Rider's Manual

G 650 X Challenge

BMW Motorrad

The Ultimate Riding Machine

Motorcycle data/dealership details

Motorcycle data

Model

Vehicle identification number

Colour code

Date of first registration

Registration number

Dealership details

Person to contact in Service department

Ms/Mr

Phone number

Dealership address/phone number (company stamp)

Welcome to BMW

We congratulate you on your choice of a motorcycle from BMW and welcome you to the community of BMW riders. Familiarise yourself with your new motorcycle so that you can ride it safely and confidently in all traffic situations. Please read this Rider's Manual carefully before starting to use your new BMW motorcycle. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features. In addition, it contains information on maintenance and care to help you maintain your motorcycle's reliability and safety, as well as its value. If you have questions concerning your motorcycle, your authorised BMW Motorrad dealer will gladly provide advice and assistance.

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

BMW Motorrad.

Table of Contents

You can also consult the index at the end of this Rider's Manual if you want to find a particular topic or item of information.

General instructions

Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and servicing work on the motorcycle is documented in Chapter 10. This record of the maintenance work you have had performed on your motorcycle is a precondition for generous treatment of goodwill claims.
When the time comes to sell your BMW, please remember to hand over this Rider's Manual; it is an important part of the motorcycle.

Abbreviations and symbols

Indicates warnings that you must comply with for reasons of your safety and the safety of others, and to protect your motorcycle against damage.

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

◄ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

 Reference to a page with more detailed information.

◁ Indicates the end of a passage relating to specific accessories or items of equipment.

 Tightening torque.

 Item of technical data.

OE Optional extra
Your motorcycle was assembled complete with all the BMW optional extras you ordered.

OA Optional accessory
You can obtain optional accessories through your authorised BMW Motorrad dealer; optional accessories have to be retrofitted to the motorcycle.

ABS Anti-lock brake system

Air Damping System

This motorcycle has an air-filled rear suspension system. This Air Damping System, as it is known, does not work

in the same way as a conventional steel-spring shock-absorber system. The detailed description of this system starts on page (➡ 36).

Equipment

When you ordered your BMW motorcycle, you chose various items of custom equipment. This Rider's Manual describes optional extras (OE) offered by BMW and selected optional accessories (OA). This explains why the manual may also contain descriptions of equipment which you have not ordered. Please note, too, that your motorcycle might not be exactly as illustrated in this manual on account of country-specific differences. If your BMW was supplied with equipment not described in this Rider's Manual, you will find these features described in separate manuals.

Technical data

All dimensions, weights and power ratings stated in the Rider's Manual are quoted to the standards and comply with the tolerance requirements of the Deutsche Institut für Normung e.V. Versions for individual countries may differ.

Currency

The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your motorcycle may differ from the information supplied in the Rider's Manual. Nor can BMW Motorrad entirely rule out errors and omissions. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.

General views


1
2
3
6
5
4

General view, left side

1 Adjuster, compression stage, front (➠ 40)
2 Adjuster for air pressure, spring strut (➠ 38)
3 Power socket OE (➠ 60)
4 Adjuster, damping, rear (➠ 42)
5 Fore-and-aft tilt indicator (➠ 36)
6 Indicator for coolant level (➠ 71)

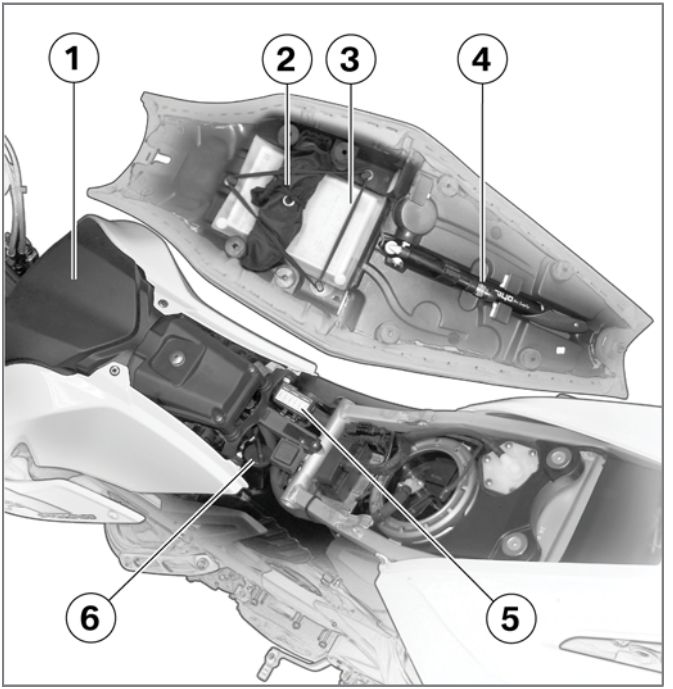

1
2
3
4
5
6
BMW
G 650 X

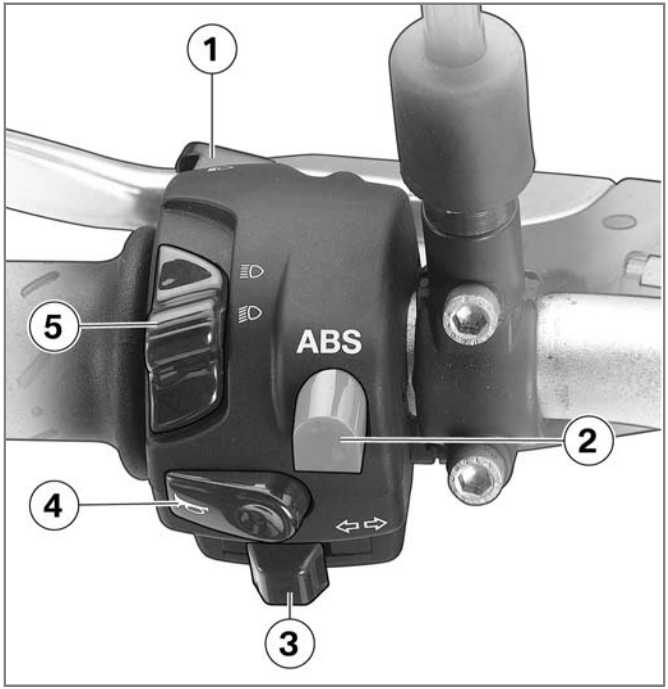
General view, right side

1 Seat lock (➡ 33)
2 Filler neck, fuel (➡ 53)
3 Brake-fluid reservoir, front (➡ 70)
4 Adjuster for rebound stage, front (➡ 41)
5 ABS fuses behind the side panel[OE] (➡ 82)
6 Brake-fluid reservoir, rear (➡ 71)

Underneath the seat

1 Air-filter box (➠ 89)
2 Toolkit (➠ 64)
3 Rider's Manual
4 Pneumatic pump (➠ 35)
5 Fuse box (➠ 81)
6 Oil dipstick and filler neck for engine oil (➠ 65)



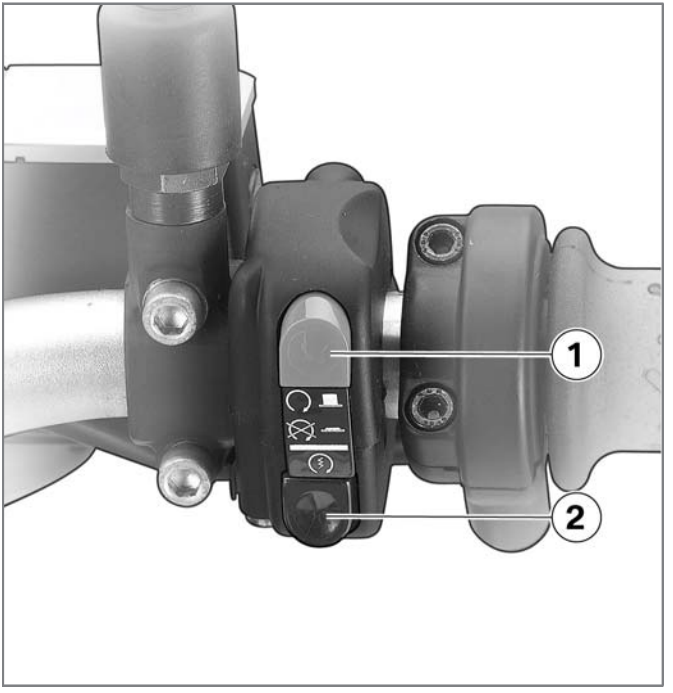


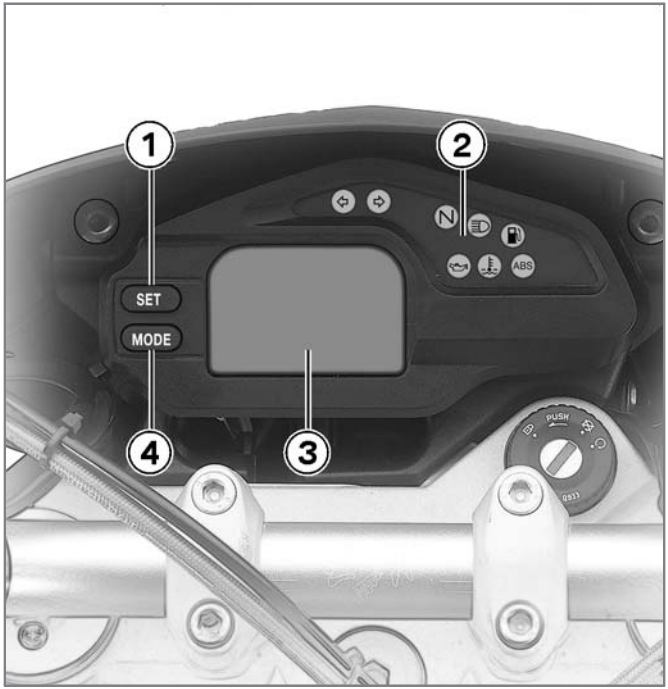
Handlebar fitting, left

1 Headlight flasher button
2 ABS button[OE] (➡ 34)
3 Turn indicators (➡ 33)
4 Horn button
5 Light switch (➡ 32)

Handlebar fitting, right

1 Emergency off switch (kill switch) (➡ 31)
2 Starter button (➡ 48)





Instrument cluster

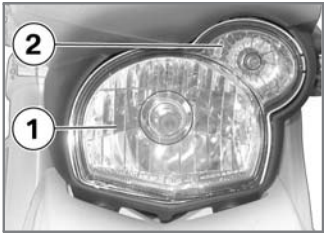
1 Set the clock (➡ 29)
Reset the tripmeter (➡ 29)

