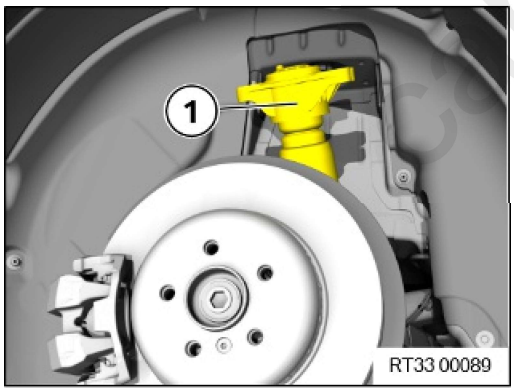
3 – Remove rear shock absorber



- Unclip the cable from the holder (1).
- Loosen nut (2).
- Pull out screw.



- Loosen screws (1).

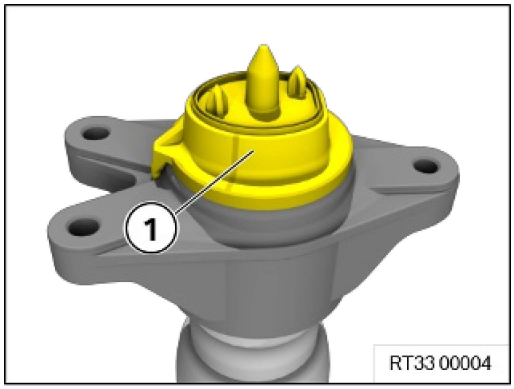


- Press the shock absorbers (1) together and guide upwards out of the wheel arch.

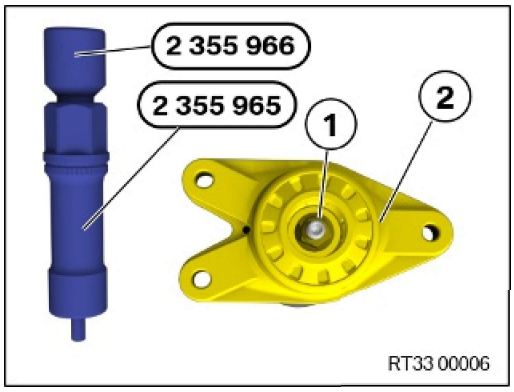
MAIN WORK

4 – Replacing the shock absorber

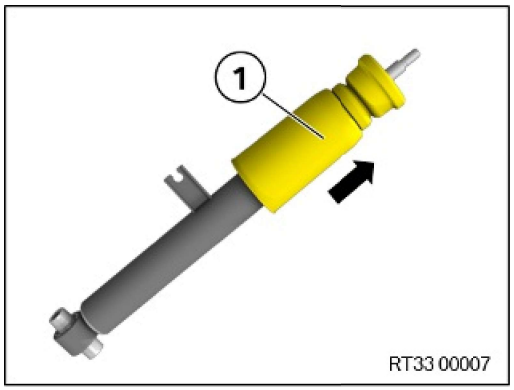
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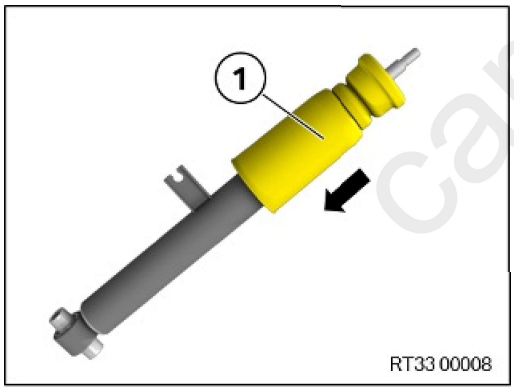
- Remove the centring plate (1).



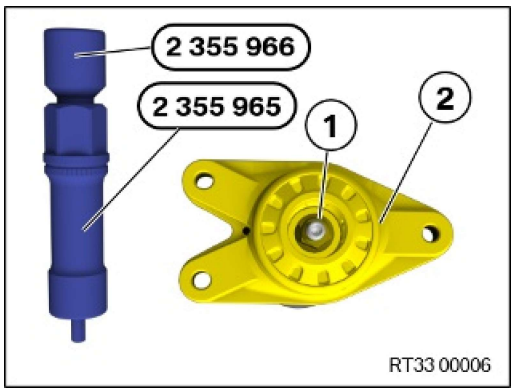
- Release the nut (1) with the special tools and .
- Remove the support bearing (2) from the shock absorber.



- Remove the auxiliary damper (1).



- Check the auxiliary damper (1) for damage; replace if necessary.
- Attach the auxiliary damper (1) to the new shock absorber.



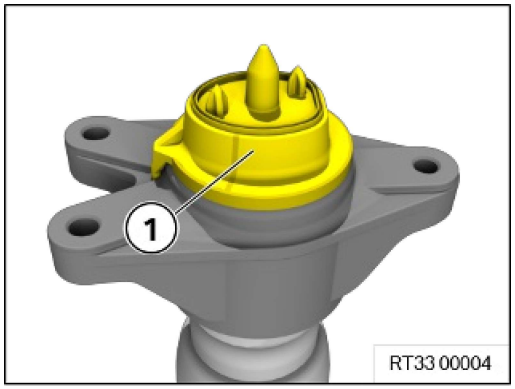
- Attach support bearing (2) to the new shock absorber.
- Renew nut (1).

  Parts: Nut
- Tighten the nut (1) with the special tools and .

Support bearing on shock absorber

M10	Renew nut.	Tightening torque	41 Nm

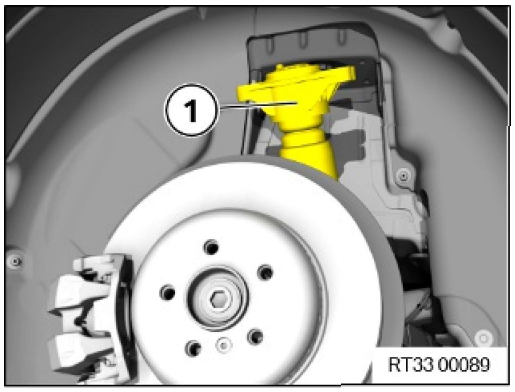
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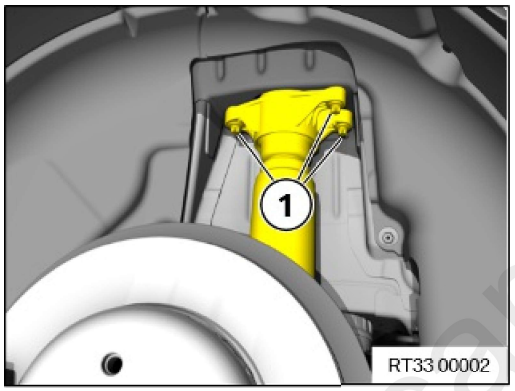
- Check centring plate (1) for damage; replace if necessary.
- Install the centring plate (1).

POSTPROCESSES

5 – Installing the rear shock absorber



- Press shock absorbers (1) together and install in the wheel arch.

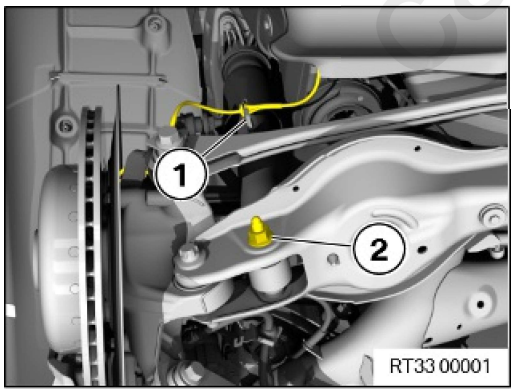


- Position the shock absorbers on the body.
- Renew screws (1).

  Parts: Bolts
- Tighten the screws (1).

Nut and locknut/self-locking nut

M8x40	Renew screws.	Tightening torque	28 Nm



- Clip in cable into the holder (1).
- Support the wheel carrier with the universal jack.

Note: Support wheel carrier only! Do not push against the spring force of the coil spring!

- Lift the wheel carrier with the universal jack to the point where the screw can be inserted.
- Position the shock absorbers on the camber control arm.
- Renew screw and nut (2).

  Parts: Bolt, nut
- Install the screw.

TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Tighten the nut (2) hand-tight.
- Remove the universal jack from under the vehicle.

6 – Install rear left or right wheel

▸ **Mounting the wheel**



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.

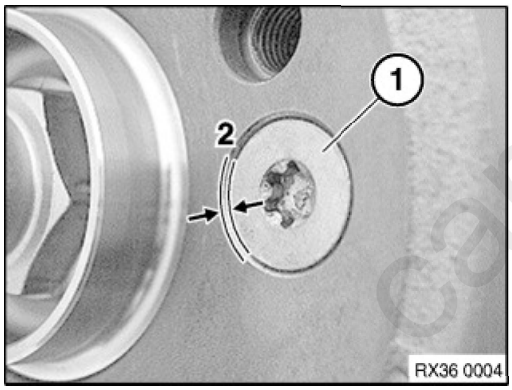
- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool 2 344 011.

