Maintenance Instructions

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 protecting the rider or other persons from severe or fatal injury.

Attention:
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 laid down. 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, among other things, materials.
Your authorised BMW motorcycle dealer is best placed to provide information on the currently specified Service, Inspection and Annual Service work needed.

Important:
BMW refuses to accept liability for damage or consequential damage due to repairs or service work carried out by other than BMW-authorised workshops.

Consequently, we advise you to have service and inspection work carried out by your authorised BMW motorcycle dealer's specially trained, expert personnel, and confirmed by an entry in the Maintenance Instructions.
Authorised BMW motorcycle dealers are supplied with the latest technical information and have the necessary technical know-how and specially trained staff.
Please do not hesitate to contact your authorised BMW motorcycle dealer on all matters concerning your motorcycle.
Authorised BMW motorcycle dealers 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 genuine accessories and spare parts that have been tested and approved by the manufacturer, you can be sure that BMW has carried out 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 authorised BMW motorcycle dealers, together with expert advice on their installation and use.

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

BMW Inspection, 1,000 km
BMW Running-in Check after the first 1,000 km.

BMW Service
After the first 10,000 km and every further 20,000 km (30,000 km..., 50,000 km ..., 70,000 km...)

BMW Inspection
After the first 20,000 km and every further 20,000 km (40,000 km..., 60,000 km ..., 80,000 km ...)

BMW Annual Inspection
Certain items of maintenance work depend on elapsed time as well as the distance the motorcycle has covered. These tasks must therefore be performed at least one a year (e.g. changing the brake fluid).
If these items cannot be carried out during a Service or an Inspection, an Annual Inspection must be performed.

Note:
Every authorised BMW motorcycle dealer 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 like, you can view the current maintenance schedule for your motorcycle on the Internet and download the file from www.bmw-motorrad.com/maintenance.

Confirmation of maintenance work

BMW Pre-delivery Check

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service 10,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection 1,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection 20,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Service
30,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
50,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
40,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
60,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Service
70,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
90,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
80,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
100,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Service
110,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
130,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
120,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
140,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Service
150,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
170,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
160,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
180,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Service
190,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Service
210,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
200,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

BMW Inspection
220,000 km

Carried out in accordance with manufacturer's instructions

Odometer reading

Date, stamp, signature

Confirmation of maintenance work

BMW Annual Inspection
Carried out 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
Carried out 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
Carried out 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
Carried out 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
Carried out 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
Carried out 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
Carried out 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
Carried out 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 carried out in workshop		
Work carried out	**km**	**Date**

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

Record of all work carried out in workshop		
Work carried out	**km**	**Date**

The list is intended as a record of maintenance, warranty and repair work, the installation of 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 interrupted (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.

Authorised BMW motorcycle dealers 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 carried out by other than BMW-authorised 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 the legal requirements. The motorcycle must not infringe your national road-vehicle construction and use regulations.
Your authorised BMW motorcycle dealer 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 refuses to accept any liability whatsoever for other-make spare parts and accessories.

Troubleshooting chart

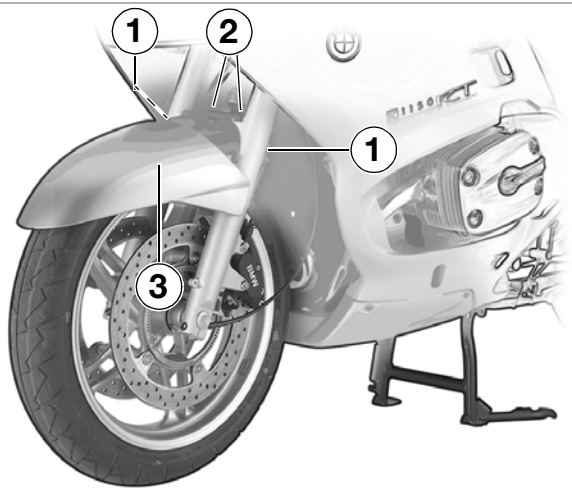
Malfunction: Engine does not start at all or is very difficult to start

Possible cause	Remedy	See ➠ Page
Wrong ignition key position	Operate correctly	Rider's Manual
Kill switch activated	Operate correctly	Rider's Manual
Side stand extended 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 specialist workshop, preferably an authorised BMW motorcycle dealer, to be repaired.

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

Removing the front wheel



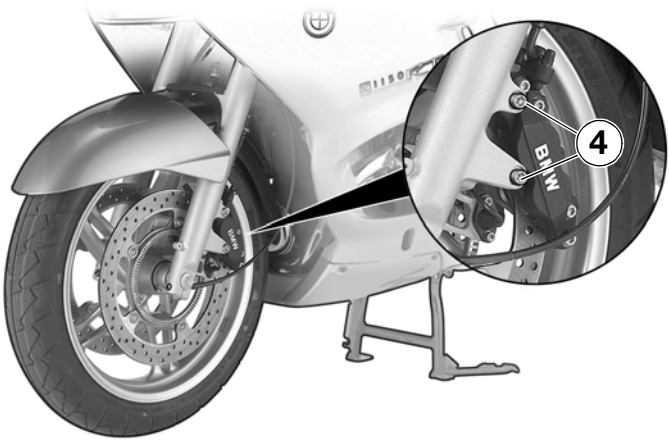
Attention:
When removing, avoid damage to brake pipes, brake discs, brake pads or the wheel rim (mask off with tape if necessary). Keep dirt and moisture away from the wheel bearings.
Do not damage the ABS sensor cable, the ABS sensor ring and the ABS sensor.

Note:
Mark the installed position on the tyre or ABS sensor ring or note the direction-of-rotation arrow if it is marked on the tyre.

- 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 forwards.

- Remove the 4 securing screws **1** and **2**
- Remove front mudguard **3**

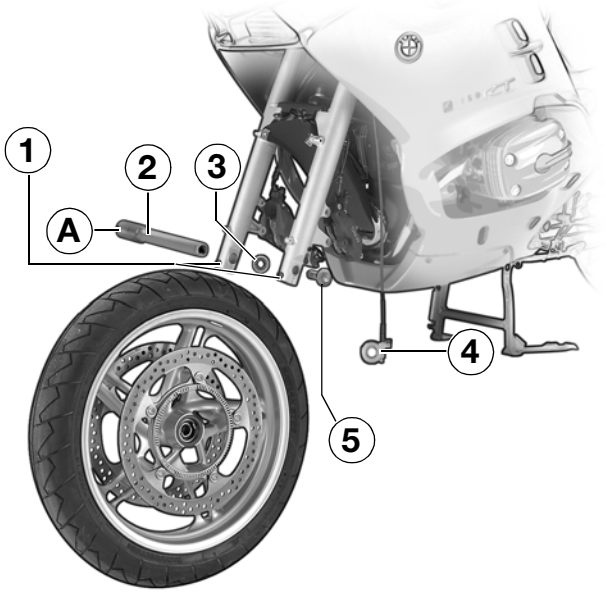


- Remove securing screws **4** for the left/right brake calipers
- Remove the ABS sensor wire from the clip (next to the upper retaining screw for the left brake caliper)
- Push the brake pads back a little by lightly rocking the brake calipers
- Carefully take off the left and right brake calipers

Attention:
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 operate the brake lever when the brake calipers have been removed.

