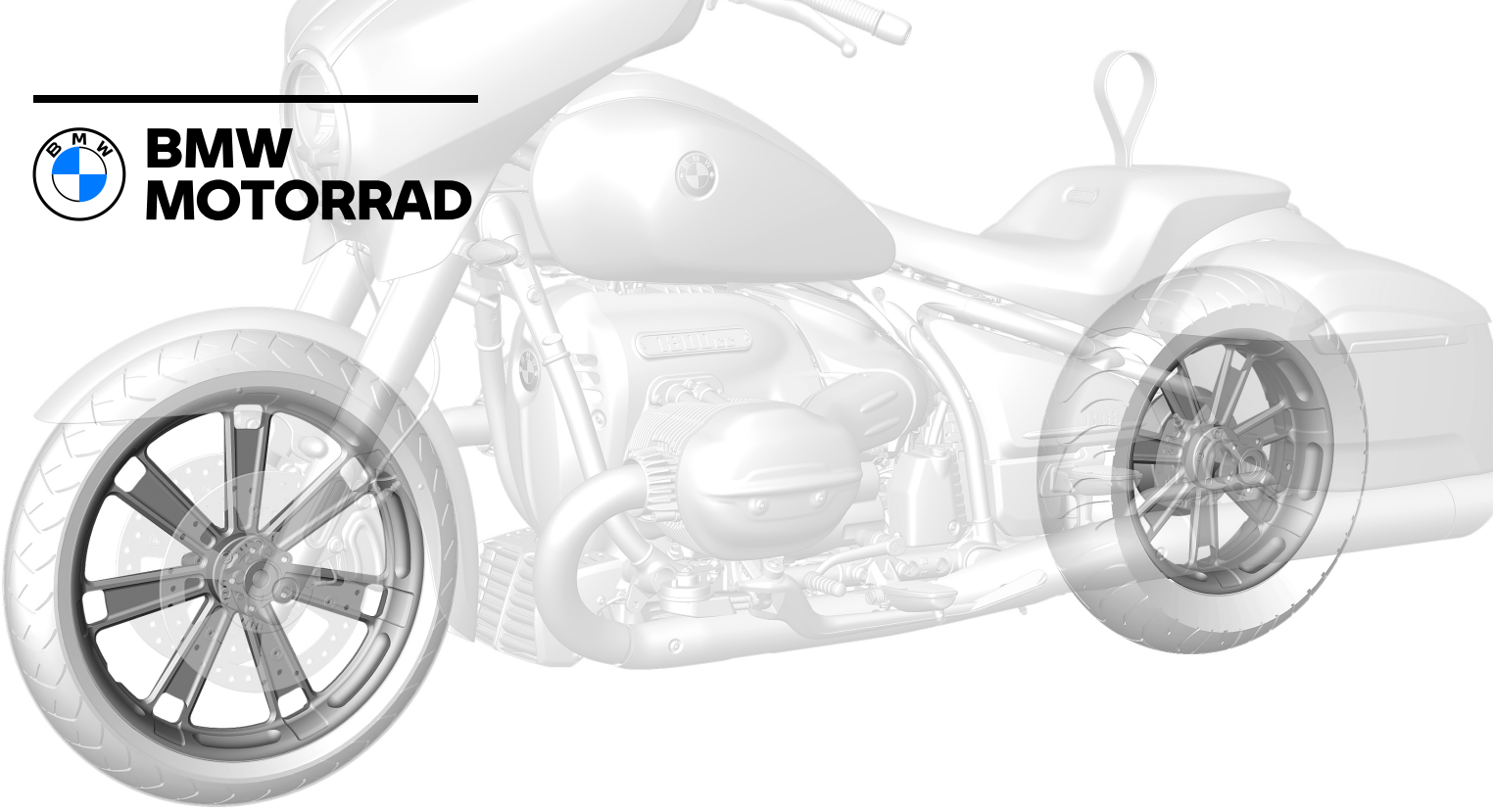
BMW MOTORRAD



Installation instructions

GEAR SET 3.00 X 19" / 5.00 X 16"

R 18 B

MAKE LIFE A RIDE

BEFORE COMMENCING WORK, YOU MUST READ THESE INSTALLATION INSTRUCTIONS THROUGH CAREFULLY AND MAKE SURE YOU UNDERSTAND THEM FULLY.

We congratulate you on your choice of optional accessories from BMW Motorrad that will enable you to customise your motorcycle in accordance with your personal preferences.

Safety is invariably an essential prerequisite for extracting full benefit and enjoyment from new accessories. Some work calls for special tools and possibly a thorough knowledge of motorcycle technology. If you are in doubt consult a specialist workshop, preferably your authorised BMW Motorrad dealer.

Since we provide you with a multitude of accessories and optional equipment, we cannot cover all equipment specifications in these installation instructions. Therefore we restrict ourselves to the basic version of the corresponding model. The removal and installation of other possibly installed accessories is described in the corresponding installation instructions. Consult your authorised BMW Motorrad dealer if you no longer have access to the sets of instructions you need.

If you have questions concerning your motorcycle or any of the accessories from our range, your authorised BMW Motorrad dealer will gladly provide advice and assistance.

We at BMW Motorrad hope you will enjoy riding your BMW and that all your journeys will be pleasant and safe.

THE SYMBOLS USED TO DRAW ATTENTION TO PRECAUTIONARY STATEMENTS IN THIS MANUAL ARE AS FOLLOWS:

⚠ CAUTION

Low-risk hazard. Non-avoidance can lead to slight or moderate injury.

⚠ WARNING

Medium-risk hazard. Non-avoidance can lead to fatal or severe injury.

⚠ DANGER

High-risk hazard. Non-avoidance leads to fatal or severe injury.

ATTENTION

Special notes and precautionary measures. Non-compliance can lead to damage to the vehicle or accessory and, consequently, to voiding of the warranty.

NOTICE

Specific instructions on how to operate, control, adjust or look after items of equipment on the motorcycle.

Tightening torque

Screws, bolts and nuts are tightened in accordance with the applicable DIN/ISO standards. Tightening torques that deviate from the standards are stated. Non-compliance can result in damage to the vehicle or accessories or can endanger the driver.

- ▶ Start of the main activity
- ▷ Start of the secondary activity
- • Instruction
- ◀ End of the main activity
- ◁ End of the secondary activity
- ◇ End of validity designation CS (construction status), OE (optional extra) or OA (optional accessory)

Gear set 3.00 x 19" / 5.00 x 16"

Requisite tools

- Torx wrench set
- Hexagon socket wrench set
- Set of hexagon socket bits
- Torque wrench
- adapter (34 2 571)

  Order No.: 83 30 5 A24 F28
- Balancing jig (36 5 601)

  Order No.: 83 30 2 413 438
- Balancing shaft (36 5 571)
- Universal tensioner, conical (36 5 572)
- Balancing jig (36 3 601)

  Order No.: 83 30 0 402 200
- Wedges (36 5 521)

  Order No.: 83 30 2 152 983
- Rear-wheel adapter general (36 3 974)

  Order No.: 83 30 2 152 838
- Basic stand (36 3 971)

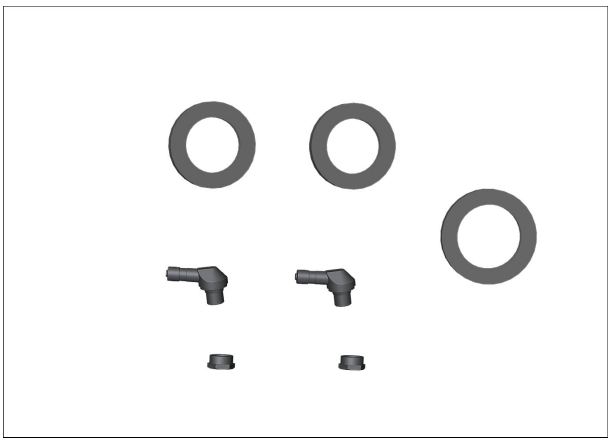
  Order No.: 83 30 0 402 241
- Adapter for front-wheel stand (36 6 661)

  Order No.: 83 30 5 A1F A67
- Hexagon, w/f 22 (36 3 691)

  Order No.: 83 30 0 402 229

Delivery specification

- Forged wheel front and forged wheel rear



Also required:

– Angled valve	2 pieces
– Nut	2 pieces
– Shaft sealing ring, front	2 pieces
– Shaft sealing ring, rear	1 pieces

General instructions

ATTENTION

Vehicle not securely propped
Risk of damage to parts if vehicle topples
• Prop the vehicle securely.