  Do not operate special tool 2 344 011 with an impact screwdriver.
- Degrease the contact surfaces with the universal cleaner (see BMW Group Parts).
- In the event of grease residue 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).



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

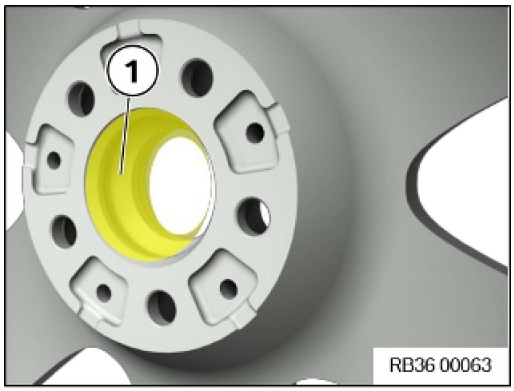
  The mounting bolt (1) for the brake disc may not protrude under any circumstances on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub

M8	Renew screw.	Tightening torque	16 Nm



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

Expendable materials

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

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

Expendable materials

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



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to install the wheel (see workshop equipment).

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

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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.

- Renew corroded wheel bolts.

  Parts: Wheel bolts
- Clean the wheel bolts.
- Check wheel bolts and threads for damage, renew the wheel bolts if necessary.
- Join and tighten the wheel bolts (arrows).

Wheel bolts

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

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7 – Measure ride height of rear axle and adjust to normal position



- Set vehicle down on its wheels (e.g. On a drive-on-ramp-lift).
- Measure vehicle ride height (A).
- Load or unload vehicle until the vehicle ride height (A) is within the tolerance.

G20_Hinterradantrieb, Standard suspension

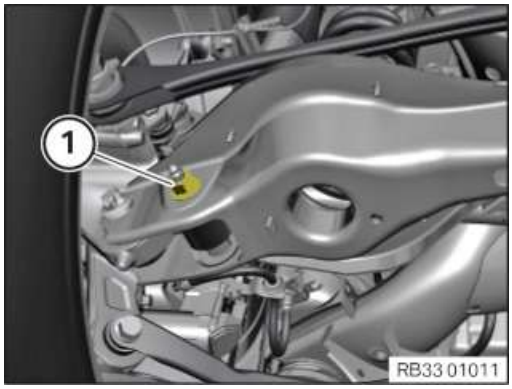
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

8 – Tighten screw connection on the camber control arm.

8 – Tighten screw connection on the camber control arm.



TECHNICAL INFORMATION

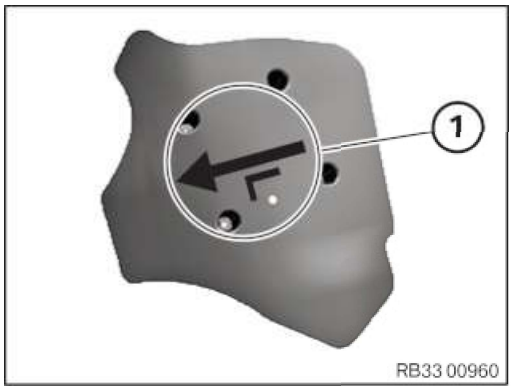
Tighten the screw connection in the normal position.

- Tighten the nut (1) in normal position.

Shock absorber to camber arm

M12	Renew nut and screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

9 – Installing the cover of the camber control arm



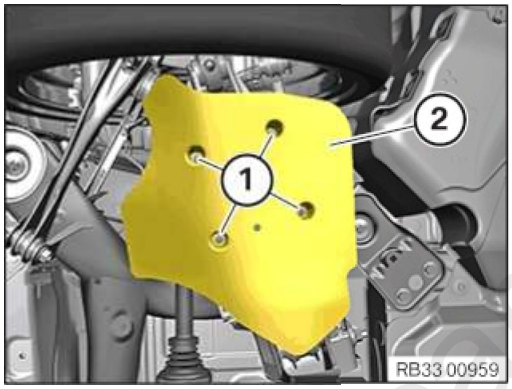
- Note the installation location and direction of installation.

  Direction of installation:

  The arrow on the cover points in the direction of travel.

  Installation location:

  - **L** = left
  - **R** = right



- Position the camber control arm cover (2) on the camber control arm.
- Renew nuts (1).

  Parts: Nuts
- Tighten nuts (1).

Cover to camber control arm

M6	Replace nuts.	Tightening torque	6 Nm

Additional Information

Overview of Tightening Torques

Support bearing on shock absorber — Used in step 4

M10	Renew nut.	Tightening torque	41 Nm

Nut and locknut/self-locking nut — Used in step 5

M8x40	Renew screws.	Tightening torque	28 Nm

Brake disc to front wheel hub — Used in step 6

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub — Used in step 6

M8	Renew screw.	Tightening torque	16 Nm

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Wheel bolts Used in step 6

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

Shock absorber to camber arm Used in step 8

M12	Renew nut and screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

Cover to camber control arm Used in step 9

M6	Replace nuts.	Tightening torque	6 Nm

Overview of Special Tools

2 344 011 Tool



Common Used in step 6

Usage	Tool (wheel hub grinder) for cleaning the connection of the wheel rim (wheel contact face) to the wheel hub.
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	08 08 12 (872)

Replacement tools:

0 495 221 (36 1 323) Wheel stud



Common Used in step 1

Usage	(Code 30) Code 39 available separately, (see EPC) under 36 13 1 181 259
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

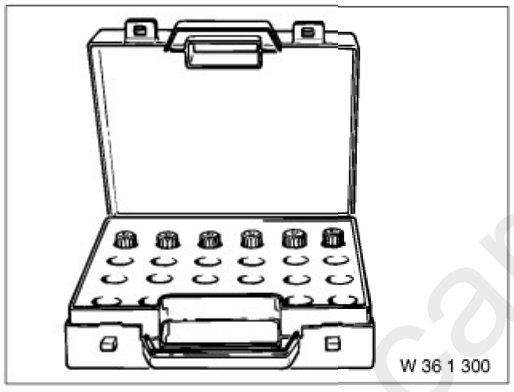
cardiagn.com

0 495 224 (36 1 326) Wheel stud



Common	Used in step 1
Usage	(Code 33) With centring bore available separately, (see EPC) under 36 13 6 765 546
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 225 (36 1 327) Wheel stud



Common	Used in step 1
Usage	(Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 226 (36 1 328) Wheel stud



Common	Used in step 1
Usage	(Code 35) With centring bore available separately, (see EPC) under 36 13 6 762 340
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

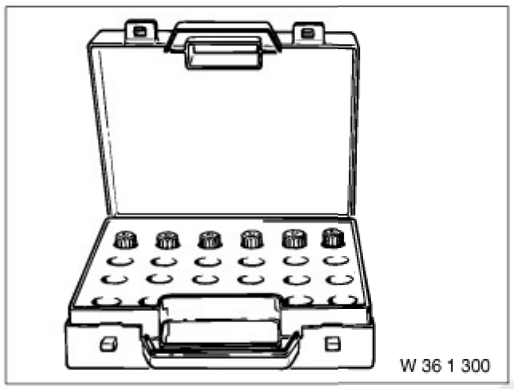
cardiagn.com

0 495 227 (36 1 329) Wheel stud



Common	Used in step 1
Usage	(Code 36) With centring bore available separately (see EPC) under 36 13 6 762 341
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 228 (36 1 331) Wheel stud



Common	Used in step 1
Usage	(Code 37) With centring bore available separately (see EPC) under 36 13 6 762 342
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 229 (36 1 332) Wheel stud



Common	Used in step 1
Usage	(Code 38) With centring bore available separately (see EPC) under 36 13 6 762 343
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

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0 495 230 (36 1 333) Wheel stud



Common	Used in step 1
Usage	(Code 40) With centring bore available separately (see EPC) under 36 13 6 762 344
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

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Overview Technical Data

G20_Hinterradantrieb, Standard suspension	Used in step 7
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung	Used in step 7
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

33 52 161 Replacing rear left or right support bearing for spring strut/shock absorber

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

PRELIMINARY WORK

1 – Remove rear left or right wheel

▸ **Removing the wheel**



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to remove the wheel (see workshop equipment).

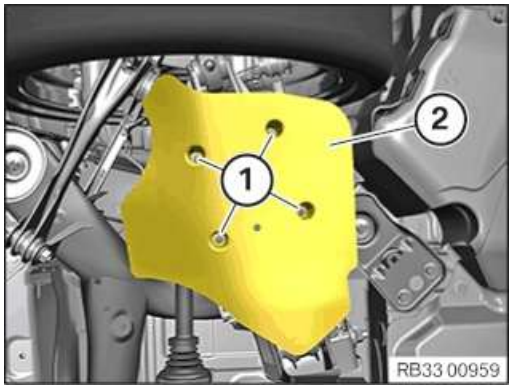
  This process is intended to prevent damage to the brake disc.