2 Warning and telltale lights (➡ 20)

3 Multifunction display (➡ 20)

4 Select readings (➡ 28)

Headlight



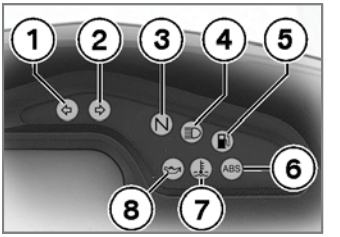
1 Low-beam and high-beam headlights
2 Side light

Status indicators

Multifunction display

1 Speedometer
2 Odometer reading, clock or battery-voltage reading (➠ 28)

Warning and telltale lights



1 Telltale light, left turn indicator
2 Telltale light, right turn indicator
3 Telltale light, neutral
4 Telltale light, high-beam headlight
5 Warning light, fuel down to reserve (➠ 22)
6 ABS warning light OE (➠ 23)
7 Warning light, coolant temperature (➠ 23)
8 Warning light, engine-oil pressure (➠ 22)

ABS warning light OE

The way in which the ABS warning light indicates status can differ in some countries.

brake failure Possible national variant.

Warnings, general

Mode of presentation

Warnings are indicated by the appropriate warning lights.

Warnings, overview

	Meaning
 Lights up	Fuel down to reserve (➠ 22)
 Lights up	Insufficient engine oil pressure (➠ 22)
 Lights up	Coolant temperature too high (➠ 23)

Fuel down to reserve


Warning light for fuel down to reserve lights up.


Lack of fuel can result in the engine misfiring and cutting out unexpectedly. Misfiring can damage the catalytic converter; a hazardous situation can result if the engine cuts out unexpectedly. Do not run the fuel tank dry.◀

The fuel tank contains no more than the reserve quantity of fuel.

 Reserve fuel
– ≥2 l

• Refuelling (➠ 53)

Insufficient engine oil pressure


Warning light for oil pressure shows.

The oil pressure in the lube-oil system is too low. Stop immediately and switch off the engine if the warning light shows.


The insufficient oil pressure warning does not fulfil the function of an oil gauge. The only way of checking whether the oil level is correct is to check with the oil dipstick.◀

A low oil level is one reason why a warning indicating insufficient oil pressure is issued.

• Checking engine oil level (➠ 65)

If the oil level is too low:

• Top up the engine oil (➠ 67)

If the warning indicating insufficient engine oil level is issued and a check indicates that the engine oil level is correct:


Other engine problems besides a low oil level can cause the insufficient engine oil pressure warning to be issued. Continuing to ride in these cases can cause engine damage.

If this warning is issued even though the engine oil level is correct: do not continue to ride.◀

- Do not continue your journey.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Coolant temperature too high

 Warning light for coolant temperature shows.

 Continuing to ride when the engine is overheated could result in engine damage.
You must comply with the instructions below.◀

Coolant level too low.
- Checking coolant level (➡ 71)

If the coolant level is too low:
- Topping up coolant (➡ 72)

Radiator fan defective.
If the radiator fan does not start even though the coolant-temperature warning light shows:
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Insufficient cooling.
- If possible, ride in the part-load range to cool down the engine.
- In traffic jams, switch off the engine, but leave the ignition switched on so that the radiator fan continues to operate.
- If the coolant temperature is frequently too high, have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ABS warnings OE

Mode of presentation

 ABS warnings are indicated by the ABS warning light. The warning light can show continuously or flash.

The way in which the ABS warning light indicates status can differ in some countries.

 Possible national variant.

Warnings, overview

		Meaning
ABS	Flashes	Self-diagnosis not completed (➡ 25)
ABS	Lights up	ABS switched off (➡ 25)
ABS	Lights up	ABS fault (➡ 25)

Self-diagnosis not completed

ABS warning light flashes.

The ABS function is not available, because self-diagnosis did not complete. The motorcycle has to move forward a few metres for the wheel sensors to be tested.

- Pull away slowly. Bear in mind that the ABS function is not available until self-diagnosis has completed.

ABS switched off

ABS warning light ON.

The rider has switched off the ABS system.
with OE BMW Motorrad ABS:

- Activate the ABS function (➡ 35)

ABS fault

ABS warning light ON.

The ABS control unit has detected a fault. The ABS function is not available.

- You can continue to ride. Bear in mind that the ABS function is not available. Bear in mind the more detailed information on situations that can lead to an ABS fault (➡ 57).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Operation

Ignition switch and steering lock

Keys

You receive one master key and one spare key.
Ignition switch and steering lock, seat lock and tank filler cap lock are all operated with the same key.

Switching on ignition

- Turn the key to position **1**.

» Side light and all function circuits switched on.

» Engine can be started.

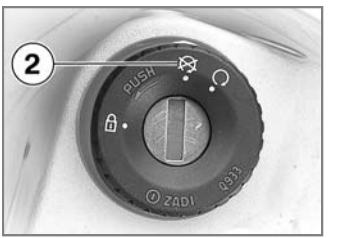
» Pre-ride check is performed. (➡ 49)

with OE BMW Motrorrad ABS:

- Turn the key to position **1**.

» ABS self-diagnosis is performed in addition to the checks outlined above. (➡ 50)◁

Switching off ignition



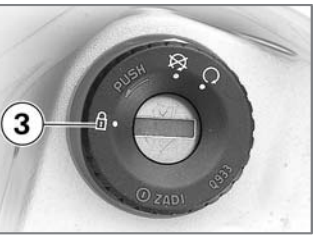
- Turn the key to position **2**.

» Lights switched off.

» Handlebars not locked.

» Key can be removed.

Locking handlebars



- Turning handlebars all the way to the left
- Turn the key to position **3**, while moving the handlebars slightly.

» Ignition, lights and all function circuits switched off.

» Handlebars locked.

» Key can be removed.

Multifunction display

Selecting readings

- Switch on the ignition.

If the motorcycle is to remain abroad for a lengthy period, you can have the display readouts changed from miles to kilometers or vice versa, if necessary. Under these circumstances consult a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

• Press button **1**.

The display starts with the current value and each time the button is pressed it moves one step through the following sequence:
– Odometer (ODO)
– Tripmeter 1 (`Trip I`)
– Tripmeter 2 (`Trip II`)
– Clock
– Battery voltage

Resetting tripmeter

• Switch on the ignition.
• Select the desired tripmeter.

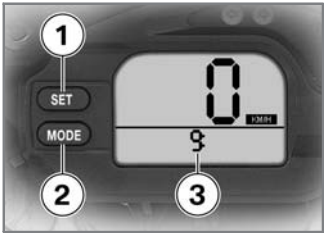
• Press and hold down button **1**.
» The tripmeter is reset to zero.

Setting clock

• Switch on the ignition.

You can make this adjustment only when the motorcycle is at a standstill.◀

• Select the clock.



- Press and hold down button **1**.

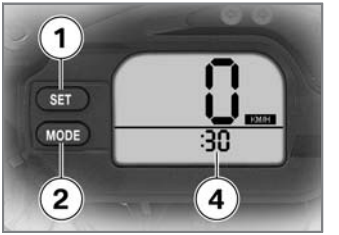
» Hours reading **3** shows.

- Press button **1**.

» The hours reading increments by one each time you press the button.

- Press button **2**.

» The hours reading decrements by one each time you press the button.



- When the hours reading is correct wait briefly.

» Minutes reading **4** shows.

- Press button **1**.

» The minutes reading increments by one each time you press the button.

- Press button **2**.

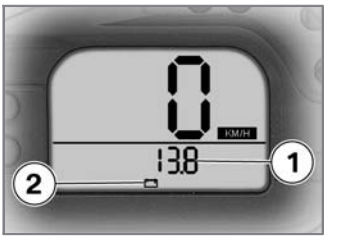
» The minutes reading decrements by one each time you press the button.

- When the minutes reading is correct wait briefly.

» The clock is now set and the time appears on the display.

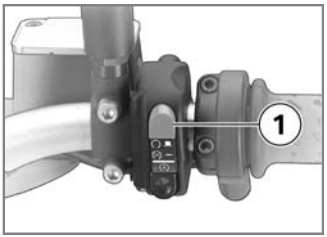
» The procedure is also terminated if speed is greater than zero.

