

34 11 220 Removing and installing/replacing both front brake discs



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

Danger! Life-threatening injuries!

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



General information on changing the brake pads:

For vehicles older than 48 months it is recommended to replace the retaining spring and/or expanding spring.

The brake pad wear sensor must be replaced once it has been disassembled 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 bond!



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

Clean supporting surfaces with brake cleaner (BMW part number 83 19 5A260A6). 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 the front left and right wheels



Perform the steps on the left and right side.

► Removing the wheel



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

- **In vehicles with carbon ceramic brake: The wheel lift must be used to remove the wheel.**

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

- If several wheels are removed at the same time: Use a piece of chalk to mark on each tyre the axle and side on which the corresponding wheel is fitted.
- Loosen the wheel bolts (arrows) crosswise and remove the wheel.
- To loosen and tighten wheel bolts with a security code: Use the correct adapter from the set of special tools **0 492 518 (36 1 300)**.



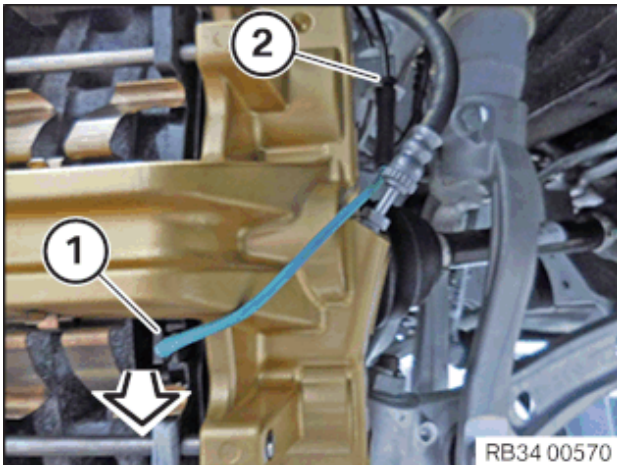
2 – Remove brake pad wear sensor to the front



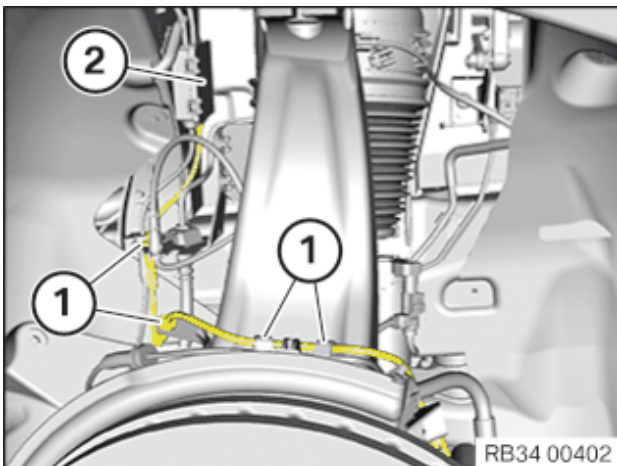
The brake pad wear sensor must necessarily be renewed once it has been removed because the brake pad wear sensor loses its retention capacity in the brake pad.

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.

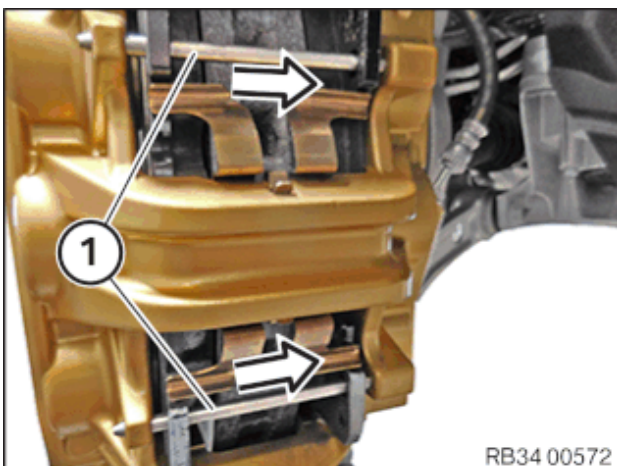


- Remove the brake pad wear sensor (1) out of the brake pad in the direction of the arrow.
- Detach the brake pad wear sensor cable (1) from the holder (2).

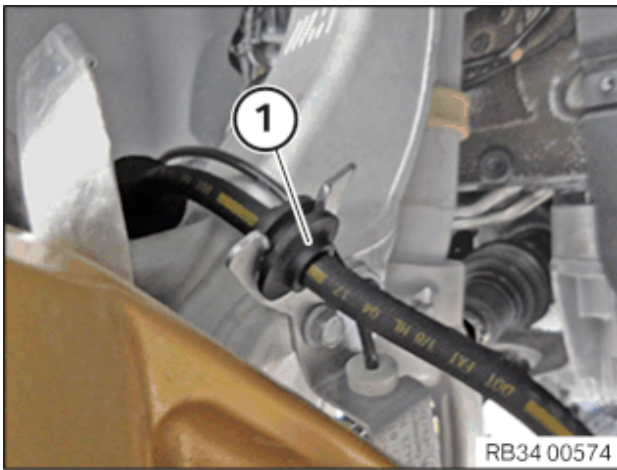


- Detach the brake pad wear sensor from the holders (1).
- Open the sealing cap (2) and unlock and disconnect the plug connection.

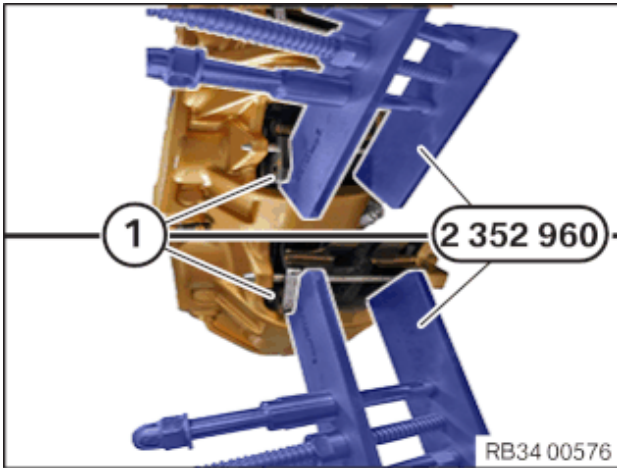
3 – Remove front brake pads



- Drive out locking pins (1) in direction of arrow.