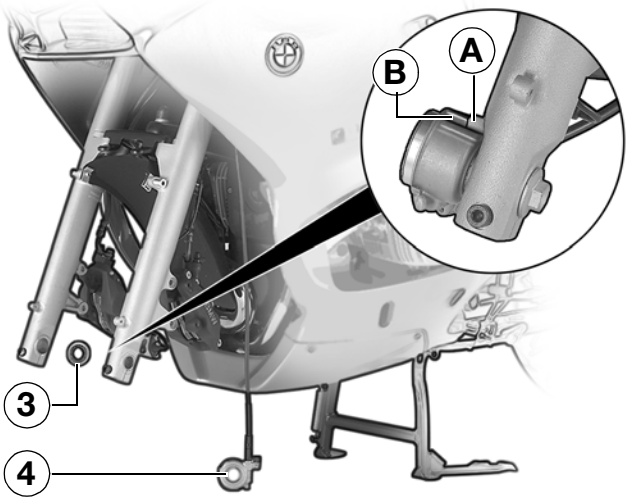
Note:
Check the brake pads (➠ 32) (have them replaced if necessary).

Removing the front wheel



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

Attention:
When setting down the front wheel, take care not to damage the brake discs and the ABS sensor ring. Keep dirt and moisture away from the wheel bearings.



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

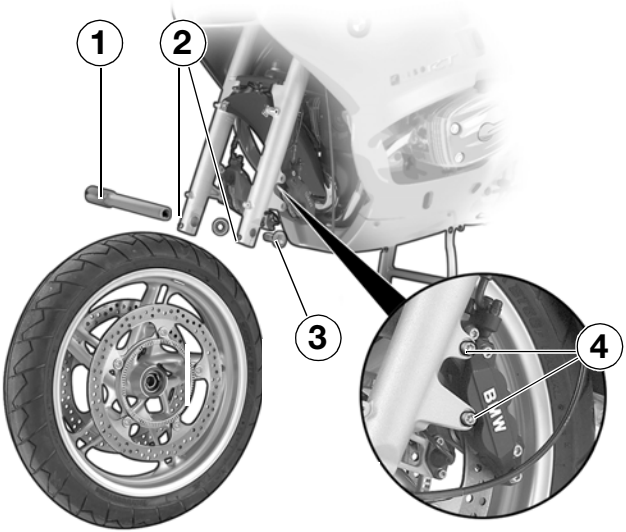
Note:
Note arrow on tyre indicating correct direction of rotation.

- Roll the front wheel in between the fork stanchions

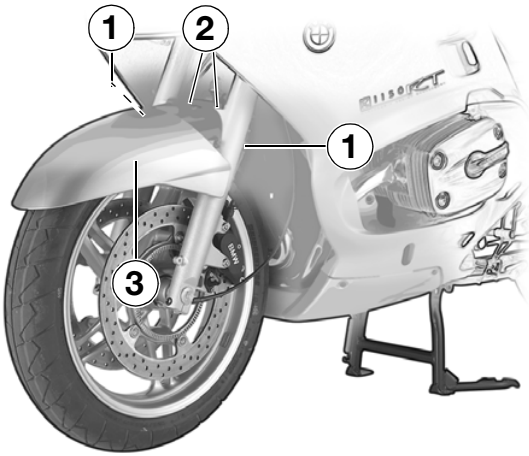
Attention:
Lug **A** on the sliding tube must be inserted into recess **B** on the speedometer drive to prevent damage to the speedometer shaft.

- Insert the spacer bushing and the speedometer drive.
  Looking forwards:
  – left: speedometer drive **4**
  – right: spacer bushing **3**

Installing the front wheel



- Clean quick-release axle **1**, grease it, and insert it from the right, turning it slightly at the same time (while holding the wheel up)
- Hand-tighten axle screw **3**
- Hand-tighten axle clamp screws **2** on left and right
- Compress the front fork firmly several times
- Tighten axle screw **3** to its specified torque
- Tighten axle clamp screws **2** on left and right to their specified torque
- Slip the left and right brake calipers over the brake discs
- Tighten brake caliper screws **4** to their specified torque
- Press the ABS sensor wire into the clip (next to the upper left brake caliper securing screw)



Attention:
Note the spacers.

- Install front mudguard **3**
- Insert securing screws **1** and **2** and tighten them carefully

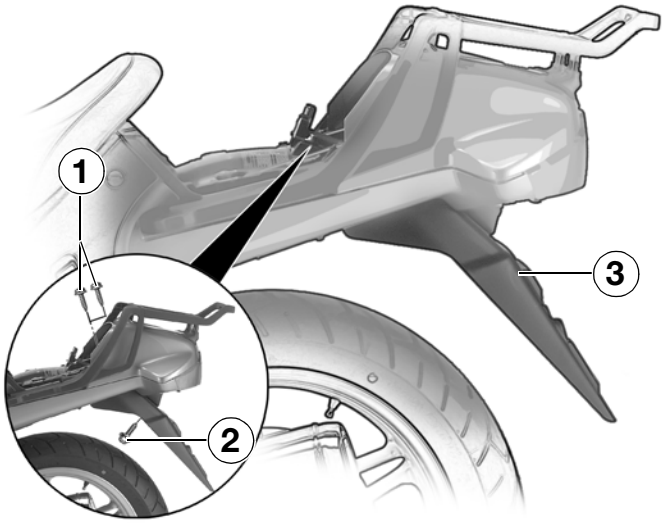
Tightening torque:

Brake caliper screws	30 Nm
Axle screw	30 Nm
Axle clamp screws	22 Nm

Attention:
Always have the tightening torques checked by a specialist workshop, preferably by an authorised BMW motorcycle dealer.

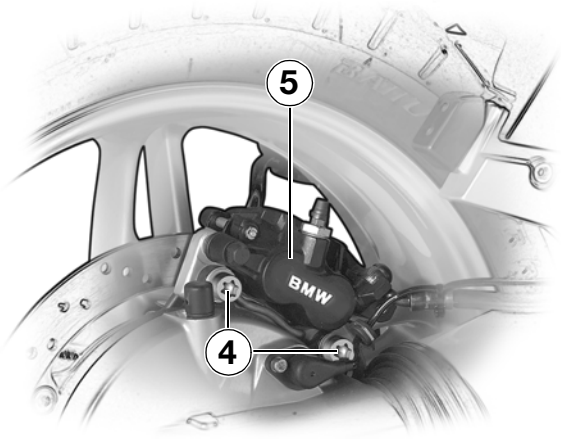
Warning:
Once the brake calipers have been completely installed and the ignition has been switched on and successful self-diagnosis has been carried out, the hand brake lever must be operated to restore full function.