- 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.
- Release the wheel bolts (arrows) crosswise and remove the wheel.
- To release and tighten wheel bolts with a security code: Use a suitable adapter from the tool set .

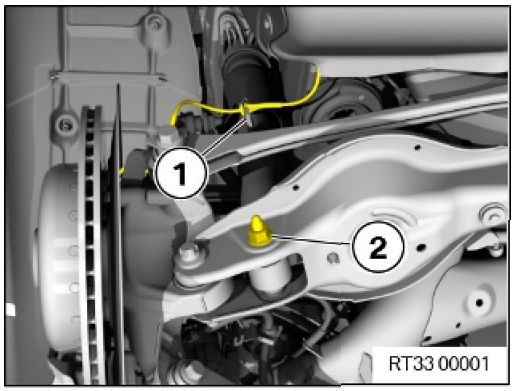
2 – Remove the cover of the camber control arm

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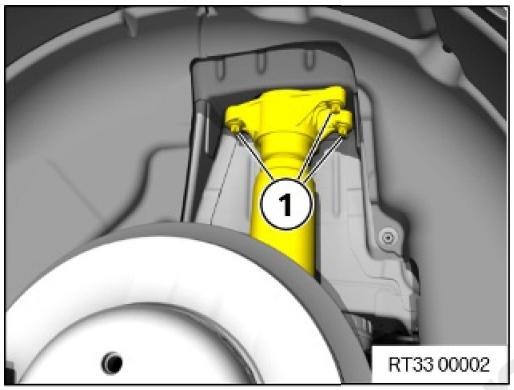


- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

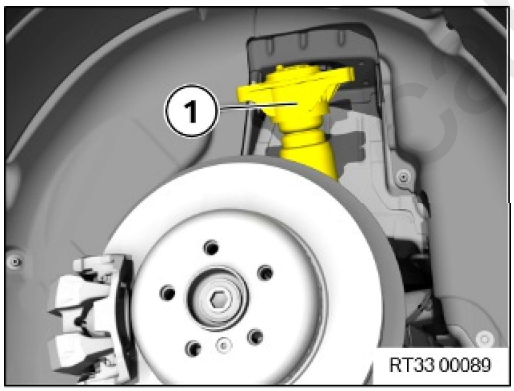
3 – Remove rear shock absorber



- Unclip the cable from the holder (1).
- Loosen nut (2).
- Pull out screw.



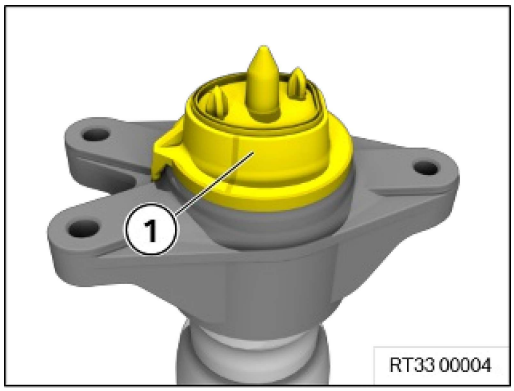
- Loosen screws (1).



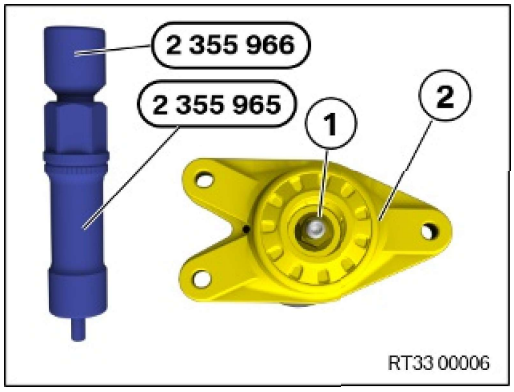
- Press the shock absorbers (1) together and guide upwards out of the wheel arch.

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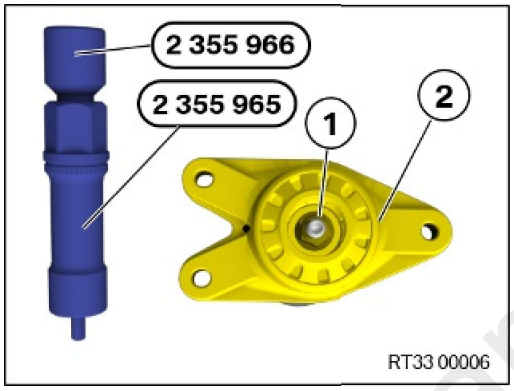
4 – Replace support bearing



- Remove the centring plate (1).



- Release the nut (1) with the special tools and .
- Remove the support bearing (2) from the shock absorber.

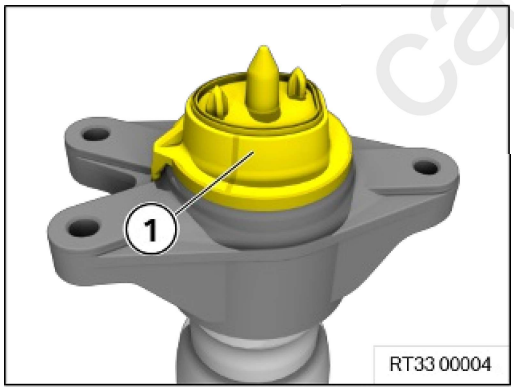


- Attach new support bearing (2) to the shock absorber.
- Renew nut (1).

  Parts: Nut
- Tighten the nut (1) with the special tools and .

Support bearing on shock absorber

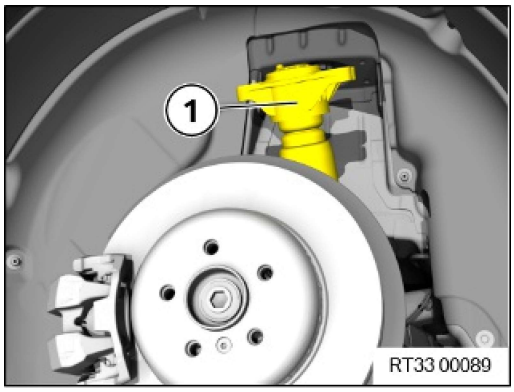
M10	Renew nut.	Tightening torque	41 Nm



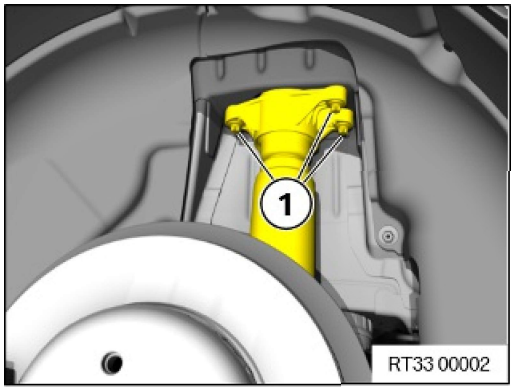
- Check centring plate (1) for damage; replace if necessary.
- Install the centring plate (1).

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5 – Installing the rear shock absorber



- Press shock absorbers (1) together and install in the wheel arch.

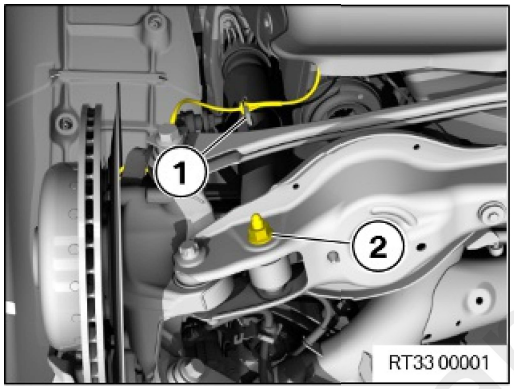


- Position the shock absorbers on the body.
- Renew screws (1).

  Parts: Bolts
- Tighten the screws (1).

Nut and locknut/self-locking nut

M8x40	Renew screws.	Tightening torque	28 Nm



- Clip in cable into the holder (1).
- Support the wheel carrier with the universal jack.

Note: Support wheel carrier only! Do not push against the spring force of the coil spring!

- Lift the wheel carrier with the universal jack to the point where the screw can be inserted.
- Position the shock absorbers on the camber control arm.
- Renew screw and nut (2).

  Parts: Bolt, nut
- Install the screw.

TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Tighten the nut (2) hand-tight.
- Remove the universal jack from under the vehicle.

6 – Install rear left or right wheel

▶ **Mounting the wheel**

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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.

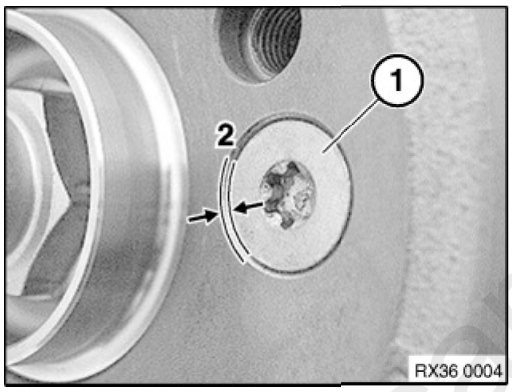
- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool 2 344 011.

