Maintenance Instructions (US Model)

R 850 RT

R 1150 RT

BMW Motorrad On-board documentation

consisting of Rider's Manual and Maintenance Instructions

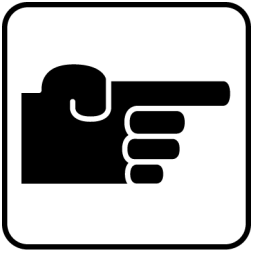
Please note

⚠WARNING

This symbol indicates precautions and measures which are essential in pro-tecting the rider or other persons from severe or fatal injury.

⚠ CAUTION

Specific instructions and safety precautions intended to prevent damage to the motorcycle. Disregarding them may render the warranty invalid.



NOTE

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

Dear motorcycle enthusiast

For safety reasons and to maintain the value of your motorcycle, regular maintenance intervals have been established.
Always keep to the specified maintenance intervals. This is the only way to ensure that warranty claims are not invalidated.
The contents of the maintenance schedules are subject to change, for reasons of safety, due to modifications in materials etc.
Your authorized BMW motorcycle retailer is the best place to keep you informed as to current Services, Inspections and Annual Services.

Important!
BMW refuses to accept liability for damage or consequential damage due to repairs or service work performed by workshops other than BMW-authorized workshops.

Therefore, we recommend having the maintenance work carried out and confirmed in the Maintenance Instructions by the specially trained experts at your authorized BMW motorcycle retailer.
authorized BMW motorcycle retailers are supplied with the latest technical information and have the necessary technical know-how and specially trained staff.
Please contact your authorized BMW motorcycle retailer if you have any questions regarding your motorcycle.
authorized BMW motorcycle retailers are fully informed about all aspects of your motorcycle and will gladly advise and assist you.

Best wishes,

BMW Motorrad

For your own safety, use only genuine BMW spare parts and accessories approved by BMW.

If you choose original accessories and spare parts that have been tested and approved by the manufacturer, you can be sure that BMW has performed the appropriate tests to confirm their suitability for use on your motorcycle. BMW accepts full liability for these products.

Note, however, that BMW is unable to accept liability for spare parts and accessories which it has not approved.

BMW cannot assess every single product of outside origin in order to decide whether it can be used on or with a BMW vehicle without constituting a safety hazard.

Nor is approval by an official technical inspection authority, or even the granting of a general operating permit necessarily a sufficient guarantee, since these test procedures are not always adequate.

Genuine BMW spare parts, accessories and other products which BMW has approved can be obtained from all authorized BMW motorcycle retailers, together with expert advice on their installation and use.

Maintenance work is divided into Service, Inspection and Annual Inspection.

BMW Inspection 600 miles (1,000 km)

BMW Break-in Check after the first 600 miles (1,000 km).

BMW Service

After the first 6,000 miles (10,000 km) and every additional 12,000 miles (20,000 km) (18,000 miles (30,000 km), 30,000 miles (50,000 km), 45,000 miles (70,000 km) etc.)

BMW Inspection

After the first 12,000 miles (20,000 km) and every additional 12,000 miles (20,000 km) (25,000 miles (40,000 km), 37,000 miles (60,000 km), 50,000 miles (80,000 km) etc.)

BMW Annual Inspection

Certain items of maintenance work depend on elapsed time as well as the distance the motorcycle has been driven. They must therefore be carried out at least once a year (e.g. changing brake fluid).

If these items cannot be performed during a Service or an Inspection, an Annual Inspection must be performed.

NOTE

Every authorized BMW motorcycle retailer has a fixed scale of charges based on work times and carefully calculated hourly rates. Fuel, lubricants and similar substances, filters, gaskets etc. are charged separately.

Maintenance schedule

If you are interested, you can view and download the current maintenance schedule for your motorcycle on the Internet at www.bmw-motorrad.com/maintenance.

Confirmation of maintenance work

BMW
Pre-Delivery Check

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
6,000 miles (10,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
600 miles (1,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
12,000 miles (20,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Service
18,000 miles (30,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
30,000 miles (50,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
24,000 miles (40,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
36,000 miles (60,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Service
42,000 miles (70,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

_____

_____
Date, stamp, signature

BMW Service
54,000 miles (90,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

_____

_____
Date, stamp, signature

BMW Inspection
48,000 miles (80,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

_____

_____
Date, stamp, signature

BMW Inspection
60,000miles (100,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

_____

_____
Date, stamp, signature

Confirmation of maintenance work

BMW Service
66,000 miles(110,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
78,000 miles (130,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
72,000 miles(120,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
84,000 miles (140,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Service
90,000 miles (150,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

_____

_____
Date, stamp, signature

BMW Service
102,000 miles (170,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

_____

_____
Date, stamp, signature

BMW Inspection
96,000 miles (160,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

_____

_____
Date, stamp, signature

BMW Inspection
108,000 miles (180,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

_____

_____
Date, stamp, signature

Confirmation of maintenance work

BMW Service
118,000 miles
(190,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
130,000 miles
(210,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
124,000 miles
(200,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
136,000 miles
(220,000 km)

Performed in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Annual Inspection
Performed in accordance with manufacturer's instructions
Brake fluid changed:
Without BMW Integral ABS annually
yes ☐ no ☐
With BMW Integral ABS Wheel Circuit - annually
yes ☐ no ☐
Control circuit - every 2 years
yes ☐ no ☐
Clutch fluid changed:
every 2 years
yes ☐ no ☐

Date, stamp, signature

BMW Annual Inspection
Performed in accordance with manufacturer's instructions
Brake fluid changed:
Without BMW Integral ABS annually
yes ☐ no ☐
With BMW Integral ABS Wheel Circuit - annually
yes ☐ no ☐
Control circuit - every 2 years
yes ☐ no ☐
Clutch fluid changed:
every 2 years
yes ☐ no ☐

Date, stamp, signature

BMW Annual Inspection
Performed in accordance with manufacturer's instructions
Brake fluid changed:
Without BMW Integral ABS annually
yes ☐ no ☐
With BMW Integral ABS Wheel Circuit - annually
yes ☐ no ☐
Control circuit - every 2 years
yes ☐ no ☐
Clutch fluid changed:
every 2 years
yes ☐ no ☐

Date, stamp, signature

BMW Annual Inspection
Performed in accordance with manufacturer's instructions
Brake fluid changed:
Without BMW Integral ABS annually
yes ☐ no ☐
With BMW Integral ABS Wheel Circuit - annually
yes ☐ no ☐
Control circuit - every 2 years
yes ☐ no ☐
Clutch fluid changed:
every 2 years
yes ☐ no ☐

Date, stamp, signature

Confirmation of maintenance work

BMW Annual Inspection
Performed in accordance with manufacturer's instructions
Brake fluid changed:
Without BMW Integral ABS
annually
yes ☐ no ☐
With BMW Integral ABS
Wheel Circuit - annually
yes ☐ no ☐
Control circuit - every 2 years
yes ☐ no ☐
Clutch fluid changed:
every 2 years
yes ☐ no ☐

Date, stamp, signature

BMW Annual Inspection
Performed in accordance with manufacturer's instructions
Brake fluid changed:
Without BMW Integral ABS
annually
yes ☐ no ☐
With BMW Integral ABS
Wheel Circuit - annually
yes ☐ no ☐
Control circuit - every 2 years
yes ☐ no ☐
Clutch fluid changed:
every 2 years
yes ☐ no ☐

Date, stamp, signature

BMW Annual Inspection
Performed in accordance with manufacturer's instructions
Brake fluid changed:
Without BMW Integral ABS
annually
yes ☐ no ☐
With BMW Integral ABS
Wheel Circuit - annually
yes ☐ no ☐
Control circuit - every 2 years
yes ☐ no ☐
Clutch fluid changed:
every 2 years
yes ☐ no ☐

Date, stamp, signature

BMW Annual Inspection
Performed in accordance with manufacturer's instructions
Brake fluid changed:
Without BMW Integral ABS
annually
yes ☐ no ☐
With BMW Integral ABS
Wheel Circuit - annually
yes ☐ no ☐
Control circuit - every 2 years
yes ☐ no ☐
Clutch fluid changed:
every 2 years
yes ☐ no ☐

Date, stamp, signature

Confirmation of service

Record of all work performed in workshop		
Work performed	**km/mile**	**Date**

The list is intended as a record of maintenance, warranty and repair work, the installation of optional accessories and, if appropriate, special campaign work.

Record of all work performed in workshop		
Work performed	**km/mile**	**Date**

The list is intended as a record of maintenance, warranty and repair work, the installation of optional accessories and, if appropriate, special campaign work.

Confirmation of service

Odometer replaced

Odometer reading is not total distance covered.

Odometer reading

_____

_____

Date, stamp, signature

Odometer replaced

Odometer reading is not total distance covered.

Odometer reading

_____

_____

Date, stamp, signature

Odometer replaced

Odometer reading is not total distance covered.

Odometer reading

_____

_____

Date, stamp, signature

Odometer replaced

Odometer reading is not total distance covered.

Odometer reading

_____

_____

Date, stamp, signature

Your motorcycle is equipped with Digital Motor Electronic (MOTRONIC) engine management and a high-power ignition system.

⚠WARNING

When the engine is running or the ignition is switched on, do not touch electrically live components, terminals or wiring.
Risk of fatal accident!
Work on the electrical system only when the circuit has been broken (switch off ignition and lights). For greater safety, disconnect and insulate the negative battery lead.

If you intend to perform the maintenance and general care work described in the following section yourself, you must possess the necessary knowledge of technical matters and mechanical skills.
Your motorcycle is built to high technological standards. Special tools and purpose-designed diagnosis and testing equipment, together with the appropriate knowledge, are needed to keep your motorcycle in optimum working order.