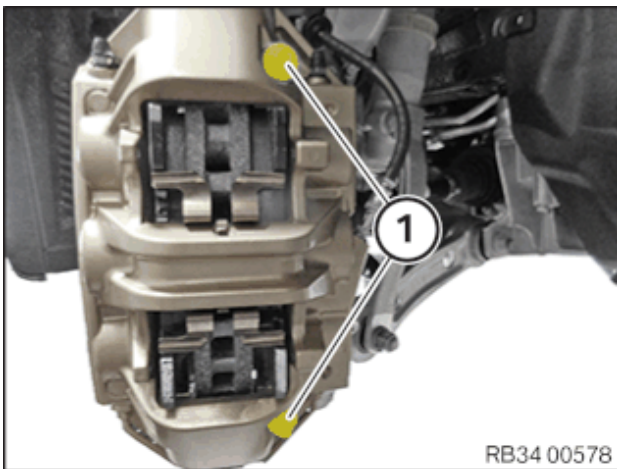
- Detach the brake hose (1) from the bracket.



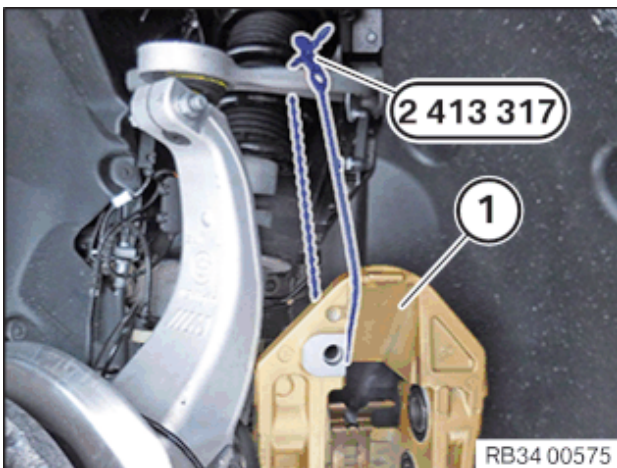
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When pressing the brake piston back, note the brake fluid level in the expansion tank.
Overflowing brake fluid will damage the paintwork.

- Press the brake piston back against the brake pads (1) using the special tool **2 352 960**.
- Press back the brake piston alternately at the top and bottom up to the limit position.

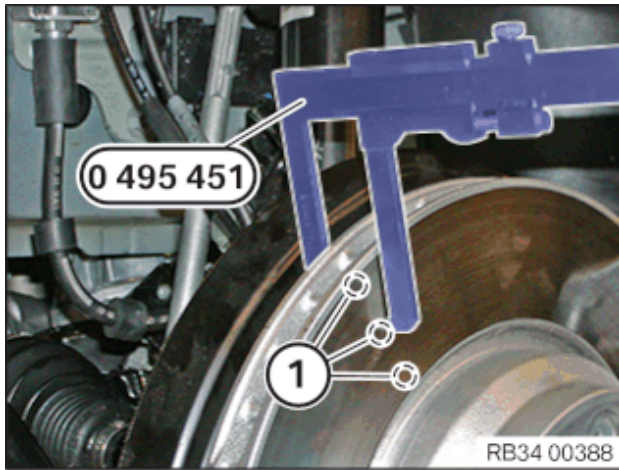


- Loosen nuts (1).
- Pull the brake caliper backwards off the stud bolt.
- Remove brake pad from the brake caliper.



- 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.

4 – Measure minimum brake disc thickness (front brake)



- Check minimum brake disc thickness:

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

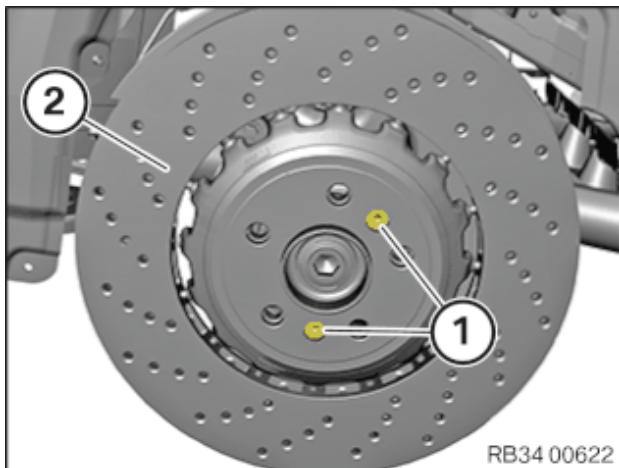
Compare measuring result and lowest value with setpoint value.

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

Minimum brake disc thickness is imprinted on the brake disc.

MAIN WORK

5 – Remove front brake discs



- Loosen screws (1).

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Note the following for the removal of the brake disc:

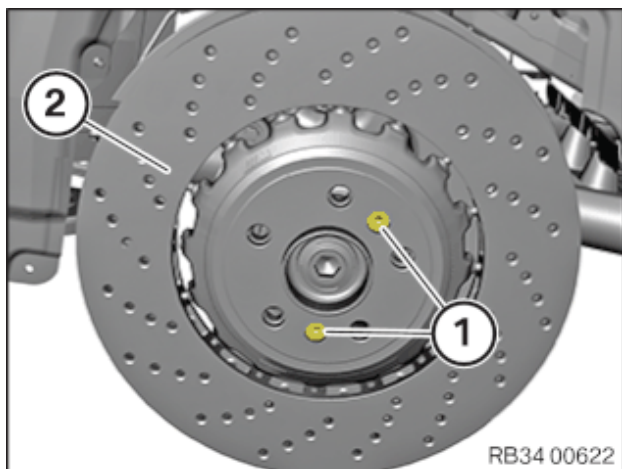
Do not strike the friction ring with a tool under any circumstance (for example, hammer). If required, **carefully** tap with a rubber mallet against the brake disc chamber.