Removing the rear wheel



Attention:
When removing, avoid damage to brake pipes, brake discs, brake pads or the wheel rim (mask off with tape if necessary).
Do not damage the ABS sensor cable, the ABS sensor ring and 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
- Remove 2 cross-head screws **1** in the rear body section
- Remove hex screw **2**, working from underneath
- Remove rear wheel cover **3**

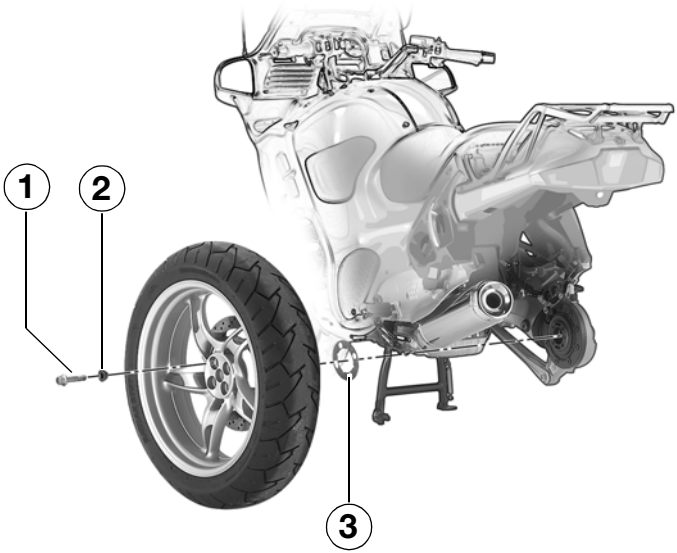


Attention:
Do not scratch the wheel when forcing back the brake pads or removing the caliper (apply masking tape if necessary).
To prevent damage to the brake caliper and possible difficulty when assembling: never operate the brake lever when the brake calipers have been removed.

- Remove brake caliper screws **4**
- Push the brake pads back a little by lightly rocking the brake calipers
- Carefully remove brake caliper **5**

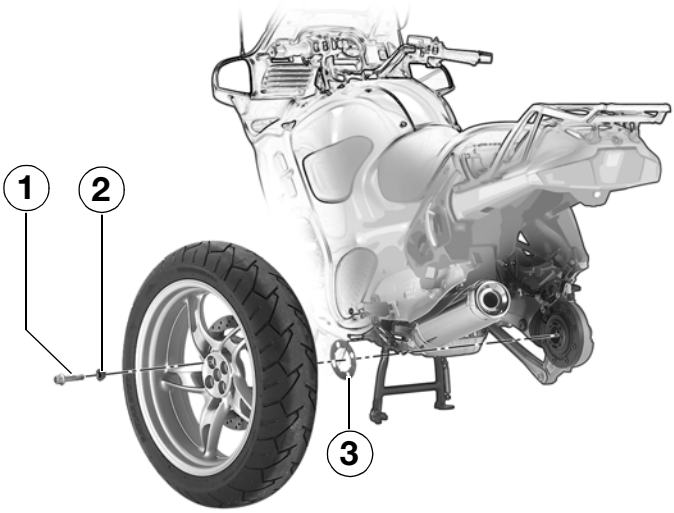
Note:
Check the brake pads (➠ 33) and have them replaced if necessary.

Removing the rear wheel



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

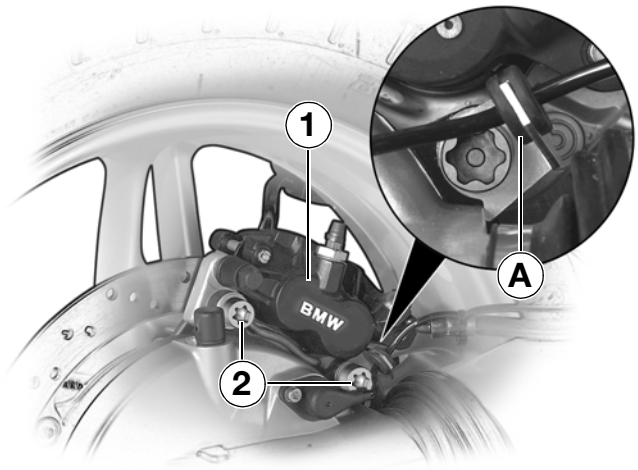
Attention:
Protect the wheel hub contact face against dust and dirt.



Attention:
Use only wheel studs with the same length code number. Do not oil or grease the wheel studs.
Take care not to damage the brake lines, disc, brake pads and wheel rim when installing. Do not damage the ABS sensor cable, the ABS sensor ring and 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 studs **1** with taper rings **2**, then tighten to the specified preload torque in diagonally opposite sequence
- Tighten wheel studs **1** to specified tightening torque in diagonally opposite sequence

Installing the rear wheel



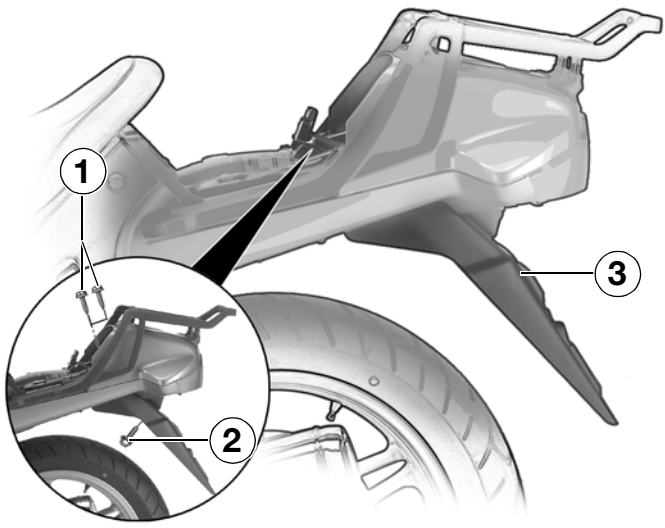
- Carefully slip brake caliper **1** over the brake disc

Attention:
Make sure that retaining bracket **A** is positioned correctly.

- Tighten brake caliper screws **2** with washers to their specified torque

Attention:
Always have the tightening torques checked by a specialist workshop, preferably an authorised BMW motorcycle dealer.

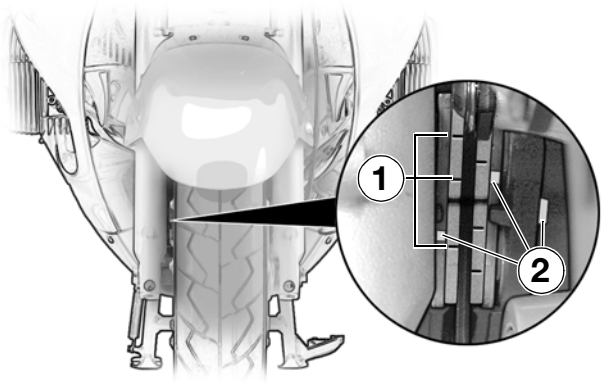
Tightening torque:
Preload torque
Wheel studs ..... 50 Nm
Tightening torque
Wheel studs ..... 105 Nm
Brake caliper screws ..... 30 Nm



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

Warning:
Once the brake caliper has been completely installed and the ignition has been switched on and successful self-diagnosis has been carried out, the handbrake lever and the footbrake lever must be operated to restore full function.