Remember: the safety and reliability of your motorcycle are the most important considerations.
You should therefore not attempt any complex repair or maintenance tasks.
Keep to the specified Inspection and Service intervals.

Authorized BMW motorcycle retailers have the necessary technical know-how and specially trained staff.
They can guarantee that your motorcycle is always maintained in a fault-free technical condition.

BMW refuses to accept liability for damage or consequential damage due to repairs or service work performed by workshops other than BMW-authorized workshops.

Technical modifications

⚠WARNING

The data stored in the MOTRONIC control unit is the result of extensive experimental and testing work. Tampering with the MOTRONIC control unit represents an increased safety risk for the rider.

NOTE

Tampering with the MOTRONIC control unit invalidates the warranty.

There is only limited scope for technical modifications to the motorcycle.
Whenever you are planning such modifications, comply with all applicable legal requirements. The motorcycle must not infringe your national road-vehicle construction and use regulations.
Your authorized BMW motorcycle retailer will gladly advise you on technical requirements, the manufacturer's recommendations and the overall benefit likely to be obtained.

Genuine BMW parts

For reasons of safety, use only genuine BMW parts and accessories.
Genuine BMW parts are identical with those fitted to your motorcycle as original equipment.
BMW Motorrad shall assume no liability whatsoever for spare parts and accessories of other manufacturers.

Troubleshooting chart

Malfunction: Engine does not start at all or is very difficult to start

Possible cause	Remedy	See ➠ Page
Wrong ignition key position	Operate correctly	Rider's Manual
Kill switch on	Operate correctly	Rider's Manual
Side stand out and gear engaged	Operate correctly	Rider's Manual
Power supply interrupted	Blown fuse	➠ 47
Gear engaged, clutch not released	Select neutral or pull clutch lever	Rider's Manual
No fuel in tank	Add fuel	Rider's Manual
Fuel pump not working	Blown fuse 6	➠ 47
Wrong twistgrip/ choke setting	Operate correctly	Rider's Manual
Blocked air filter element	Replace	➠ 48
Spark plug/leads or caps wet	Blow out/dry with compressed air	
Insufficient battery charge	Recharge battery	➠ 49

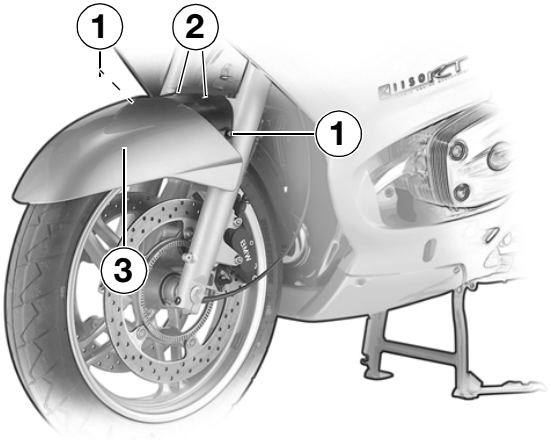
NOTE

For more serious faults – and those not detailed on pages 15 to 59 – take your motorcycle to a BMW-certified workshop, preferably an authorized BMW motorcycle retailer, to be repaired.

NOTE

More detailed technical information is available in the following publications:
- BMW Repair Manual
- BMW electrical circuit-diagrams brochure

Removing front wheel



⚠ CAUTION

When removing, avoid damage to brake lines, brake disks, brake pads or the wheel rim (mask off with tape if necessary).
Keep dirt and moisture away from the wheel bearings.
Do not damage the ABS sensor cable, the ABS sensor ring or the ABS sensor.

NOTE

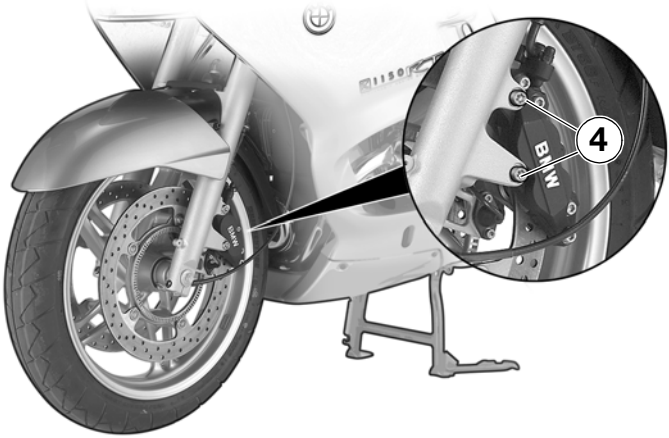
Mark the installed position on the tire and ABS sensor ring; note also the direction-of-rotation arrow if it is marked on the tire.

- Place the motorcycle on its main stand on a flat, firm surface

⚠WARNING

Apply a load over the rear wheel so that the motorcycle cannot tip forward.

- Remove the 4 retaining bolts **1** and **2**
- Take off the front wheel mudguard **3**



- Unscrew the retaining bolts **4** for the left/right brake calipers
- Remove the ABS sensor wire from the clip (next to the upper retaining screw for the left brake caliper)
- Push the brake pads back slightly by rocking the brake calipers
- Carefully take off the left and right brake calipers

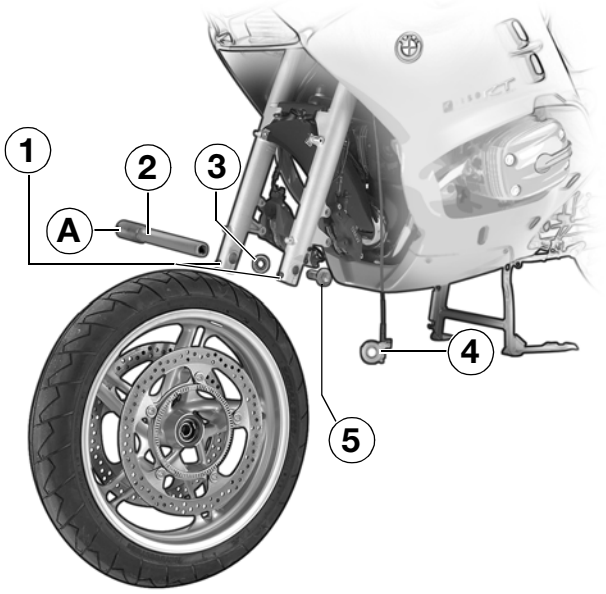
⚠ CAUTION

Do not scratch the rim when forcing back the brake pads or removing the calipers (apply masking tape if necessary). To prevent damage to the brake caliper and possible difficulty when assembling: never apply the brake lever when the brake calipers have been removed.

NOTE

Check the brake pads (➠ 32) (have them replaced if necessary).

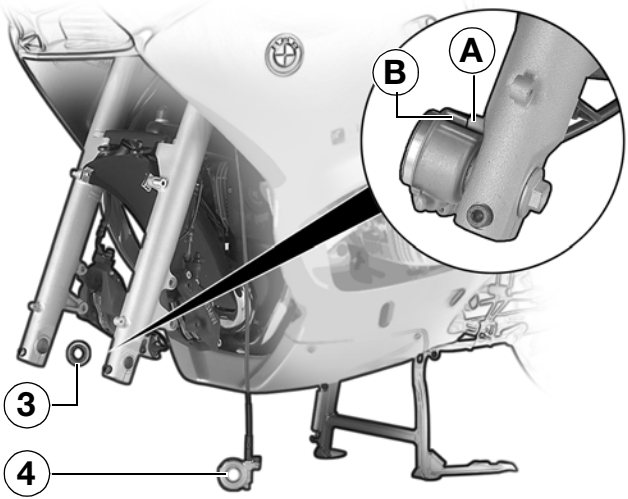
Removing front wheel



- Remove axle bolt **5**
- Slacken off axle clamp bolts **1** on the left and right
- Insert a suitable screwdriver through hole **A** into the quick-release axle **2**
- Pull out the quick-release axle **2** by turning it slightly
- Remove speedometer drive **4** and spacer bush **3**
- Roll the front wheel forward and out

⚠ CAUTION

When setting down the front wheel, avoid damage to the brake disks and ABS sensor ring. Keep dirt and moisture away from the wheel bearings.



• Roll the front wheel in between the fork stanchions

⚠ CAUTION

Avoid damage to brake lines, disks and pads when installing. Keep dirt and moisture away from the wheel bearings.
Do not damage the ABS sensor cable, the ABS sensor ring or the ABS sensor.

⚠ CAUTION

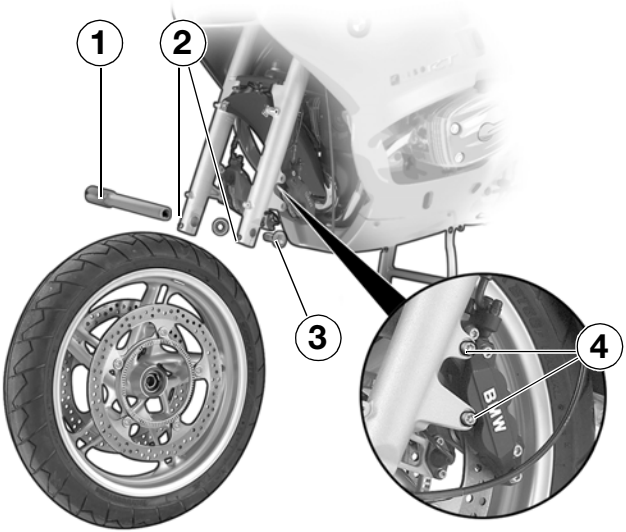
To prevent the speedometer shaft from being damaged, the nose **A** on the slide tube must be inserted in the notch **B** on the speedometer drive.