  Do not operate special tool 2 344 011 with an impact screwdriver.
- Degrease the contact surfaces with the universal cleaner (see BMW Group Parts).
- In the event of grease residue 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).



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

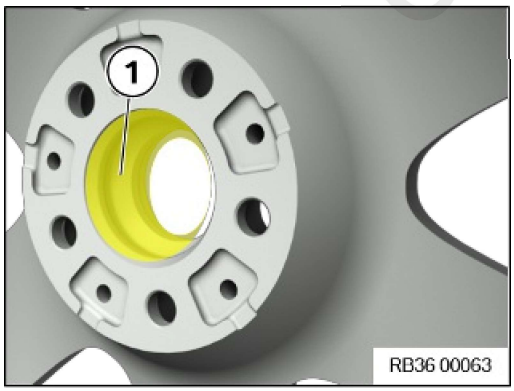
  The mounting bolt (1) for the brake disc may not protrude under any circumstances on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub

M8	Renew screw.	Tightening torque	16 Nm



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

Expendable materials

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

catalagn.com



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

Expendable materials

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



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to install the wheel (see workshop equipment).

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

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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.

- Renew corroded wheel bolts.

  Parts: Wheel bolts
- Clean the wheel bolts.
- Check wheel bolts and threads for damage, renew the wheel bolts if necessary.
- Join and tighten the wheel bolts (arrows).

Wheel bolts

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

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Additional Information

Overview of Tightening Torques

Support bearing on shock absorber — Used in step 4

M10	Renew nut.	Tightening torque	41 Nm

Nut and locknut/self-locking nut — Used in step 5

M8x40	Renew screws.	Tightening torque	28 Nm

Brake disc to front wheel hub — Used in step 6

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub Used in step 6

M8	Renew screw.	Tightening torque	16 Nm

Wheel bolts Used in step 6

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

Overview of Special Tools

2 344 011 Tool



Common Used in step 6

Usage	Tool (wheel hub grinder) for cleaning the connection of the wheel rim (wheel contact face) to the wheel hub.
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	08 08 12 (872)

Replacement tools:

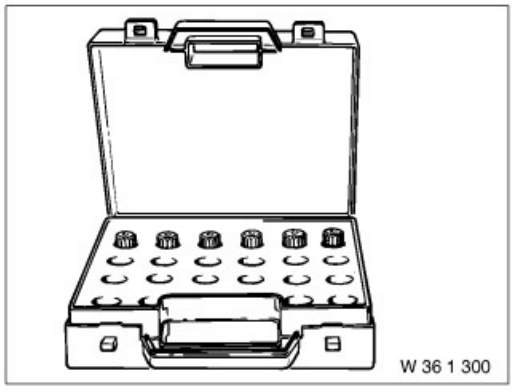
0 495 221 (36 1 323) Wheel stud



Common Used in step 1

Usage	(Code 30) Code 39 available separately, (see EPC) under 36 13 1 181 259
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 224 (36 1 326) Wheel stud



Common Used in step 1

Usage	(Code 33) With centring bore available separately, (see EPC) under 36 13 6 765 546
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

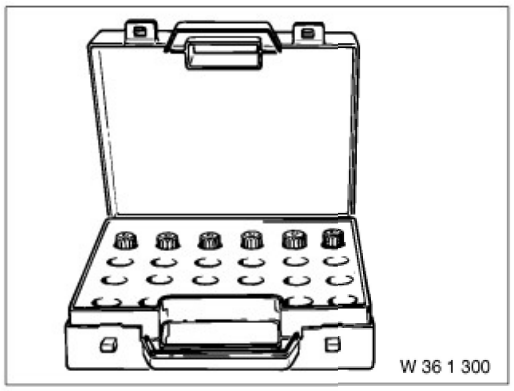
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0 495 225 (36 1 327) Wheel stud



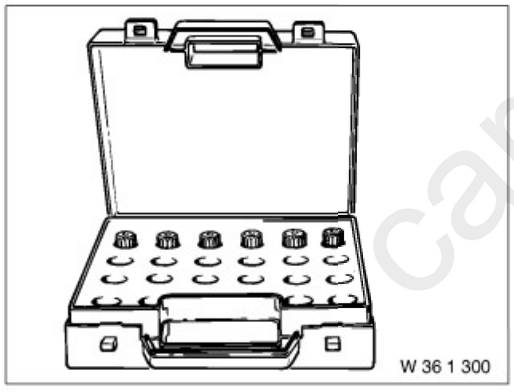
Common	Used in step 1
Usage	(Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 226 (36 1 328) Wheel stud



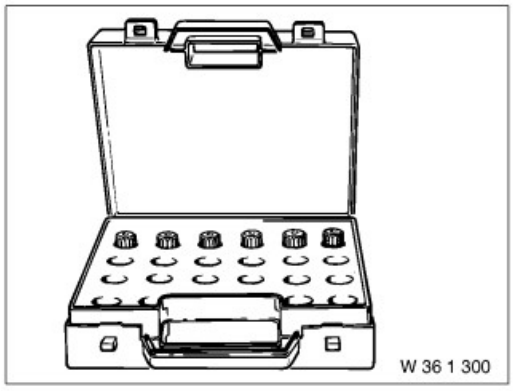
Common	Used in step 1
Usage	(Code 35) With centring bore available separately, (see EPC) under 36 13 6 762 340
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 227 (36 1 329) Wheel stud



Common	Used in step 1
Usage	(Code 36) With centring bore available separately (see EPC) under 36 13 6 762 341
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 228 (36 1 331) Wheel stud



Common	Used in step 1
Usage	(Code 37) With centring bore available separately (see EPC) under 36 13 6 762 342
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

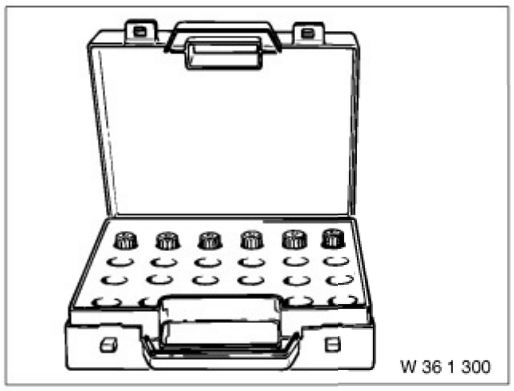
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0 495 229 (36 1 332) Wheel stud



Common	Used in step 1
Usage	(Code 38) With centring bore available separately (see EPC) under 36 13 6 762 343
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 230 (36 1 333) Wheel stud



Common	Used in step 1
Usage	(Code 40) With centring bore available separately (see EPC) under 36 13 6 762 344
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

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33 53 000 Removing and installing / replacing rear left or right coil spring

WARNING

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

Danger! Life-threatening injuries!

- Observe safety information on raising the vehicle using a vehicle hoist.
- For additional information see: 00 ... Raising the vehicle using a vehicle hoist.

WARNING

Spring preload.

Danger! Life-threatening injuries!

- Secure coil spring with special tool 2 213 022 (31 3 340).
- Use special tool as per owner's handbook and always observe the safety information.

NOTICE

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

PRELIMINARY WORK

1 – Remove rear left or right wheel

▸ **Removing the wheel**



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to remove the wheel (see workshop equipment).

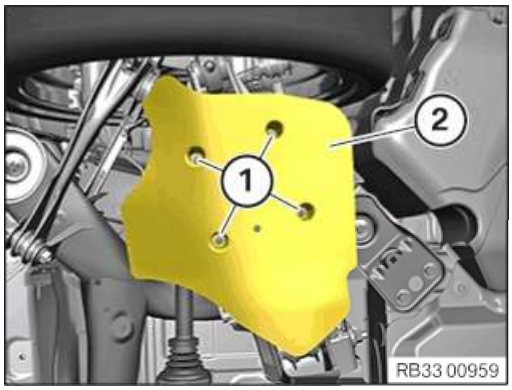
  This process is intended to prevent damage to the brake disc.

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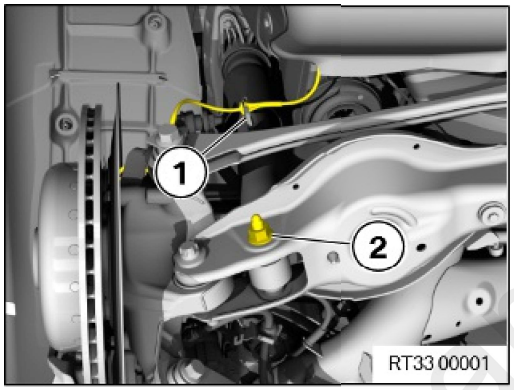
- If several wheels are removed simultaneously: Use a piece of chalk to mark on each tyre the axle and side on which the corresponding wheel is fitted.
- Release the wheel bolts (arrows) crosswise and remove the wheel.
- To release and tighten wheel bolts with a security code: Use a suitable adapter from the tool set .