Battery voltage



The battery-voltage reading **1** appears together with the battery symbol **2**.

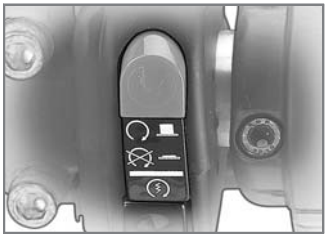
Emergency off switch (kill switch)



1 Emergency off switch (kill switch)

Operating the kill switch when riding can cause the rear wheel to lock and thus cause a fall.
Do not operate the kill switch when riding.◀

The emergency off switch is a kill switch for switching off the engine quickly and easily.



- Switch in normal position: operating position.
- Switch actuated: engine switched off.

You cannot start the engine unless the kill switch is in the run position.◀

Lights

Side light

The side lights switch on automatically when the ignition is switched on.

The side lights place a strain on the battery. Do not switch the ignition on for longer than absolutely necessary.◀

Low-beam headlight

The low-beam headlight switches on automatically when the ignition is switched on.

The low-beam headlight places a strain on the battery. Do not switch the ignition on for longer than absolutely necessary.◀

High-beam headlight

- Push full-beam headlight switch **1** up.

» High-beam headlight switched on.

- Push full-beam headlight switch **1** down.

» High-beam headlight switched off.

Headlight flasher

- Press headlight flasher button **1**.

» The high-beam headlight is switched on until you release the button.

Headlight

Headlight beam throw and spring preload

Headlight beam throw is generally kept constant when spring preload is adjusted to suit load.

Spring preload adjustment might not suffice only if the motorcycle is very heavily loaded. Under these circumstances, headlight beam throw has to be adjusted to suit the weight carried by the motorcycle.

Screws **1** on left and right allow the height of the headlight to be adjusted. This adjustment should be carried out by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Turn indicators

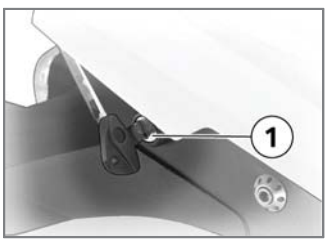
Operating flashing turn indicators

- Push turn-indicator button **1** to the left.
» Left-hand turn indicators switched on.
» Telltale light for left-hand turn indicators flashes.
- Push the turn-indicator button to the right.
» Right-hand turn indicators switched on.
» Telltale light for right-hand turn indicator flashes.
- Push the turn-indicator button forward.
» Flashing turn indicators switched off.
» Turn indicator telltale light is off.

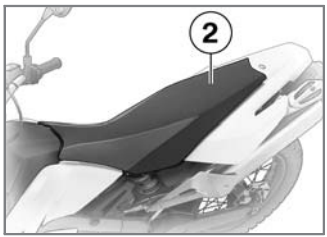
Seat

Removing seat

- Make sure the ground is level and firm and place the motorcycle on its stand.

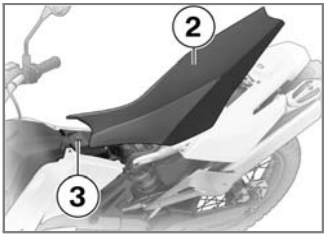


- Use the ignition key to turn seat lock **1** counter-clockwise and hold it in this position.



- Lift seat **2** at the rear and release the key.
- Remove the seat.
- Place the seat, upholstered side down, on a clean surface.

Installing seat



- Push seat **2** forward into mount **3**.
- Firmly press down on the seat at the rear.

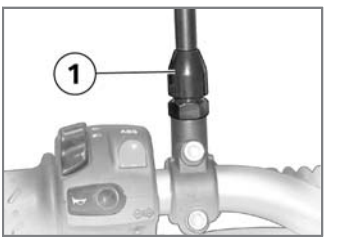
» The seat engages with an audible click.

Mirrors

Adjusting mirrors

- Turn the mirror to the correct position.

Adjusting mirror arm



- Slacken nut **1**.
- Turn the mirror arm to the appropriate position.
- Tighten the nut to the specified tightening torque.

	Union nut, mirror
–	20 Nm

BMW Motorrad ABS[OE]

Deactivatable ABS

Under certain circumstances, it can be best to dispense with ABS when you ride on loose surfaces. Consequently, you have the option of temporarily deactivating this motorcycle's ABS function.

Note the detailed description of the ABS system, which starts on page (➠ 55).

Deactivating ABS function

- Switch on the ignition, or bring the motorcycle to a stop.

- Press and hold down ABS button **1**.

ABS ABS warning light shows; if self-diagnosis has not completed the ABS warning light changes from flashing to ON.

- When the ABS warning light comes on, release the ABS button within five seconds.

▷ The warnings for 'ABS fault' and 'ABS OFF' are identical.◀

» The ABS function is deactivated.

ABS ABS warning light remains ON.

Activating ABS function

- Press and hold down ABS button **1**.

ABS ABS warning light goes out; if self-diagnosis has not completed the ABS warning light changes from ON to flashing.

- When the ABS warning light goes out, release the ABS button within five seconds.

» The ABS warning light remains off.

» If ABS self-diagnosis did not complete, the ABS warning light continues to flash.

» The ABS function is activated.

- Instead of pressing the ABS button, you have the option of switching the ignition off and then on again.

▷ If you switch the ignition off then on again and the ABS light comes back on, there is a fault in the ABS.◀

Pneumatic pump

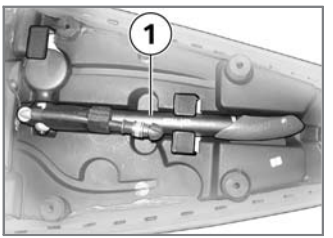
Use

You can use the pump to check, and if necessary correct, the pressure in the Air

Damping System (➡ 36) and in the tyres.

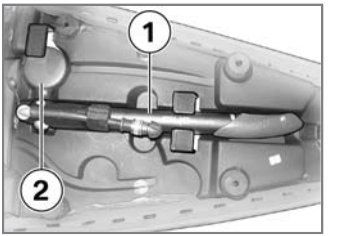
Removing pneumatic pump

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing seat (➡ 33)



- Remove pneumatic pump **1**.

Installing pneumatic pump



- Seat pneumatic pump **1** with pressure gauge **2** down in the holder.
- Install the seat (➡ 34)

Spring preload

Air Damping System

This motorcycle has an air-filled rear suspension system known as the Air Damping System.

In this system, it is a volume of air in an enclosed chamber, not a steel spring, that absorbs the shocks transmitted by the wheel to the suspension.

Spring preload of the Air Damping System is adjusted to suit total weight (motorcycle plus rider, plus luggage) by changing the air pressure in this system. You can use the valve on the Air Damping System to reduce pressure, or you can increase pressure by connecting the pump to this valve.

Fore-and-aft tilt indicator

The fore-and aft tilt indicator on the motorcycle has much the same function as a spirit level, and indeed it is very similar in appearance to an ordinary bubble level. The air-pressure setting is ideal when the fore-and-aft tilt indicator shows that the motorcycle

carrying rider and load is horizontal.
Always check the air pressure before riding off.

Adjusting air pressure

It is essential to set the pressure in the Air Damping System to suit the load carried on the motorcycle. Increase air pressure when the motorcycle is heavily loaded and reduce air pressure accordingly when the motorcycle is lightly loaded.
You read the fore-and-aft tilt indicator by sitting on the seat in such a way that you can keep the motorcycle balanced with your feet, but the motorcycle is supporting as much of your weight as possible.
BMW Motorrad recommends setting the air pressure in the Air Damping System marginally higher than would be necessary for the weight of the rider plus the expected weight of the load. You can then reduce the air pressure while sitting on the motorcycle.

Air pressure and temperature

When the Air Damping System is working hard to absorb shocks, the air inside the system becomes warmer. This causes the air to expand with the result that ride height increases, a welcome effect for off-roading. In order to ensure that spring preload is set correctly, you must always check and adjust the air pressure when the Air Damping System is cold, in other words not immediately after the motorcycle has been used for off-roading.

If extreme loads are imposed on the system the increase in temperature can be severe, and under these conditions the effects of the increase in ride height can be perceived as uncomfortable. Under these exceptional circumstances it is a good idea to let air out of the system, using the level gauge to correct the motorcycle's fore-and-aft tilt (➠ 37). Remember to readjust accordingly once the system has cooled down again.

Lengthy periods of disuse

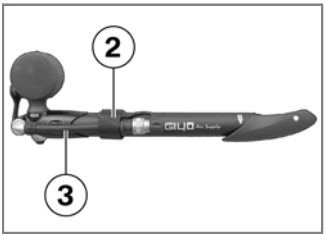
If it is going to be out of use for more than two months, support the motorcycle in such a way that the wheels are not taking any weight. Check the air pressures before lowering the weight of the motorcycle back onto

the wheels. You can use the pressure gauge on the pneumatic pump for this check.

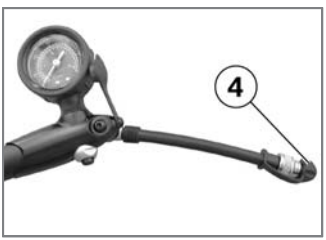
Adjusting spring preload for rear wheel

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing pneumatic pump (➠ 36)

- Remove the valve cap from Air Damping System valve **1**.