NOTE

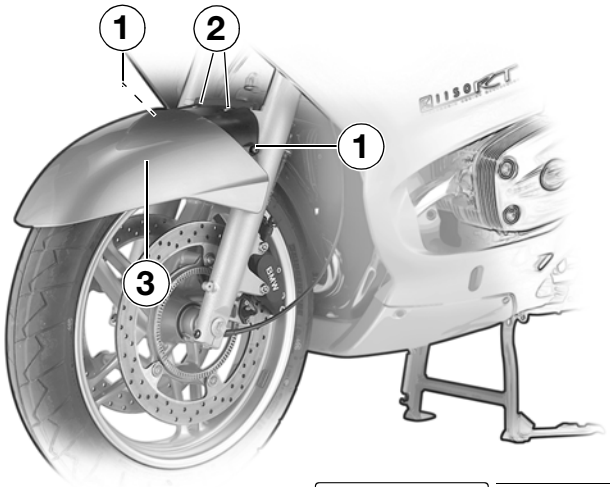
Note arrow on tire indicating correct direction of rotation.

• Insert spacer bushing and speedometer drive.
Looking forward:
– left: speedometer drive **4**
– right: spacer bushing **3**

Installing front wheel



- Clean the quick-release axle, **1**, grease it, and insert it from the right, turning slightly at the same time
- Tighten the axle bolt **3** hand-tight
- Tighten the axle clamp bolts **2** hand-tight
- Compress the front fork firmly several times
- Tighten axle bolt **3** to its tightening torque
- Tighten axle clamp bolts **2** on the left/right to their tightening torque
- Mount left and right brake calipers on brake disks
- Tighten the brake caliper bolts **4** to their tightening torque
- Press the ABS sensor wire into the clip (next to the upper left brake-caliper mounting bolt)



⚠ CAUTION

Watch spacer bushings.

- Install the front mudguard **3**
- Insert mounting bolts **1** and **2** and tighten them carefully

Tightening torque:

Brake caliper bolts	30 Nm
Axle bolt	30 Nm
Axle clamp bolts	22 Nm

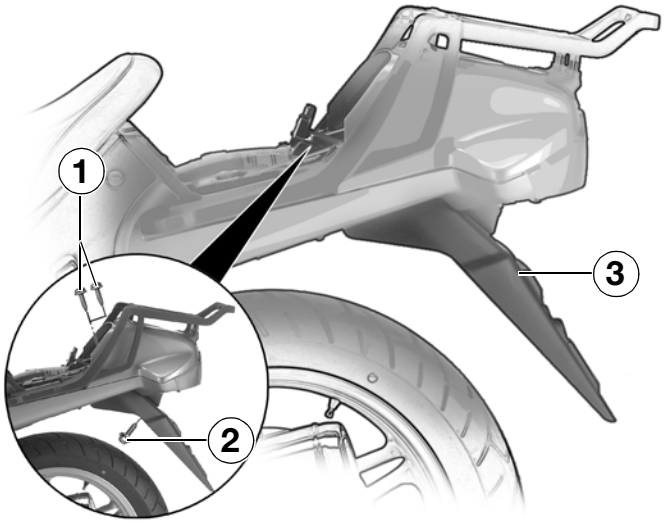
⚠ CAUTION

Always have the tightening torques checked by a BMW-certified workshop, preferably by an authorized BMW motorcycle retailer.

⚠WARNING

Once the brake calipers have been completely installed and the ignition has been switched on and successful self-diagnosis has been performed, the handbrake lever must be depressed to restore full function.

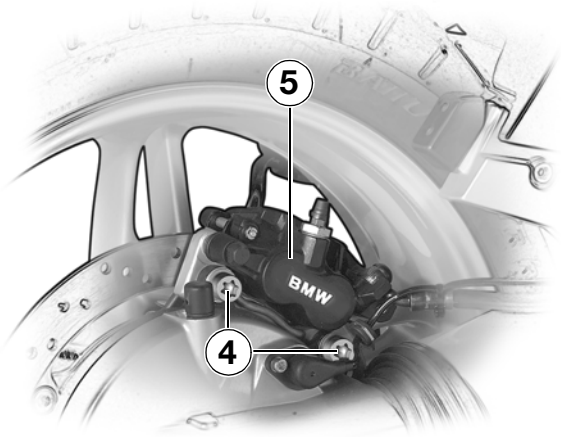
Removing rear wheel



⚠ CAUTION

When removing, avoid damage to brake lines, brake disks, brake pads or the wheel rim (mask off with tape if necessary).
Do not damage the ABS sensor cable, the ABS sensor ring or the ABS sensor.

- Place the motorcycle on its main stand on a flat, firm surface (➠ Rider's Manual, Chapter 3).
- Apply a load at the front wheel so that the motorcycle cannot tip toward the rear
- Select first gear
- Take off the rear seat
- Take out the two Phillips-head screws **1** in the rear body section
- Remove hex bolt **2**, working from underneath
- Take off rear wheel cover **3**



⚠ CAUTION

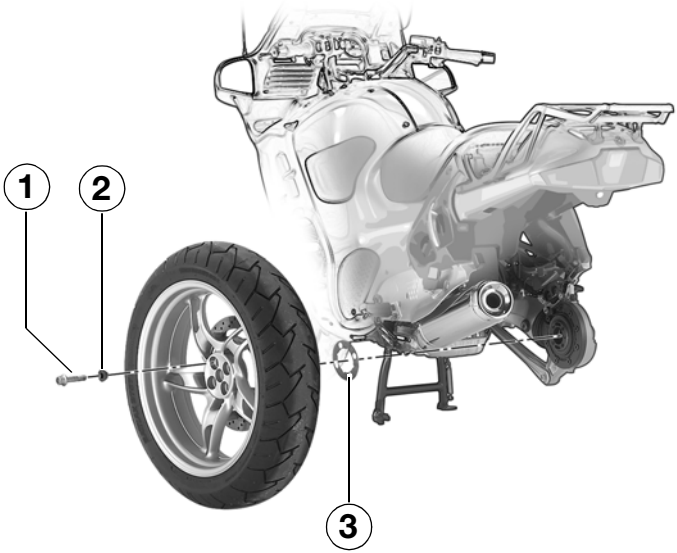
Do not scratch the wheel when forcing back the brake pads or removing the caliper (apply masking tape if necessary).
To prevent damage to the brake caliper and possible difficulty when assembling: never operate the brake lever when the brake calipers have been removed.

- Unscrew brake caliper bolts **4**
- Push the brake pads back slightly by lightly rocking the brake calipers
- Carefully take off the brake caliper **5**

NOTE

Check the brake pads (➠ 33) and have them replaced if necessary.

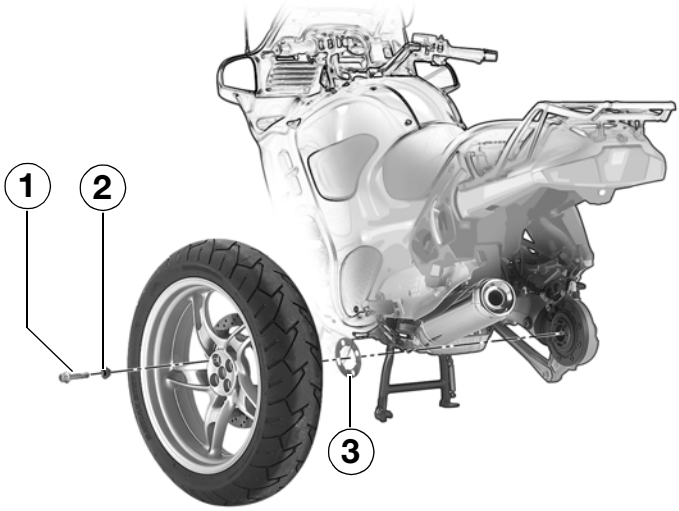
Removing rear wheel



- Remove the four wheel studs **1** with taper rings **2**
- Lift the rear wheel off the centering spigot and carefully roll it out to the rear
- Watch shim **3**

⚠ CAUTION

Protect the wheel hub contact face against dust and dirt.

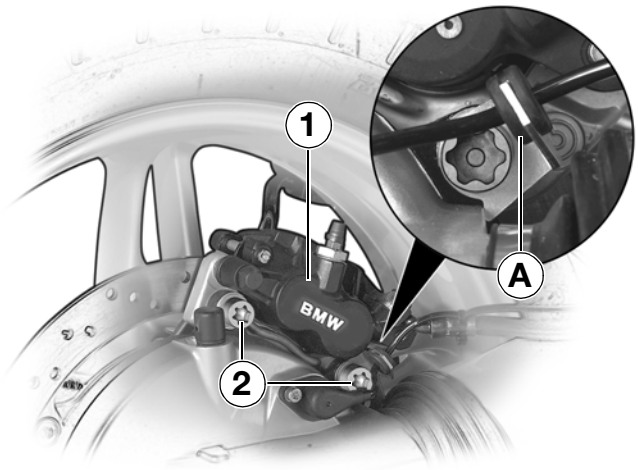


⚠ CAUTION

Use only wheel studs with the same length code number. Do not oil or grease the wheel studs.
Avoid damage to brake lines, brake disk, brake pads or the rim when installing.
Do not damage the ABS sensor cable, the ABS sensor ring or the ABS sensor.

- Check that the wheel centering and contact surfaces for the wheel hub and the shim are free of grease
- Push shim **3** onto the wheel centering spigot
- Insert rear wheel into centering hole
- Hand-tighten wheel bolts **1** with taper rings **2**, then tighten to specified preload torque diagonally
- Tighten the wheel studs **1** crosswise to the tightening torque

Installing rear wheel



- Carefully place brake caliper **1** over the brake disk

⚠ CAUTION

Ensure that retaining bracket **A** is positioned correctly.