Checking brake pads



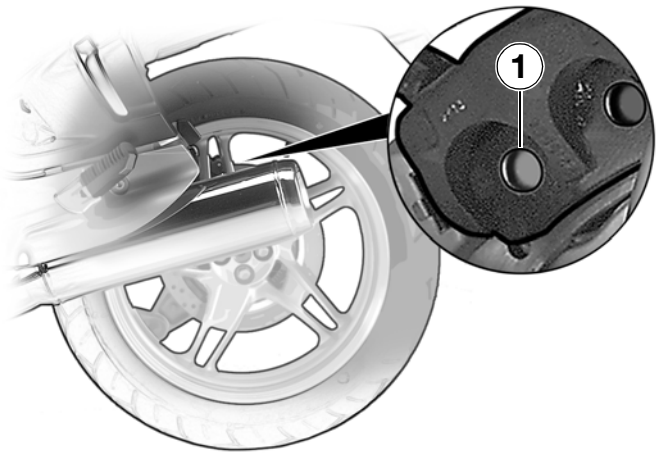
Front brake

Attention:
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 specialist workshop, preferably an authorised BMW motorcycle dealer.

- Place the motorcycle on its main stand
- Visually inspect both brake pads and the brake caliper and make sure that they all bear the same colour mark **2**
- Visually check brake pad thickness
  Minimum pad thickness: Wear indicating mark 1 must be clearly visible on the pads.

– If the wear indicating mark is no longer clearly visible:
have the brake pads replaced by a specialist workshop, preferably an authorised BMW motorcycle dealer.



Rear brake

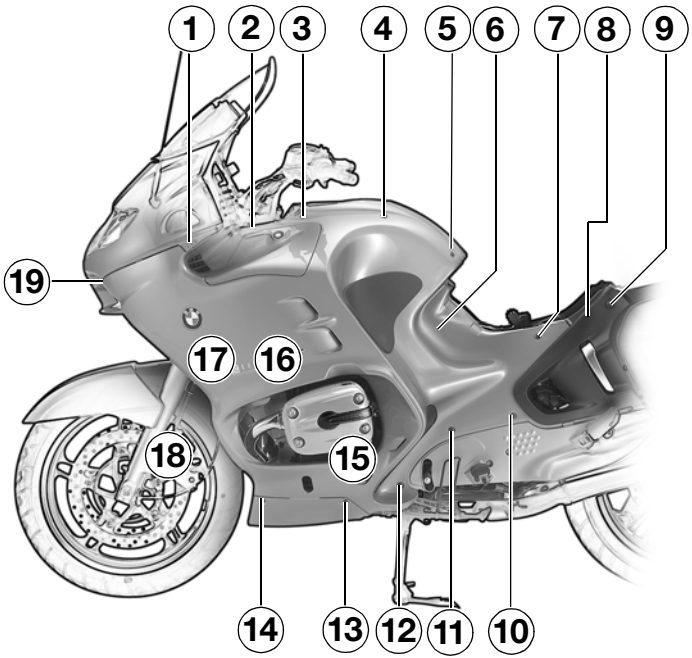
Attention:
Have the brake pads replaced before the minimum permitted thickness is reached.

Note:
For your safety, we recommend having work on the brake system performed by a specialist workshop, preferably an authorised BMW motorcycle dealer.

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

– If the brake disc is visible through hole **1** in the inboard brake block:
have the brake pads replaced by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Removing the side panel



- Place motorcycle on main (centre) stand
- Remove system case
- Completely remove the two-part seat
- Remove screw **9** and remove side panel **8**
- Carefully remove and hold the turn indicator/mirror housing
- Turn the bulb holder counter-clockwise to release it, and pull it out

Attention:
Note that the screws are of different lengths.

- Remove screwing screws **1** to **7** and **10** to **19**
- Carefully remove the complete side panel
- Installation is the reverse of the removal procedure
- To facilitate installation of the turn indicator/mirror housing, lightly grease the retaining clips

Attention:
Seat the turn indicator/mirror housing at the front first by tapping it lightly. After installing, always check that it is firmly located.

Note:
The procedure for removing the right-hand side panel is analogous.

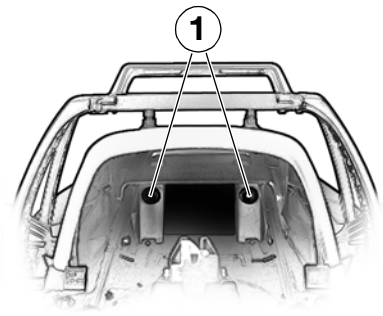
Notes on changing bulbs

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 interrupted (ignition and lights switched off). 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!

Attention:
Your motorcycle has one bulb each for low-beam and high-beam headlights and parking light, brake light and rear light, two bulbs for foglights, and four bulbs for flashing turn indicators.
If any of these bulbs should fail, you may have problems in seeing and being seen.
You should therefore always carry spare bulbs on the motorcycle.

Note:
Do not touch the glass of new bulbs with your 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.



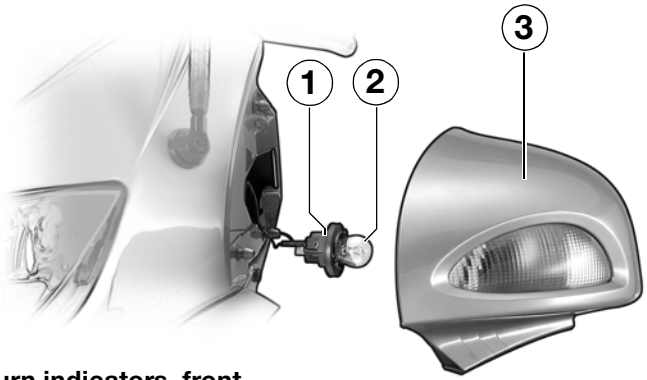
Rear light/brake light, rear flashing turn indicators

Attention:
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. The "general" warning light 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 (centre) stand
- Remove 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 bulb **3** in and it turn counter-clockwise to release it
- Installation is the reverse of the removal procedure

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



Turn indicators, front

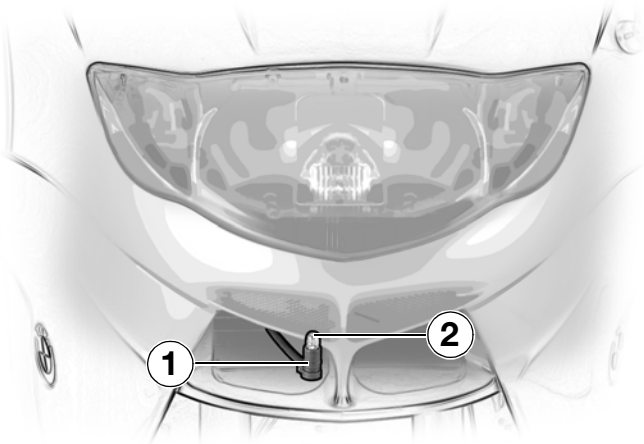
Attention:
Switch off the ignition before changing a bulb.