- Remove brake disc (2).

6 – Installing the front brake discs



Brake discs must only be replaced in pairs (per axle).
Fit new brake discs only together with new brake pads.



- Clean contact surface of wheel hub thoroughly and remove any traces of rust if necessary.
Irregularities in the contact surface can cause distortion in the brake disc!

- Mount brake disc (2).
- Renew screws (1).

Parts: Screws

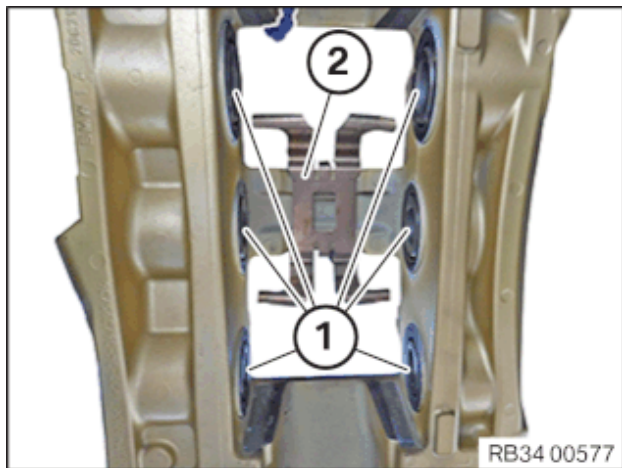
- Insert screws (1) and tighten.

Brake disc to front wheel hub

M8	Renew screw.	Tightening torque	16 Nm
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POSTPROCESSES

7 – Cleaning the brake caliper



Do **not** apply brake pad paste to brake pads and guides!

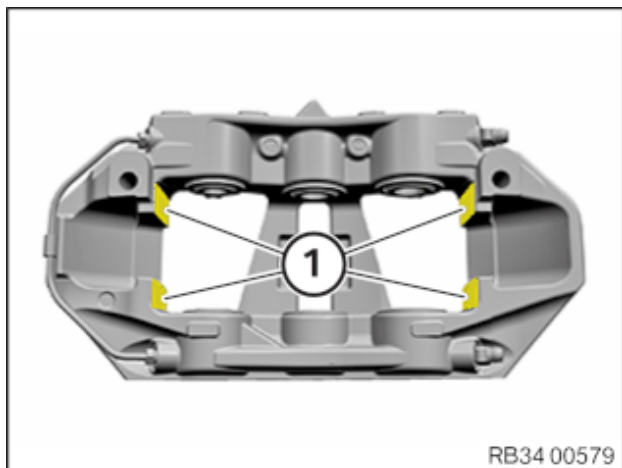
- Clean the contact surfaces (1) of the brake pistons (6 pieces) with brake cleaner.
- Check dust boots for damage; renew if necessary.
- Check the retaining spring (2) for damage and correct fit.



Do **not** apply brake pad paste to brake pads and guides!

- Clean the contact surfaces (1) for the brake pads on the brake caliper with brake cleaner.

If possible, do not close the contact surfaces mechanically to prevent damage to the surface coating.



8 – Installing the front brake pads



Check

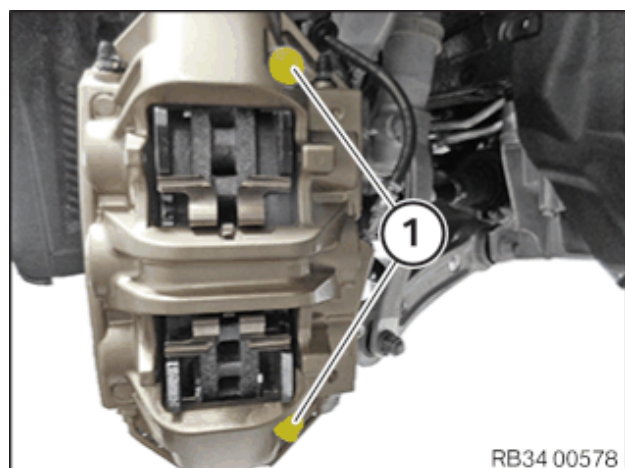
- Is there an arrow (1) on the new brake pads for the direction of rotation?

Result

» Yes, there is an arrow (1).

Measure

- Brake pads must be installed in the direction of rotation.



- Insert brake pads into brake caliper and position.
- Position brake calliper on stud bolts and position the brake calliper correctly.
- Renew nuts (1).

Parts: Nuts

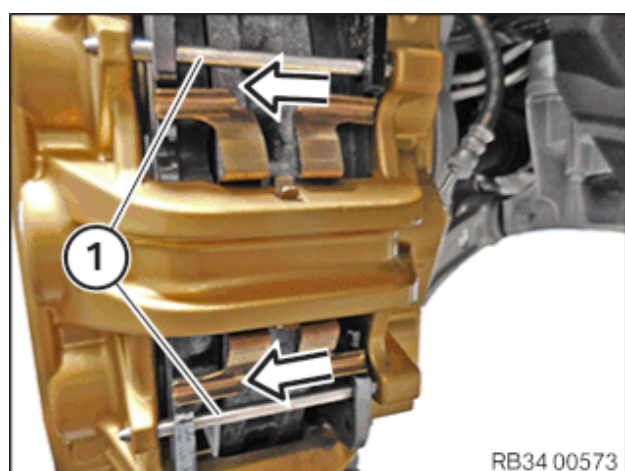
- Place and tighten nuts (1).

