

## 34 21 200 Removing and installing/replacing both rear brake pads of disc brake



**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.



**Effects on other persons.**

**Danger of injury! Risk of damage!**

- Make sure that no other persons are in or around the vehicle.



During work on the rear brake, it must be ensured that the button for the electromechanical parking brake cannot be pressed.



**General information on changing the brake pads:**

For vehicles older than 48 months it is recommended to replace the retaining spring or expanding spring. The brake pad wear sensor must be replaced once it has been removed because the brake pad wear sensor loses its retention capability in the brake pad.

A CBS reset must be done after every brake pad exchange:

A CBS reset in the vehicle is possible in the event of a **partially ground down** brake pad wear sensor. The CBS display in the Central Information Display (CID) is active.

In the event of a brake pad wear sensor that is **not partially ground down**, a CBS reset is only possible with the diagnosis system. No CBS display in the Central Information Display (CID).

If bonded brake pads are installed, the brake pads must be renewed after releasing the adhesive strip.

To prevent damage to the surface coating: With floating callipers on the brake caliper mounting bracket or with fixed callipers in the brake caliper housing, do not clean the contact surfaces for the brake pads to the extent that it is possible.

Clean the contact surfaces with brake cleaner (BMW part number 83 19 2 154 780). Next, apply a thin coat of brake pad paste (BMW part number 83 19 2 158 851 for 3 g) or 83 19 2 158 852 for 100 g).

Spread brake pad paste on the marked surfaces with a brush.

For additional information see: 34 00 ... brake pad paste

## PRELIMINARY WORK

### 1 – Removing both rear wheels

#### ► 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.



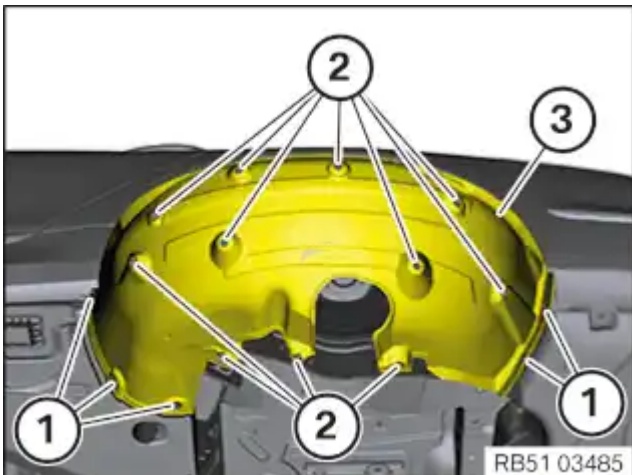
- If several wheels are removed simultaneously: Use a piece of chalk to mark on each tyre the axle and side on which the corresponding wheel is fitted.
- Release the wheel bolts (arrows) crosswise and remove the wheel.
- To release and tighten wheel bolts with a security code: Use a suitable adapter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

### 2 – Remove rear brake pad wear sensor

The brake pad wear sensor must be replaced once it has been removed because the brake pad wear sensor loses its retention capability in the brake pad.

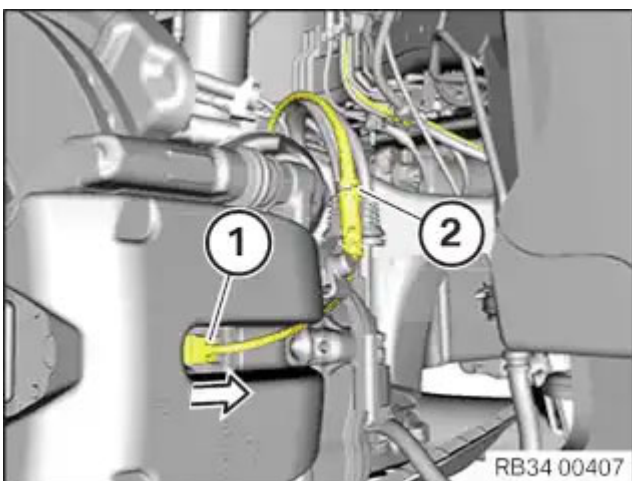
If a brake pad wear sensor that has already been ground has to be replaced even though the minimum brake pad thickness has not yet been reached, you must observe the following:

The new sliding contact must be filed down with a file to the same length as the sanded sliding contact.

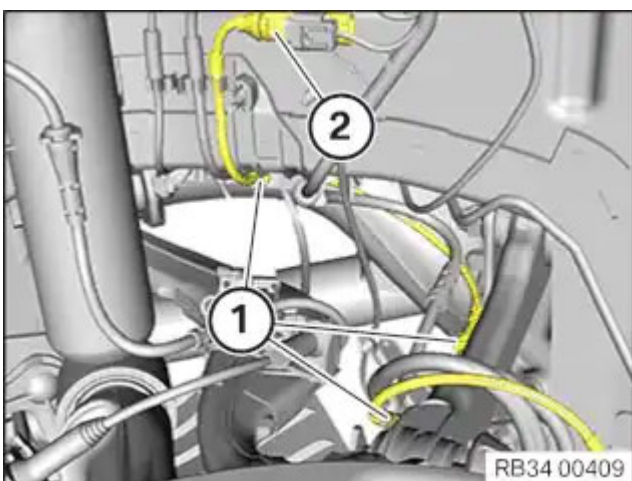


- Unscrew the nuts (2) in the area of the spring strut and slightly raise the wheel arch cover (3).

The wheel arch cover remains mounted.