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 remove and hold turn indicator/mirror housing **3**
- Turn bulb socket **1** counter-clockwise to release it from its catch and pull it out
- Press bulb **2** into its socket, and disengage it by turning it counter-clockwise
- Remove the bulb
- Installation is the reverse of the removal procedure
- To facilitate installation of the turn indicator/mirror housing, grease the retaining clips lightly

Attention:
Seat the turn indicator/mirror housing at the front first by tapping it lightly. After installing, always check that it is firmly located.

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



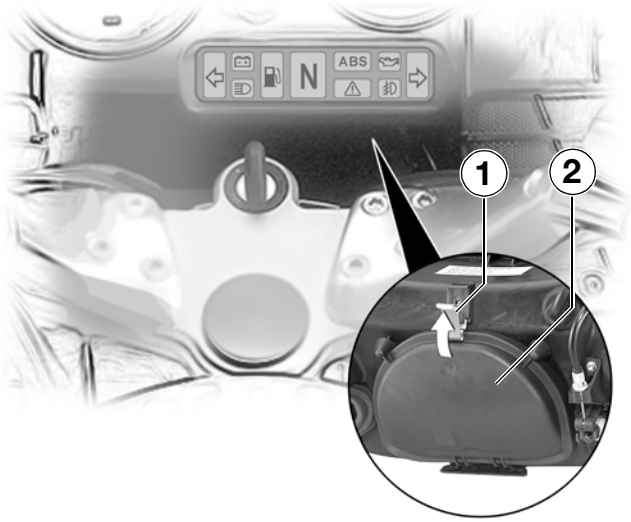
Parking light

Attention:
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 (centre) stand
- Pull bulb holder **1** down and out of the headlight housing
- Remove bulb **2** by pressing it in and turning it counter-clockwise at the same time
- Installation is the reverse of the removal procedure

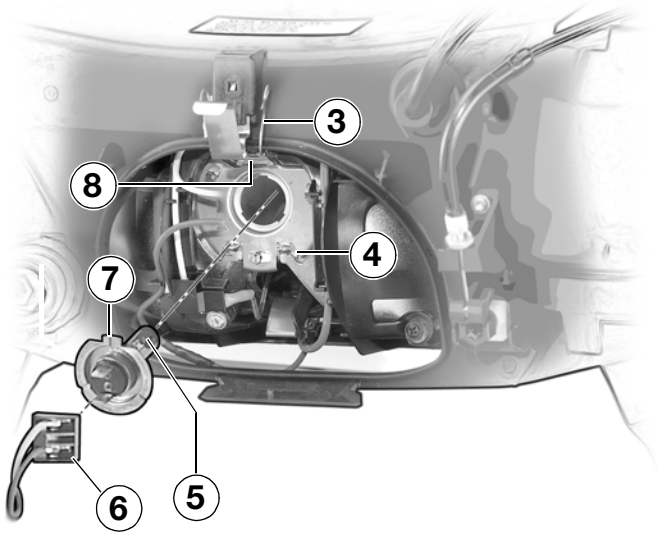
– Parking light bulb **2**:
12 V 5 W



Low headlight beam

Attention:
Switch off the ignition before changing a bulb.

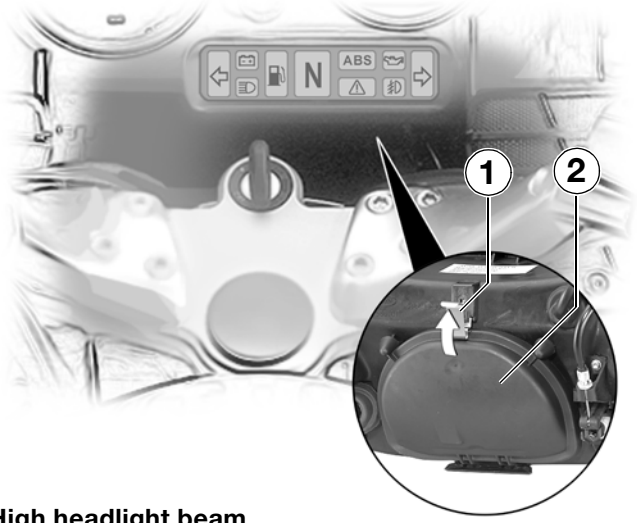
Note:
Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when inserting them.



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

Note:
Guide bulb base lug **7** into recess **8**.

– Low headlight beam **5**:
H7 12 V 55 W



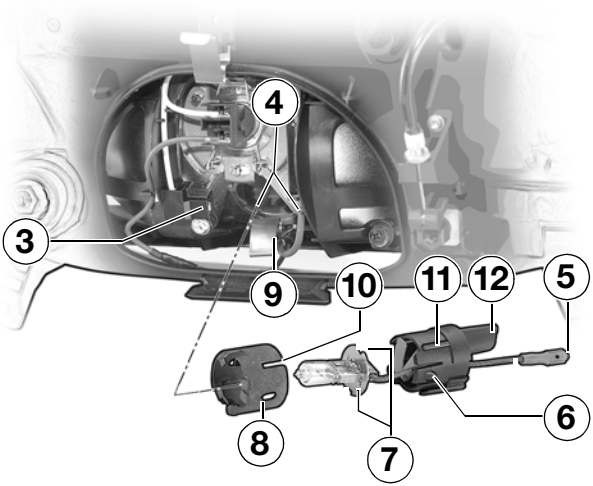
High headlight beam

– High headlight beam:
H3 12 V 55 W

Attention:
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 clip **1** upwards (arrow)
- Remove cover **2**
- Pull cable **5** with connector out of receptacle **3**
- Press earthing clip **9** down
- Pull the bulb socket out of the headlight housing using grip **12**



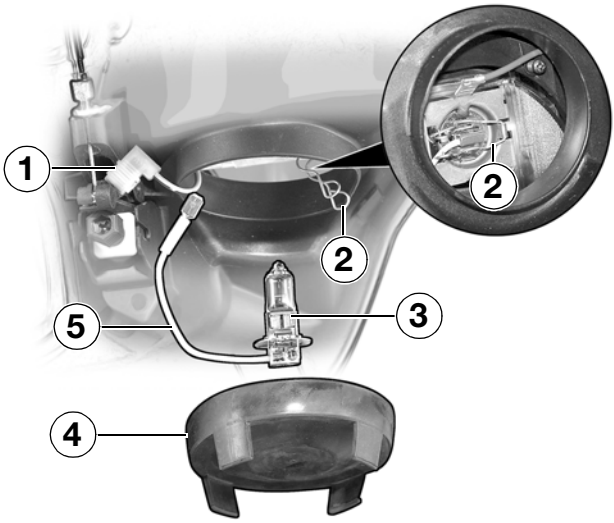
- Use a screwdriver to push in one retaining lug **6** on each side and disassemble the bulb socket
- Remove the H3 bulb from lamp ring **8**
- Installation is the reverse of the removal procedure

– High headlight beam:
H3 12 V 55 W

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

Note:
When assembling the bulb socket, align slot **10** in lamp ring **8** such that it is pointing toward guide **11** in bulb socket. Make sure that retaining lugs **6** engage.
When inserting the bulb socket into the headlight, note the two slots **4** and make sure that earthing clip **9** engages correctly.