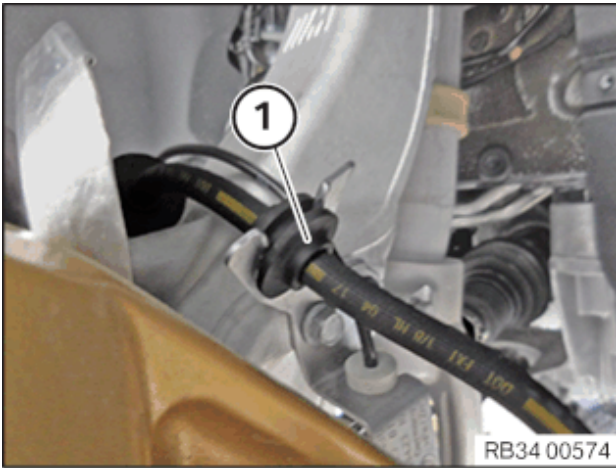
Brake caliper to stud bolt of front swivel bearing

M12	Replace nuts.	Tightening torque	95 Nm
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- (1)

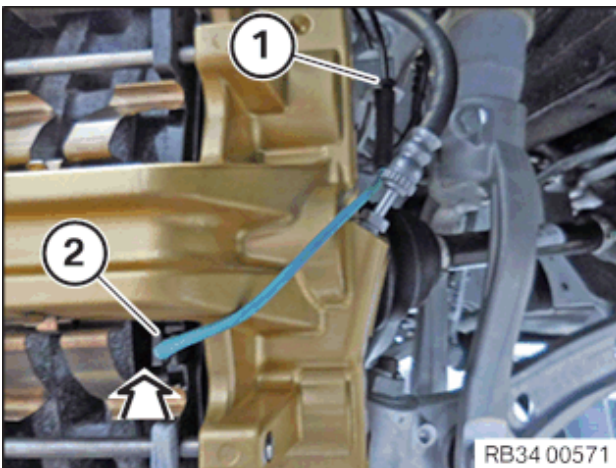
If necessary, press brake pads counter to spring force of retaining springs.





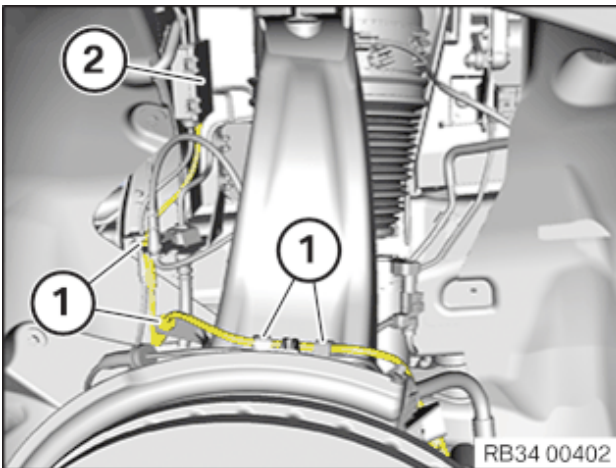
- Attach the brake hose (1) in the holder.

9 – Installing the front brake pad wear sensor



- Attach the cable of the brake pad wear sensor (2) in the bracket (1).
- 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.



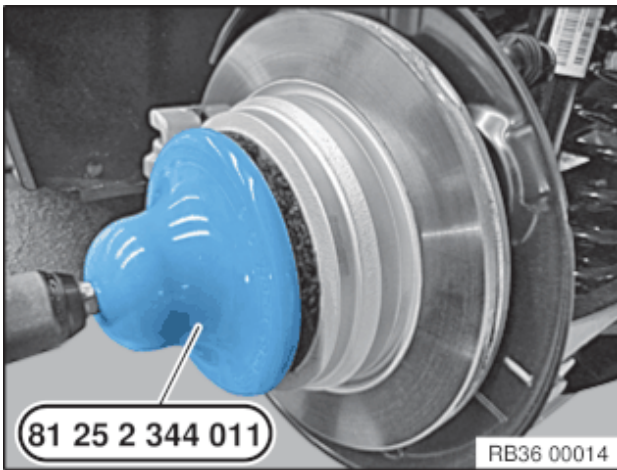
- Attach cable of brake pad wear sensor in brackets (1).
- Connect the plug connection .
- Close sealing cap (2).

10 – Mounting the front left and right wheels



Perform the steps on the left and right side.

► Mounting the wheel



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

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

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

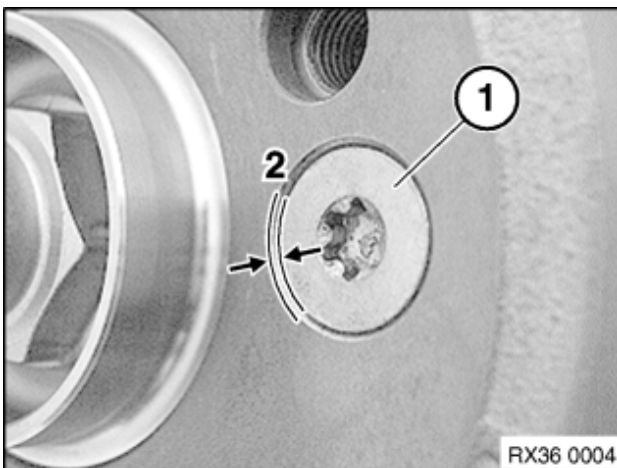
- Degrease the contact surfaces with the universal cleaner (see BMW Group parts sales and distribution).
- In the event of grease residue in the area of the wheel bolt holes, remove and clean the brake disc.



- 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 sales and distribution).