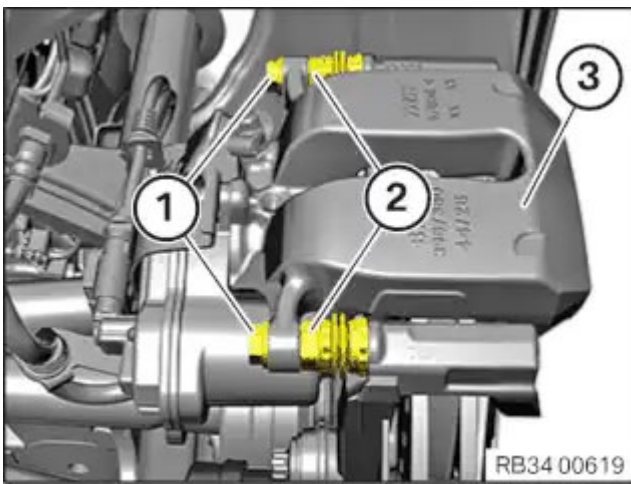


- Remove the brake pad wear sensor (1) from the brake pad.
- Detach the brake pad wear sensor cable from the bracket (2).

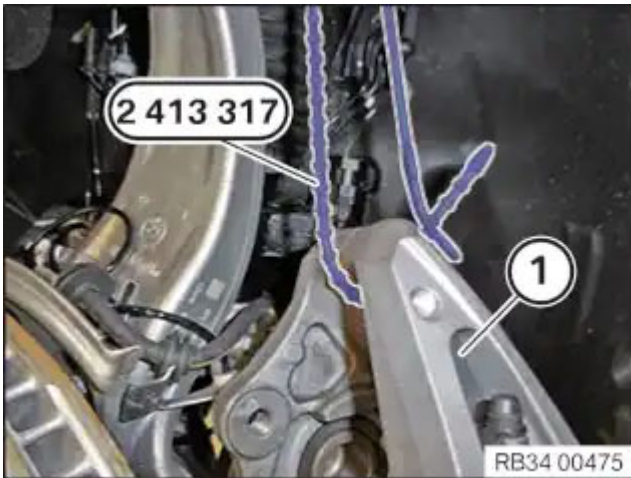


- Detach the brake pad wear sensor from the brackets (1).
- Disconnect plug connection (2).

## MAIN WORK

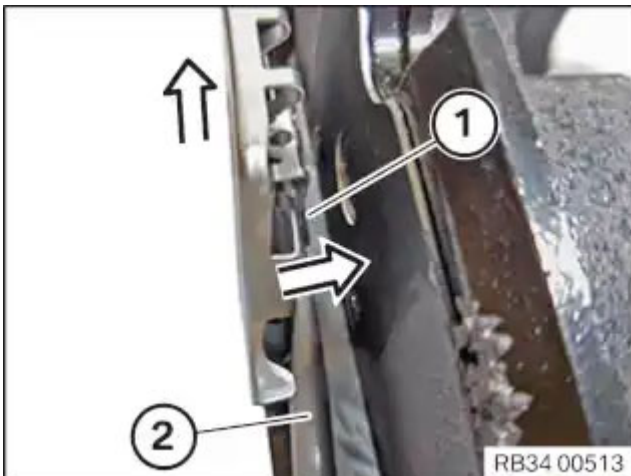


- Release the screws (1); if necessary use the hexagon head (2) for counter support.
- Remove brake caliper (3).

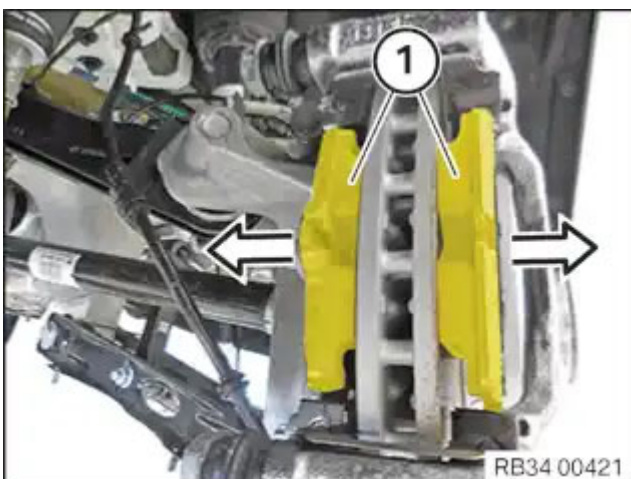


- Tie up the brake caliper (1) with the special tool (cable strap) **2 413 317**.

Do not hang the brake caliper from the brake hose.



- **Equipment specification with design clip:**
- Lift retaining tab (1) with a screwdriver (2) and remove the design clip in the direction of arrow.



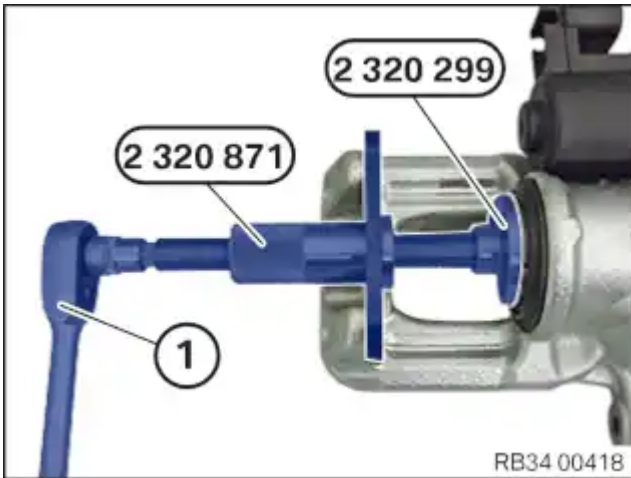
- Remove the brake pads (1) from the brake caliper in direction of arrow.
- Mark any worn brake pads.