2 – Remove the cover of the camber control arm



- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

3 – Releasing the rear shock absorber from the camber control arm



- Unclip the cable from the holder (1).
- Loosen nut (2).
- Pull out screw.

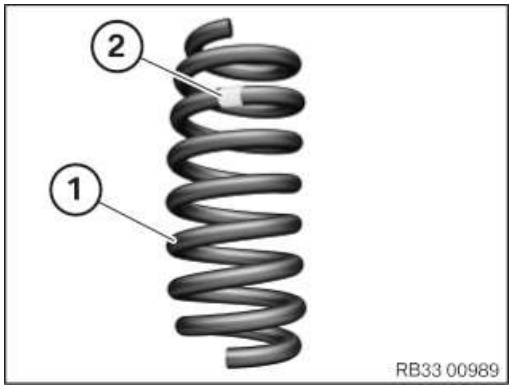
MAIN WORK

4 – Remove coil spring

TECHNICAL INFORMATION

Do not operate special tool with an impact screwdriver.

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TECHNICAL INFORMATION

Incorrect assembly is possible. Ensure correct installation position.

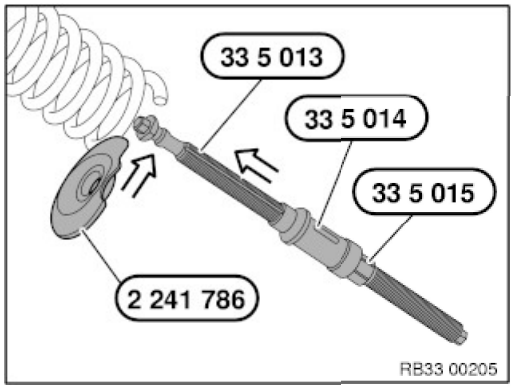
- The installation position of the coil spring(1) is marked with a label (2).

  The label (2) is attached at the top end of the coil spring (1) and is marked as “top”

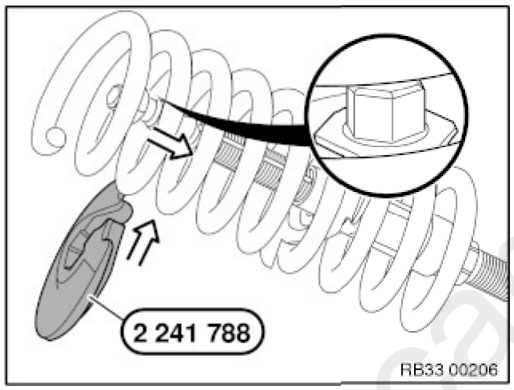
- Check coil spring (1) for availability of label (2)

  If the label (2) on the installed coil spring (1) is missing and it has to be fixed after repair, then the installation position of the coil spring (1) must be marked necessarily.

Note: Mark the installation position of the coil spring, by attaching an adhesive tape at the top end of spring.



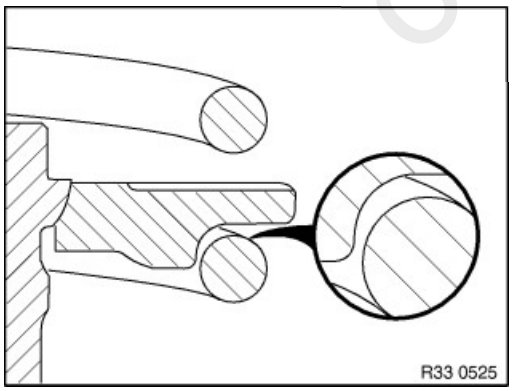
- Insert lower spring cup centrally into coil spring and turn to lowest winding.
- Drive spindle , , from below through the camber control arm and the bottom spring cup .



- Insert top spring cup sideways into coil spring and turn to the uppermost winding.

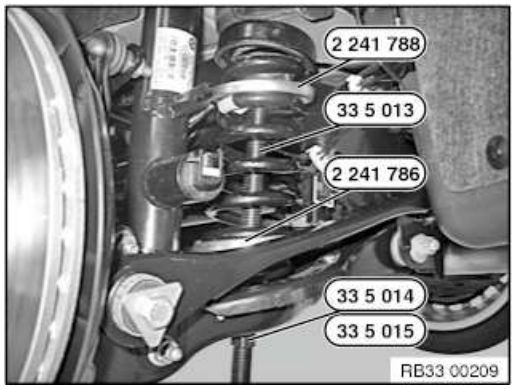
  Make sure spindle (hexagonal) is correctly seated in upper spring cup !

- Pull spindle down.



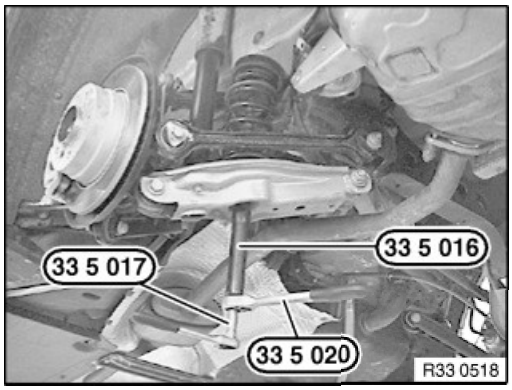
- Make sure coil spring is correctly positioned in spring cups.

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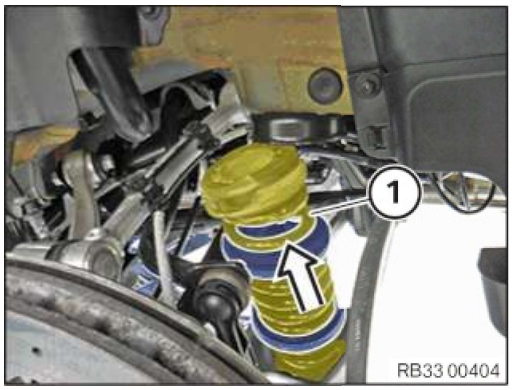
- Check and correct the position of the special tools , and , , and correct if required.

  The special tools must be aligned centrally, in order to obtain the largest possible contact surface on the coil spring.



- Tensioning the coil spring using the special tools and .

  Counter support the spindle of the spring tensioner with the special tool .

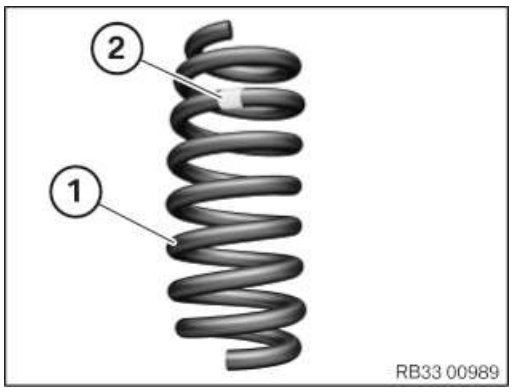


- Remove coil spring (1) upwards.

5 – Replacement only: Replace coil spring

TECHNICAL INFORMATION

Do not operate special tool with an impact screwdriver.



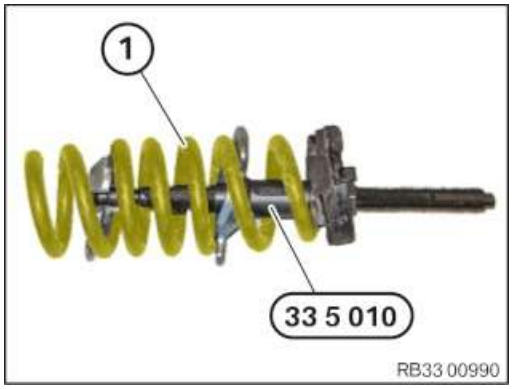
TECHNICAL INFORMATION

Incorrect assembly is possible. Ensure correct installation position.

- The mounting orientation of coil spring (1) is characterized with a label (2).

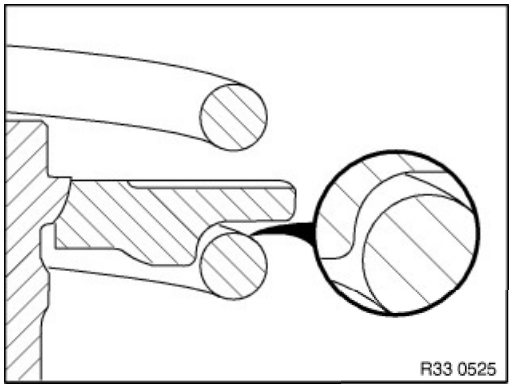
  The label (2)is secured at the upper end of coil spring (1) and characterized with the labelling "top".

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- Relieve tension on special tool .
- Remove coil spring (1).
- Screw in new special tool (1) into the special tool and tighten.

  Make sure coil spring is in correct installation position.