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

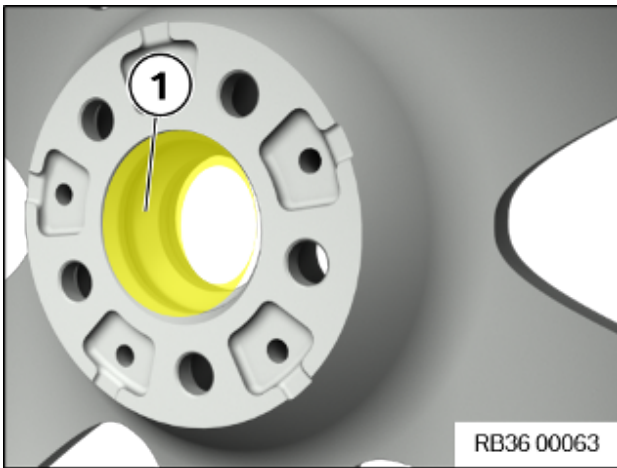
The mounting bolt (1) for the brake disc may **not** protrude on the contact surface (2) between the brake disc and the wheel rim.

Brake disc to front wheel hub

M8	Tightening torque	16 Nm
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Brake disc to rear wheel hub

M8	Tightening torque	16 Nm
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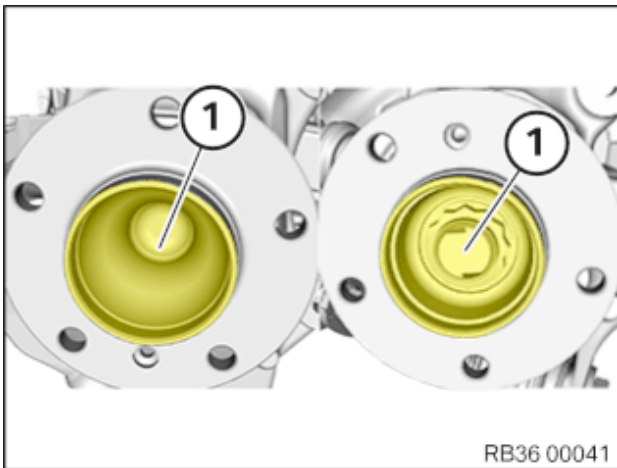
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Wheel hubs and wheel centring on models G80, G81, G82, G83 and G87 must **not** be greased.

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

Expendable materials

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



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Wheel hubs and wheel centring on models G80, G81, G82, G83 and G87 must **not** be greased.

- Apply a thin layer of grease to the front and rear wheel hubs in area (1) to protect against corrosion.

Expendable materials

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



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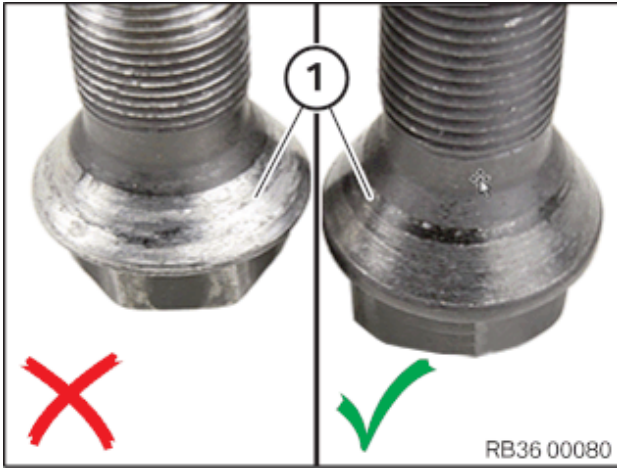
A wheel lift is recommended for easier wheel removal and installation without exertion (see Retailer Equipment Catalogue).

- **In vehicles with carbon ceramic brake: The wheel lift must be used to mount the wheel.**

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

Check

- Check wheel bolts for wear.



Result

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

Measure

- Renew wheel bolts.



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

The wheel rim must rest uniformly against the brake disc.

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

Do not apply oil to new wheel bolts.

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

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

Wheel bolts

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

11 – Start-up or bed in of new brake pads and discs (brake, high)



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 initial braking.

Exaggerated full and continuous braking for faster bedding-in is not permitted.

Advise the customer not to perform intentional full braking for the first 200 km after the brakes have been exchanged.

- Fully depress brake pedal several times so that brake pads contact brake discs.
- Adjust the brake fluid level to the maximum mark.
- After the brake repair, compliance with the legal guidelines must be checked.

Country-specific methods must be observed.

A brake dynamometer is recommended for the functional check – see brake test on the test bench

- Attach mirror tag to interior mirror.

Additional Information

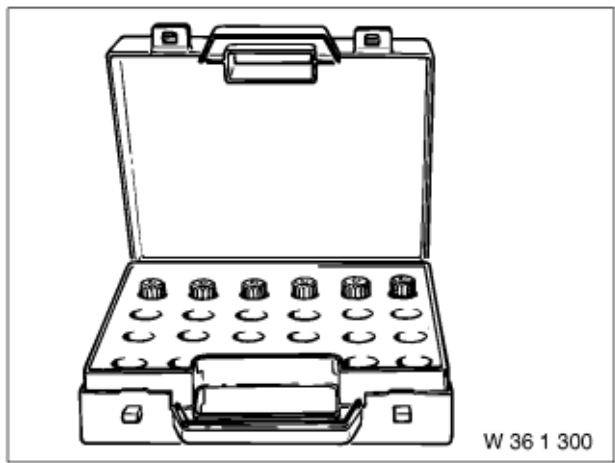
Overview of Tightening Torques

Brake disc to front wheel hub			Used in step 6
M8	Renew screw.	Tightening torque	16 Nm
Brake caliper to stud bolt of front swivel bearing			Used in step 8
M12	Replace nuts.	Tightening torque	95 Nm
Brake disc to front wheel hub			Used in step 10
M8		Tightening torque	16 Nm
Brake disc to rear wheel hub			Used in step 10
M8		Tightening torque	16 Nm