If the brake pad wear exists on one side, they must not be mixed up.





- Remove the sliding plates (1).

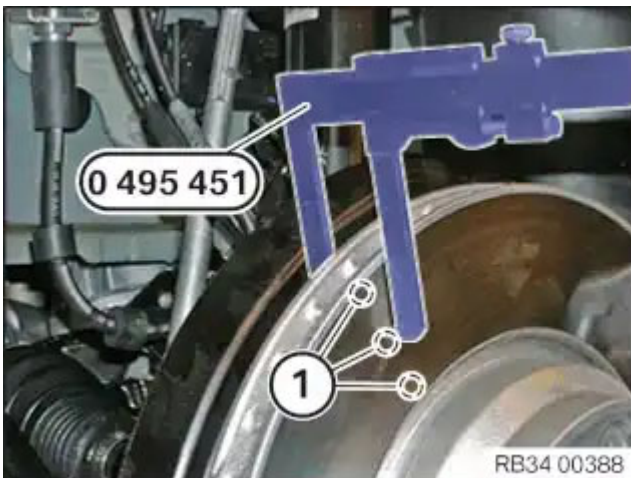


**i**

When pressing the brake piston back, note the brake fluid level in the expansion tank.  
Overflowing brake fluid will damage the paintwork.

- Press back the brake piston using the special tools **2 320 871** and .
- Use reversible ratchet (1) to turn back brake piston up to limit position.

#### 4 – Measure minimum brake disc thickness (rear brake)



- Check minimum brake disc thickness:

Place the special tool at three measuring points in area (1) and measure.

Compare measuring result and lowest value with setpoint value.

**New brake pads may only be installed if the brake disc thickness is greater than the minimum brake disc thickness.**

##### **Minimum brake disc thickness (nominal dimension 330x20)**

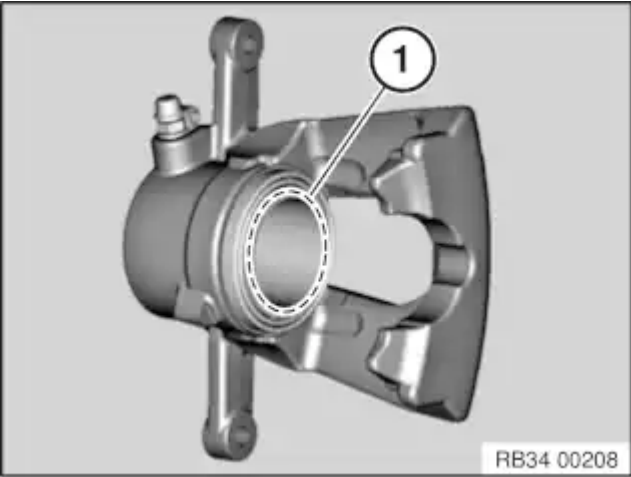
Minimum brake disc thickness (brake disc 330x20)	18,4 mm
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##### **Minimum brake disc thickness (nominal dimension 345x24)**

Minimum brake disc thickness (brake disc 345x24)	22,4 mm
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##### **Minimum brake disc thickness (nominal dimension 370x24)**

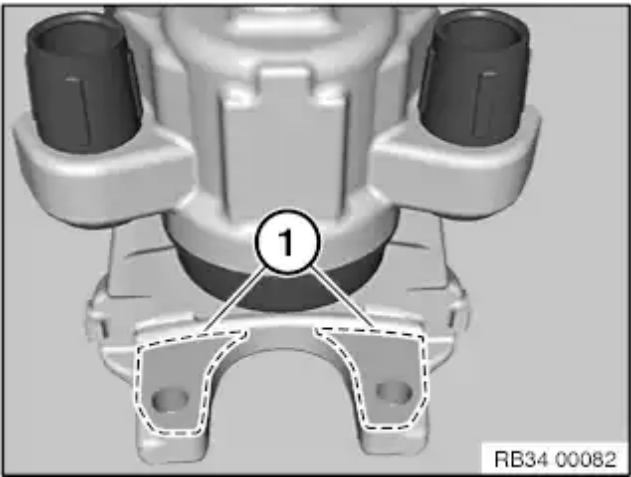
5 – Grease brake pads, caliper carrier and brake caliper with brake pad paste



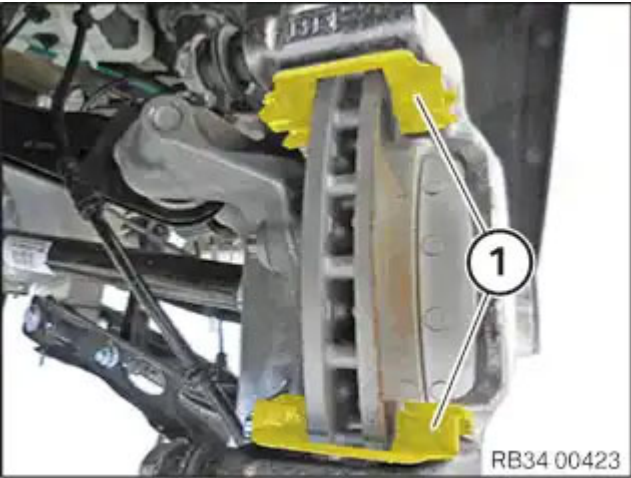
- Clean contact surface (1) of the brake piston with brake cleaner and apply a thin coat of brake pad paste.