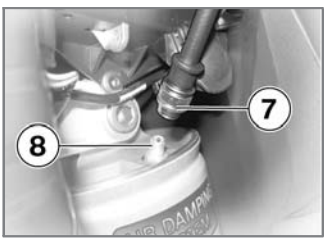


- Open velcro fastener **2** and turn pneumatic-pump hose **3** to the front.



- Remove protective cap **4**.

- Extend handle **5** and disengage retainer **6** of the second piston.



- Connect threaded adapter **7** to valve **8**, allowing the hose

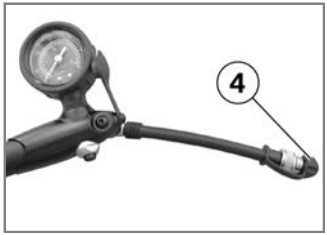
and pump to turn with the adapter.

- Pressurise the Air Damping System as per the guideline values below.

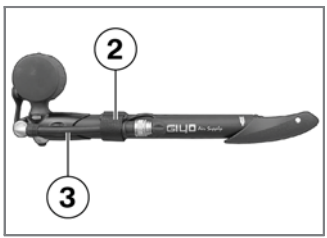
Guide values, Air Damping System
– 6 bar (One-up with rider 65 kg)
– 6.7 bar (One-up with rider 85 kg)
with OA Passenger kit:
– 10.5 bar (Two-up 150 kg)◁

- Remove threaded adapter **7** from the valve.

- Close retainer **6** of the second piston, compress the pneumatic pump and retract handle **5**.



- Install protective cap **4**.



- Turn pneumatic-pump hose **3** toward the pneumatic pump and close velcro fastener **2**.
- Sit on the motorcycle, hold it upright and allow as much

of your weight as possible to rest on the motorcycle.
- Push in the valve pin, allow air to escape from the Air Damping System and check the level.

You can use the point of the valve cap to push in the valve pin.◀

- Continue to allow air to escape until the fore-and-aft tilt indicator shows horizontal.
- Screw the valve cap onto the Air Damping System valve.
- Installing pneumatic pump (➡ 36)

Damping

Telescopic-fork damping

You can fine-tune the suspension to the road surface by adjusting both the compression-stage and rebound-stage damping characteristics of the telescopic forks.

The rebound-stage setting controls the way the suspension reacts as it extends, whereas the compression-stage setting influences compression of the front forks under load.

The harder the setting, the more the movement that the forks can make to absorb surface irregularities is damped.

When you choose a soft setting the forks respond all the more rapidly to surface irregularities.

Adjusting compression stage for the telescopic forks

- Make sure the ground is level and firm and place the motorcycle on its stand.

- Adjust the compression stage by turning adjusting screw **1**.

- If you want harder damping, use a screwdriver to turn the adjusting screw in the **+** direction.
- If you want softer damping, use a screwdriver to turn the adjusting screw in the **-** direction.

Compression stage basic setting
– Turn adjusting screw as far as it will go in the "+" direction, then back it off 11 clicks in the "-" direction.

Adjusting rebound stage for the telescopic forks

- Make sure the ground is level and firm and place the motorcycle on its stand.

- You adjust the rebound-stage characteristic by turning adjusting screw **1**.

- If you want harder damping, use a screwdriver to turn the adjusting screw in the **+** direction.
- If you want softer damping, use a screwdriver to turn the adjusting screw in the **-** direction.

Rebound stage basic setting
– Turn adjusting screw as far as it will go in the "+" direction, then back it off 11 clicks in the "-" direction.

Damping effect of the Air Damping System

The Air Damping System has two settings so that it can be adjusted to suit the type of surface on which you intend riding.

You can turn the adjusting screw any distance in either direction.

Adjusting damping for rear wheel

Your motorcycle's handling will suffer if you do not match the spring-preload and damping-characteristic settings.

Adjust the damping characteristic to suit spring preload.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.

- Turn adjusting screw **1** to the horizontal position.

» Strong damping characteristic, adjusting screw engages with an audible click.

- Turn adjusting screw **1** to the vertical position.

» Weak damping characteristic, adjusting screw engages with an audible click.

Tyres

Checking tyre pressures

Incorrect tyre pressures impair the motorcycle's handling characteristics and can lead to accidents.

Always check that the tyre pressures are correct.◀

At high road speeds, tyre valves have a tendency to open as a result of centrifugal force.

In order to avoid a sudden loss of tyre pressure, fit a metal valve cap with rubber sealing ring to the rear tyre and make sure that the cap is screwed on firmly.◀

Incorrect tyre pressure reduces the operating life of the tyres.

Always check that the tyre pressures are correct.◀

- Check tyre pressures against the data below.

 Tyre pressure, front
– 1.9 bar (One-up, tyre cold)
– 2 bar (Two-up and/or with luggage, tyre cold)

 Tyre pressure, rear
– 2 bar (One-up, tyre cold)
– 2.2 bar (Two-up and/or with luggage, tyre cold)

If tyre pressure is too low:

- Correct tyre pressure.

Riding

Safety instructions

Rider's equipment

Do not ride without the correct clothing. Always wear:

- Helmet
- Motorcycling jacket and trousers
- Gloves
- Boots

This applies even to short journeys, and to every season of the year. Your authorised BMW Motorrad dealer will be glad to advise you on the correct clothing for every purpose.

Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:

- Settings of the spring-strut and shock-absorber system
- Imbalanced load
- Loose clothing
- Insufficient tyre pressure
- Poor tyre tread
- Etc.

Correct loading

Overloading and imbalanced loads can adversely affect the motorcycle's handling.
Do not exceed the permissible gross weight and be sure to comply with the instructions on loading.◀

Alcohol and drugs

Even small amounts of alcohol or drugs will adversely affect your perception and your ability to assess situations and make decisions, and slow down your reflexes. Medication can exacerbate these effects.
Do not ride your motorcycle after consuming alcohol, drugs and/or medication.◀

Risk of poisoning

Exhaust fumes contain carbon monoxide, which is colourless and odourless but highly toxic.

Inhaling the exhaust fumes therefore represents a health hazard and can even cause loss of consciousness with fatal consequences.
Do not inhale exhaust fumes. Do not run the engine in an enclosed space.◀

High voltage

Touching live parts of the ignition system with the engine running can cause electric shock.
Do not touch parts of the ignition system when the engine is running.◀

Catalytic converter

If misfiring causes unburned fuel to enter the catalytic converter, there is a danger of overheating and damage.
For this reason, observe the following points:
- Do not run the fuel tank dry.
- Do not attempt to start or run the engine with a spark-plug cap disconnected.
- Stop the engine immediately if it misfires.
- Use only unleaded fuel.
- Comply with all specified maintenance intervals.

Unburned fuel will destroy the catalytic converter.
Note the points listed for protection of the catalytic converter.◀

Risk of fire

Temperatures at the exhaust are high.

Flammable materials (e.g. hay, leaves, grass, clothing and luggage, etc.) could ignite if allowed to come into contact with the hot exhaust pipe.
Do not permit flammable materials to come into contact with the hot exhaust system.◀

Cooling would be inadequate if the engine were allowed to idle for a lengthy period with the motorcycle at a standstill: overheating would result. In extreme cases, the motorcycle could catch fire.
Do not allow the engine to idle unnecessarily. Ride away immediately after starting the engine.◀

Tampering with the control unit of the electronic engine-management system

Tampering with the control unit of the electronic engine-management system can damage the motorcycle and cause accidents.
Do not tamper with the control unit of the electronic engine-management system.◀

Tampering with the control unit of the electronic engine-management system can result in mechanical loads that the motorcycle's com-

ponents are not designed to withstand. Damage caused in this way is not covered by the warranty.
Do not tamper with the control unit of the electronic engine-management system.◀

Checklist

Use the following checklist to check important functions, settings and wear limits before you ride off.
– Brakes
– Brake-fluid levels, front and rear
– Clutch
– Shock absorber setting and spring preload
– Tyre-tread depth and tyre pressures
– Security of the luggage

At regular intervals:
– Engine oil level (every refuelling stop)
– Brake-pad wear (every third refuelling stop)

Starting

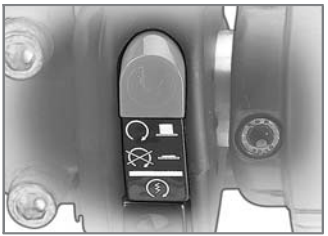
Side stand

You cannot start the motorcycle with the side stand extended and a gear engaged. The engine will switch itself off if you start it with the gearbox in neutral and then engage a gear before retracting the side stand.

Gearbox

You can start the engine when the gearbox is in neutral or if you pull the clutch with a gear engaged.

Starting engine



• Kill switch in operating position (run).

⚠ Gearbox lubrication is ensured only when the engine is running. Inadequate lubrication can result in damage to the gearbox.
Do not allow the motorcycle to roll for a lengthy period of time or push it a long distance with the engine switched off.◀

• Switch on the ignition.

» Pre-ride check is performed. (➡ 49)

with OE BMW Motorrad ABS:

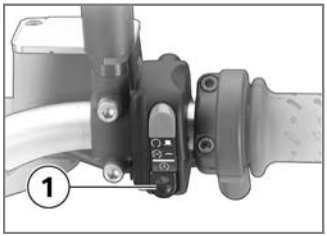
- Switch on the ignition.

» Pre-ride check is performed. (➡ 49)

» ABS self-diagnosis is performed. (➡ 50)◁

- Wait until the warning light for the coolant temperature stops flashing.