WARNING

Children and pets in the working area
Injury to persons
• Keep children and pets away from the working area.

CAUTION

Wearing jewellery during work
Risk of injury by snagging or electrical short circuit
• Remove all items of personal jewellery (rings, chains, wristwatch, etc.) before starting work.

NOTICE

Once the retrofit kit has been installed by the workshop, these installation instructions must be handed over to the customer.
Make sure that these installation instructions accompany the retrofit kit when it is passed on to a third party.

77 21 004 Installing forged wheels

NOTICE

The rear wheel can only be removed on a vehicle lift with removable floor plate under the rear wheel.
Otherwise, case, case holder and rear-wheel cover must be removed.

Additional work: 46 52 510 Removing and installing the rear-wheel stand special tool (motorcycles without centre stand)

1

▶ Removing trim and left silencer

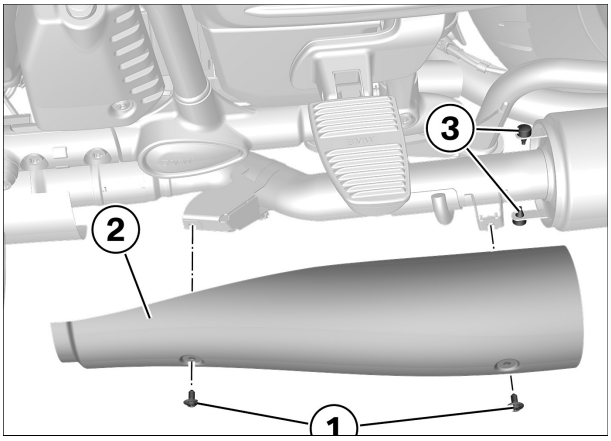
CAUTION

Hot exhaust system
Risk of burn injury
• Do not touch a hot exhaust system.

▷ Removing left silencer trim

CAUTION

Hot exhaust system
Risk of burn injury
• Do not touch a hot exhaust system.



• Remove screws **(1)**.
• Spread rear trim **(2)** slightly and remove.
– Check spacer buffers **(3)**.

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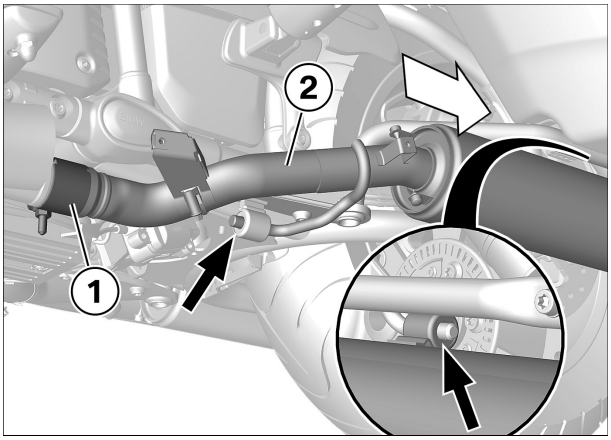

• Slacken the clamp **(1)**.
• Detach silencer **(2)** to the rear from holder **(Arrows)** and remove.

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2

▶ Removing trim and silencer on right

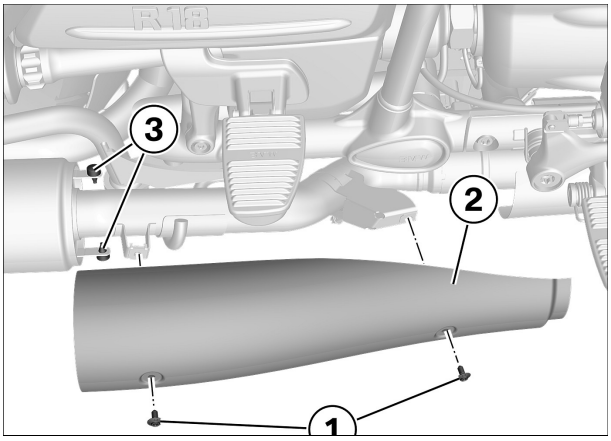
⚠ CAUTION

Hot exhaust system
Risk of burn injury
• Do not touch a hot exhaust system.

▷ Removing right silencer trim

⚠ CAUTION

Hot exhaust system
Risk of burn injury
• Do not touch a hot exhaust system.



• Remove screws **(1)**.
• Spread rear trim **(2)** slightly and remove.
– Check spacer buffers **(3)**.

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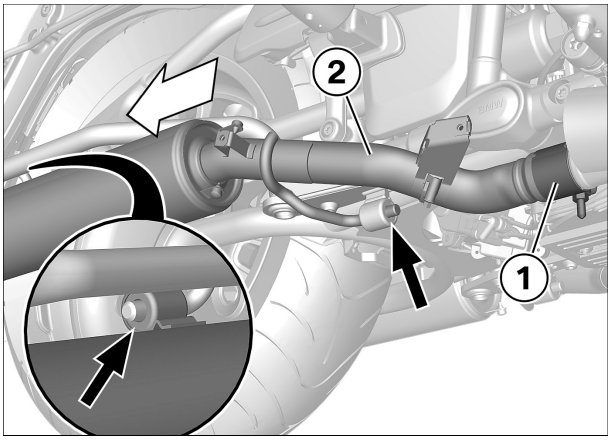

• Slacken the clamp **(1)**.
• Detach silencer **(2)** to the rear from holder **(Arrows)** and remove.

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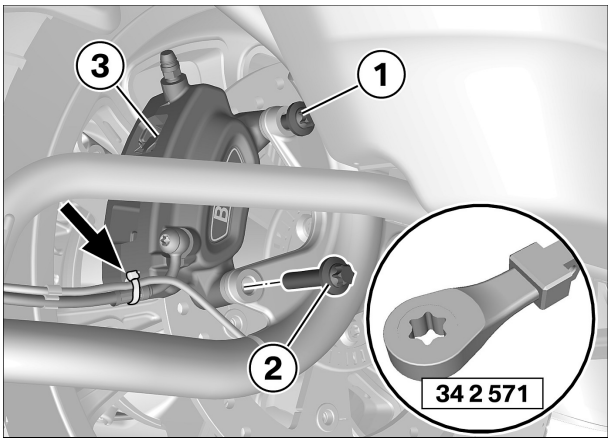
3

▶ Removing rear brake calliper

ATTENTION

Brake actuation with brake pads or brake calipers removed
Brake pistons pushed out
• Do not operate brake.

- Install brake pads and brake caliper or insert the piston resetting device.



- Remove cable strap **(arrow)**.
- Unscrew upper screw **(1)** with adapter (34 2 571) until the brake caliper **(3)** is detached.

– Do not damage silencer with screw head or tool.

- Remove bolt **(2)**.

ATTENTION

Hard or sharp-edged components
Scratches and damage to paintwork
- Use a suitable soft cover or mask off the areas at risk.