Changing bulbs



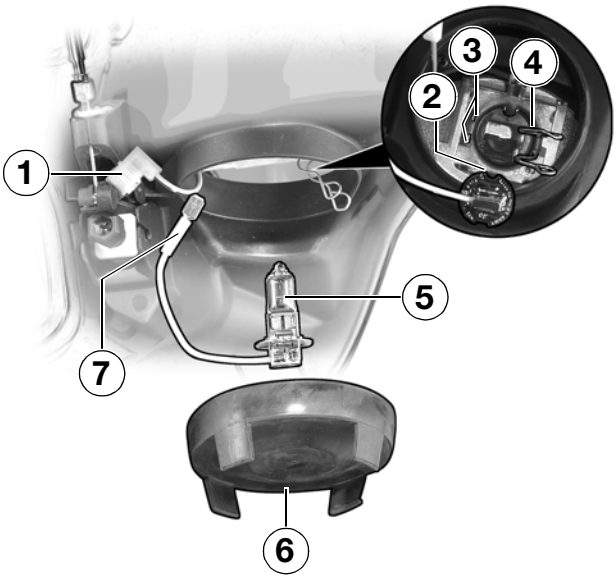
Foglights

Attention:
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.

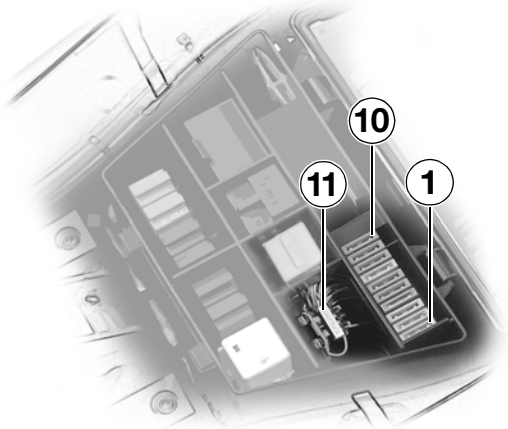
- Place the motorcycle on its main stand on a flat, firm surface
- Remove rubber cover **4**
- Release retaining clip **2** by simultaneously pushing down and squeezing it
- Remove bulb **3**
- Pull cable **5** with connector out of receptacle **1**

– Foglight bulbs**: H3 12 V 55 W**



- Insert new bulb **5**, noting slot **2**
  - slot **2** must point to the rear
- Engage retaining clip **4** in latch **3**
- Connect cable **7** with connector into receptacle **1**
- Install rubber cover **6**

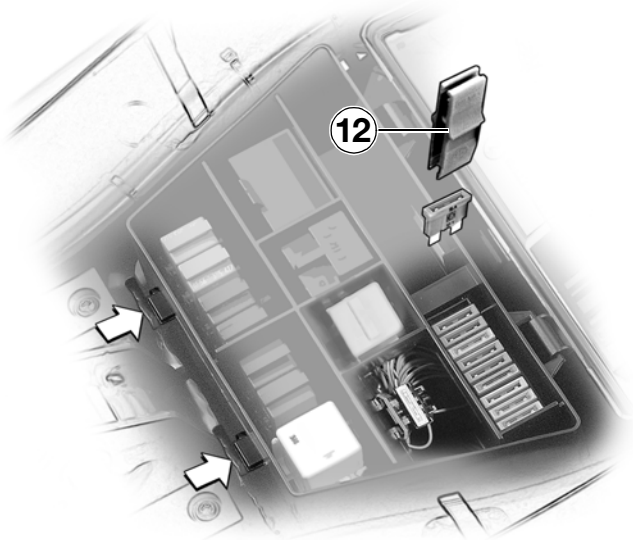
Fuses



Fuse assignments

1 Instrument cluster .....4 A
2 Parking light, ABS .....4 A
3 On-board sockets, RID, radio, connector for optional extras, windscreen adjuster.....15 A
4 Horn .....7.5 A
5 Motronic,RID, Motronic relay, diagnosis plug....10 A
6 Oxygen sensor, injection valve, fuel pump.....10 A
7 Heated handlebar grips..... 4 A
8 Low headlight beam, instrument lighting .....7.5 A
9 High headlight beam.....7.5 A
10 Light relay, foglights ....15 A
11 Radio .....4 A

Attention:
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.



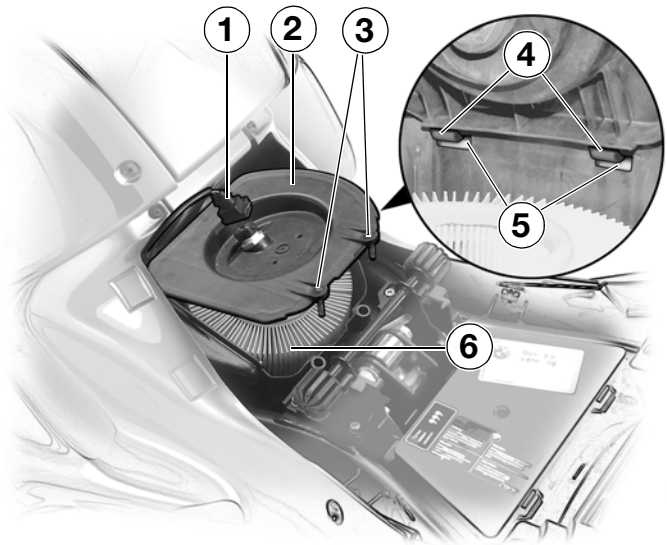
Replacing fuses

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

Note:

If faults in the electrical system are recurrent, have the system checked by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Air filter



Replacing the air filter element

- Place the motorcycle on its main stand
- Remove the seat
- Disconnect air-temperature sensor plug connection **1**
- Remove two securing screws **3** from air-filter cover **2**
- Remove air filter cover **2** from the air filter housing
- Remove old filter element **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 engage pins **4** in tabs **5** on the air filter housing.
Close the cover.

Gel batteries are maintenance-free. Compliance with the instructions below is important in order to maximise battery life:

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

Correct upkeep, recharging and storage will prolong the life of the battery and are essential if warranty claims are to be considered.

Warning:
Do not attempt to jump-start the motorcycle using the on-board socket
– Risk of fire!
• Push-start the motorcycle only when the engine is cold.

The wires leading to the power socket do not have a load-capacity rating adequate for jump-starting the engine.

Attention:
Do not attempt to jump-start the motorcycle if the battery is completely flat: recharge the battery instead.
Risk of damaging the control units.