▷ The idle actuator is positioned while the warning light for coolant temperature is on. In order to avoid subsequent problems, wait for this process to complete before proceeding.◀



- Press starter button **1**.

▷ If ambient temperatures are very low, you might find it necessary to open the throttle slightly when starting the engine. At ambient temperatures below 0 °C, disengage the clutch after switching on the ignition.◀

▷ If the engine fails to start even though the starter turns, insufficient battery voltage might be causing the problem. Recharge the battery before you start the engine, or use jump leads and a donor battery to start.◀

» The engine starts.

» Consult the troubleshooting chart below if the engine refuses to start. (➡ 104)

Pre-ride check

The instrument cluster runs a test of the telltale and warning lights when the ignition is switched on: this test is known as the pre-ride check.

Phase 1

All the telltale and warning lights are switched on briefly, along with all the segments of the multifunction display.

Phase 2

The tyre parameters stored in the memory of the instrument cluster appear briefly on the display.

The instrument cluster then reverts to its normal operating mode.

If a warning light or telltale light did not show as specified above or if a segment or segments of the multifunction display failed to light up:

⚠ Some malfunctions cannot be indicated if one of the warning lights fails to show.

Make sure that all the warning and telltale lights come on in the pre-ride check.◀

- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ABS self-diagnosis OE

BMW Motorrad ABS performs self-diagnosis to ensure its operability. Self-diagnosis is performed automatically when you switch on the ignition. The motorcycle has to move forward a few metres for the wheel sensors to be tested.

Phase 1

» Test of the diagnosis-compatible system components with the motorcycle at a standstill.

ABS ABS warning light flashes.

brake failure Possible national variant of the ABS warning light.

Phase 2

» Test of the wheel sensors as the motorcycle pulls away from rest.

ABS ABS warning light flashes.

brake failure Possible national variant of the ABS warning light.

ABS self-diagnosis completed

» The ABS warning light goes out.

If an indicator showing an ABS fault appears when ABS self-diagnosis completes:

- You can continue to ride. Bear in mind that the ABS function is not available.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Running in

The first 1000 km

- While running in the motorcycle, vary the throttle opening and engine-speed range frequently.
- Try to do most of your riding during this initial period on twisting, fairly hilly roads,

avoiding high-speed main roads and highways if possible.

Exceeding the specified engine speeds while running in will lead to increased engine wear.
Keep to the specified engine speeds for running in.◀

- During the running-in phase, do not exceed the speed limits specified for the various gears.

 Maximum speeds during running-in period
– 35 km/h (1st gear)
– 55 km/h (2nd gear)
– 75 km/h (3rd gear)
– 95 km/h (4th gear)
– 110 km/h (5th gear)

- No full-load acceleration.
- Avoid low engine speeds at full load.
- Do not omit the first inspection after 500 - 1200 km.

Brake pads

New brake pads must "bed down" and therefore do not achieve their optimum friction levels during the first 500 km. You can compensate for this initial reduction in braking efficiency by exerting greater pressure on the levers.

New brake pads can extend stopping distance by a significant margin.
Apply the brakes in good time.◀

Tyres

New tyres have a smooth surface. This must be roughened by riding in a restrained manner at various heel angles until the tyres are run in. This running in procedure is essential if the tyres are to achieve maximum grip.

Tyres do not have their full grip when new and there is a risk of accidents at extreme angles of heel.
Avoid extreme angles of heel.◀

Riding off-road

Tyre pressures

Tyre pressures reduced for off-road riding impair the motorcycle's handling characteristics on surfaced roads and can lead to accidents.
Always check that the tyre pressures are correct.◀

Dirt or mud on brakes

When riding on loose surfaces or muddy roads, the brakes may fail to take effect immediately because of dirt or moisture on the discs or brake pads. Apply the brakes in good time until the brakes have been cleaned.◀

The brake pads will wear more rapidly if you ride frequently on unsurfaced tracks or poor roads. Check the thickness of the brake pads more frequently and replace the brake pads in good time.◀

Suspension settings

The off-road settings for air pressure in the Air Damping System and the front and rear shock-absorber damping characteristics will impair the motorcycle's handling characteristics on surfaced roads.
If you have been off-roading, remember to correct the air pressure in the Air Damping System and the shock-absorber damping characteristics before you return to surfaced roads.◀

Parking your motorcycle

Placing motorcycle on side stand

If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand. Always check that the ground under the stand is level and firm.◀

- Switch off the engine.
- Pull the handbrake lever.
- Hold the motorcycle upright and balanced.
- Use your left foot to extend the side stand fully.

The side stand is designed to support only the weight of the motorcycle. Do not lean or sit on the motorcycle with the side stand extended.◀

- Slowly lean the motorcycle to the side until its weight is taken by the stand and dismount to the left.

If the motorcycle is on the side stand, the surface of the ground will determine whether it is better to turn the handlebars to the left or right. However, the motorcycle is more stable on a level surface with the handlebars turned to the left than with the handlebars turned to the right.

On level ground, always turn the handlebars to the left to set the steering lock.◀

- Turn the handlebars to full left or right lock.
- Check that the motorcycle is standing firmly.


On a gradient, the motorcycle should always face uphill; select 1st gear.◀

Removing motorcycle from side stand

- Unlock the steering lock.
- Switch on the ignition.
- From the left, grip the handlebars with both hands.
- Pull the handbrake lever.
- Swing your right leg over the seat and lift the motorcycle to the upright position.
- Hold the motorcycle upright and balanced.


An extended side stand can catch on the ground when the motorcycle is moving and lead to a fall.
Retract the side stand before moving the motorcycle.◀

- Sit on the motorcycle and use your left foot to retract the side stand.

Refuelling

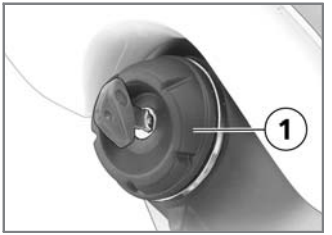

Fuel is highly flammable. A naked flame close to the fuel tank can cause a fire or explosion.
Do not smoke. Never bring a naked flame near the fuel tank.◀


Fuel expands when hot. Fuel escaping from an overfilled tank could make its way onto the rear tyre. This could cause a fall.
Do not fill the tank past the bottom edge of the filler neck.◀


Fuel attacks plastics, which become dull or unsightly.
Wipe off plastic parts immediately if they come into contact with fuel.◀

Leaded fuel will destroy the catalytic converter.
Use only unleaded fuel.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.



- Open fuel tank cap **1** with the ignition key by turning it counter-clockwise.
- Remove the fuel tank cap.
- Refuel with fuel of the grade stated below; do not fill the tank past the bottom edge of the filler neck.

Recommended fuel grade
– 95 ROZ/RON (Super unleaded)

Usable fuel capacity
– 10 l

Reserve fuel
– ≥2 l

- Place the fuel tank cap in position in the filler neck.
- Close the fuel tank cap with the ignition key by turning it clockwise.

Brake system, general

Descending mountain passes

There is a danger of the brakes fading if you use only the rear brakes when descending mountain passes. Under extreme conditions, the brakes could overheat and suffer severe damage.

Use both front and rear brakes, and make use of the engine's braking effect as well.◀

Wet brakes

After the motorcycle has been washed, ridden through water or ridden in the rain, the brake discs and pads might be wet and the brakes might not take effect immediately.
Apply the brakes in good time until the brakes have dried out.◀

Salt on brakes

The brakes may fail to take effect immediately if the motorcycle was ridden on salt-covered roads and the brakes were not applied for some time.
Apply the brakes in good time until the salt layer on the

brake discs and brake pads has been removed.◀

Oil or grease on brakes

⚠ Oil and grease on the brake discs and pads considerably diminish braking efficiency.
Especially after repair and maintenance work, make sure that the brake discs and brake pads are free of oil and grease.◀

Dirt or mud on brakes

⚠ When riding on loose surfaces or muddy roads, the brakes may fail to take effect immediately because of dirt or moisture on the discs or brake pads.
Apply the brakes in good time until the brakes have been cleaned.◀

⚠ The brake pads will wear more rapidly if you ride frequently on unsurfaced tracks or poor roads.
Check the thickness of the brake pads more frequently and replace the brake pads in good time.◀

Brake system with BMW Motorrad ABS[OE]

How does ABS work?

The amount of braking force that can be transferred to the road depends on factors hat include the coefficient of friction of the road surface. Loose stones, ice and snow or a wet road all have much lower coefficients of friction than a clean, dry asphalt surface. The lower the coefficient of friction, the longer the braking distance.

If the rider increases braking pressure to the extent that braking force exceeds the maximum transferrable limit, the wheels start to lock and the motorcycle loses its directional stability; a fall is imminent. Before this situation can occur, ABS intervenes and adapts braking pressure to the maximum transferrable braking force, so the wheels continue to turn and directional stability is maintained irrespective of the condition of the road surface.

What are the effects of surface irregularities?

Humps and surface irregularities can cause the wheels to lose contact temporarily with the road surface; if this happens the braking force that can be transmitted to the road can drop to zero. If

the brakes are applied under these circumstances the ABS has to reduce braking force to ensure that directional stability is maintained when the wheels regain contact with the road surface. At this instant the BMW Motorrad ABS must assume an extremely low coefficient of friction, so that the wheels will continue to rotate under all imaginable circumstances, because this is the precondition for ensuring directional stability. As soon as is registers the actual circumstances, the system reacts instantly and adjusts braking force accordingly to achieve optimum braking.