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

Overview of Special Tools

0 492 518 (36 1 300) Adapter



CommonUsed in step 1

Usage	(Wheel bolt adapter kit) For loosening and tightening wheel bolts. Separate components can be ordered via EPC, see list under "Online documents".
Included in the tool or work	
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 27 04 (167)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
6	0 495 221 (36 1 323)		Wheel bolt (Code 30) Code 39 available separately, (see EPC) under 36 13 1 181 259	
6	0 495 222 (36 1 324)		Wheel bolt (Code 31) With centring bore available separately (see EPC) under 36 13 6 765 544	

6	0 495 223 (36 1 325)	Wheel bolt (Code 32) With centring bore available separately (see EPC) under 36 13 6 765 545
6	0 495 224 (36 1 326)	Wheel bolt (Code 33) With centring bore available separately (see EPC) under 36 13 6 765 546
6	0 495 225 (36 1 327)	Wheel bolt (Code 34) With centring bore available separately (see EPC) under 36 13 6 765 547
6	0 495 226 (36 1 328)	Wheel bolt (Code 35) With centring bore available separately (see EPC) under 36 13 6 762 340
6	0 495 227 (36 1 329)	Wheel bolt (Code 36) With centring bore available separately (see EPC) under 36 13 6 762 341
6	0 495 228 (36 1 331)	Wheel bolt (Code 37) With centring bore available separately (see EPC) under 36 13 6 762 342
6	0 495 229 (36 1 332)	Wheel bolt (Code 38) With centring bore available separately (see EPC) under 36 13 6 762 343

6	0 495 230 (36 1 333)	Wheel bolt (Code 40) With centring bore available separately (see EPC) under 36 13 6 762 344 Supplement Not available separately. Can only be ordered as part of the complete special tool kit 83 30 0 492 518 (special tool number 36 1 300) or via the EPC (supplementary set for wheel bolt adapter kit 36 1 300). Consists of: 36 1 323 Code 30 36 1 324 Code 31 36 1 325 Code 32 36 1 326 Code 33 36 1 327 Code 34 36 1 328 Code 35 36 1 329 Code 36 36 1 331 Code 37 36 1 332 Code 38 36 1 333 Code 40 36 1 336 Connection diagram sticker Sticker (Sticker) Connection diagram Not available separately. Can only be ordered as part of the complete special tool kit 83 30 0 492 518 (special tool number 36 1 300) or via the EPC.
6	0 495 231 (36 1 335)	
6	0 495 232 (36 1 336)	

6	0 495 233 (36 1 339)	Case (Case) incl. connection diagram sticker. Not available separately. Wheel bolt (Code 11) Can be ordered separately via EPC under article number 36 13 1 181 241. Wheel bolt (Code 12) available separately (see EPC) under 36 13 1 181 242 Wheel bolt (Code 13) available separately (see EPC) under 36 13 1 181 243 Wheel bolt (Code 14) available separately (see EPC) under 36 13 1 181 244 Wheel bolt (Code 16) available separately (see EPC) under 36 13 1 181 246 Wheel bolt (Code 17) available separately (see EPC) under 36 13 1 181 247 Wheel bolt (Code 18) available separately (see EPC) under 36 13 1 181 248
2	0 492 519 (36 1 301)	
2	0 492 520 (36 1 302)	
2	0 492 521 (36 1 303)	
2	0 492 522 (36 1 304)	
2	0 492 523 (36 1 306)	
2	0 492 524 (36 1 307)	
2	0 492 525 (36 1 308)	

2	0 492 526 (36 1 309)	Wheel bolt (Code 19) available separately (see EPC) under 36 13 1 181 249
2	0 492 527 (36 1 311)	Wheel bolt (Code 20) available separately (see EPC) under 36 13 1 181 250
2	0 492 528 (36 1 312)	Wheel bolt (Code 31) 12/2004 available separately, (see EPC) under 36 13 6 765 544
2	0 492 529 (36 1 313)	Wheel bolt (Code 32), 12/2004 available separately (see EPC) under 36 13 6 765 545
2	0 492 530 (36 1 314)	Wheel bolt (Code 33), 12/2004 Replaced by 36 1 326.(0 495 224) Not available separately. Can only be ordered as part of the complete special tool kit 83 30 0 492 518 (special tool number 36 1 300) or via the EPC.

Wheel bolt
(Code 34)
12/2004
Replaced by
36 1 327.(0
495 225) Not
available
separately.
Can only be
ordered as part
of the complete
special tool kit
83 30 0 492
518 (special
tool number 36
1 300) or via
the EPC.

2 [0 492](#)
[531 \(36 0 495 225](#)
[1 315\).](#)

Wheel bolt
(Code 35),
12/2004
Replaced by
36 1 328.(0
495 226) Not
available
separately.
Can only be
ordered as part
of the complete
special tool kit
83 30 0 492
518 (special
tool number 36
1 300) or via
the EPC.

2 [0 492](#)
[532 \(36 0 495 226](#)
[1 316\).](#)

Wheel bolt
(Code 36),
12/2004
Replaced by
36 1 329.(0
495 227) Not
available
separately.
Can only be
ordered as part
of the complete
special tool kit
83 30 0 492
518 (special
tool number 36
1 300) or via
the EPC.

2 [0 492](#)
[533 \(36 0 495 227](#)
[1 317\).](#)

Wheel bolt
(Code 37),
12/2004
Replaced by
36 1 331.(0
495 228) Not
available
separately.
Can only be
ordered as part
of the complete
special tool kit
83 30 0 492
518 (special
tool number 36
1 300) or via
the EPC.

2 [0 492](#)
[534 \(36 0 495 228](#)
[1 318\).](#)

Wheel bolt
(Code 38)
12/2004
Replaced by
36 1 332.(0
495 229) Not
available
separately.
Can only be
ordered as part
of the complete
special tool kit
83 30 0 492
518 (special
tool number 36
1 300) or via
the EPC.