- Loosen brake caliper **(3)** from brake disc and set aside.

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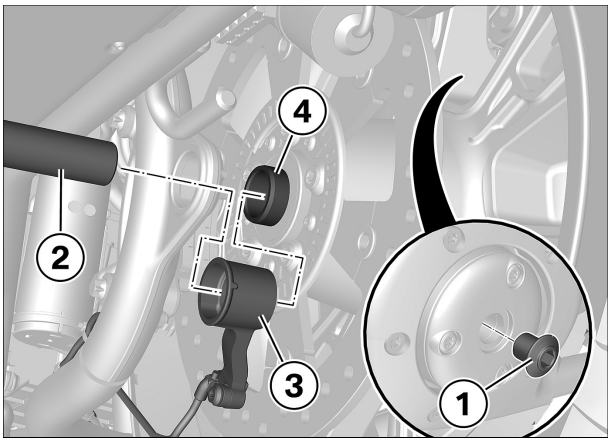
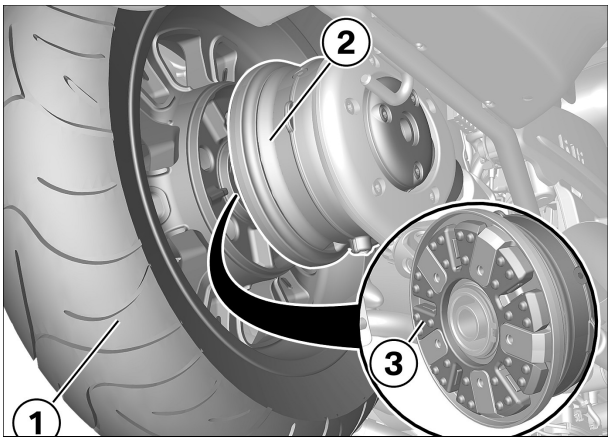


► **Remove the rear wheel**

- Remove bolt **(1)**.
- Remove quick-release axle **(2)**, let sensor mount **(3)** hang on cable.
- Remove bush **(4)**.



- Remove floor panel from vehicle lift.

CAUTION

Danger of injury
When disengaged from the angle drive, the rear wheel drops down.
- Use your knee to support the rear wheel and slowly lower the wheel and remove it.

- Pull off rear wheel **(1)** from final drive **(2)**.
- Remove rear wheel **(1)** to the bottom.
- Check torsion damper rubber **(3)** and replace, if necessary.

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5

▶ Removing rear tyre

ATTENTION

Use of hard or sharp-edged objects in proximity to component

Component damage

- Take care not to scratch components; cover or mask as necessary.

- Remove the tyre and hose with commercially available tools.

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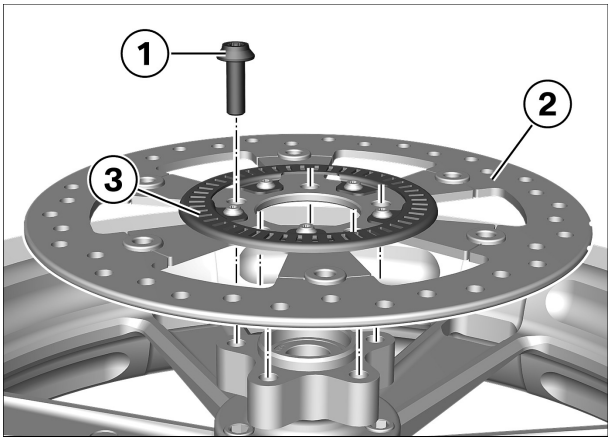

▶ Removing rear brake disc

- Remove screws **(1)**.
- Remove brake disc **(2)** with sensor ring **(3)**.

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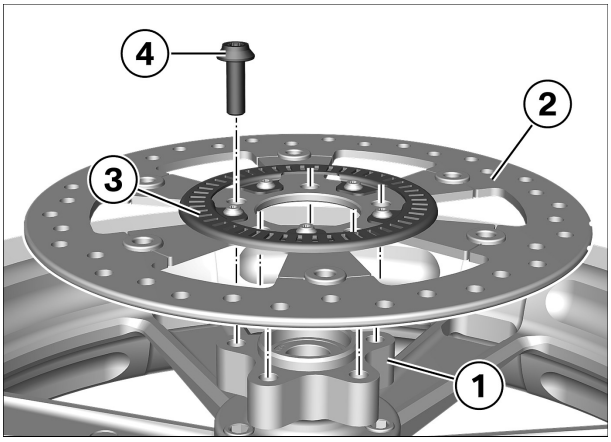

▶ Install rear brake disc on forged wheel

- Clean rear wheel hub **(1)** and brake disc **(2)** to contact surface.

NOTICE

During the installation of the brake disc, make sure there is no contamination or screw locking residue between the wheel rim and brake disc. The contact surfaces must be level and clean.

- Position brake disc **(2)** with sensor ring **(3)** on rear wheel hub **(1)**.
- Install screws **(4)**.

Tightening torques		
Brake disc to rear wheel		
M10 x 30 - 10.9, Replace bolt or use screw lock Thread-locking compound (micro-encapsulated) or, Thread-locking compound (Loctite 243, Medium strength)	56 Nm	

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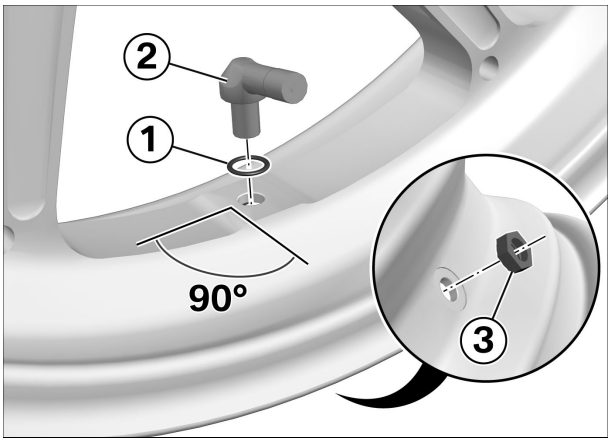

► Installing angle valve in forged wheel

- Lubricate sealing ring **(1)**.

Installation tool	
Silicone spray	83 19 2 208 609

- Insert angle valve **(2)**, turned by **90° to the direction of travel**, with sealing ring **(1)** and install nut **(3)**

Tightening torques		
Angle valve to wheel rim		
Renew valve and nut, counter-holding at valve Thread-locking compound (micro-encapsulated)	10 Nm	

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9

► Installing rear tyre

ATTENTION

Use of hard or sharp-edged objects in proximity to component

Component damage

- Take care not to scratch components; cover or mask as necessary.

- Use commercially available tools and work to the manufacturer's specifications to fit the tyres, and make sure that the direction-of-rotation arrows on tyre and rim point in the same direction.
- Manufacturer-specific tyre mark for imbalance must be toward the valve.
- Check the tyre and make sure the line is at a uniform distance from the rim flange all the way round.
- Correct the tyre pressure.

Technical data			
Tyre pressure, rear	with cold tyre; one-up and two-up riding	3.2 bar	

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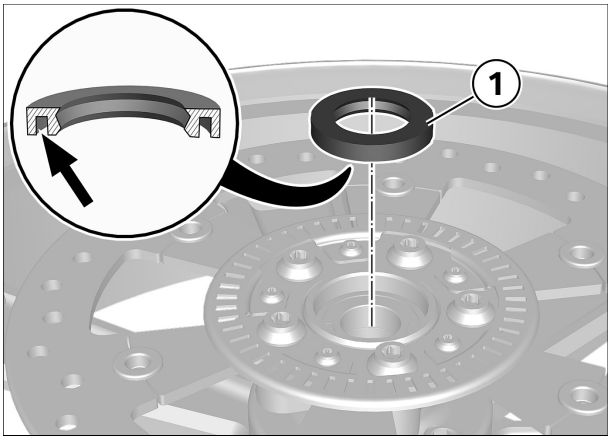

► Installing rotary shaft seal

- Install shaft sealing ring **(1)** with the opening **(arrow)** toward the bearing until flush with the rim, using a suitable tool.
- Lubricate sealing lip of shaft sealing ring **(1)**.