How can stopping distance be minimised?

Each time the brakes are applied, a load distribution shift takes place with the load shifting forward from the rear to the front wheel. The sharper the motorcycle decelerates, the more load is shifted to the front wheel. The higher the wheel load, the more braking force can be transmitted without the wheel locking.

To optimise stopping distance, apply both the front and rear brakes. Apply the front brakes rapidly and keep on increasing the force you apply to the brake lever in order to make full use of the dynamic load shift to the front wheel. Remember to pull the clutch at the same time. In the "panic braking situations" that are trained so frequently braking force is applied as rapidly as possible and with the rider's full force applied to the brake levers; under these circumstances the dynamic shift in load distribution cannot keep pace with the increase in deceleration and the tyres cannot transmit the full braking force to the surface of the road. ABS has to intervene to keep the front wheel from locking; this increases stopping distance.

Reserves for safety

The potentially shorter braking distances which BMW Motorrad ABS permits must not be used as an excuse for careless riding. ABS is primarily a means of ensuring a safety margin in genuine emergencies.

Take care when cornering. When you apply the brakes

on a corner, the motorcycle's weight and momentum take over and even BMW Motorrad ABS is unable to counteract their effects.

Rear wheel lift

Even under severe braking, a high level of tyre grip can mean that the front wheel does not lock up until very late, if at all. Consequently, ABS does not intervene until very late, if at all. Under these circumstances the rear wheel can lift off the ground, and the outcome can be a highsiding situation in which the motorcycle can flip over.

⚠ Severe braking can cause the rear wheel to lift off the ground.

When you brake, bear in mind that ABS control cannot be relied on in all circumstances to prevent the rear wheel from lifting clear of the ground.◀

What is the design baseline for BMW Motorrad ABS?

Within the limits imposed by physics, BMW Motorrad ABS ensures directional stability on any surface. The system is not optimised for special requirements that apply under extreme competitive situations off-road or on the track.

Special situations

The speeds of the front and rear wheels are compared as one means of detecting a wheel's incipient tendency to lock. If the system registers implausible values for a lengthy period the ABS function is deactivated for safety reasons and an ABS fault message is issued. Self-diagnosis has to complete before fault messages can be issued.

In addition to problems with the BMW Motorrad ABS, exceptional riding conditions can lead to a fault message being issued.

Exceptional riding conditions:

- Riding for a lengthy period with the front wheel lifted off the ground (wheelie).
- Rear wheel rotating with the motorcycle held stationary by applying the front brake (burn-out).
- Heating up with the motorcycle on an auxiliary stand, in neutral or with a gear engaged.
- Rear wheel locked for a lengthy period, for example while descending off-road.

If a fault message is issued on account of exceptional riding conditions as outlined above, you can reactivate the ABS function by switching the ignition off and on again.

What significance devolves on regular maintenance?

Invariably, a technical system cannot perform beyond the abilities dictated by its level of maintenance. In order to ensure that the BMW Motorrad ABS is always maintained in optimum condition, it is essential for you to comply strictly with the specified inspection intervals.◀

Accessories

General instructions

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose.

Genuine BMW parts and accessories and other products which BMW has approved can be obtained from your authorised BMW Motorrad dealer, together with expert advice on their installation and use.

These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for them.

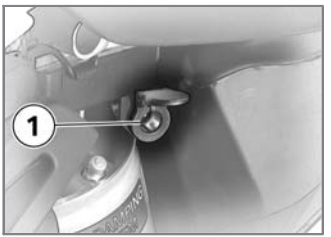
Conversely, BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.

BMW Motorrad cannot assess each non-BMW product to determine whether it can be used on or in connection with BMW motorcycles without constituting a safety hazard. Country-specific official authorisation does not suffice as assurance. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances. Use only parts and accessories approved by BMW for your motorcycle.◀

Whenever you are planning modifications, comply with all the legal requirements. Make sure that the motorcycle does not infringe national road-vehicle construction and use regulations.

Power socket[OE]

Ratings



Do not attempt to connect a load that would exceed the maximum amperage stated in the technical data for on-board socket **1**.

Operating electrical accessories

Electrically powered accessories inevitably place a strain on the battery. It is essential to ensure that the battery retains its ability to start the engine.

Cable routing

The cables from the power socket to the auxiliary device must be routed in such a way that they:

- Do not impede the rider
- Do not restrict or obstruct the steering angle and handling characteristics
- Cannot be trapped


Incorrectly routed cables can impede the rider.
Route the cables as described above.◄

Maintenance

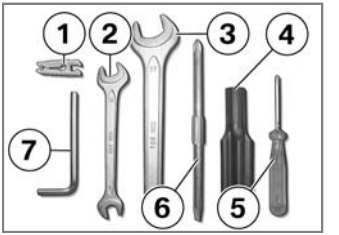
General instructions

The Maintenance chapter describes straightforward procedures for checking and replacing certain wear parts. Special tightening torques are listed as applicable. The tightening torques for the threaded fasteners on your motorcycle are listed in the section entitled "Technical data".

You will find information on more extensive maintenance and repair work in the Repair Manual on CD/DVD-ROM (RepROM) for your motorcycle, which is available from your authorised BMW Motorrad dealer.

Toolkit

Standard on-board toolkit



1 Fuse puller

– Replacing fuses

2 Open-ended spanner, w/f 8/10

– Adjusting chain tension

3 Open-ended spanner, w/f 17

– Adjusting mirror arm

4 Screwdriver handle

– Holder for screwdriver blade

5 Screwdriver, small

– Replacing turn indicator bulbs

6 Screwdriver blade

– Adjusting rear suspension damping

7 Allen key 4 mm

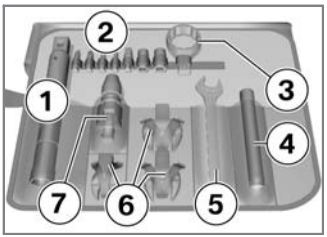
– Removing and installing body panels

On-board toolkit service kit

Your authorised BMW Motorrad dealer can provide the on-board toolkit service kit that you will need if you are considering undertaking more extensive work.

You will find information on undertaking work of this nature in the Repair

Manual on the DVD/CD-ROM also obtainable from your authorised BMW Motorrad dealer.



1 Extending tool holder

– Adapters to accommodate all tools

2 1/4" bits

– Torx T25
– 1x cross-head bit
– 1x plain screwdriver bit
– Adapter, 1/4" hex to 1/4"square
– 2x socket wrench insert, removing and installing front wheel
– Allen key 4 mm, removing and installing fairing

3 Ring spanner, w/f 27

– Removing and installing wheels

4 Electric torch

– LED bulb

5 Open-ended spanner

– Adjusting chain tension

6 3x socket

– Adjusting mirror arm
– Adjusting chain tension

7 Adapter

– Adapter for 1/4" bits
– 9x12 mm and 3/8" swivel adapters

Engine oil

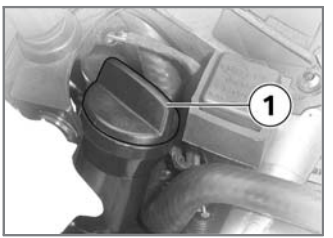
Checking engine oil level

The engine can seize if the oil level is low, and this can lead to accidents. Always make sure that the oil level is correct.◀

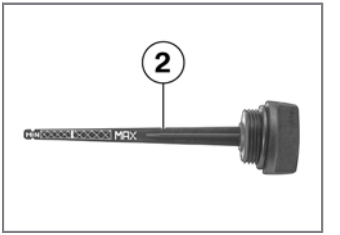
The oil level varies with the temperature of the oil. The higher the temperature, the higher the level of oil in the sump. Checking the oil level with the engine cold or after no more than a short ride will lead to misinterpretation; this in turn, means that the engine will be operated with the incorrect quantity of oil.

In order to ensure that the engine oil level is read correctly, check the oil level only after a lengthy trip.◀

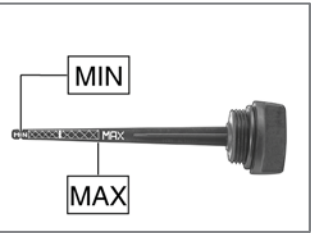
- Make sure the engine is at operating temperature and hold the motorcycle upright.
- Allow the engine to idle until the fan starts up, then allow it to idle one minute longer.
- Switch off the engine.
- Wipe the area around the oil filler neck clean.



- Remove oil filler cap **1** by turning it counter-clockwise.



- Use a dry cloth to wipe oil dipstick **2** clean
- Install the oil dipstick.
- Remove the oil dipstick and check the oil level.



	Engine oil, specified level
–	Between MIN and MAX marks

If the oil level is below the MIN mark:

- Top up the engine oil (➠ 67)

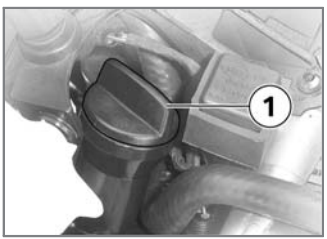
If the oil level is above the MAX mark:

- Have the oil level corrected by a specialist workshop, preferably an authorised BMW Motorrad dealer.

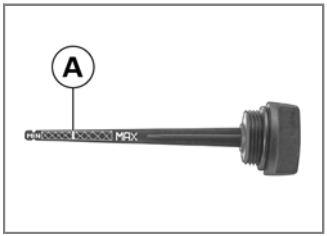
Topping up engine oil

Damage to the engine can result if it is operated without enough oil, but the same also applies if the oil level is too high.
Always make sure that the oil level is correct.◀

- Wipe the area around the filler neck clean.