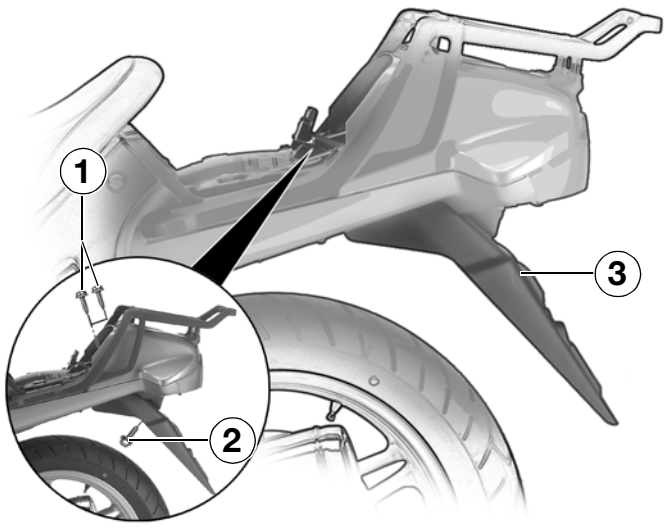
- Tighten brake caliper bolts **2** with washers to the correct torque

⚠ CAUTION

Always have the tightening torques checked by a BMW-certified workshop, preferably an authorized BMW motorcycle retailer.

Tightening torque:

Preload torque
Wheel bolts ..... 50 Nm
Tightening torque
Wheel bolts ..... 105 Nm
Brake caliper bolts ..... 30 Nm

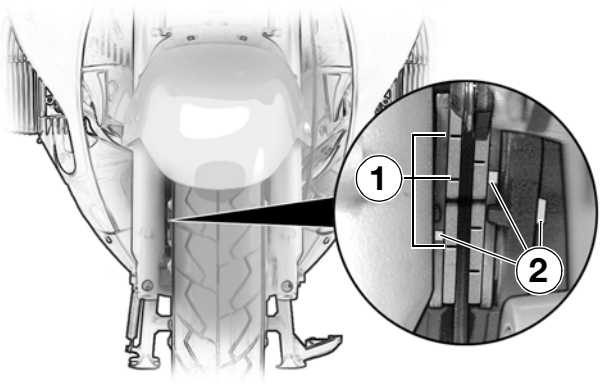


- Install rear wheel cover **3** with bolts **1** and **2**
- Attach the rear seat, engage it in position and check that it is firmly located

⚠WARNING

Once the brake calipers have been completely installed and the ignition has been switched on, and successful self-diagnosis has been performed, the foot brake and hand brake levers must be actuated.

Checking brake pads



Front brake

⚠ CAUTION

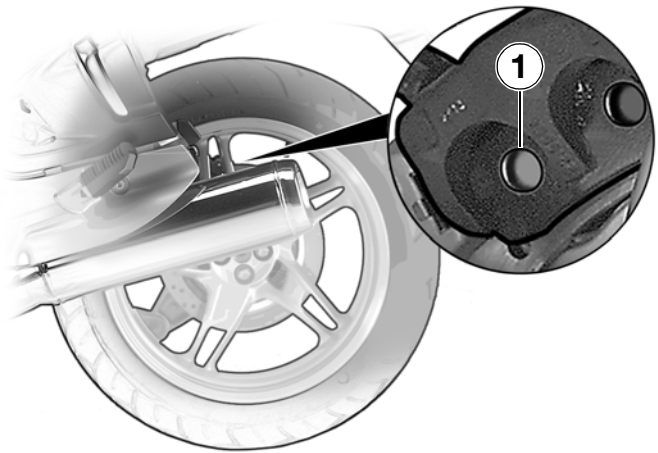
Have the brake pads replaced before the minimum permitted thickness is reached.

NOTE

For your safety, we recommend having work on the brake system performed by a BMW-certified workshop, preferably an authorized BMW motorcycle retailer.

- Place the motorcycle on its main stand
- Conduct a visual inspection of both brake pads and the brake calipers to ensure that they all bear the same colored marking **2**
- Visually check brake pad thickness
  Minimum pad thickness: Wear indicating mark 1 must be clearly visible on the brake pads.

– If the wear indicating mark is no longer clearly visible:
have the brake pads changed by a BMW-certified workshop, preferably an authorized BMW motorcycle retailer.



Rear brake

⚠ CAUTION

Have the brake pads replaced before the minimum permitted thickness is reached.

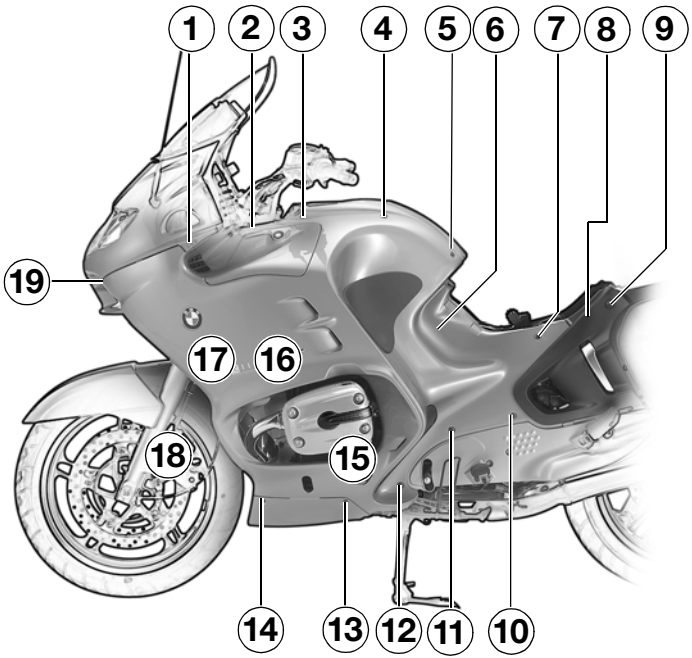
NOTE

For your safety, we recommend having work on the brake system performed by a BMW-certified workshop, preferably an authorized BMW motorcycle retailer.

- Place the motorcycle on its main stand
- Remove system case
- Visually check brake pad thickness
  Minimum pad thickness:Make sure that the brake disk is not visible through the bore 1 in the inner brake pad.

– If the brake disk is visible through the hole **1** in the inner brake shoe:
have the brake pads changed by a BMW-certified workshop, preferably an authorized BMW motorcycle retailer.

Removing side panel



- Place motorcycle on main (center) stand
- Remove system case
- Take off complete two-section dualseat
- Remove bolt **9** and take off side section **8**
- Carefully pull off turn indicator/mirror housing and hold
- Turn the bulb holder counterclockwise to release it, and pull it out

⚠ CAUTION

Watch different bolt lengths.

- Unscrew mounting bolts **1** to **7** and **10** to **19**
- Carefully remove entire side trim
- Assembly is performed in reverse order
- To ease installation of the turn indicator/mirror housing, grease the retaining clips lightly

⚠ CAUTION

First press in turn indicator/mirror housing by striking gently. After installing, always check that it is firmly located.

NOTE

The right-hand side trim should be removed in the same way.

Notes on changing bulbs

Your motorcycle is equipped with Digital Motor Electronic (MOTRONIC) engine management and a high-power ignition system.

⚠WARNING

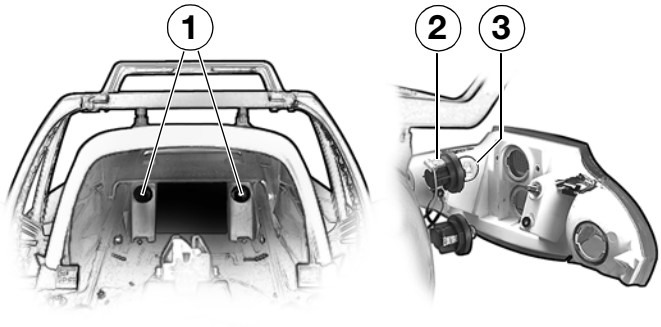
Work on the electrical system only when the circuit has been broken (switch off ignition and lights). For greater safety, disconnect and insulate the negative battery lead. When the engine is running or the ignition is switched on, do not touch electrically live components, terminals or wiring.
– Risk of fatal accident!

⚠ CAUTION

Your motorcycle is equipped with one bulb for each of low beam headlamp, high beam headlamp, parking light, brake light and rear light, two bulbs for the fog lamp and four bulbs for the indicators.
Failure of any one of these bulbs can result in problems with visibility and being seen by others.
You should therefore always carry spare bulbs on the motorcycle.

NOTE

Do not touch the glass of new bulbs with your bare fingers. Use a clean, dry cloth to hold the bulbs when inserting them. Dirt deposits, in particular oil and grease, interfere with heat radiation from the bulb. This leads to overheating and shortens the bulb's operating life.



Rear/brake light, rear turn indicators

⚠ CAUTION

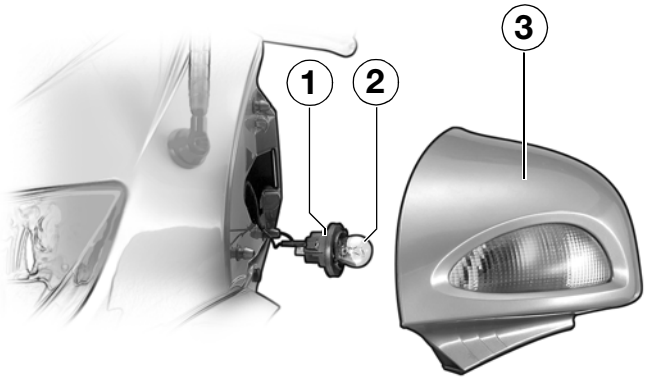
Switch off the ignition before changing a bulb.