Lubricant	
Optimoly TA	18 21 9 062 599

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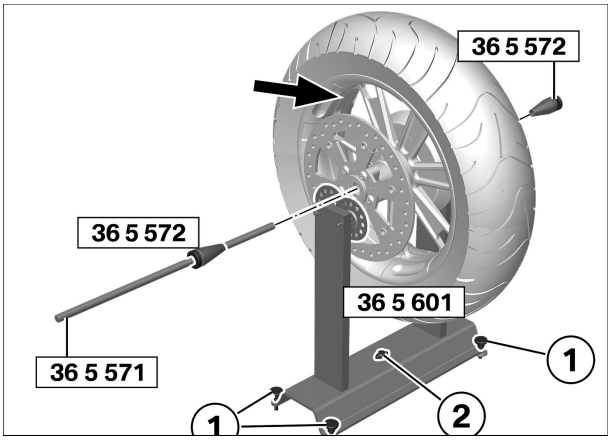

► Statically balancing rear wheel

- Align balancing jig (36 5 601) with knurled screw **(1)** and bubble level **(2)**.
- Check the carrier axle for runout and damage.
- Install adapter axle (36 5 571) with conical adapter (36 5 572) in the rear-wheel bearing and tension.
- Position adapter axle (36 5 571) with the rear wheel on balancing jig (36 3 601).
- Allow the rear wheel to settle to a stop.
- Clean the attachment points for the adhesive weights.
- Attach narrow adhesive weights opposite the heaviest point of wheel centred on rim bridge **(Arrow)**.

Technical data			
Permissible rear-wheel imbalance		max 45 g	

Technical data			
Balance weight for rear wheel Weights have to be affixed with one half on the left and one half on the right, in other words centred on the rim		max 80 g	

- Repeat the balancing procedure as a check.

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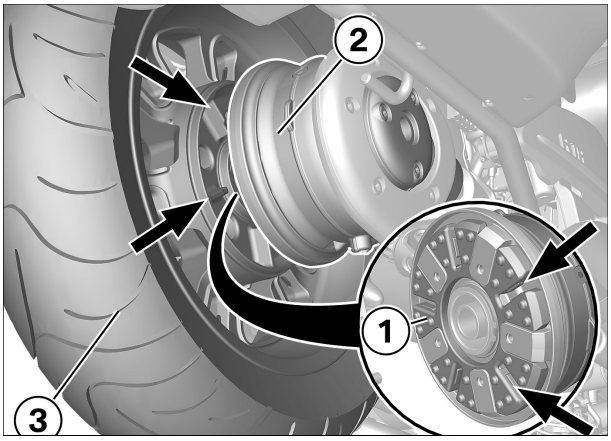


► Install the rear wheel

- If necessary, install torsion damper rubber **(1)** in bevel gears rear **(2)** and lubricate lightly.

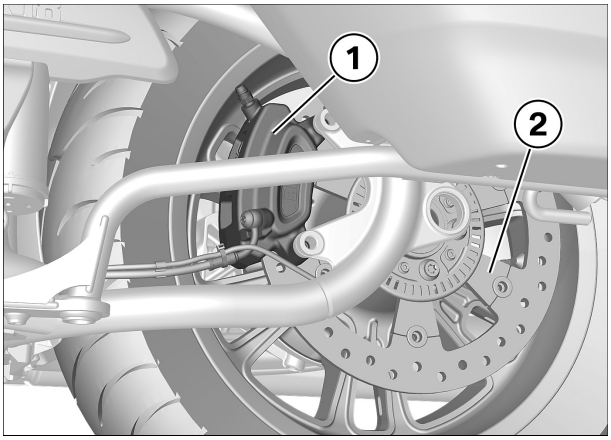
– Mounting orientation, see figure.

Installation tool	
Silicone spray	83 19 2 208 609

- Fit rear wheel **(3)** and support with wedges (36 5 521).

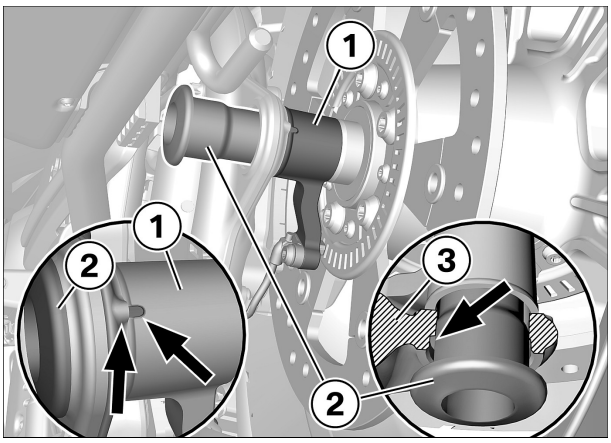
– Cast ribs engage in torsion damper rubber **(1) (Arrows)**.

- Push in rear wheel **(3) to stop**.



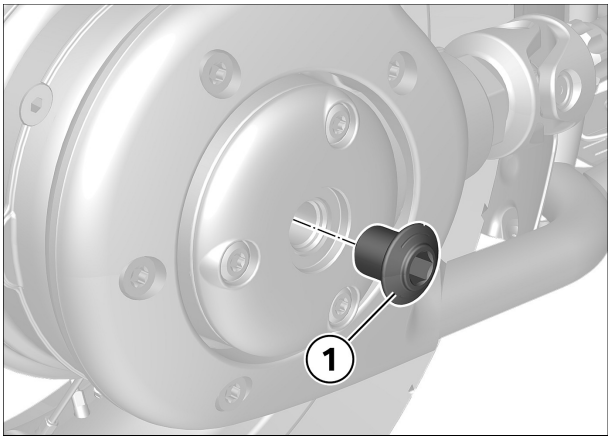
- Position brake caliper **(1)** on brake disc **(2)**.

» Rear wheel is secured against slipping.



- Fit sensor mount **(1)** and quick-release axle **(2)**.
- Align marks on sensor mount **(1)** and rear wheel swinging arm **(3)** **(Arrows)**.
- Slide in quick-release axle **(2)** completely.

– Align quick-release axle **(2)** with mating surface **(arrow)** on rear wheel swinging arm **(3)** and sensor mount **(1)** **(arrows)**.



- Install bolt **(1)**.

Tightening torques		
Bolt to rear wheel quick-release axle		
M20 x 1,5 - 8.8	100 Nm	

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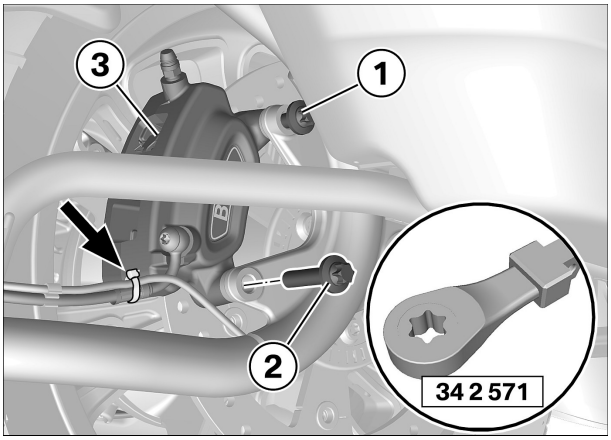

▶ Securing rear brake calliper

- Position brake calliper **(3)**.
- Install/tighten screws **(1)** and **(2)**.