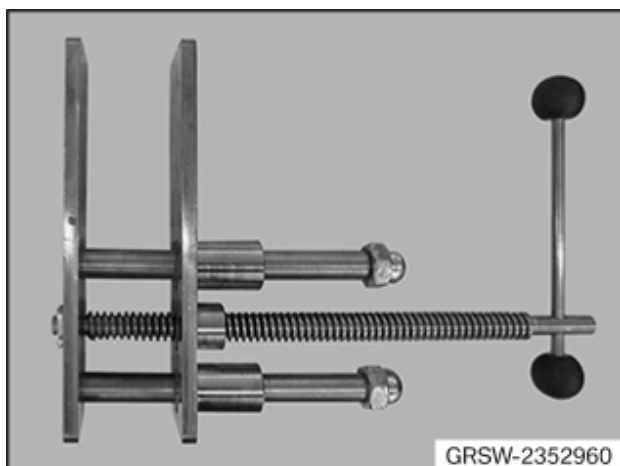
2 [0 492](#)
[535 \(36 0 495 229](#)
[1 319\).](#)

Wheel bolt
(Code 39)
Code 30,
12/2004
Replaced by
36 1 323.(0
495 221) Not
available
separately.
Can only be
ordered as part
of the complete
special tool kit
83 30 0 492
518 (special
tool number 36
1 300) or via
the EPC.

2 [0 492](#)
[536 \(36 0 495 221](#)
[1 321\).](#)

		Wheel bolt (Code 40), 12/2004 Replaced by 36 1 333.(0 495 230) Not available separately. Can only be ordered as part of the complete special tool kit 83 30 0 492 518 (special tool number 36 1 300) or via the EPC.
2	0 492 537 (36 1 322)	0 495 230
10	0 493 534 (36 1 305)	Wheel bolt (Code 15) available separately (see EPC) under 36 13 1 181 245

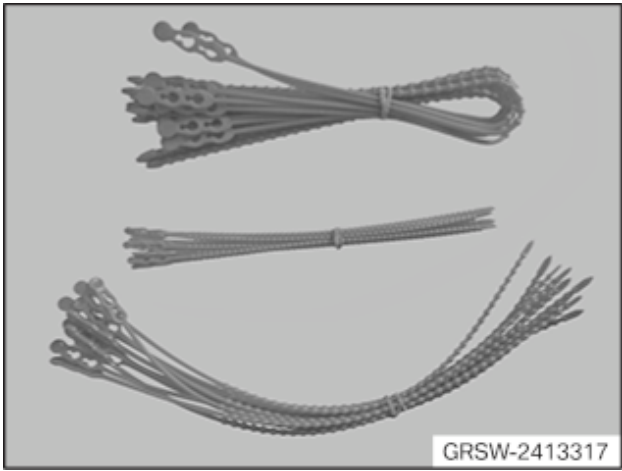
2 352 960 Reset



Common		Used in step 3
Usage	For resetting the brake piston. Replacement for 34 1 050 (83300492455). (Classic special tool)	
Included in the tool or work		
Storage location	Individual	
Replaced by		
In connection with		
SI-Number		

2 413 317 Cable strap

Used in step [3](#)



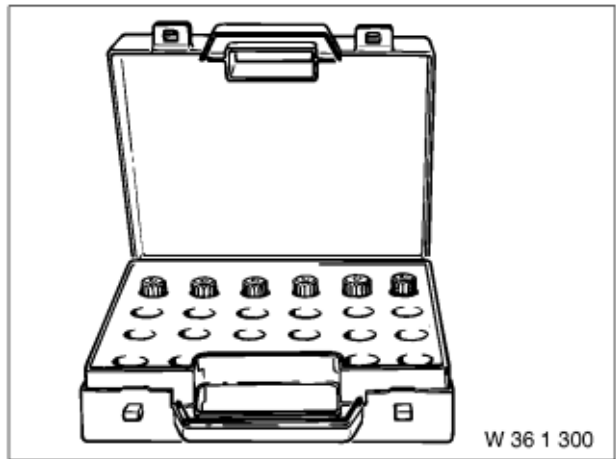
Common	
Usage	The "Cable strap" parts set consists of 3 positions as follows: ABV232 Length: 320 mm, colour: red ABV250 length: 500 mm, colour: red ABVS270 length: 665 mm, colour: red
Included in the tool or work	
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 47 15 (332)

2 344 011 Tool



Common		Used in step	10
Usage	Tool (hub cap grinder) for cleaning the attachment element 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)		

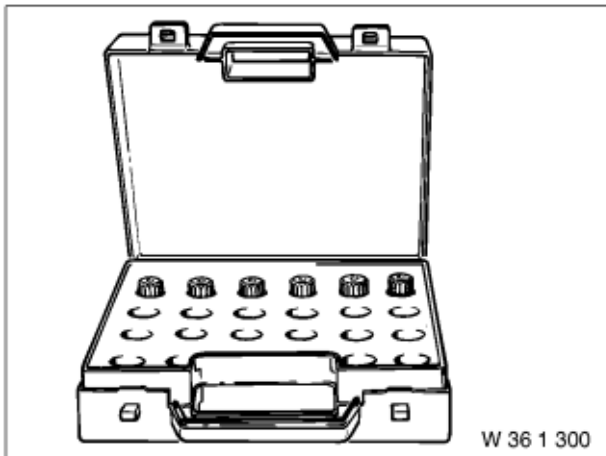
Replacement tools: 0 495 221 (36 1 323) Wheel bolt