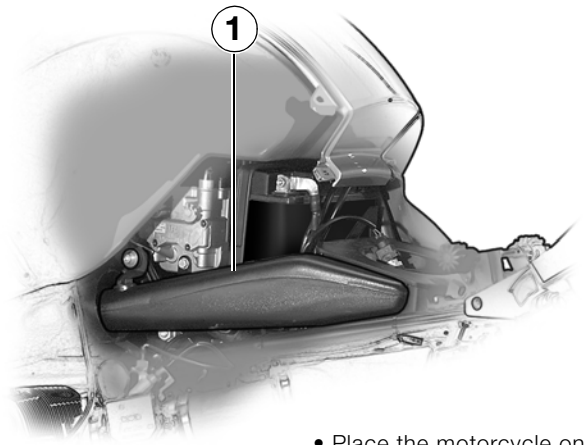
Motorcycle out of use for a lengthy period

- The battery has to be charged prior to lay-up periods of more than one month.

Attention:
If the battery is not disconnected, the on-board electronics (clock, etc.) will discharge the battery. This can cause the battery to run flat. If this happens, warranty claims will not be accepted. Disconnect the earth cable from the battery prior to a lay-up.

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

In case of doubt ask a specialist, preferably an authorised BMW motorcycle dealer, to prepare the vehicle for laying up and to undertake the necessary battery maintenance and storage



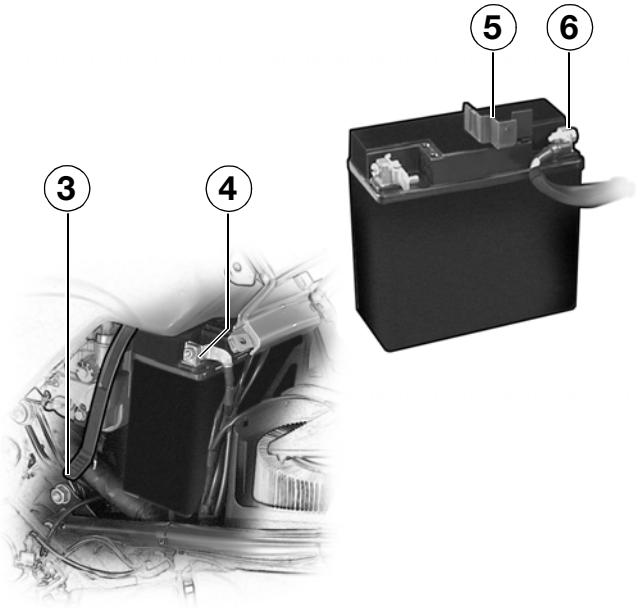
Removing the battery

Warning:
Take care not to damage the 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 (+).

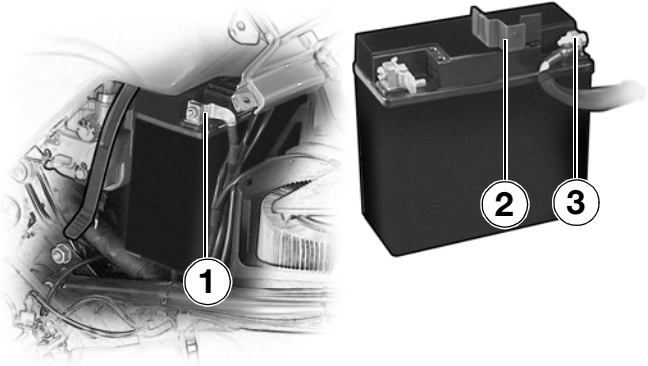
- Place the motorcycle on its main stand
- Remove the seat
- Remove the left-hand side panel (➠ 35)
- Remove the air filter cover (➠ 48)
- Remove air intake pipe **1**

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 battery retaining clip **3**
- Disconnect the **negative** battery lead (–) **4**
- Pull the battery out to the left, keeping it horizontal all the time
- 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

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

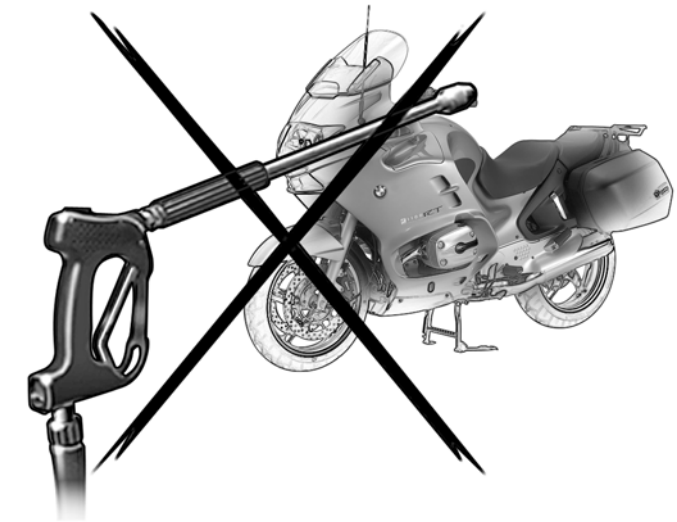
Installing the battery

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

- **Begin by connecting positive lead (+) 3**
- **Close protective cap 2 for the positive battery pole**

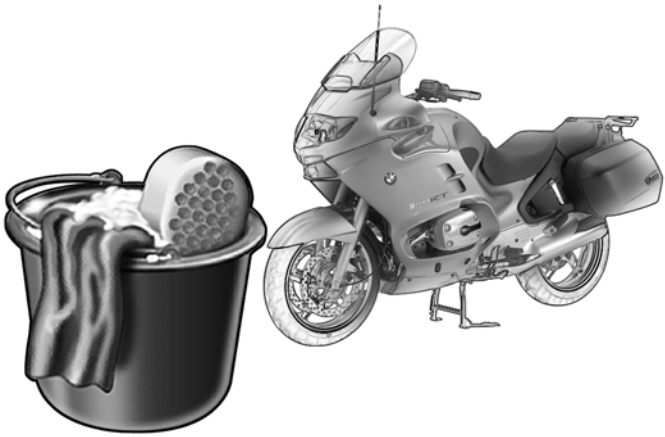
– Never install the battery without the protective cap

- **Connect negative lead (–) 1**



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.

Attention:
Do not use aggressive or penetrating cleaning agents or solvents, as they would cause damage to rubber and plastic parts.
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.



Washing the motorcycle

- Place the motorcycle on its main stand
- Clean the wheels, engine, gearbox 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 windscreen. Do not scratch the windscreen
- 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 and 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 windscreen

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

Note:
Soften stubborn dirt or insects by soaking with a wet kitchen tissue.

Attention:
Do not use detergent products. Fuel or chemical solvents attack the windscreen material.