Tightening torques		
Rear brake caliper on rear wheel swinging arm		
M10 x 40 - 10.9	56 Nm	

– Tighten screw **(1)** with adapter (34 2 571).

- Secure the cable strap **(arrow)**.
- Operate the brake several times until the brake pads are bedded.

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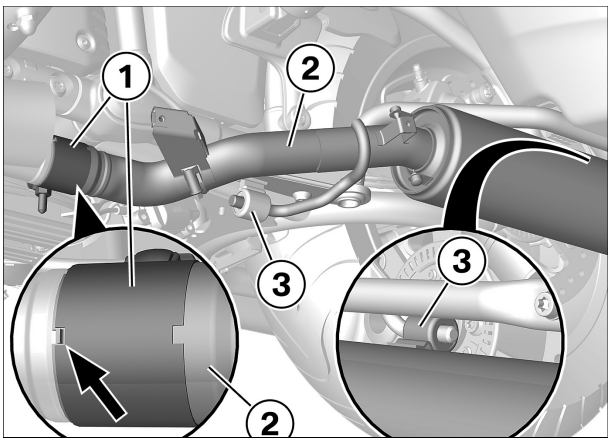
▶ Installing silencer and trim left

NOTICE

To ensure the leaktightness of the exhaust system, the exhaust clamps have to be lubricated for installation.

It is particularly important to apply lubricant to the vicinity of the joint.

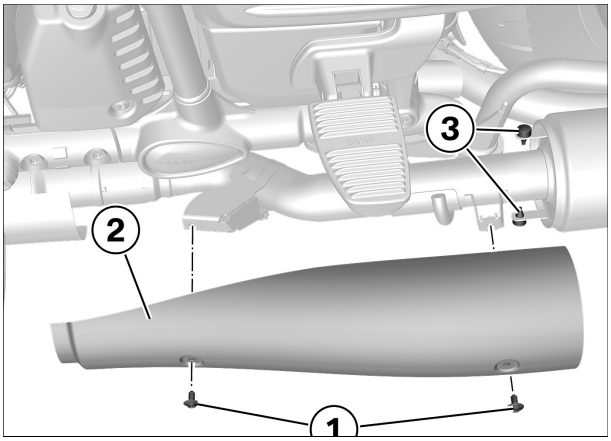


- Clean clamp **(1) inside** and lubricate lightly.

Lubricant	
Optimoly TA	18 21 9 062 599

- Install silencer **(2)** with clamp **(1)**, slide into holder **(3)**.
- Align clamp **(1)** on retaining lug **(arrow)**.
- Tighten the clamp **(1)**.

Tightening torques		
Clamp to silencer and exhaust manifold		
	24 Nm	



▷ **Installing left silencer trim**

- Position trim **(2)**.

– Check spacer buffers **(3)**.

- Install screws **(1)**.

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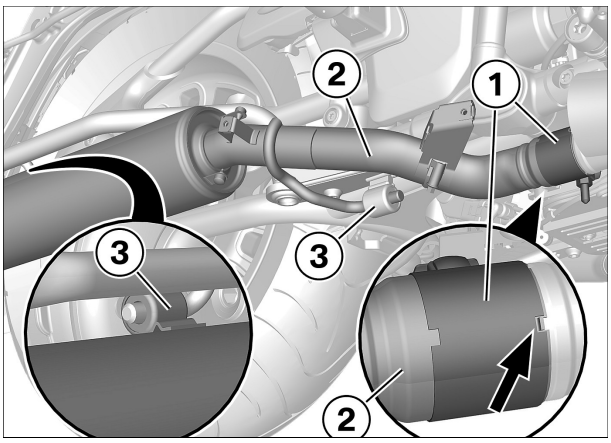
▶ **Installing silencer with trim, right**

NOTICE

To ensure the leaktightness of the exhaust system, the exhaust clamps have to be lubricated for installation.
It is particularly important to apply lubricant to the vicinity of the joint.

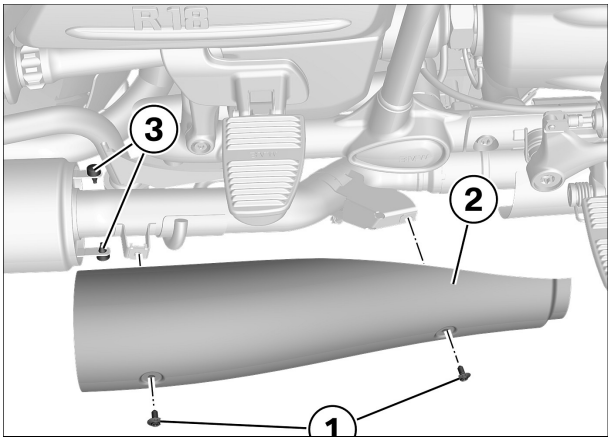


- Clean clamp **(1) inside** and lubricate lightly.

Lubricant	
Optimoly TA	18 21 9 062 599

- Install silencer **(2)** with clamp **(1)**, slide into holder **(3)**.
- Align clamp **(1)** on retaining lug **(arrow)**.
- Tighten the clamp **(1)**.

Tightening torques		
Clamp to silencer and exhaust manifold		
	24 Nm	



▷ **Installing right silencer trim**

- Position trim **(2)**.
- – Check spacer buffers **(3)**.
- Install screws **(1)**.

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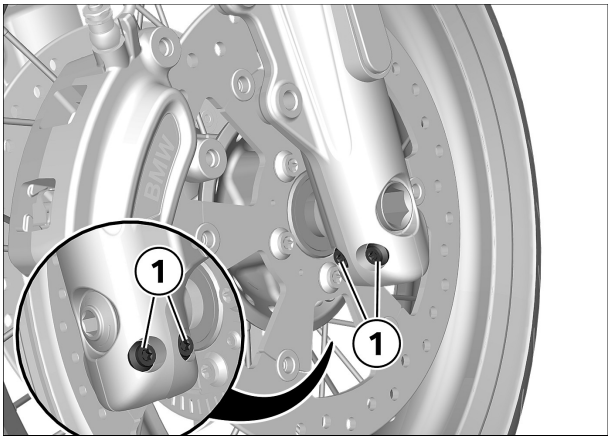
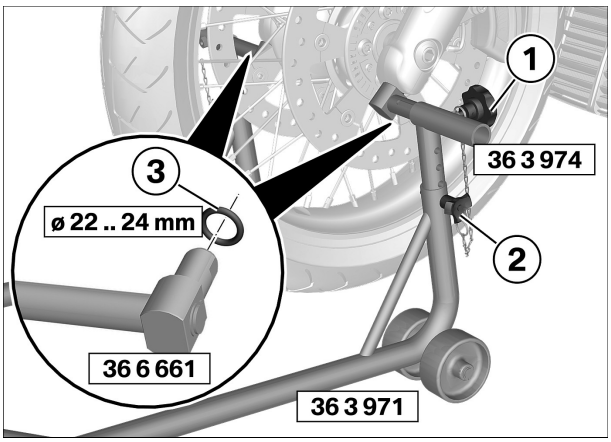


▶ **Installing front-wheel stand**

- Park motorcycle on scissor-type lifter with adapter and lift.
- **Slacken** clamping bolts **(1)**.
- – Motorcycle is standing **on scissor-type lifter**, rear wheel raised.



ATTENTION

Use of the BMW Motorrad front wheel stand without accompanying use of centre stand or auxiliary stand
Risk of damage to parts if vehicle topples
- Place the motorcycle on its centre stand or another auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.

- Install adapters (36 3 974) in basic stand (36 3 971).
- **Place washers on mandrels** of adapter (36 6 661) .