Expendable materials

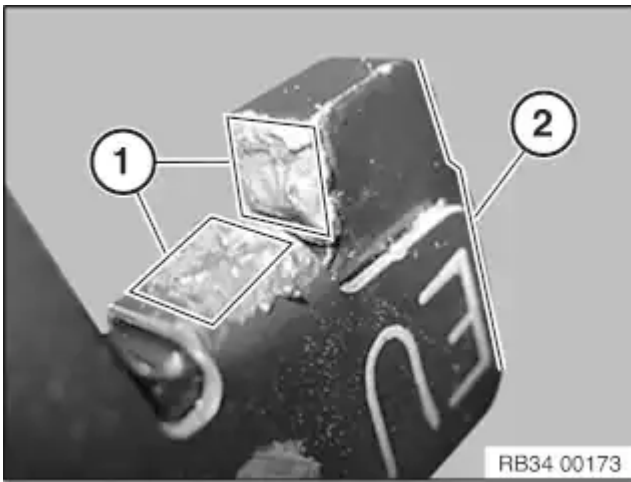
Brake block paste	3 g,	83192158851
* TU = Trade Unit. TU	Bag	
numbers cannot be ordered!		
For invoicing purposes only.	100 g,	83192158852
	Tube	
	5 g,	83230140233
	TU*	



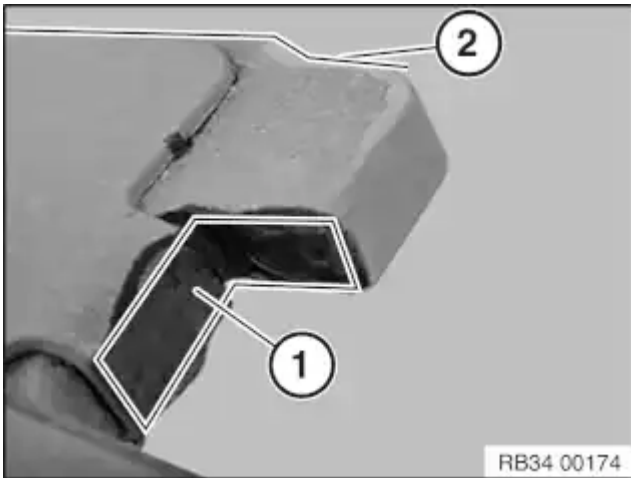
- Check dust boots for damage; renew if necessary.
- Clean contact surface (1) of the brake piston with brake cleaner and apply a thin coat of brake pad paste.



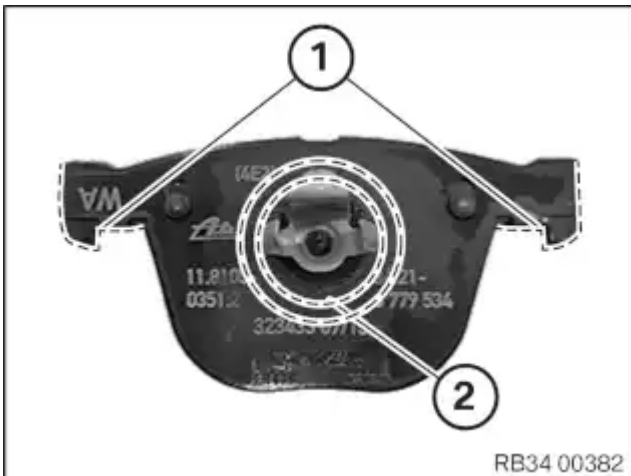
- Mount the sliding plates (1).



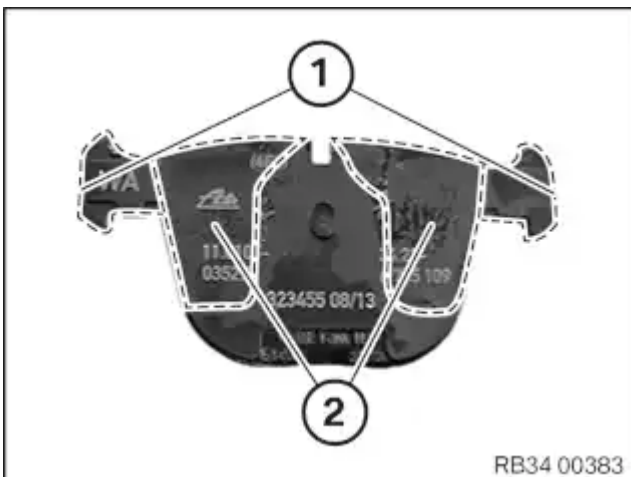
- Apply a thin coat of brake pad paste to the T-head of the inner brake pad in the areas (1) and (2).



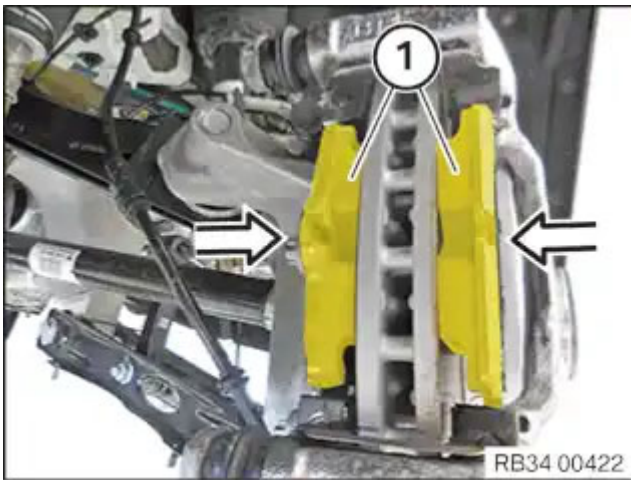
- Apply a thin coat of brake pad paste to the T-head of the inner brake pad in the areas (1) and (2).