- Remove oil filler cap **1**.



- Top up the engine oil until the level reaches mark **A**.
- To check the oil level, screw the oil dipstick into the bore and then remove it.
- Install the oil filler cap.

Brake system, general

Dependability of the brake system

A fully functional brake system is a basic requirement for the road safety of your motorcycle.
Do not ride the motorcycle if you have any doubts about the dependability of the brake system.
Under these circumstances have the brake system checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Incorrect working practices endanger the reliability of the brakes.
Have all work on the brake system performed by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

Checking operation of brakes

- Pull the handbrake lever.
» The pressure point must be clearly perceptible.
- Press the footbrake lever.
» The pressure point must be clearly perceptible.

If pressure points are not clearly perceptible:

- Have the brakes checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.

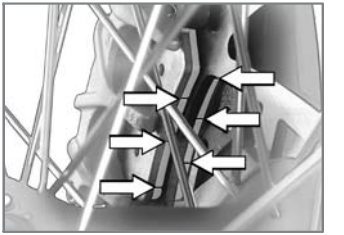
Brake pads

Checking brake-pad thickness, front brakes

⚠ Brake pads worn past the minimum permissible thickness can cause a reduction in braking efficiency and under certain circumstances they can cause damage to the brake system.
In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.

- Visually inspect the brake pads to ascertain their thickness. Viewing direction: Between wheel and fork tube toward the brake caliper.



Brake-pad wear limit, front
– 1 mm (Friction pad only, without backing plate)
– The wear indicators (grooves) must be clearly visible.

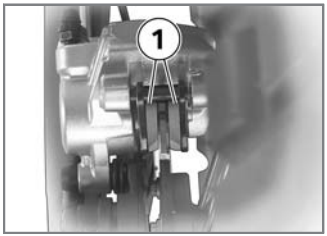
If the wear indicating marks are no longer clearly visible:

- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

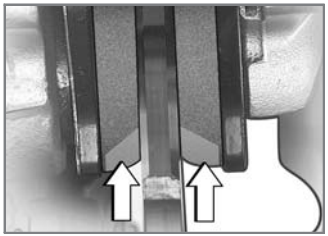
Checking brake pad thickness, rear brakes

Brake pads worn past the minimum permissible thickness can cause a reduction in braking efficiency and under certain circumstances they can cause damage to the brake system.
In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.



- Visually inspect rear brake pads **1** from behind to ascertain their thickness.



Brake-pad wear limit, rear
– 1 mm (Friction pad only, without backing plate)
– The wear indicators must be clearly visible.

If the wear indicating marks are no longer visible:

- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Brake fluid

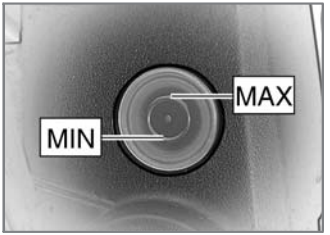
Checking brake-fluid level, front brakes

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency. Check the brake-fluid level at regular intervals.◀

- Make sure the ground is level and firm and hold the motorcycle upright.
- Move the handlebars to the straight-ahead position.

- Check the brake fluid level in front reservoir **1**.

Wear of the brake pads causes the brake fluid level in the reservoir to sink.◀



Brake fluid level, front
– DOT4 brake fluid
– Do not permit the brake fluid level to drop below the MIN mark. (Brake-fluid reservoir horizontal)

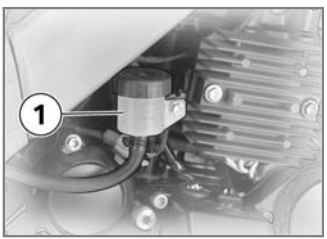
If the brake fluid level drops below the permitted level:

- Have the defect rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Checking brake-fluid level, rear brakes

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency. Check the brake-fluid level at regular intervals.◀

- Make sure the ground is level and firm and hold the motorcycle upright.



- Check the brake fluid level in rear reservoir **1**.

▷ Wear of the brake pads causes the brake fluid level in the reservoir to sink.◀

	Brake fluid level, rear
–	DOT4 brake fluid
–	Do not permit the brake fluid level to drop below the MIN mark. (Brake-fluid reservoir horizontal)

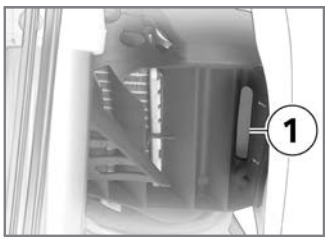
If the brake fluid level drops below the permitted level:

- Have the defect rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

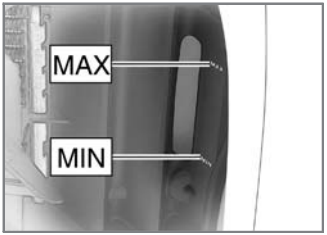
Coolant

Checking coolant level

- Make sure the ground is level and firm and hold the motorcycle upright.



- Read off the coolant level on scale **1** on the coolant expansion tank.



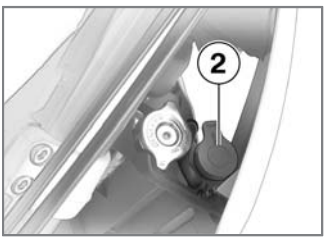
Coolant, specified level
– between MIN and MAX marks on the expansion tank

If the coolant level is too low:
- Top up the coolant.

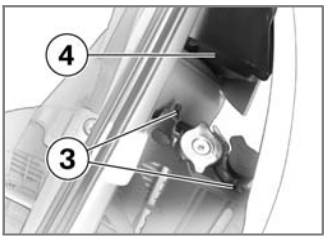
If the coolant level is too high:
- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.

Topping up coolant

- Pull cover of radiator cap **1** forward to remove.



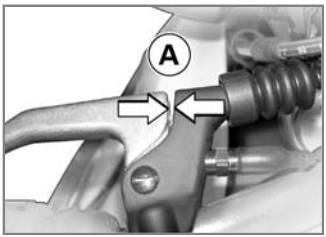
- Open cap of the expansion tank for coolant **2**.
- Top up the coolant to the specified level.
- Close the cap of the expansion tank for coolant.



- Seat the cover of the radiator cap in holders **3**. In this process, guide the top edge of the cover behind the bottom edge of fairing centre section **4**.

Clutch

Checking clutch-lever play



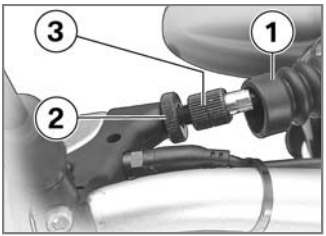
- Pull the clutch lever until resistance is perceptible.
- Measure clutch-lever play **A**.

Clutch-lever play
– 1...2 mm

Clutch-lever play is out of tolerance:

- Adjust the clutch (➠ 73)

Adjusting clutch



- Push back boot **1**.
- Slacken locknut **2**.
- Set clutch-lever play to specification by turning adjusting screw **3**.

» Turning screw in forward direction of travel: reduces play.

» Turning screw opposite to forward direction of travel: increases play.

- Check the clutch-lever play (➠ 73)
- Tighten locknut **2**.
- Pull boot **1** back over the adjusting screw.

Tyres

Checking tyre tread depth

Your motorcycle's handling and grip can be impaired even before the tyres wear to the minimum tyre tread depth permitted by law. Have the tyres changed in good time before they wear to the minimum permissible tread depth.◄

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Measure the tyre tread depth in the main tread grooves with wear marks.

Tyres have wear indicators integrated into the main tread grooves. The tyre is worn out when the tyre

tread has worn down to the level of the marks. The locations of the marks are indicated on the edge of the tyre, e.g. by the letters TI, TWI or by an arrow.◀

If the tyre tread no longer complies with the minimum legally required tread depth:
- Replace tyre.

Rims

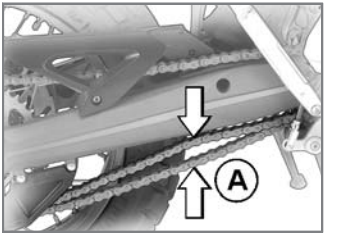
Checking rims

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Visually inspect the rims for defects.
- Have damaged rims checked and, if necessary, replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Chain

Checking chain tension

- Make sure the ground is level and firm and place the motorcycle on its stand.



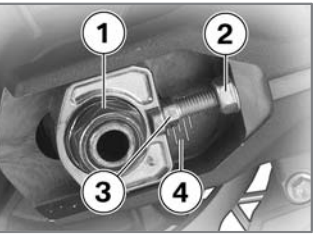
- Use a screwdriver to push the chain up and down and measure difference **A**.

	Chain deflection
–	25 mm (Motorcycle unladen on auxiliary stand)

If measured value is outside permitted tolerance:
- Adjust chain tension (➠ 74)

Adjusting chain tension

- Make sure the ground is level and firm and place the motorcycle on its stand.



- Slacken quick-release axle nut **1**.
- Slacken locknuts **2** on left and right by turning them counter-clockwise.
- Use adjusting screws **3** on left and right to adjust chain tension.

» Turning screws clockwise: reduces chain tension.
» Turning screws counterclockwise: increases chain tension.
- Check chain tension (➡ 74)
- Make sure that scale readings **4** are the same on left and right.
- Tighten locknuts **2** on left and right by turning them clockwise.