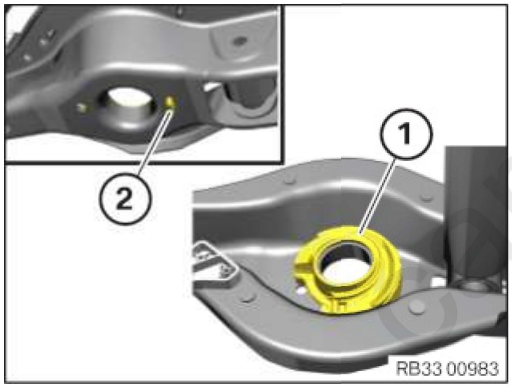


- Make sure coil spring is correctly positioned in spring cups.

6 – Install the coil springs

TECHNICAL INFORMATION

Do not operate special tool with an impact screwdriver.



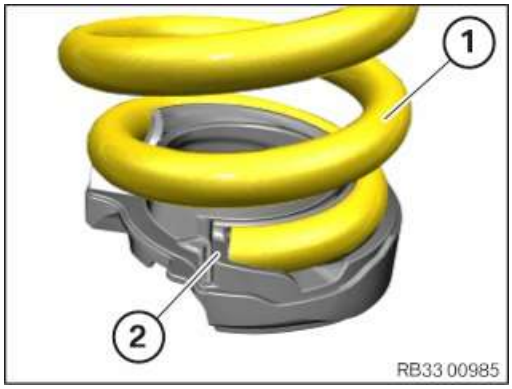
- Check bottom spring pad (1) for damage, renew if necessary.
- Check bottom spring pad (1) for correct position on the camber control arm, correct the position if necessary.

  The plastic tab (2) must be positioned in the bore hole.

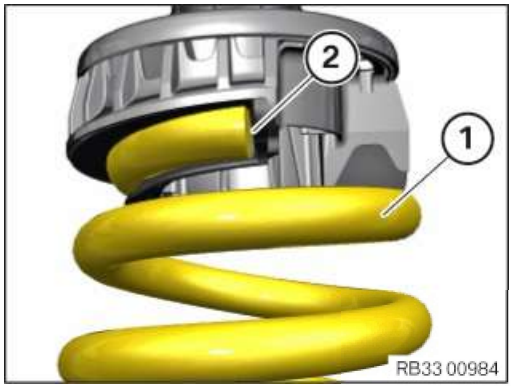


- Install coil spring (1) from the top and position it.

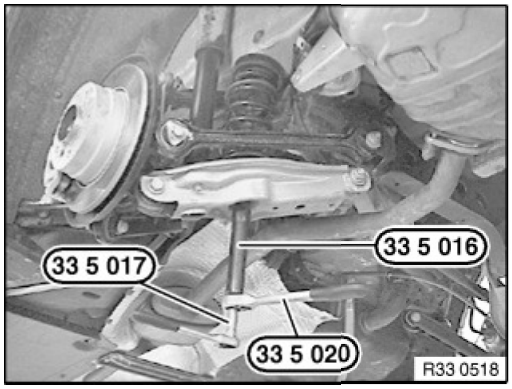
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- Move the coil springs (1) of the bottom spring pad (2) so that they are positively locked to the system.



- Position the top spring pad such that the end of the coil spring (1) moves to the system at the base (2).



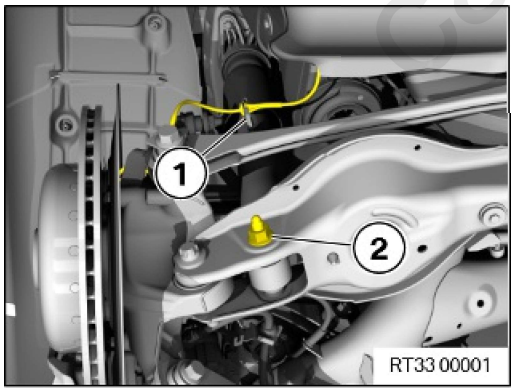
- Release the tension on the coil spring using the special tools and .

  Note the installation position of the coil spring while releasing the tension.

  Counter support the spindle of the spring tensioner with the special tool .
- Remove special tools.

POSTPROCESSES

7 – Securing the rear shock absorber on the camber control arm



- Clip in cable into the holder (1).
- Support the wheel carrier with the universal jack.
- Lift the wheel carrier with the universal jack to the point where the screw can be inserted.
- Position the shock absorbers on the camber control arm.
- Renew screw and nut (2).

  Parts: Bolt, nut
- Install the screw.

TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Tighten nut (2) hand-tight.
- Remove the universal jack from under the vehicle.

8 – Install rear left or right wheel

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▸ Mounting the wheel



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.

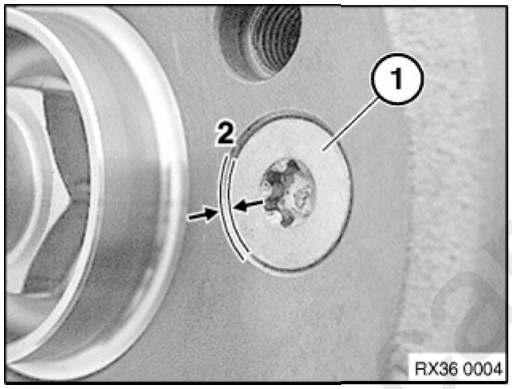
- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool 2 344 011.

  Do not operate special tool 2 344 011 with an impact screwdriver.
- Degrease the contact surfaces with the universal cleaner (see BMW Group Parts).
- In the event of grease residue 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).



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

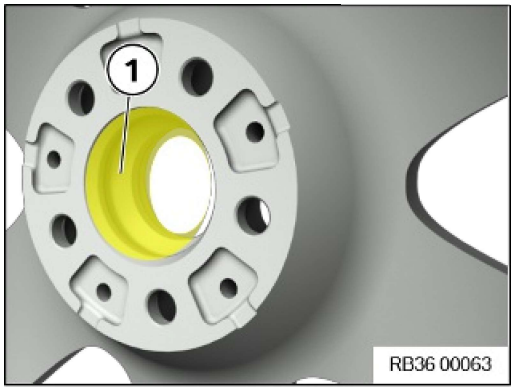
  The mounting bolt (1) for the brake disc may not protrude under any circumstances on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub

M8	Renew screw.	Tightening torque	16 Nm



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

Expendable materials

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

carlagn.com



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

Expendable materials

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



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to install the wheel (see workshop equipment).

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

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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.

- Renew corroded wheel bolts.

  Parts: Wheel bolts
- Clean the wheel bolts.
- Check wheel bolts and threads for damage, renew the wheel bolts if necessary.
- Join and tighten the wheel bolts (arrows).

Wheel bolts

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

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9 – Measure ride height of rear axle and adjust to normal position



- Set vehicle down on its wheels (e.g. On a drive-on-ramp-lift).
- Measure vehicle ride height (A).
- Load or unload vehicle until the vehicle ride height (A) is within the tolerance.

G20_Hinterradantrieb, Standard suspension

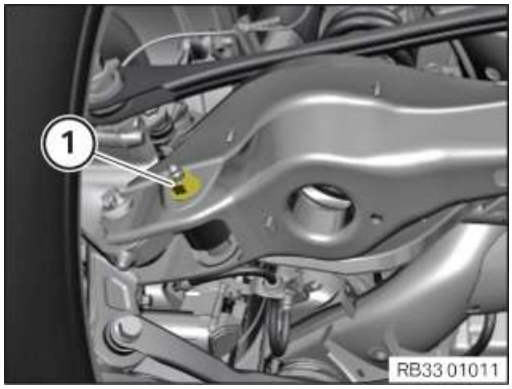
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

10 – Tighten screw connection on the camber control arm.

10 – Tighten screw connection on the camber control arm.



TECHNICAL INFORMATION

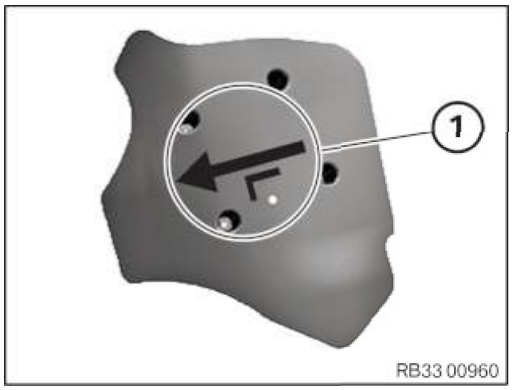
Tighten the screw connection in the normal position.

- Tighten the nut (1) in normal position.

Shock absorber to camber arm

M12	Renew nut and screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

11 – Installing the cover of the camber control arm



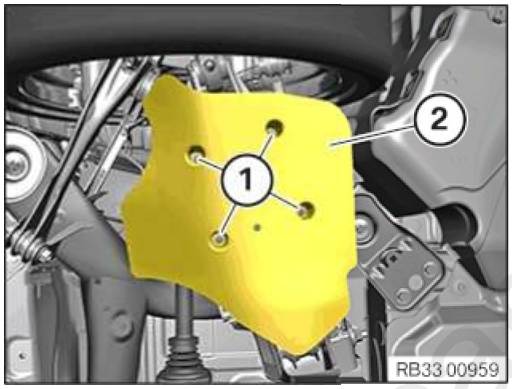
- Note the installation location and direction of installation.