– Inner diameter approx. 22 mm

– Z.B. Washer part number 9904377, rear wheel axle G450X

– Z.B. Washer part number 9904701, belt pulley R nineT

– Z.B. Washer part number 9906682, rear wheel axle, var. models

- Install adapters (36 6 661) in mountings.
- Slide adapters until they fit into the fork legs, tighten mounting bolts **(1)**.
- Use retaining pins **(2)** to set the front-wheel stand to the desired height.

– 3rd bore hole from the top.

- Position base stand with adapters under fork legs.

ATTENTION

Vehicle toppling to side
Risk of damage to parts if vehicle topples
- Make sure that the vehicle is secured so that it cannot topple sideways.

- Apply uniform pressure to push the front-wheel stand down and raise the motorcycle.
- Protect motorcycle from tipping over with tensioning straps.

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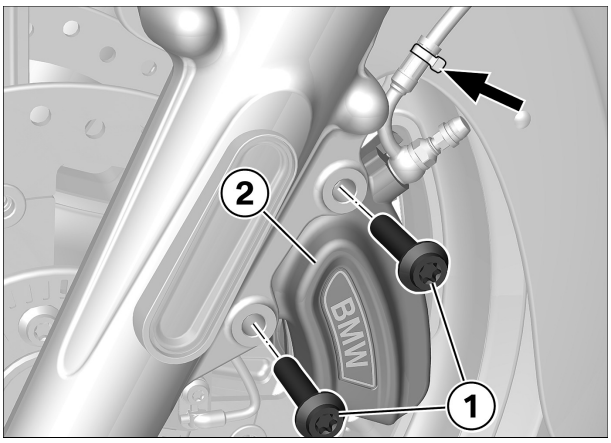
▶ Removing left brake calliper

ATTENTION

Brake actuation with brake pads or brake calipers removed
Brake pistons pushed out
- Do not operate brake.
- Install brake pads and brake caliper or insert the piston resetting device.



- Remove cable strap **(arrow)**.
- Remove screws **(1)**.
- Detach brake caliper **(2)** from brake disc.

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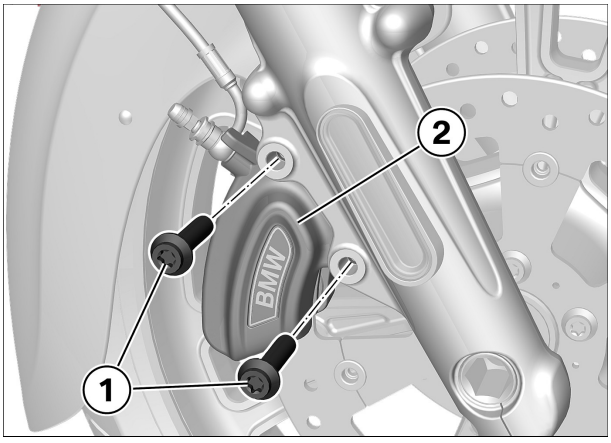
► **Remove the right brake calliper**

ATTENTION

Brake actuation with brake pads or brake calipers removed
Brake pistons pushed out
- Do not operate brake.
- Install brake pads and brake caliper or insert the piston resetting device.



- Remove screws **(1)**.
- Detach brake caliper **(2)** from brake disc.

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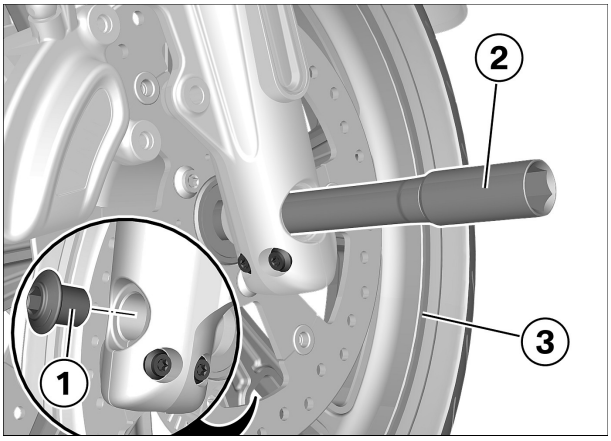

▶ Removing front wheel

- Loosen bolt **(1)**, **do not remove**, counter-holding with hexagon head (36 3 691), if necessary.
- Slide through quick-release axle **(2)** with attached screw **(1)** as far as possible, remove screw.
- Remove quick-release axle **(2)**.

ATTENTION

Removal of front wheel not in compliance with correct procedure
Damage to wheel speed sensor
- Note the wheel-speed sensor when rolling out the front wheel.

- Remove front wheel **(3)**.

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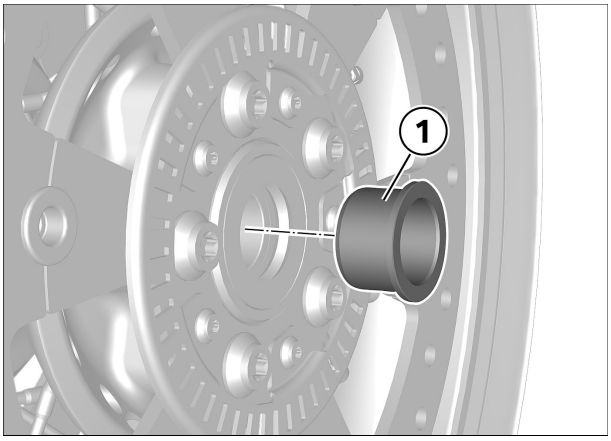

▶ Removing the spacer bush

- Remove spacer bush **(1)** and store, **subsequently needed for reassembly**.

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▶ Remove tyre with hose in front

ATTENTION

Use of hard or sharp-edged objects in proximity to component
Component damage
- Take care not to scratch components; cover or mask as necessary.

- Remove the tyre and hose with commercially available tools.

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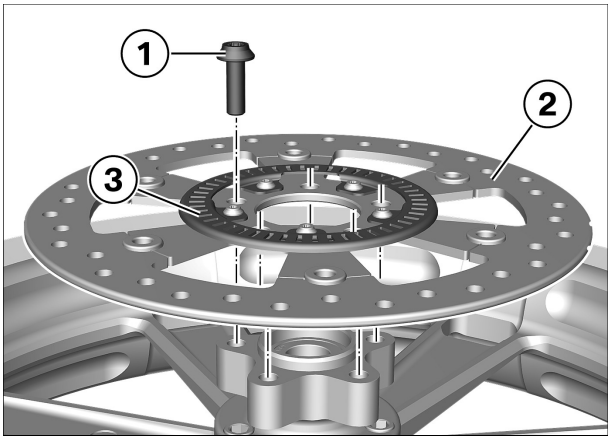
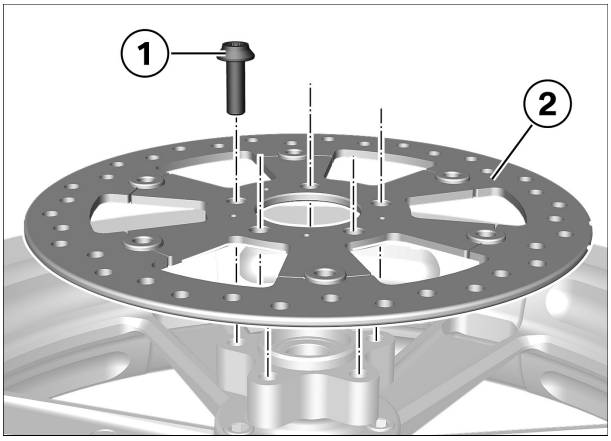


▶ Removing front left and right brake discs

- Remove screws **(1)**.
- Remove left brake disc **(2)** with sensor ring **(3)**.