NOTE

The dimmed brake light takes over the function of the rear light should the rear light fail. A warning lamp lit in the cockpit indicates that this is the case. (➠ Rider's Manual, Chapter 3). Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when inserting them.

- Place motorcycle on main (center) stand
- Take off the rear seat
- Unscrew and remove the two knurled nuts **1**
- Take off the combined turn indicator/rear light assembly
- Turn holder **2** to the left to release it from its catch, and pull it out
- Press the bulb **3** in and it turn counter-clockwise to release it
- Assembly is performed in reverse order

– Top: Brake light **12 V 21 W**
– Bottom: Rear light **12 V 10 W**
– turn indicator bulbs **12 V 21 W**



Front turn indicators

⚠ CAUTION

Switch off the ignition before changing a bulb.

NOTE

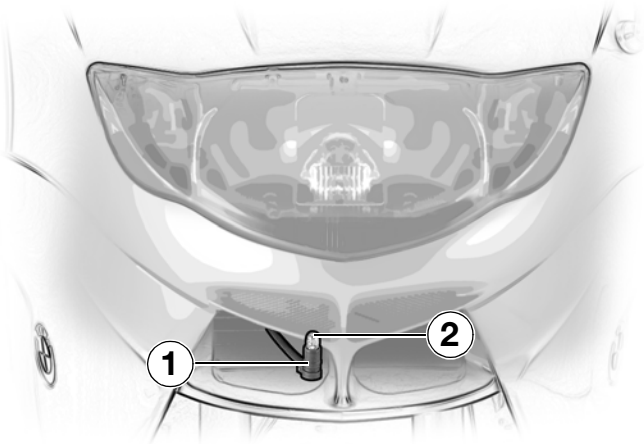
Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when inserting them.

- Place the motorcycle on its main stand
- Carefully pull off mirror/indicator housing **3** and hold it
- Turn the bulb socket **1** counter-clockwise to release it from its catch and pull it out
- Press bulb **2** into socket and disengage by turning counter-clockwise.
- Remove the bulb
- Assembly is performed in reverse order
- To ease installation of the turn indicator/mirror housing, grease the retaining clips lightly

⚠ CAUTION

First press in turn indicator/mirror housing at front by striking gently. After installing, always check that it is firmly located.

– Front indicator bulbs: **2**
12 V 21 W



Parking light

⚠ CAUTION

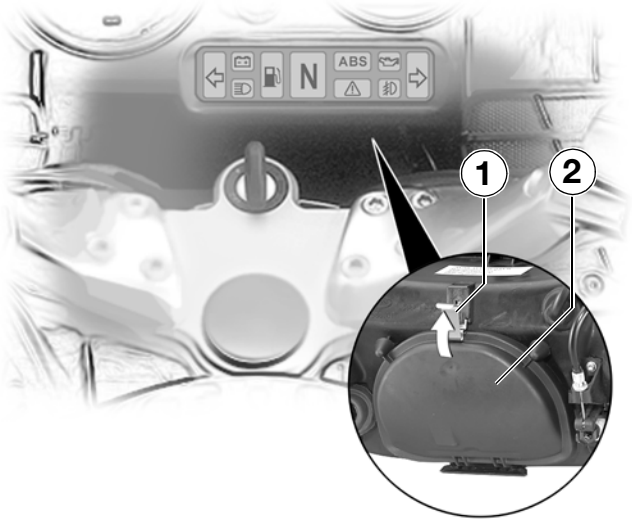
Switch off the ignition before changing a bulb.

NOTE

Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when inserting them.

- Place motorcycle on main (center) stand
- Pull bulb holder **1** downwards out of the headlight casing
- Remove bulb **2** by pressing it in and turning it counter-clockwise at the same time
- Installation is the reverse of the removal procedure

– Parking light bulb **2**: **12 V 5 W**



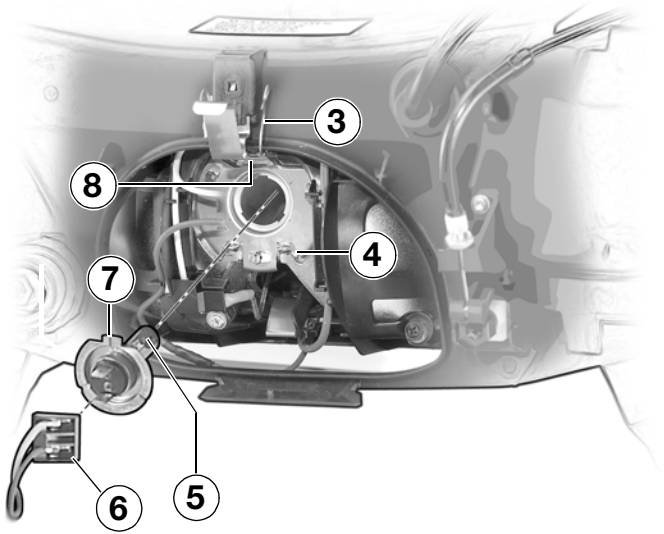
Low beam headlamp

⚠ CAUTION

Switch off the ignition before changing a bulb.

NOTE

Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when inserting them.

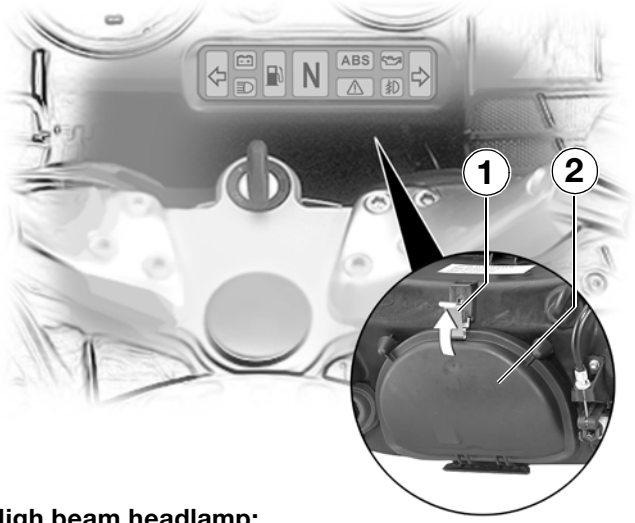


- Place motorcycle on main (center) stand
- Turn the handlebars to the right
- Reach under the cockpit and push the clip **1** upwards (arrow)
- Remove the cover **2**
- Remove the connector housing **6**
- Release the retaining clip **3** from its catch **4** by pushing down and squeezing together at the same time
- Remove the bulb **5**
- Installation is the reverse of the removal procedure

NOTE

Push the bulb base lug **7** into the recess **8**.

– Dipped headlamp **5**:
H7 12 V 55 W



High beam headlamp:

– High beam headlamp:
H3 12 V 55 W

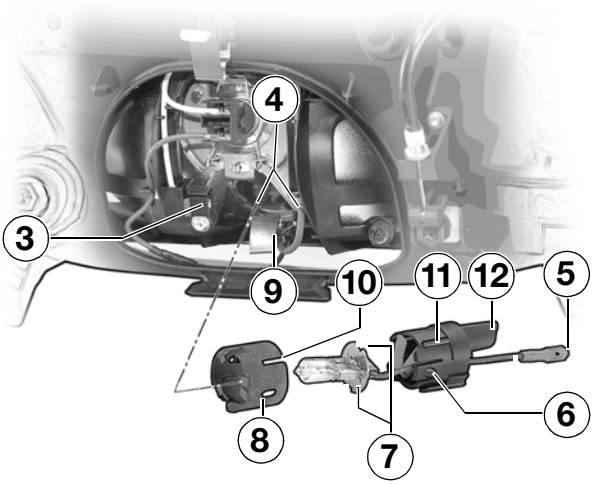
⚠ CAUTION

Switch off the ignition before changing a bulb.

NOTE

Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when inserting them.

- Place the motorcycle on its main stand on a flat, firm surface
- Push the clip **1** upwards (arrow)
- Remove the cover **2**
- Pull the plug-in cable **5** out from the socket housing **3**
- Push the grounding strap **9** downward
- Pull the bulb socket out of the headlight housing using the grab handle **12**



- Use a screwdriver to push in 1 retaining lug **6** on the left and one on the right and take apart the bulb socket
- Pull the H3 bulb out of the lamp ring **8**
- Installation is the reverse of the removal procedure

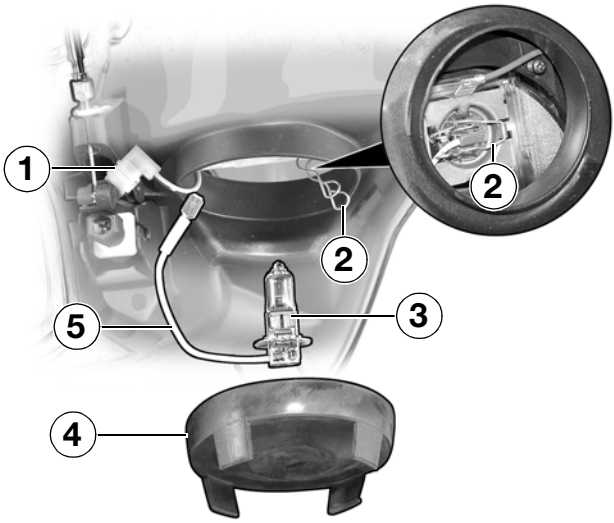
– High beam headlamp:
H3 12 V 55 W

NOTE

When installing, align the H1 bulb such that the slots **7** on the bulb socket slide into the guides in the lamp ring **8**.

NOTE

When assembling the bulb socket, align the slot **10** on the lamp ring **8** such that it is pointing towards the bulb socket guide **11**.
Make sure the retaining lugs **6** engage.
When inserting the bulb socket into the headlamp, ensure that the grounding strap **9** engages in the two slots **4**.