  Direction of installation:

  The arrow on the cover points in the direction of travel.

  Installation location:

  - **L** = left
  - **R** = right



- Position the camber control arm cover (2) on the camber control arm.
- Renew nuts (1).

  Parts: Nuts
- Tighten nuts (1).

Cover to camber control arm

M6	Replace nuts.	Tightening torque	6 Nm

Additional Information

Overview of Tightening Torques

Brake disc to front wheel hub Used in step 8

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub Used in step 8

M8	Renew screw.	Tightening torque	16 Nm

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Wheel bolts Used in step 8

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

Shock absorber to camber arm Used in step 10

M12	Renew nut and screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

Cover to camber control arm Used in step 11

M6	Replace nuts.	Tightening torque	6 Nm

Overview of Special Tools

2 344 011 Tool



Common Used in step 8

Usage	Tool (wheel hub grinder) for cleaning the connection of the wheel rim (wheel contact face) to the wheel hub.
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	08 08 12 (872)

Replacement tools:

0 495 221 (36 1 323) Wheel stud



Common Used in step 1

Usage	(Code 30) Code 39 available separately, (see EPC) under 36 13 1 181 259
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

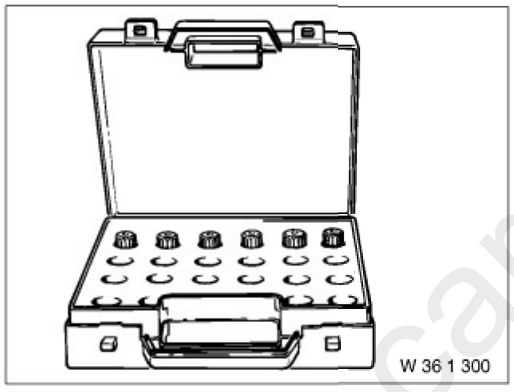
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0 495 224 (36 1 326) Wheel stud



Common	Used in step 1
Usage	(Code 33) With centring bore available separately, (see EPC) under 36 13 6 765 546
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 225 (36 1 327) Wheel stud



Common	Used in step 1
Usage	(Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 226 (36 1 328) Wheel stud



Common	Used in step 1
Usage	(Code 35) With centring bore available separately, (see EPC) under 36 13 6 762 340
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

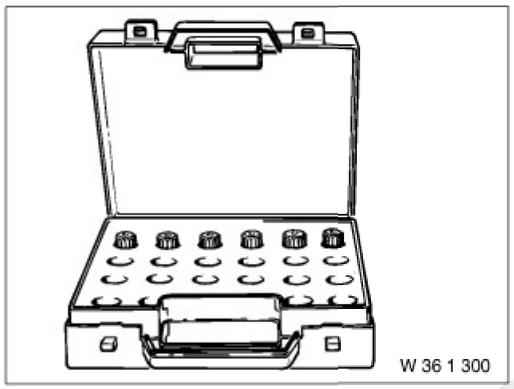
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0 495 227 (36 1 329) Wheel stud



Common	Used in step 1
Usage	(Code 36) With centring bore available separately (see EPC) under 36 13 6 762 341
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 228 (36 1 331) Wheel stud



Common	Used in step 1
Usage	(Code 37) With centring bore available separately (see EPC) under 36 13 6 762 342
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 229 (36 1 332) Wheel stud



Common	Used in step 1
Usage	(Code 38) With centring bore available separately (see EPC) under 36 13 6 762 343
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

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0 495 230 (36 1 333) Wheel stud



Common	Used in step 1
Usage	(Code 40) With centring bore available separately (see EPC) under 36 13 6 762 344
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

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Overview Technical Data

G20_Hinterradantrieb, Standard suspension	Used in step 9
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung	Used in step 9
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

Links

Repair instructions	Used in step
00 .. ... Raising the vehicle using a vehicle hoist	

33 55 041 Replacing left or right anti-roll bar link

PRELIMINARY WORK

1 – Remove rear left or right wheel

▸ **Removing the wheel**



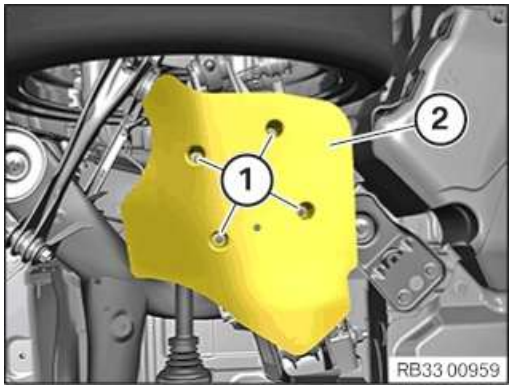
- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to remove the wheel (see workshop equipment).

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



- 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.
- Release the wheel bolts (arrows) crosswise and remove the wheel.
- To release and tighten wheel bolts with a security code: Use a suitable adapter from the tool set .

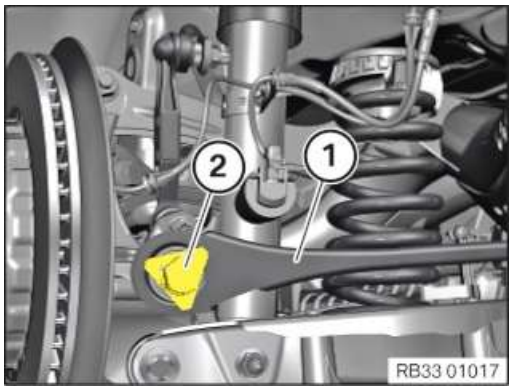
2 – Remove the cover of the camber control arm



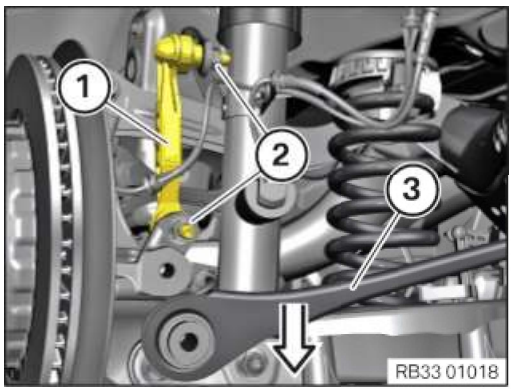
- Loosen nuts (1).
- Remove the cover of the camber control arm (2).

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3 – Removing the rear anti-roll bar link from the anti-roll bar

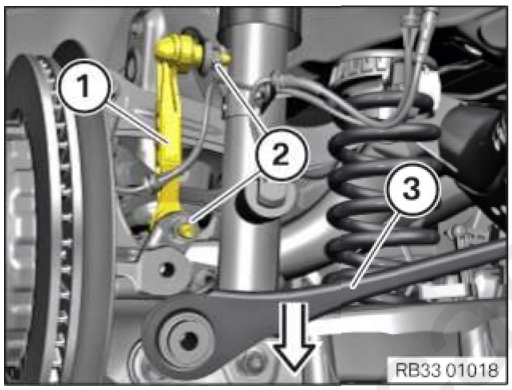


- Release screw (2) from track control arm (1).



- Swivel the track control arm (3) towards the bottom.
- Release the nuts (2) and counter support at the Torx socket.
- Remove the anti-roll bar link (1).

4 – Installing the rear anti-roll bar link from the anti-roll bar

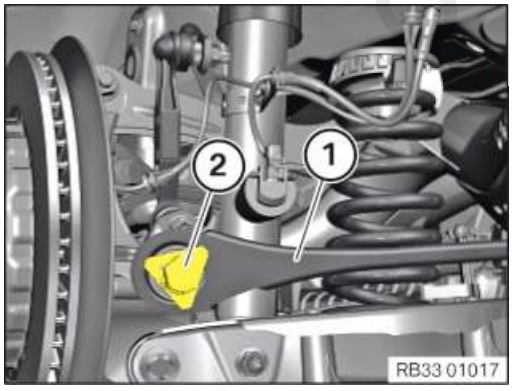


- Position anti-roll bar link (1).
- Swivel track control arm (3) downwards.
- Renew nuts (2).

  Parts: Nuts
- Tighten the nuts (2) with counter support on the Torx socket.

Rear anti-roll bar link to anti-roll bar / wheel carrier

M10	Renew nut.	Tightening torque	56 Nm



- Position track control arm (1) on the wheel carrier.
- Renew the screw (2).

  Parts: Screw

TECHNICAL INFORMATION

Tighten the screw connection in the normal position.

- Tighten screw (2) hand-tight.

POSTPROCESSES

5 – Install rear left or right wheel

▸ **Mounting the wheel**



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.