Touching up paint damage

- Minor damage caused by stones striking the painted surface can be touched in with a BMW paint pencil of the correct colour

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

Note:
More extensive damage should be attended to by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Care of exhaust silencer

- Changes in the appearance of the exhaust system during operation or as a result of environmental influences can be treated with “Metal Polish” from the Autosol company, BMW order No. 82 14 9 400 890

Laying up

- Clean the motorcycle (➠ 54-57)
- Remove the battery (➠ 51-52)
- Spray the brake-lever and clutch-lever pivots and the pivot mounts of the main stand and side stand 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 the motorcycle under the engine so that the wheels are not taking any weight

Note:

Before laying the vehicle up out of use have the engine oil and the oil filter element changed by a specialist workshop, preferably your authorised BMW motorcycle dealer.

It is always a good idea to combine the preparations for a lay-up and the post lay-up work with a Service check or Inspection by a specialist workshop, preferably your authorised BMW motorcycle dealer.

Restoring to use

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

Engine

	R 1150 RT	R 850 RT
Type	Air-cooled, horizontally-opposed twin-cylinder engine with oil-cooled exhaust ports, one chain-driven camshaft per cylinder, 4 valves per cylinder, operated by bucket tappets and short pushrods, wet sump lubrication.	
Displacement	1,130 cc	848 cc
Max. output to DIN 70 020		
	70 kW	54 kW
- at engine speed	7,250 rpm	
Max. torque	100 Nm	80 Nm
- at engine speed	5,500 rpm	
Permissible engine speeds		
Maximum	7,900 rpm	8,150 rpm
Idle speed	1,100 $^{\pm 50}$ rpm	
Bore/stroke	101/70.5 mm	87.5/70.5 mm
Compression ratio	11.3 : 1	10.3 : 1
Fuel consumption to ISO 7118		
at a constant speed of 90 km/h	4.7 l/100 km	3.9 l/100 km
at a constant speed of 120 km/h	5.6 l/100 km	4.8 l/100 km
Maximum oil consumption	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 Ø	165 mm	
Gearbox	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	
Transmission from gearbox 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

Frame and suspension

	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 by a front frame made from cast aluminium.	
Location of type plate and frame number	On right of front frame section	
Front brake	Hydraulically operated twin disc brake with 4-piston fixed calipers, angular wear compensation and floating stainless-steel brake discs. Sintered metal brake pads Note colour coding (➠ 32)	
Rear brake	Hydraulically actuated disc brake with floating caliper and stainless steel disc. Sintered metal brake pads	

	R 1150 RT	R 850 RT
Wheel location		
Front	Quick-response wheel control (Telelever) with central spring strut.	
Rear	Cast aluminium swinging arm with reaction link for equalising the cardan reactions (Paralever) and central spring strut.	
Steering lock angle	2 x 34°	
Front wheel castor		
- in normal-load position	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 travel (bump)	65 mm	
Spring travel (rebound)	55 mm	
Total travel	120 mm	
Fixed-tube diameter	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 travel (bump)	105 mm	
Spring travel (rebound)	30 mm	
Total travel (at wheel)	135 mm	
Swinging arm length	506 mm	

	R 1150 RT	R 850 RT
Wheels and tyres	BMW cast aluminium wheels with 5 double spoke design, low-aspect-ratio tyres	
Front wheel	Angled rim shoulder and double tyre retaining hump	
Size and designation	3.50 x 17 MT H2	
Tyre size and designation	120/70 ZR17 TUBELESS	
Rear wheel	Angled rim shoulder and double tyre retaining hump	
Size and designation	5.00 x 17 MT H2	
Tyre size and designation	170/60 ZR17 TUBELESS	

Tyre pressures (tyres cold)		
One-up	Front	2.20 bar
	Rear	2.50 bar
Two-up	Front	2.50 bar
	Rear	2.90 bar

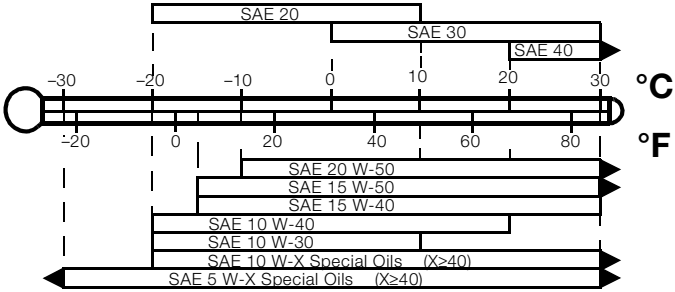
Recommended minimum tyre tread depth	
Front wheel	2 mm
Rear wheel	3 mm

Warning:
Comply with statutory legal requirements concerning minimum tread depth.

R 1150 RT **R 850 RT**

Engine oil

Brand-name HD oil of API classification SF, SG or SH; CD or CE amendments are permissible; or brand-name HD oil of 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 authorised BMW motorcycle dealer.
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 change	3.50 l
with filter change	3.75 l

	R 1150 RT R 850 RT
Gear oil	Brand-name hypoid gear oil, API class GL 5
Capacity	
Gearbox	approx. 0.8 l (to bottom edge of filler neck)
Rear wheel drive (after disassembly)	approx. 0.25 l (to bottom edge of filler plug)
Viscosity class	EPX 90, alternatively SAE 90 API
Type of fuel	**Super lead-free DIN 51 607, minimum octane number 95 (RON) and 85 (MON) with catalytic converter,** or selected leaded super fuels DIN 51 600, minimum octane number 95 (RON) and 85 (MON) for motorcycles without catalytic converter.
Fuel tank capacity	25.2 l including approx. 4 l reserve

	R 1150 RT R 850 RT
Bearing lubrication and lubricating points	Brand-name anti-friction bearing grease, usable temperature range –25 °C ...+120 °C, drip point 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
	⚠ **Attention:** 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	0.8 $^{+/-0.1}$ mm	
Wear limit	1.0 mm	
Fuses	"Minifuse" flat-socket fuses	
Amperage ratings	4 A, 7.5 A, 10 A, 15 A	
Headlight	Halogen headlight with fog light	
Bulbs		
Low headlight beam	H7 halogen bulb 12V 55W	
High headlight beam	H3 halogen bulb 12 V 55 W	
Foglights	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 telltale 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	2,230 mm	
Width		
across mirrors	898 mm	
across handlebars (with weights)	773 mm	
across front footrests	597 mm	
across rear footrests	680 mm	
Overall height (without mirrors)	1,380 mm	
Height of seat at unladen weight	805/825/845 mm 780/800/820 mm[OE] three positions	
Wheelbase		
in normal-load position	1,485 mm	
Ground clearance		
in normal-load position	153 mm	
Unladen weight		
(ready to ride, tank full)	279 kg	
Dry weight	259.5 kg	
Permitted gross weight	495 kg	
Permissible wheel loads		
Front	200 kg	
Rear	330 kg	

[OE] Optional extra

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

Motorcycle data

Model

Frame No.

Colour No.

First registered on

Registration No.

Dealer data

Person to contact for Service work

Ms./Mr.

Tel. No.

Dealer'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 entertained 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.

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BMW recommends Castrol

BMW Motorrad
Printed information

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The Ultimate
Driving Machine