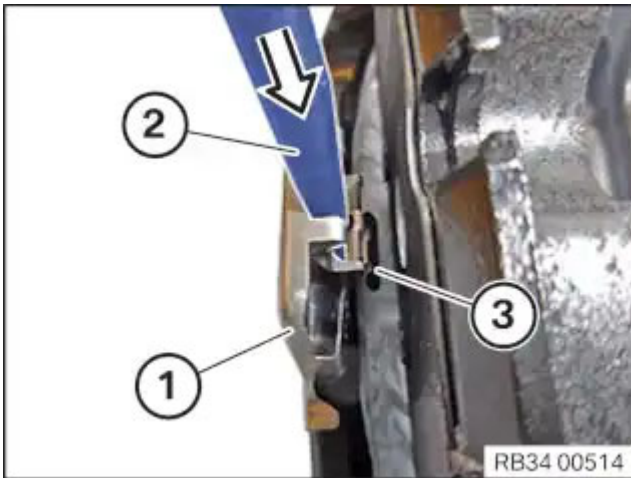
- Apply a thin coat of brake pad paste to the contact surface in the areas (1) and (2).



- Apply a thin coat of brake pad paste to the contact surface in the areas (1) and (2).



- Install the brake pads (1) in the direction of the arrow.



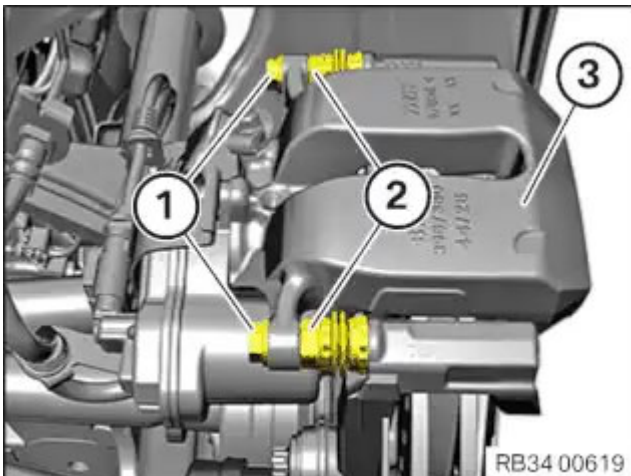
#### • Equipment specification with design clip:

- Renew the design clip (1).

**Parts:** Design clip

The design clip (1) must be renewed after every disassembly.

- Fit the design clip (1) and engage it with a screwdriver (2) in the direction of the arrow.
- Ensure that the retaining tab (3) is correctly engaged.



- Remove the special tool (cable strap) **2 413 317**.

- Mount brake caliper (3).

- Renew screws (1).

**Parts:** Bolts

- Tighten the screws (1), if applicable, hold against the hexagon head (2).

#### **Guide bolt (brake caliper on caliper carrier)**

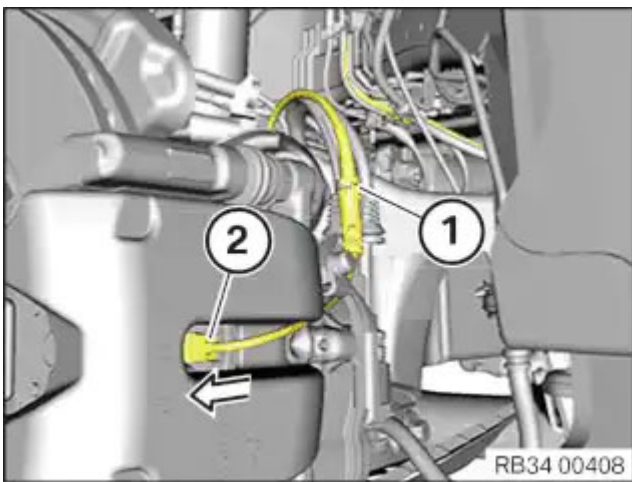
M8

35 Nm

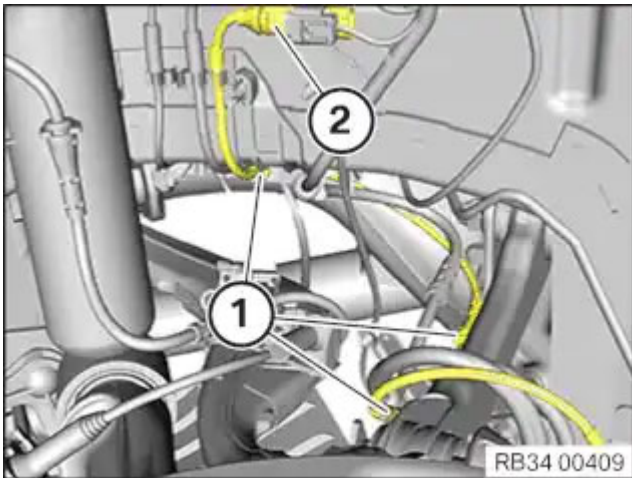
## POSTPROCESSES

### 7 – Install rear brake pad wear sensor

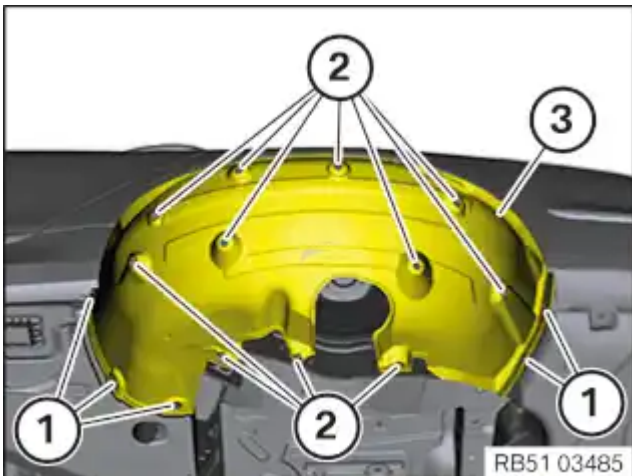




- Install the brake pad wear sensor (2) in the brake pad in the direction of the arrow.
- Ensure brake pad wear sensor fits correctly in brake pad.
- Attach the cable of the brake pad wear sensor in the bracket (1).