- Remove screws **(1)**.
- Remove right brake disc **(2)**.

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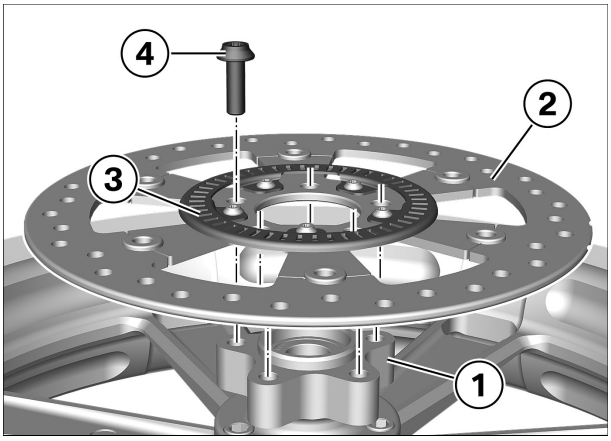


▶ Install front left and right brake discs on forged wheel

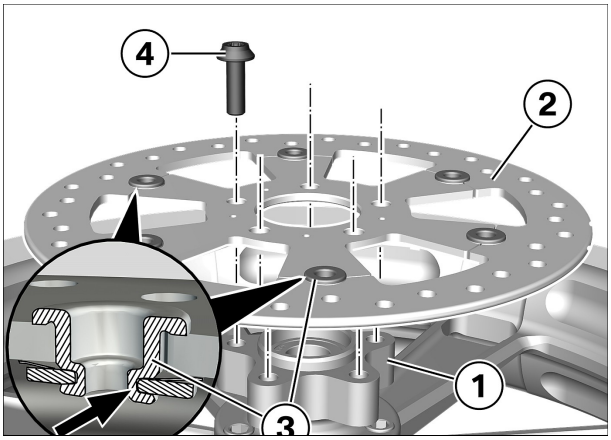
- Clean front wheel hub **(1)** and brake disc **(2)** to contact surface.

NOTICE

During the installation of the brake disc, make sure there is no contamination or screw locking residue between the wheel rim and brake disc. The contact surfaces must be level and clean.

- Position left brake disc **(2)** with sensor ring **(3)** on front wheel hub **(1)**.
- Install screws **(4)**.

Tightening torques		
Brake disc to front wheel		
M10 x 30 - 10.9, Replace bolt or use screw lock Thread-locking compound (micro-encapsulated) or, Thread-locking compound (Loctite 243, Medium strength)	56 Nm	



- Clean front wheel hub **(1)** and brake disc **(2)** to contact surface.

NOTICE

During the installation of the brake disc, make sure there is no contamination or screw locking residue between the wheel rim and brake disc. The contact surfaces must be level and clean.

- Position right brake disc **(2)** with beading **(arrow)** of the rivets **(3)** facing the hub on front wheel hub **(1)**.
- Install screws **(4)**.

Tightening torques		
Brake disc to front wheel		
M10 x 30 - 10.9, Replace bolt or use screw lock Thread-locking compound (micro-encapsulated) or, Thread-locking compound (Loctite 243, Medium strength)	56 Nm	

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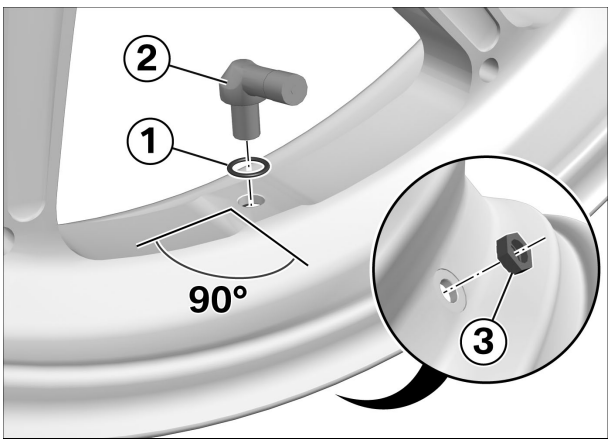

▶ **Installing angle valve in forged wheel**

- Lubricate sealing ring **(1)**.

Installation tool	
Silicone spray	83 19 2 208 609

- Insert angle valve **(2)**, turned by **90° to the direction of travel**, with sealing ring **(1)** and install nut **(3)**

Tightening torques		
Angle valve to wheel rim		
Renew valve and nut, counter-holding at valve Thread-locking compound (micro-encapsulated)	10 Nm	

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▶ Installing front tyre

ATTENTION

Use of hard or sharp-edged objects in proximity to component

Component damage

- Take care not to scratch components; cover or mask as necessary.

- Use commercially available tools and work to the manufacturer's specifications to fit the tyres, and make sure that the direction-of-rotation arrows on tyre and rim point in the same direction.
- Manufacturer-specific tyre mark for imbalance must be toward the valve.
- Check the tyre and make sure the line is at a uniform distance from the rim flange all the way round.
- Correct the tyre pressure.

Technical data			
Tyre pressure, front	with cold tyre; one-up and two-up riding	2.9 bar	

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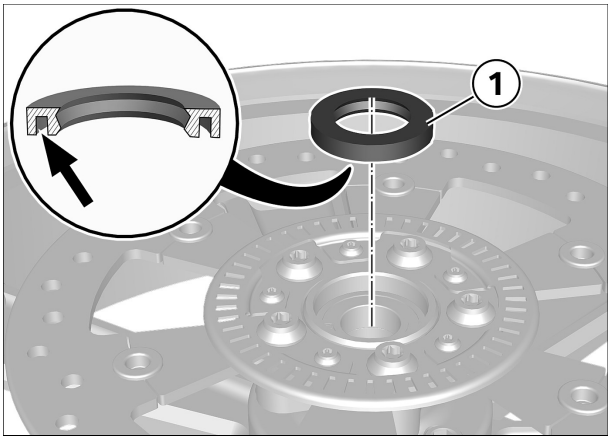

▶ Installing shaft sealing rings

- Install shaft sealing rings **(1)** on left and right with the opening **(arrow)** toward the bearing until flush with the rim, using a suitable tool.

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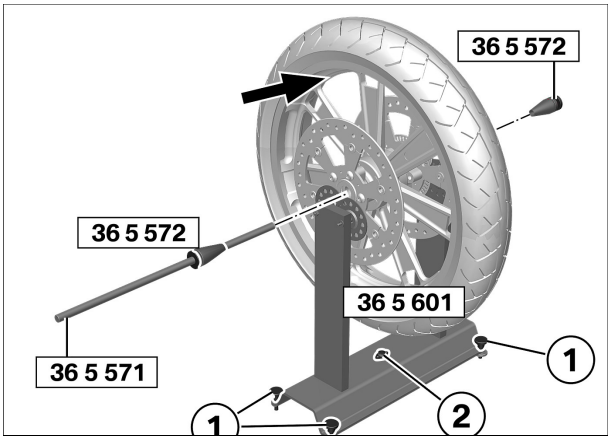

▶ Statically balancing front wheel

- Align balancing jig (36 5 601) with knurled screw **(1)** and bubble level **(2)**.
- Check the carrier axle for runout and damage.
- Install adapter axle (36 5 571) with conical adapter (36 5 572) in the front-wheel bearing and tension.
- Position adapter axle (36 5 571) with the front wheel on balancing jig (36 3 601).
- Allow the front wheel to settle to a stop.
- Clean the attachment points for the adhesive weights.
- Attach narrow adhesive weights opposite the heaviest point of wheel centred on rim bridge **(Arrow)**.

Technical data			
Permissible front-wheel imbalance		max 5 g	
Balance weight for front wheel Weights have to be affixed with one half on the left and one half on the right, in other words centred on the rim		max 80 g	

- Repeat the balancing procedure as a check.