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 bolt



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

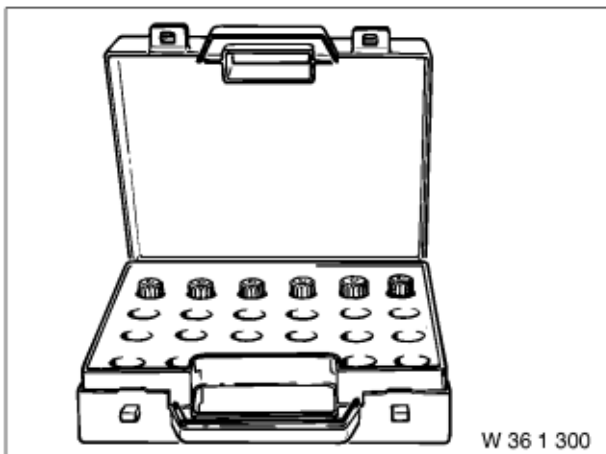
Storage location

Replaced by

In connection with

SI-Number

0 495 225 (36 1 327) Wheel bolt



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

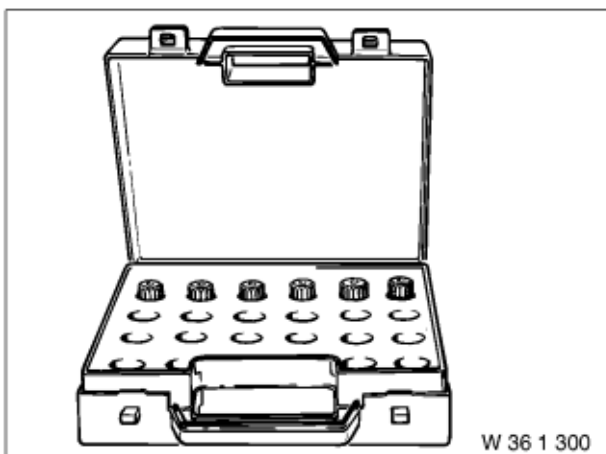
Storage location

Replaced by

In connection with

SI-Number

0 495 226 (36 1 328) Wheel bolt



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

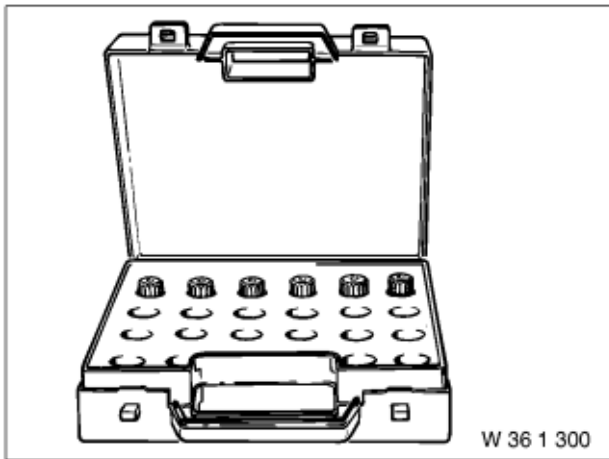
Storage location

Replaced by

In connection with

SI-Number

0 495 227 (36 1 329) Wheel bolt



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

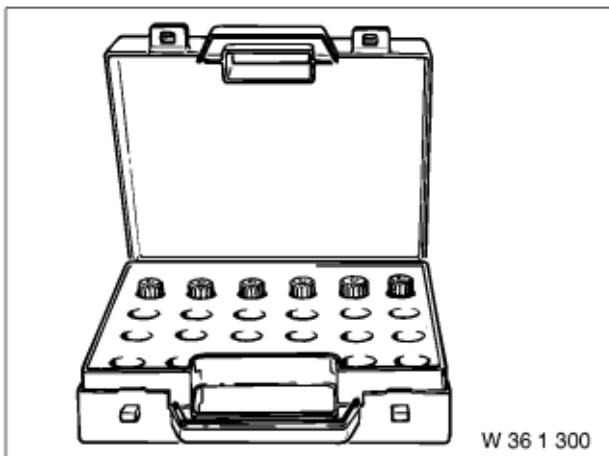
Storage location

Replaced by

In connection with

SI-Number

0 495 228 (36 1 331) Wheel bolt



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

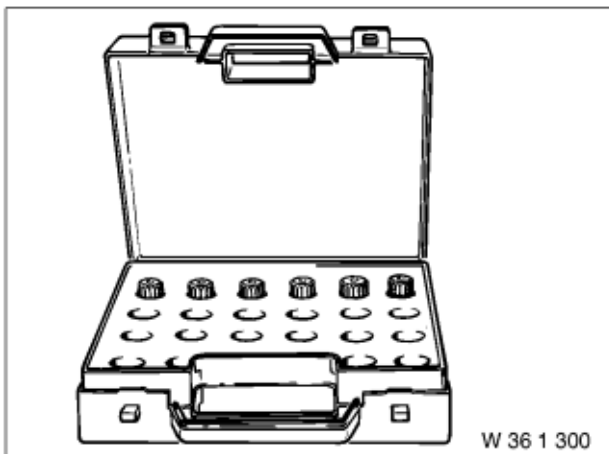
Storage location

Replaced by

In connection with

SI-Number

0 495 229 (36 1 332) Wheel bolt



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

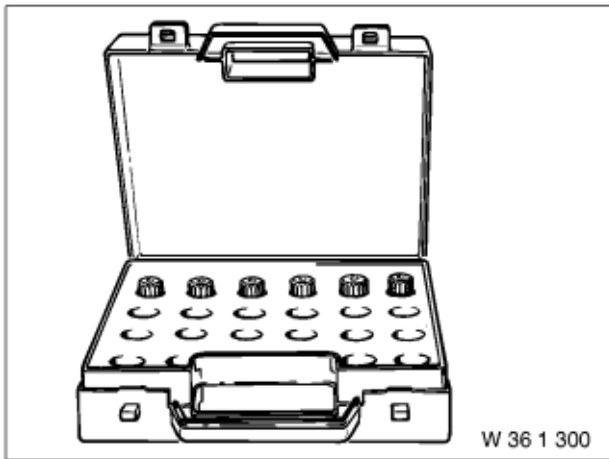
Storage location

Replaced by

In connection with

SI-Number

0 495 230 (36 1 333) Wheel bolt



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 02 001 Raise the vehicle using a vehicle lift](#)

[1](#) [10](#)

Parts

Parts required

Designation

Used in step

Screws

[6](#)

Nuts

[8](#)

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