- Attach cable of brake pad wear sensor in brackets (1).
- Connect the plug connection (2).



- Insert removed nuts (2) and tighten.

#### Wheel arch cover

Screw	3 Nm
Plastic nut	2,6 Nm

## 8 – Installing both rear wheels

### ► Mounting the wheel



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.

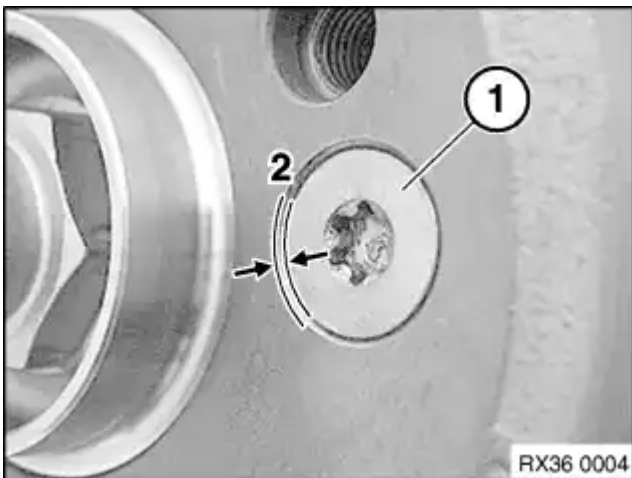
- Degrease the contact surfaces with the universal cleaner (see BMW Group Parts).
- In the event of grease residue in the area of the wheel bolt holes, remove and clean the brake disc.



- 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.

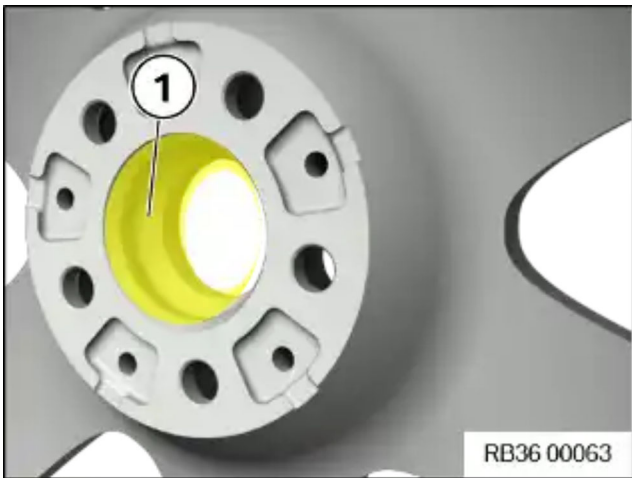
The mounting bolt (1) for the brake disc may not protrude under any circumstances on the contact surface (2) between the brake disc and the wheel rim.

#### Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm
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#### Brake disc to rear wheel hub

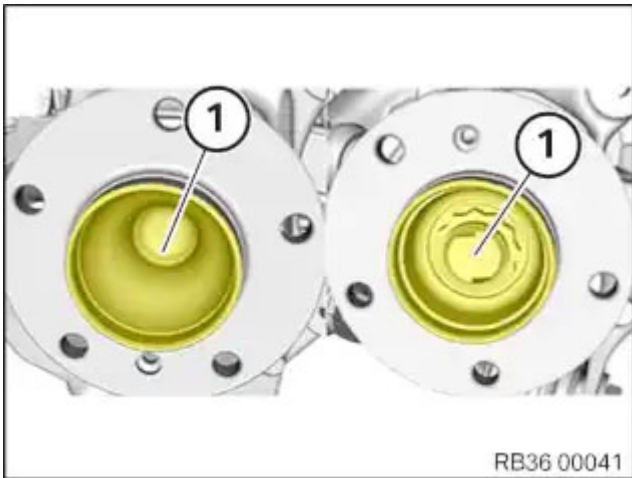
M8	Renew screw.	Tightening torque	16 Nm
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- Thinly grease the wheel centring (1) in the wheel rim.

#### Expendable materials

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



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

#### Expendable materials

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



- 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.



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

- 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.	Tightening torque	140 Nm
	Check all the wheel bolts in the same order or retighten to the prescribed tightening torque again.	Check	140 Nm

### Start up or bedding in of new brake pads and discs (rear brake)





When exchanging brake pads, reset the CBS display in accordance with factory specification (CBS reset).

Carry out test braking while driving at low speed because the effectiveness of the brakes may be reduced during the initial braking operations.

Exaggerated emergency and continuous braking operations for faster bedding-in are not permitted.

Advise the customer not to perform intentional emergency braking operations for the first 200 km after the brakes have been replaced.

- Fully depress brake pedal several times so that brake pads contact brake discs.
- Switch the ignition on.  
Use the parking brake button to open, close and open the parking brake again.
- Switch off ignition.
- Adjust the brake fluid level to the maximum mark.
- Perform a functional check on the brake test stand to ensure compliance of the brake system with statutory guidelines.
- Attach mirror tag to inside mirror.