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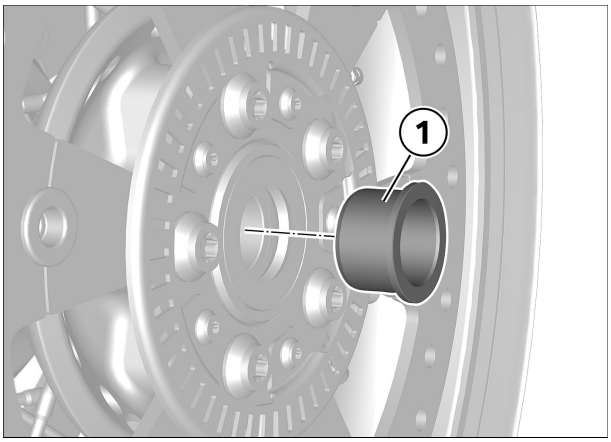
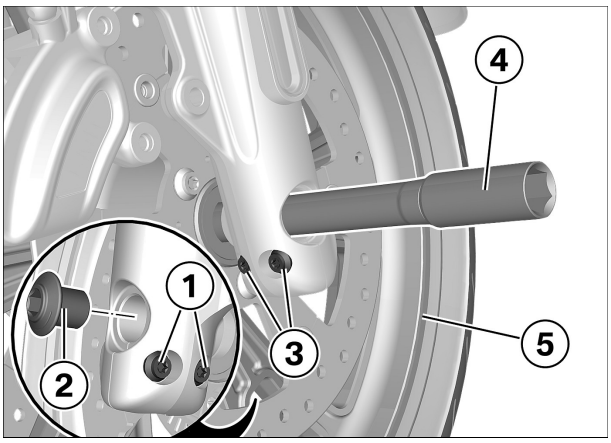


▶ Install the front wheel

- If necessary, clean spacer bush **(1)**, apply a thin coat of lubricant and install in front wheel.

Lubricant	
Optimoly TA	18 21 9 062 599



- Clean quick-release axle **(4)** and apply a thin coat of lubricant.

Lubricant	
Optimoly TA	18 21 9 062 599

ATTENTION

Installation of front wheel not in compliance with correct procedure
Damage to wheel speed sensor
- Note the wheel-speed sensor when rolling in the front wheel.

- Install the front wheel **(5)**.
- Install quick-release axle **(4)**, tighten screw **(2)**.

Tightening torques		
Bolt on quick-release axle		
M20 x 1,5 - 8.8	50 Nm	

– If necessary, counter-hold with hexagon head (36 3 691).
- Do not screw clamping bolts **(1)** and **(3)** **tight**.
– Tighten clamping bolts with front wheel stand removed.

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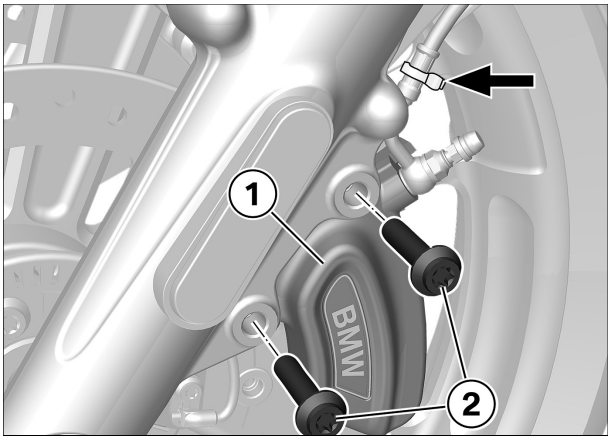

► **Securing left brake calliper**

- Position brake calliper **(1)**.
- Install screws **(2)**.

Tightening torques		
Brake calliper to telescopic fork		
M10 x 40 - 10.9	56 Nm	

- Secure the cable strap **(arrow)**.

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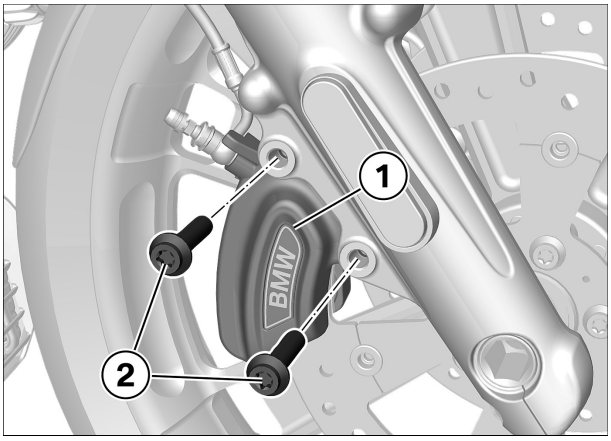

▶ Securing right brake calliper

- Position brake calliper **(1)**
- Install screws **(2)**.

Tightening torques		
Brake calliper to telescopic fork		
M10 x 40 - 10.9	56 Nm	

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▶ Bedding in front brake pads

- Operate the brake several times until the brake pads are bedded.

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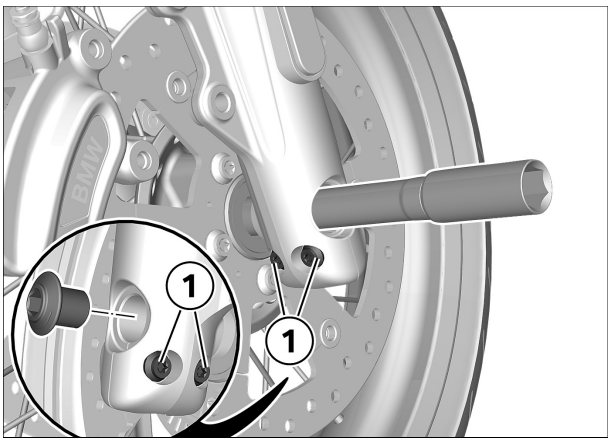
▶ Removing front-wheel stand

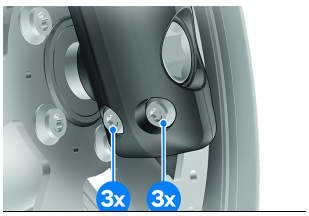
ATTENTION

Vehicle toppling to side
Risk of damage to parts if vehicle topples
- Make sure that the vehicle is secured so that it cannot topple sideways.

- Lift retaining brackets of base stand evenly to lower the motorcycle.
- Remove base stand (36 3 971) with mountings and adapters.



- Tighten clamping bolts **(1)**.

Tightening torques		
Clamping screws in axle holder 		
M8 x 35 - 8.8	**Tightening sequence: Tighten screws six times in alternate sequence**	
	19 Nm	

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▶ Final check of work performed

- Check the following:
  - The work as performed achieved the intended purpose.
  - All reservoirs and containers have been filled and all fluids and lubricants are at their correct levels.
  - All threaded fasteners released beforehand have been correctly retightened.
  - The fuel system is free of leaks.
  - The lights and signalling equipment are fully operational and the vehicle is roadworthy.
  - The brake pads of the front and rear brakes are bedded against the brake discs.

▷ Function test, engine start suppression

Check

- Select neutral.
- Switch on the ignition.
- » Neutral indicator light "N" lights up.
- Select a gear.
- » Neutral indicator light "N" goes out.
- Operate the starter switch.
- » Starter does **not** operate.
- Extend the side stand.
- Pull the clutch lever.
- Operate the starter switch.
- » Starter does **not** operate.
- Retract the side stand.
- Operate the starter switch without releasing the clutch lever.
- » Starter operates.

Result
Not all test steps completed successfully.

Measure
- Check the appropriate parts with the BMW Motorrad diagnostic system.

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