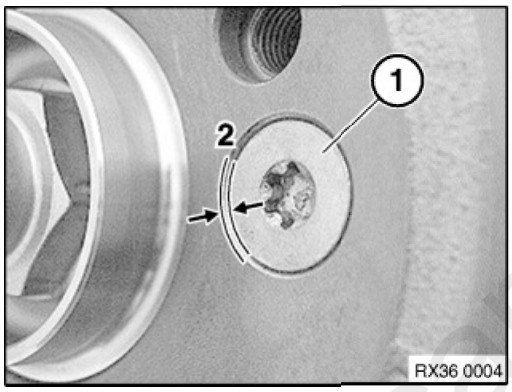
- Remove dirt, grease residues and corrosion from the contact surface with a drill and the special tool 2 344 011.

  Do not operate special tool 2 344 011 with an impact screwdriver.
- Degrease the contact surfaces with the universal cleaner (see BMW Group Parts).
- In the event of grease residue 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).



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

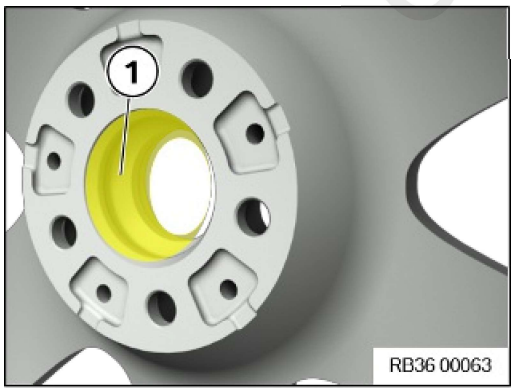
  The mounting bolt (1) for the brake disc may not protrude under any circumstances on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub

M8	Renew screw.	Tightening torque	16 Nm



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

Expendable materials

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

catalagn.com



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

Expendable materials

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



- In vehicles with M Carbon ceramic brake: The wheel assembly jack must be used to install the wheel (see workshop equipment).

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

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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.

- Renew corroded wheel bolts.

  Parts: Wheel bolts
- Clean the wheel bolts.
- Check wheel bolts and threads for damage, renew the wheel bolts if necessary.
- Join and tighten the wheel bolts (arrows).

Wheel bolts

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

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6 – Measure ride height of rear axle and adjust to normal position



- Set vehicle down on its wheels (e.g. On a drive-on-ramp-lift).
- Measure vehicle ride height (A).
- Load or unload vehicle until the vehicle ride height (A) is within the tolerance.

G20_Hinterradantrieb, Standard suspension

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung

Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

7 – Tightening track control arm on wheel carrier

. – Tightening track control arm on wheel carrier



TECHNICAL INFORMATION

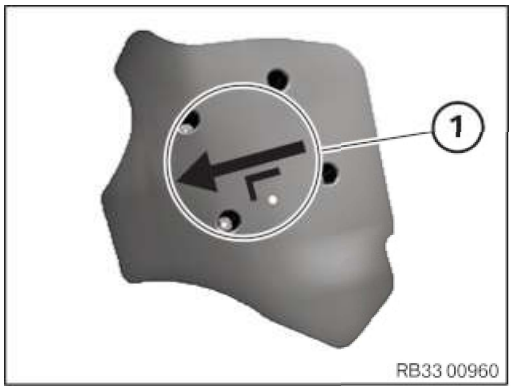
Tighten the screw connection in the normal position.

- Tighten the screw (2) in normal position.

Toe arm to wheel carrier

M12	Renew screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

8 – Installing the cover of the camber control arm



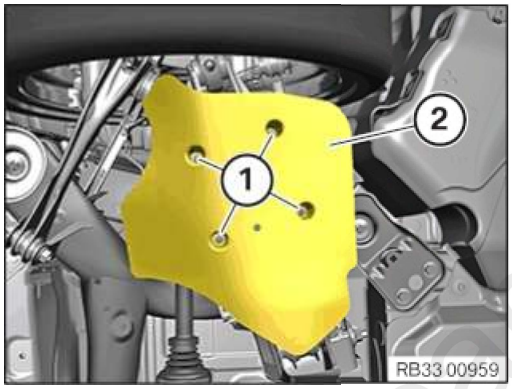
- Note the installation location and direction of installation.

  Direction of installation:

  The arrow on the cover points in the direction of travel.

  Installation location:

  - **L** = left
  - **R** = right



- Position the camber control arm cover (2) on the camber control arm.
- Renew nuts (1).

  Parts: Nuts
- Tighten nuts (1).

Cover to camber control arm

M6	Replace nuts.	Tightening torque	6 Nm

Additional Information

Overview of Tightening Torques

Rear anti-roll bar link to anti-roll bar / wheel carrier Used in step 4

M10	Renew nut.	Tightening torque	56 Nm

Brake disc to front wheel hub Used in step 5

M8	Renew screw.	Tightening torque	16 Nm

Brake disc to rear wheel hub Used in step 5

M8	Renew screw.	Tightening torque	16 Nm

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Wheel bolts Used in step 5

M14 / SW17	Screw in wheel bolts and evenly tighten crosswise by hand in order to centre the wheel rim. Tighten wheel bolts to the prescribed tightening torque with a calibrated torque wrench in a crosswise sequence. Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Tightening torque Check	140 Nm 140 Nm

Toe arm to wheel carrier Used in step 7

M12	Renew screw. Tighten in normal position.	Tightening torque Angle of rotation	100 Nm 90 °

Cover to camber control arm Used in step 8

M6	Replace nuts.	Tightening torque	6 Nm

Overview of Special Tools

2 344 011 Tool



Common Used in step 5

Usage	Tool (wheel hub grinder) for cleaning the connection of the wheel rim (wheel contact face) to the wheel hub.
Included in the tool or work	
Storage location	
Replaced by	
In connection with	
SI-Number	08 08 12 (872)

Replacement tools:

0 495 221 (36 1 323) Wheel stud



Common Used in step 1

Usage	(Code 30) Code 39 available separately, (see EPC) under 36 13 1 181 259
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

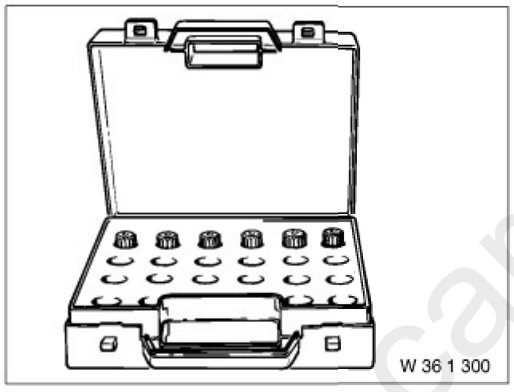
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0 495 224 (36 1 326) Wheel stud



Common	Used in step 1
Usage	(Code 33) With centring bore available separately, (see EPC) under 36 13 6 765 546
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 225 (36 1 327) Wheel stud



Common	Used in step 1
Usage	(Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 226 (36 1 328) Wheel stud



Common	Used in step 1
Usage	(Code 35) With centring bore available separately, (see EPC) under 36 13 6 762 340
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

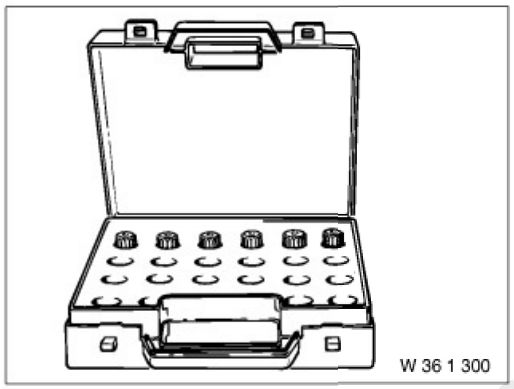
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0 495 227 (36 1 329) Wheel stud



Common	Used in step 1
Usage	(Code 36) With centring bore available separately (see EPC) under 36 13 6 762 341
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 228 (36 1 331) Wheel stud



Common	Used in step 1
Usage	(Code 37) With centring bore available separately (see EPC) under 36 13 6 762 342
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

0 495 229 (36 1 332) Wheel stud



Common	Used in step 1
Usage	(Code 38) With centring bore available separately (see EPC) under 36 13 6 762 343
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

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0 495 230 (36 1 333) Wheel stud



Common	Used in step 1
Usage	(Code 40) With centring bore available separately (see EPC) under 36 13 6 762 344
Included in the tool or work	0 492 518
Storage location	
Replaced by	
In connection with	
SI-Number	

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Overview Technical Data

G20_Hinterradantrieb, Standard suspension	Used in step 6
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	363 (353 - 373) mm

G20_Hinterradantrieb, Sports suspension settings with low-slung	Used in step 6
Measured from centre of wheel hub to lower edge of wheel arch	
Dimension A	353 (343 - 363) mm

00 00 ... Microencapsulated screws



Screw securing adhesive is a means of preventing a screwed connection from being loosened by external influences.

Once the screw has been coated with adhesive, the adhesive remains inactive until such time that it is activated by the encapsulation breaking when the screw is inserted and then cures (hardens) at room temperature.



Installation note:

- Screw connection must be completed within 20 mins. (start of curing)
- Microencapsulated screws must not be retightened
- Thread of nut must be cleaned beforehand in event of repeated use

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