## Additional Information

### Overview of Tightening Torques

Guide bolt (brake caliper on caliper carrier)			Used in step 6
M8			35 Nm
Wheel arch cover			Used in step 7
Screw			3 Nm
Plastic nut			2,6 Nm
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
			Used in step 8

Wheel bolts

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

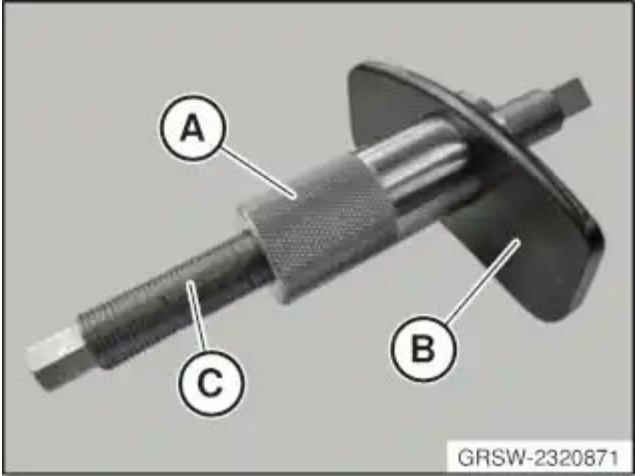
Overview of Special Tools

2 413 317 Cable strap



Common		Used in step	3	6
Usage	The "Cable ties" parts set consists of 3 items as follows: ABV232 Length: 320 mm colour: RedABV250 Length: 500 mm colour: RedABVS270 Length: 665 mm colour: Red			
Included in the tool or work				
Storage location				
Replaced by				
In connection with				
SI-Number	01 47 15 (332)			

2 320 871 Reset



Common		Used in step	3
Usage	Resetting the electrical Automatic Hold brake in combination with the pin wrench 83 30 2 320 299		
Included in the tool or work			
Storage location	A34		
Replaced by			
In connection with			
SI-Number	01 11 12 (807)		

Consisting of

1 [2 320 880](#)

### Nut

Nut is an integral part of resetter 83 30 2 320 871 with identification A.

2 [2 320 882](#)

### Plate

Plate is an integral part of reset 83 30 2 320 871 with identification B.

3 [2 320 300](#)

### Spindle

Spindle is an integral part of resetter 83 30 2 320 871 with identification B.