Foglamp

⚠ CAUTION

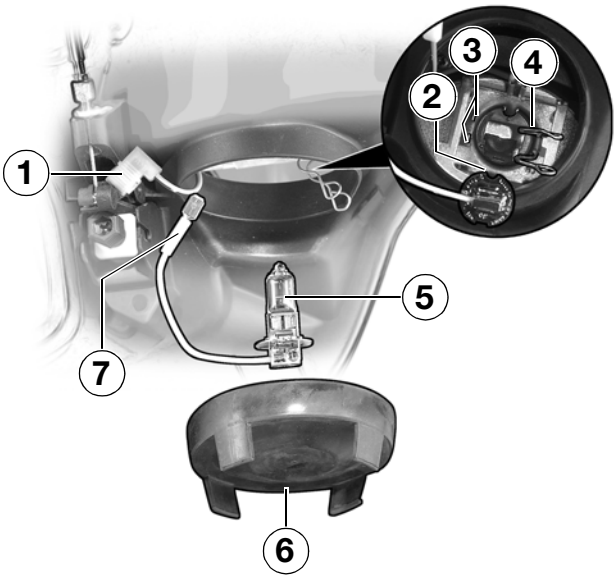
Switch off the ignition before changing a bulb.

NOTE

Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when inserting them.

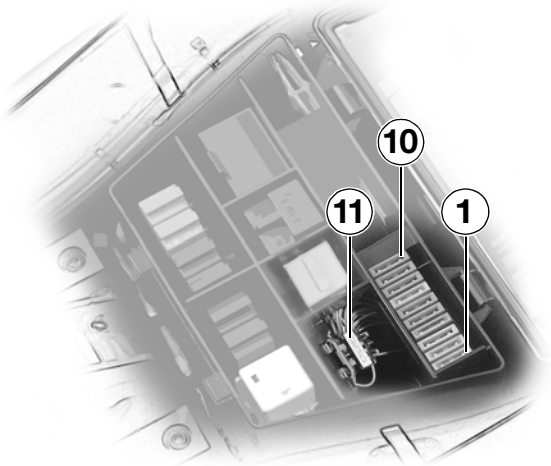
- Place the motorcycle on its main stand on a flat, firm surface
- Remove the rubber cover **4**
- Release the retaining clip **2** by pressing down and squeezing together at the same time
- Take out bulb **3**
- Pull the plug-in cable **5** out from the socket housing **1**

– Foglamp bulbs: **H3 12 V 55 W**



- Insert the new bulb **5**, taking care to ensure that the slot **2** is pointing to the rear
- Click the retaining clip **4** into its catch **3**
- Insert the plug-in cable **7** into the socket housing **1**
- Replace the rubber cover **6**

Fuses

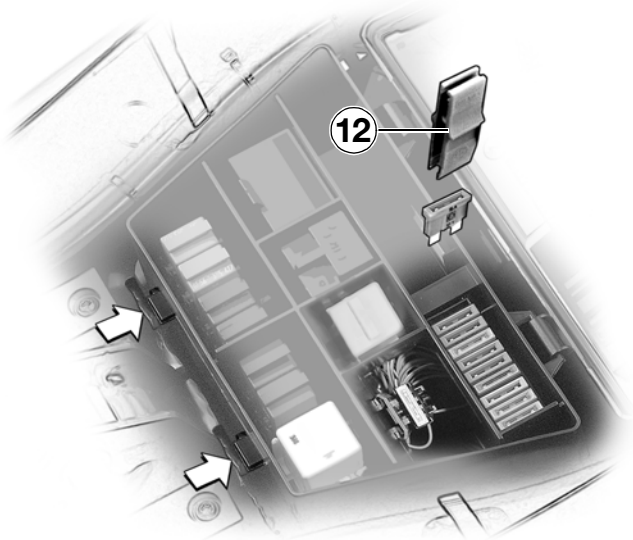


Fuse assignment

1 Instrument cluster .....4 A
2 Parking light, ABS .....4 A
3 Power sockets, RID, radio, optional equipment plug, windshield adjustment ...15 A
4 Horn .....7.5 A
5 Motronic, RID, Motronic relay, diagnosis plug....10 A
6 Lambda probe, injector, fuel pump .....10 A
7 Heated handles .....4 A
8 Low beam headlamp, instrument lighting.....7.5 A
9 High beam headlamp....7.5 A
10 Lighting relay, foglight ....15 A
11 Radio .....4 A

⚠ CAUTION

Before changing a fuse, switch off the ignition.
Never attempt to repair a blown fuse – risk of fire!
For this reason, always carry a number of spare fuses on the motorcycle.
Use only fuses of the specified rating and type.

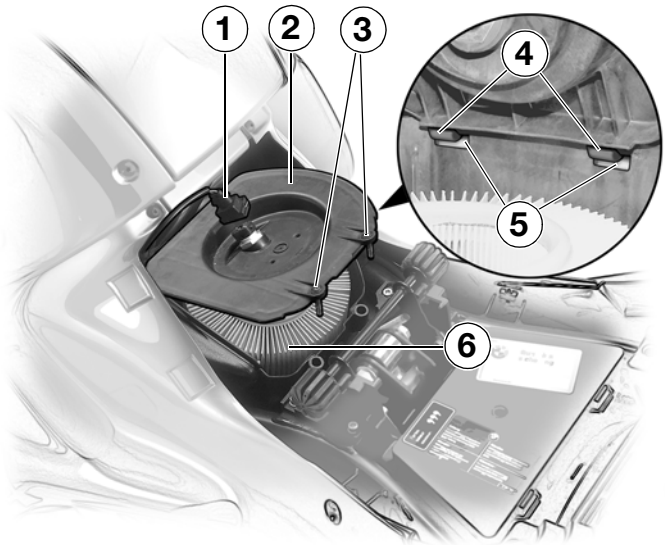


Replacing fuses

- Place the motorcycle on its main stand
- Remove the dualseat
- Release and take off the cover of the central electrical equipment box
- Use the puller **12** supplied to pull the blown fuse out of its holder
- Insert a new fuse of the correct rating
- Close the lid of the central electrical equipment box
- Close and lock the seat

NOTE

If the electrical system often displays faults, have it checked by a BMW-certified workshop, preferably by an authorized BMW motorcycle retailer.



Replacing air filter element

- Place the motorcycle on its main stand
- Remove the dualseat
- Disconnect air-temperature sensor plug connection **1**
- Unscrew two mounting bolts **3** from air filter cover **2**
- Remove the air filter cover **2** from the air filter housing
- Remove the old filter cartridge **6** from the air filter housing
- Place the new filter element in position inside the air filter housing
- Installation is the reverse of the removal procedure

NOTE

When installing, position the air filter cover as illustrated and the engage pins **4** in the tabs **5** on the air filter housing.
Close the cover.

Gel batteries are maintenance-free. Compliance with the following instructions is important for achieving a long battery life:

⚠ CAUTION

– Keep battery surface clean and dry
– Do not attempt to open battery
– Do not attempt to top up battery with water
– Use only electronically controlled battery chargers with a voltage limit of 14.4 V to charge battery.

Proper care, charging and storage will prolong the life of the battery and are essential for possible warranty claims.

⚠WARNING

The motorcycle must not be jump-started using the power socket.
– Risk of fire!
• Push-start the motorcycle only when the engine is cold.

The load capacity of the wires leading to the power socket is not rated for jump-starting the engine.

⚠ CAUTION

Do not attempt to jump-start the motorcycle if the battery is completely drained. Recharge the battery instead.
Risk of damage to the control units.

Motorcycle out of use for extended periods

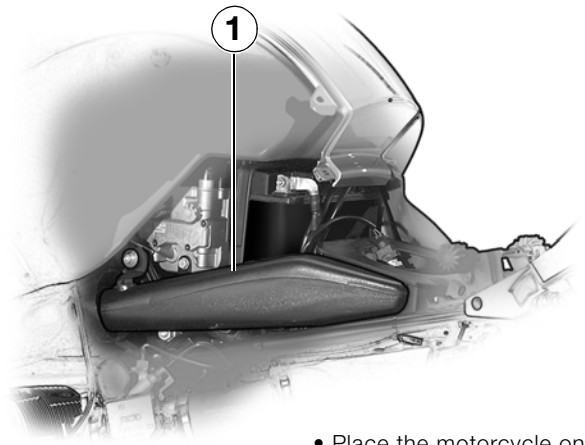
- The battery must be charged prior to storage periods of more than one month

⚠ CAUTION

If the battery is not disconnected, the onboard electronics (clock etc.) will discharge the battery. This can cause the battery to become completely drained. In this case, warranty claims will not be accepted.
Disconnect the ground cable for from the battery prior to storage.

– Batteries that are not in use must be stored in a cool place. Do not shore a discharged battery
– If the battery is in storage for an extended period of time, recharge it approx. every 4 months. If the battery has not been disconnected from the motorcycle's systems, recharge it every 2 months at the latest
– Always fully recharge the battery before returning it to use

In case of doubt ask a specialist, preferably an authorized BMW motorcycle retailer, to prepare the vehicle for storage and to carry out the necessary battery maintenance and storage.