## 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

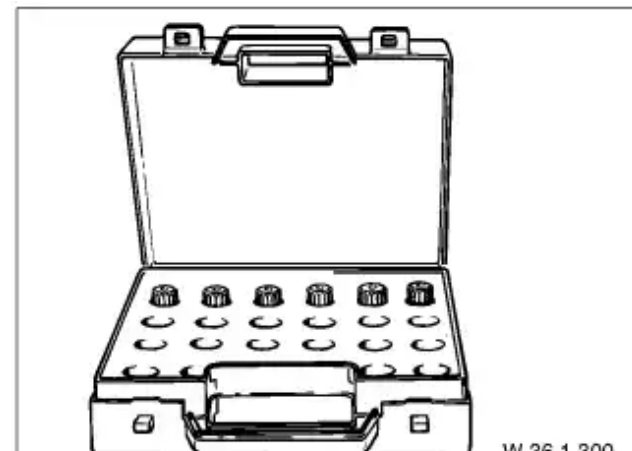
Replaced by

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

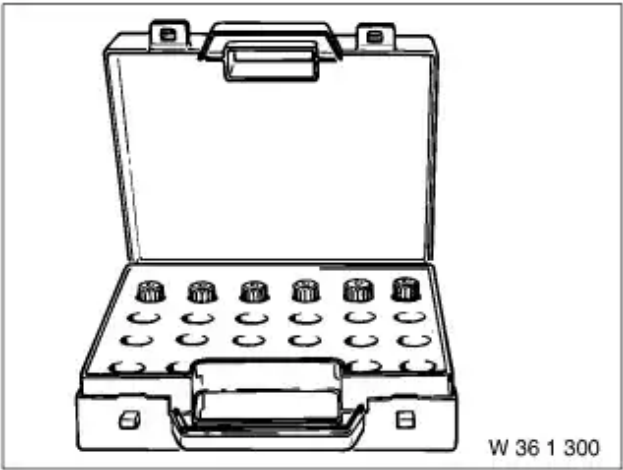
0 492 518

Storage location

Replaced by

In connection with

Wheel stud

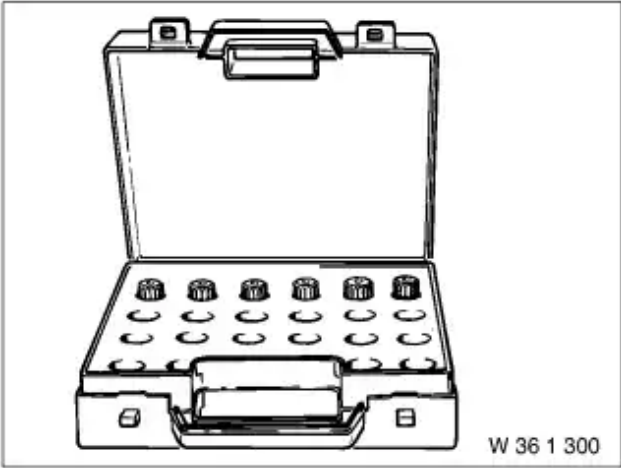


Common

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	

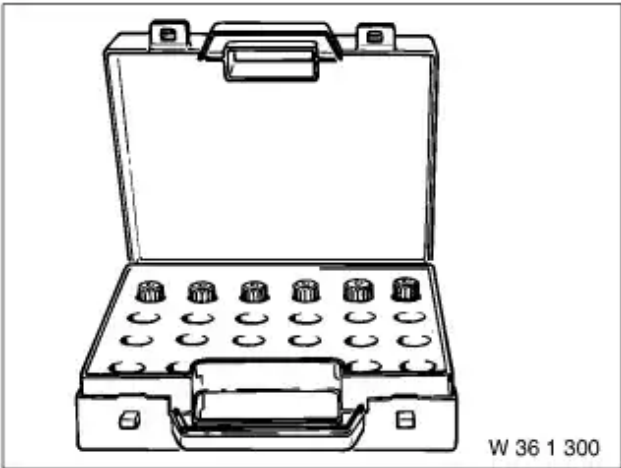


0 495 225 (36 1 327) Wheel stud



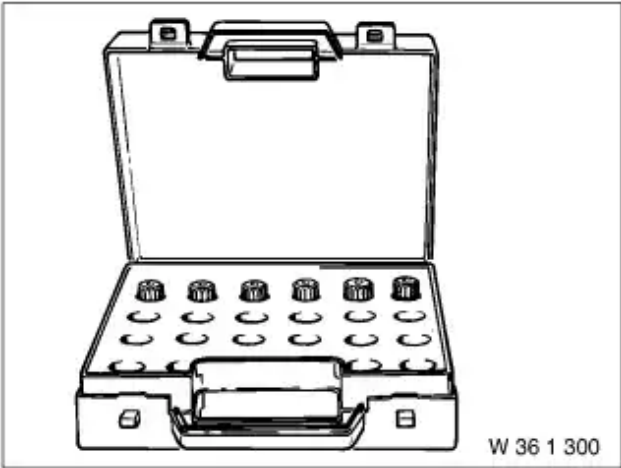
Common		Used in step	1
Usage	(Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547		
Included in the tool or work	0 492 518		
Storage location			
Replaced by			
In connection with			
SI-Number			

0 495 226 (36 1 328) Wheel stud



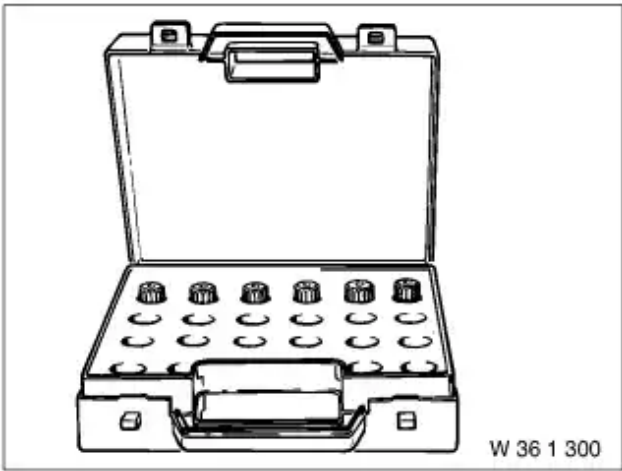
Common		Used in step	1
Usage	(Code 35) With centring bore available separately, (see EPC) under 36 13 6 762 340		
Included in the tool or work	0 492 518		
Storage location			
Replaced by			
In connection with			
SI-Number			

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			

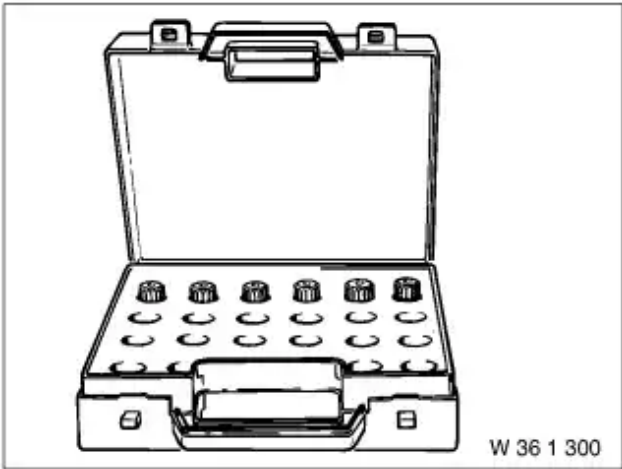
0 495 228 (36 1 331) Wheel stud



### Common

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

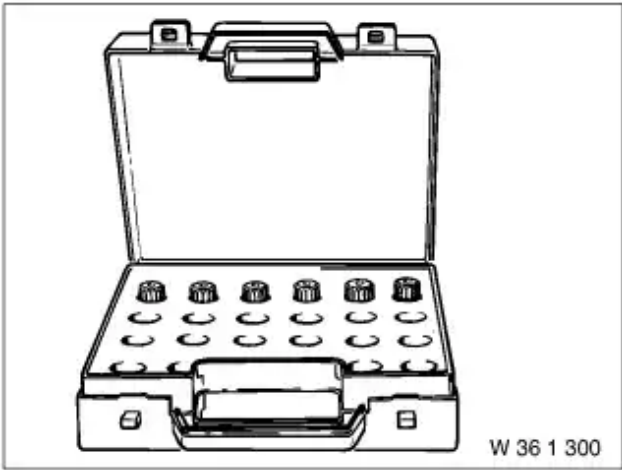


### Common

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	

## Overview Technical Data

Minimum brake disc thickness (brake disc 330x20)	18,4 mm
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<b>Minimum brake disc thickness (nominal dimension 345x24)</b>	Used in step <a href="#">4</a>
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Minimum brake disc thickness (brake disc 345x24)	22,4 mm
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<b>Minimum brake disc thickness (nominal dimension 370x24)</b>	Used in step <a href="#">4</a>
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Minimum brake disc thickness (brake disc 370x24)	22,4 mm
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Links

<b>Repair instructions</b>	<b>Used in step</b>
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[34 00 x01 Guideline for applying brake pad paste on brake pads and caliper carrier](#)

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