Removing battery

⚠WARNING

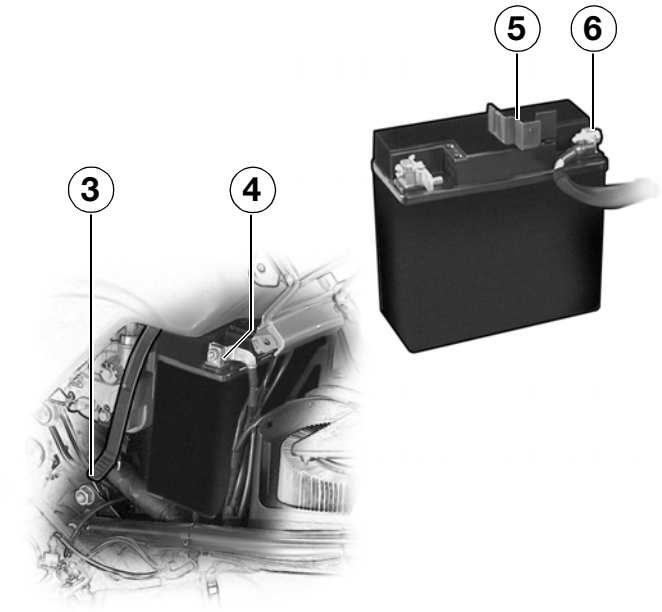
Avoid damage to fuel tank, wiring and hoses during removal work.
Before disconnecting the battery, switch off the ignition.
To avoid short-circuits:

- First disconnect the **negative** battery lead (–),
- then the **positive** battery lead (+).
- Place the motorcycle on its main stand
- Remove the dualseat
- Remove the left-hand side trim (➠ 35)
- Remove the air filter cover (➠ 48)
- Remove the air intake pipe **1**

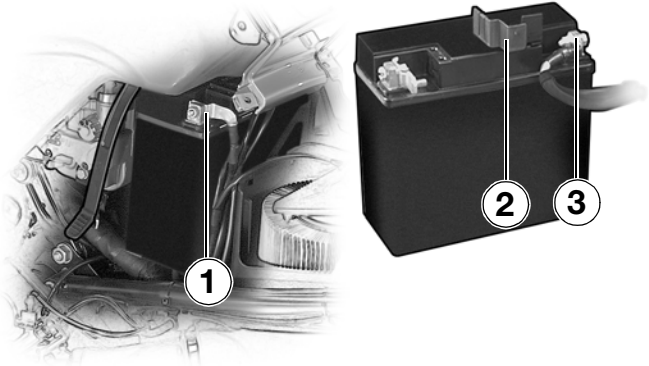
NOTE

Disconnecting the battery deletes all entries (e.g. faults, settings) stored in the Motronic control unit's memory.
Loss of settings can temporarily impair the operating characteristics when the engine is restarted.

Battery



- Release the battery retaining clip **3**
- Disconnect the **negative** battery lead (–) **4**
- Pull out the battery to the left and hold it horizontally
- Open the protective cap on the battery positive pole **5** using a screwdriver
- Disconnect the **positive** battery lead (+) **6**
- Remove the battery



- Installation is the reverse of the removal procedure

Installing battery

⚠WARNING

Before connecting the battery, switch off the ignition. To avoid short-circuits:

- **Connect the positive battery lead (+) 3 first**
- **Close the protective cap 2 for the positive battery pole**

– **Never install the battery without the protective cap**

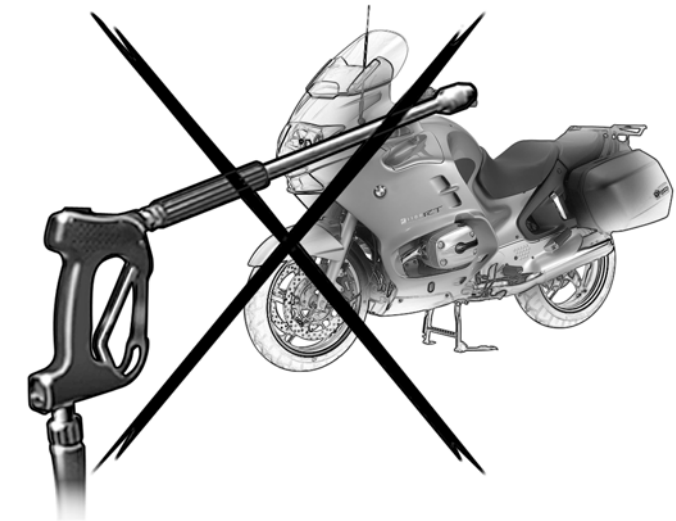
- **Connect the negative battery lead (–) 1**

NOTE

Disconnecting the battery deletes all entries (e.g. faults, settings) stored in the Motronic control unit's memory.
Loss of settings can temporarily impair the operating characteristics when the engine is restarted.

- Switch on the ignition
- Fully open the throttle once or twice

– The Motronic registers the throttle-valve positions

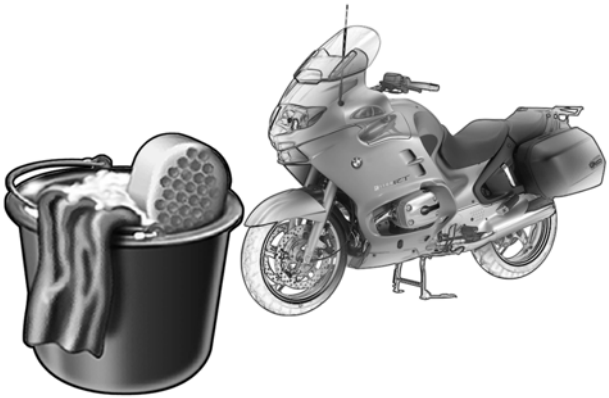


NOTE

Regular cleaning using the correct methods is an important factor in maintaining the value of your motorcycle.
It also ensures that safety-relevant parts remain in full working order.

⚠ CAUTION

Aggressive or deep-action cleaning products and solvents should not be used to clean rubber and plastic parts; they may cause damage.
Do not use a steam jet or high-pressure cleaning equipment. High water pressure can damage seals, the hydraulic brake system or the complete electrical system.



Cleaning

- Place the motorcycle on its main stand
- Clean the wheels, engine, transmission and swinging arm with a mild detergent, following its manufacturer's instructions
- Thoroughly dry all wet surfaces
- Use only BMW care products to clean trim parts
- Do not use solvents or cleaning products to wash the instrument cluster, switches or the windshield
  Try not to scratch the windshield
- Remove tar splashes only with an approved cleansing agent – rinse the affected area thoroughly
- Clean dead flies and other insects or similar dirt deposits off the fork stanchions
- Treat painted and chrome-plated surfaces regularly with the approved care products

⚠WARNING

After cleaning or before starting a journey, always test the brakes.

Removing road salt

- Wash the motorcycle down immediately with cold water at the end of the journey

NOTE

Do not use warm water – this aggravates the effect of the salt

- Dry the motorcycle thoroughly
- Apply a wax-based corrosion inhibiting product to chrome-plated parts
- After cleaning and drying the trim, apply a recommended wax polish

Cleaning the windshield

- Remove dirt and dead insects with a soft sponge and plenty of water

NOTE

Soften stubborn dirt or insects by soaking with a wet paper towel.

⚠ CAUTION

Do not use cleaning agents. Fuel or chemical solvents attack the windshield material.

Touching up paint damage

- Use a BMW paint pen to repair minor damage to the paint work

⚠ CAUTION

Comply with the manufacturer's working instructions and safety precautions.

NOTE

More extensive damage should be attended to by a BMW-certified workshop, preferably an authorized BMW motorcycle retailer.

Care of muffler

- Use Autosol “Metal Polish” (BMW order no. 82 14 9 400 890) to touch up any (operational or environmental) discoloration of the exhaust system.

Storing

- Clean the motorcycle (➠ 54-57)
- Remove the battery (➠ 51-52)
- Spray the clutch lever pivots and the main and side stand pivots with a suitable lubricant
- Coat bright metal/chrome-plated parts with an acid-free grease (e.g. Vaseline)
- Place the motorcycle on its main stand in a dry room
- Support it under the engine so that neither wheel is taking its weight

NOTE

Before storing the vehicle have the engine oil and the oil filter element changed by a BMW-certified workshop, preferably your authorized BMW motorcycle retailer.

It is always a good idea to combine the preparations for storing and the post storage work with a Service check or Inspection by a BMW-certified workshop, preferably your authorized BMW motorcycle retailer.

Returning to use

- If necessary, remove protective wax coating
- Clean the motorcycle (➠ 54)
- Install a charged battery (➠ 53)
- Check/correct tire pressures (➠ Rider's Manual, Chapter 2)
- Check the brakes (➠ Rider's Manual, Chapter 2)
- Carry out safety checks (➠ Rider's Manual, Chapter 2, 3)

Engine

	R 1150 RT	R 850 RT
Type	Two-cylinder, air-cooled boxer engine with additional oil-cooled outlet, chain-driven side camshaft 4 bucket tappet/push rod-operated valves/cylinders, wet sump lubrication.	
Displacement	1,130 cm^3	848 cm^3
Maximum rated output in accordance with DIN 70 020		
	70 kW	54 kW
- at engine speed	7,250 rpm	
Maximum torque	100 Nm	80 Nm
- at engine speed	5,500 rpm	
Permissible engine speeds		
Maximum speed	7,900 rpm	8,150 rpm
Idling speed	1,100 $^{\pm 50}$ rpm	
Bore/stroke	3.98/2.78 in (101/70.5 mm)	3.44/2.78 in (87.5/70.5 mm)
Compression ratio	11.3 : 1	10.3 : 1
Fuel consumption as per ISO 7118		
at a constant rate of approx. 56 mph (90 km/h)	50 mpg (4.7 l/100 km)	60 mpg (3.9 l/100 km)
at a constant rate of approx 75 mph (120 km/h)	42 mpg (5.6 l/100 km)	49 mpg (4.8 l/100 km)
Maximum oil consumption	2,350 mpg (1 l/1,000 km)	

	R 1150 RT	R 850 RT
Clutch	Lightweight single-plate dry clutch mounted on crankshaft, with increased-leverage diaphragm spring and starter gear ring.	
	Hydraulic actuation	
Clutch plate dia.	6.5 in (165 mm)	
Transmission	6-speed with claw shift and integral torsional vibration damper	
Gear ratios	1st gear = 3.863 2nd gear = 3.022 3rd gear = 2.393 4th gear = 1.961 5th gear = 1.700 6th gear (E) = 1.317	
Power transmission from transmission to rear wheel drive	By shaft protected within hollow swinging arm of Paralever rear suspension, with integral torsional vibration damper and two universal joints.	
Rear wheel drive	Crown wheel and pinion with Palloid teeth, running in anti-friction bearings; rear wheel directly flange-mounted to rear of crown wheel.	
Final drive ratio	1 : 2.91	1 : 3.2

	R 1150 RT R 850 RT
Frame	New, 3-part chassis design. The self-supporting engine and transmission unit is connected to a rear frame made from steel tubing via a front frame made from cast aluminum.
Location of type plate and frame number	On right of front frame section
Front brake	hydraulically operated twin-disk brake with 4-piston fixed calipers, diagonal drain adjustment and floating stainless steel brake disks. Sintered metal brake pads Observe colored marking (➠ 32)
Rear brake	Hydraulically actuated disk brake with floating caliper and stainless steel disk. Sintered metal brake pads

	R 1150 RT	R 850 RT
Wheel location		
Front	Quick-response wheel control (Telelever) with central spring strut.	
Rear	Single tubular cast-aluminum swinging arm with additional torque arm for compensating cardan reactions (Paralever) with central spring strut.	
Steering lock angle of front wheel	2 x 34°	
Front wheel castor		
- in normal-load position	4.80 in (122 mm)	

Frame and suspension

	R 1150 RT	R 850 RT
Front suspension	Central strut with linear-rate coil spring (with taper-wound ends) and twin-tube, gas-filled shock absorber.	
Spring compression	2.56 in (65 mm)	
Spring extension	2.17 in (55 mm)	
Total travel	4.72 in (120 mm)	
Fixed tube diameter	1.38 in (35 mm)	
Rear suspension	Central strut with coil spring and single-tube, gas-filled shock absorber. Continuously variable rebound damping setting. Spring pre-load variable in 40 stages by means of hydraulic cylinder.	
Spring compression	4.13 in (105 mm)	
Spring extension	1.18 in (30 mm)	
Total travel (at wheel)	5.32 in (135 mm)	
Swinging arm length	19.92 in (506 mm)	

	R 1150 RT	R 850 RT
Wheels and tires	BMW cast aluminum wheels with 5 double spoke design, low cross-section tires	
Front wheel	Angled rim shoulder and double tire retaining hump	
Size and designation	3.50 x 17 MT H2	
Tire size and designation	120/70 ZR17 TUBELESS	
Rear wheel	Angled rim shoulder and double tire retaining hump	
Size and designation	5.00 x 17 MT H2	
Tire size and designation	170/60 ZR17 TUBELESS	

Tire pressure for cold tires		
Solo	Front	31.9 psi (2.20 bar)
	Rear	36.3 psi (2.50 bar)
Rear passenger	Front	36.3 psi (2.50 bar)
	Rear	42.1 psi (2.90 bar)

Recommended minimum tire tread depth	
Front wheel	0.08 in (2 mm)
Rear wheel	0.12 in (3 mm)

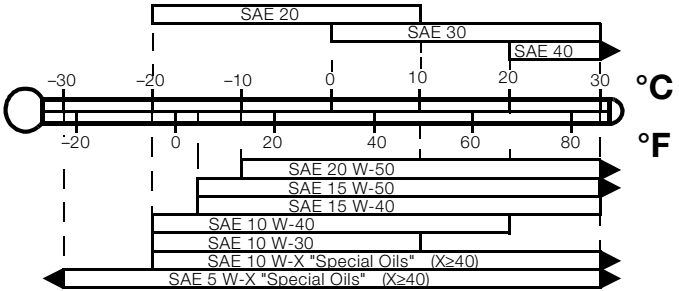
⚠WARNING

Comply with legally specified minimum tread depth.

R 1150 RT **R 850 RT**

Engine oil

Brand-name HD oil of the API classification SF, SG or SH; CD or CE amendments are permissible; or brand-name HD oil of the CCMC classification G4 or G5; amendment PD2 is permissible.



The viscosity class depends on outside temperatures. Temperatures above or below the limits quoted for the individual SAE classifications are permitted for brief periods only. “Special Oils” are approved individually by BMW AG and available from your authorized BMW motorcycle retailer.
All engine oils supplied by BMW are subject to regular BMW quality assurance checks.
BMW does not approve the use of any upper-cylinder lubricants or similar oil additives.

Capacities, engine

- without filter replacement	3.7 quarts (3.50 l)
- if filter is renewed	4 quarts (3.75 l)

	R 1150 RT R 850 RT
Gear oil	Brand-name hypoid gear oil, API class GL 5
Capacity	
Transmission	approx. 0.85 quarts (0.8 l) (up to lower edge of filler opening)
Rear wheel drive (after stripping down)	approx. 0.26 quarts (0.25 l) (up to lower edge of filler plug)
Viscosity class	EPX 90, alternatively SAE 90 API
Fuel type	**Super unleaded fuel as per DIN 51 607, minimum octane number 95 (RON) and 85 (MON) with catalytic converter,** or selected super leaded fuels as per DIN 51 600, minimum octane number 95 (RON) and 85 (MON) for motorcycles without catalytic converter.
Fuel tank capacity	6.66 gal (25.2 l) including approx. 1 gal (4 l) reserve

	R 1150 RT R 850 RT
Bearing lubrication and lubricating points	Brand-name anti-friction bearing grease, usable temperature range – 13 °F to 284 °F (-25 °C ...+120 °C), drip point 374 °F (190 °C), high corrosion protection, good resistance to water and oxidation; e.g. Shell Retinax EP2
Brake fluid	DOT 4 We recommend BMW brake fluids **⚠ CAUTION** Use only new brake fluid to DOT 4 specification.

	R 1150 RT	R 850 RT
Spark plugs		
Approved makes/types		
Primary spark plug	NGK BKR 7 EKC	
Secondary spark plug	Bosch YR6LDE or NGK DCPR 8 EKC	
Electrode gap	0.031 $^{+/-0.1}$ in (0.8 $^{+/-0.1}$ mm)	
Wear limit	0.04 in (1.0 mm)	
Fuses	"Minifuse" flat-socket fuses	
Amperage ratings	4 A, 7.5 A, 10 A, 15 A	
Headllamp	Halogen tandem headlight with foglamp	
Bulbs		
Low beam headlamp	H7 halogen bulb 12 V 55 W	
High beam headlamp:	H3 halogen bulb 12 V 55 W	
Foglamp	H3 halogen bulb 12 V 55 W	
Parking light	DIN 72 601 12 V 5 W Standard designation T 8/4	
Brake light	DIN 72 601 12 V 21 W Standard designation P 25-1	
Rear light	DIN 72 601 12 V 10 W Standard designation R 19/10	
Flashing turn indicators	DIN 72 601 12 V 21 W Standard designation P 25-1	
Turn indicator repeaters	DIN 72 601 12 V 4 W Standard designation T 8/4	
Other indicator and warning lights, instrument lighting	DIN 72 601 12 V 3 W Standard designation W 10/3	

Dimensions and weights

	R 1150 RT	R 850 RT
Overall length	87.8 in (2,230 mm)	
Width		
across mirrors	35.35 in (898 mm)	
- over handlebar ends (with vibration dampers)	30.43 in (773 mm)	
across front footrests	23.5 in (597 mm)	
across rear footrests	26.77 in (680 mm)	
Overall height (excl. mirrors)	approx. 54.33 in (1,380 mm)	
Seat height at curb weight	31.7/32.5/33.3 in (805/825/845 mm) 30.7/31.5/32.3 in (780/800/820 mm)[OE] 3x adjustable	
Wheelbase		
- in normal-load position	58.46 in (1,485 mm)	
Ground clearance		
- in normal-load position	6.02 in (153 mm)	
Curb weight		
(ready to ride, tank full)	615 lbs (279 kg)	
Dry weight	572 lb (259.5 kg)	
Permissible total weight	1,091 bs (495 kg)	
Permissible wheel loads		
Front	440.9 lbs (200 kg)	
Rear	727.5 lbs (330 kg)	

[OE] Optional equipment

	R 1150 RT	R 850 RT
Top speed		
acc. to type approval test	124 mph (200 km/h)	
Flexibility		
4th gear 50-75 mph (80-120 km/h)	3.57 s	4.22 s
5th gear 50-75 mph (80-120 km/h)	4.49 s	5.27 s
6th gear 50-75 mph (80-120 km/h)	6.78 s	8.39 s
Power-to weight ratio		
ready for road + rider (187 lbs/85 kg)	8.9 lbs/kW (4.05 kg/kW)	
at total weight limit	15.9 lbs/kW (7 kg/kW)	
Ride-past noise level		
to 97/24-9/EC	80 dB (A)	

Motorcycle data

Model

Frame No.

Color No.

First registered on

Registration No.

Retailer data

Person to contact for Service work

Ms./Mr.

Tel. No.

Retailer's address with telephone No. (company stamp)

Details described or illustrated in this booklet may differ from the motorcycle's actual specification as purchased, the accessories fitted or the national-market specification. No claims will be considered as a result of such discrepancies.
Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.

The right to modify designs, equipment and accessories is reserved. Errors and omissions excepted.

Printed in Germany

BMW recommends Castrol

BMW Motorrad
Printed information

Order No.:
01 47 7 693 607
05.2004
4th edition US / RF

The Ultimate
Driving Machine