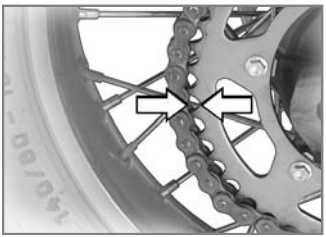
Locknut of the final-drive chain tensioning screw
– 25 Nm

- Tighten quick-release axle nut **1** to the specified tightening torque.

Nut on quick-release axle, rear
– 80 Nm

Checking chain wear

- Make sure the ground is level and firm and place the motorcycle on its stand.



- Pull the chain back at the rearmost point of the sprocket.
» The tips of the sprocket teeth must remain inside the chain links.

If the chain can be pulled back far enough to expose the tips of the sprocket teeth:

- Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.

Wheels

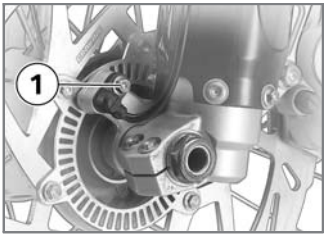
Recommended tyres

For each size of tyre BMW Motorrad tests and classifies as roadworthy certain makes. BMW Motorrad cannot assess the suitability or provide any guarantee of road safety for other tyres.
BMW Motorrad recommends using only tyres tested by BMW Motorrad.
You can obtain detailed information from your authorised BMW Motorrad dealer or on the Internet at www.bmw-motorrad.com.

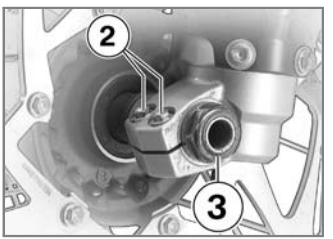
Removing front wheel

- Place the motorcycle on a suitable auxiliary stand.

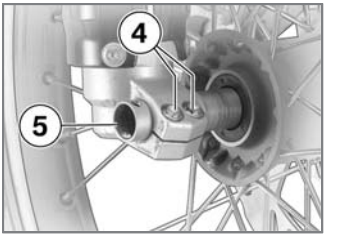
with OE BMW Motorrad ABS:



- Remove screw **1** of the ABS sensor and remove the ABS sensor from the holder.◁



- Slacken left axle clamping screws **2**.
- Remove axle screw **3**.

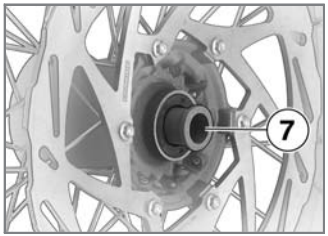


- Slacken right axle clamping screws **4**.
- Use a screwdriver to remove axle **5**.
- Do not remove the grease from the axle.

- Hold left slider tube **6** and turn the front wheel left to push the brake pads apart.

⚠ Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disc on reassembly.
Do not operate the handbrake lever when the brake calipers have been removed.◀

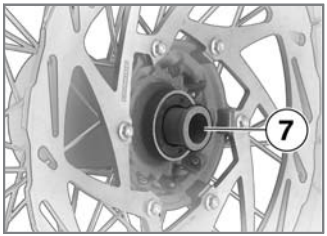
- Roll the front wheel clear of the forks.



• Remove spacer sleeve **7**.

Installing front wheel

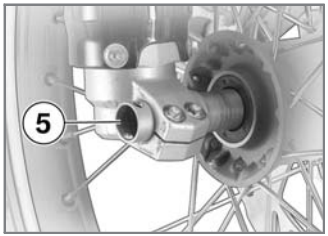
Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.
Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀



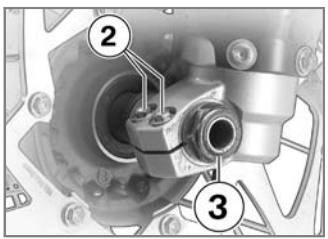
• Install spacer sleeve **7**.

The front wheel must be installed right way round to rotate in the correct direction.
Note the direction-of-rotation arrows on the tyre or the wheel rim.◀

• Roll the front wheel into position between the forks, making sure that the brake disc passes between the brake pads.



• Install axle **5**.

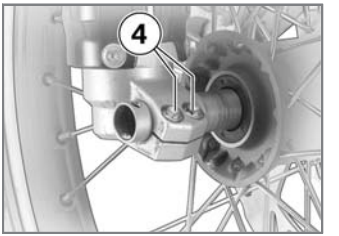


• Tighten axle screw **3** to the specified torque; if necessary use a screwdriver to counter-hold at the right-hand side.

Nut on quick-release axle, front
– 80 Nm

- Without operating the brakes: firmly compress the forks and release; repeat the procedure several times.
- Tighten left axle clamping screws **2** to the specified tightening torque.

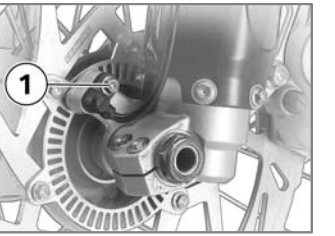
Front-axle retainer
– 10 Nm



- Tighten right axle clamping screws **4** to the specified tightening torque.

Front-axle retainer
– 10 Nm

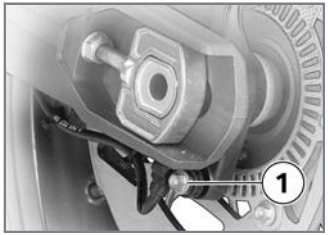
with OE BMW Motorrad ABS:



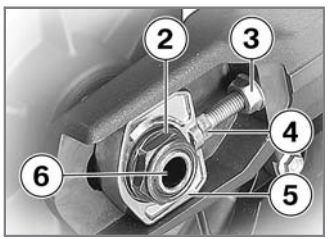
- Seat the ABS sensor in the holder and install screw **1** of the ABS sensor.◁
- Firmly pull the brake lever several times to seat the brake pads against the brake disc.
- Remove the auxiliary stand.

Removing rear wheel

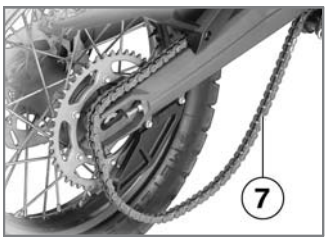
- Place the motorcycle on a suitable auxiliary stand.



- Remove screw **1** of the speed sensor and remove the speed sensor from the holder.



- Remove quick-release axle nut **2**.
- Slacken locknuts **3** on left and right by turning them counter-clockwise.
- Back off adjusting screws **4** left and right by turning them clockwise until adjusting plate **5** can be removed.
- Remove quick-release axle **6**.



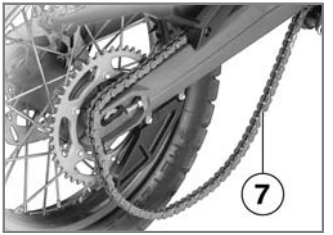
- Roll the rear wheel as far forward as possible and disengage chain **7** from the sprocket.
- Roll the rear wheel back until it is clear of the swinging arm.

The sprocket and the spacer sleeves on left and right are loose fits in the wheel. Make sure that these parts are not damaged or lost on removal.◀

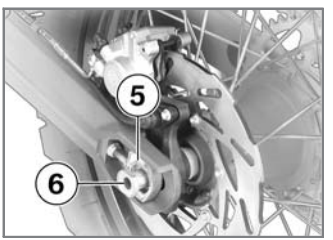
Installing rear wheel

Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.
Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

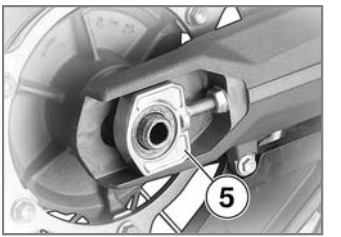
- Roll the rear wheel into the swinging arm, making sure that the brake disc passes between the brake pads.



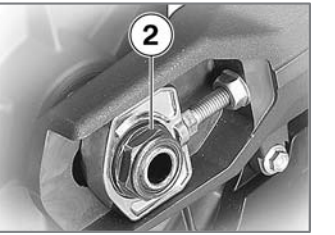
- Roll the rear wheel as far forward as possible and loop chain **7** over the sprocket.



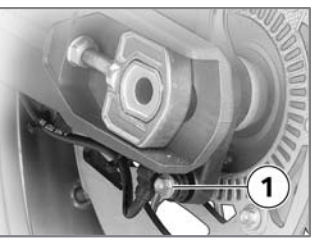
- Install quick-release axle **6** with adjusting plate **5** in the swinging arm, brake caliper and rear wheel.
- Turn the quick-release axle until it fits into the recess of the adjusting plate.



- Install adjusting plate **5**.



- Install quick-release axle nut **2**, but do not tighten it at this point.



- Seat the speed sensor in the holder and install screw **1** of the speed sensor.

- Adjust chain tension (➠ 74)
- Remove the auxiliary stand.

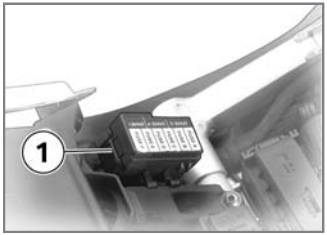
Fuses

Removing fuses

Risk of fire if an attempt is made to jumper defective fuse.
Always replace defective fuses with new fuses of the correct amperage rating.◀

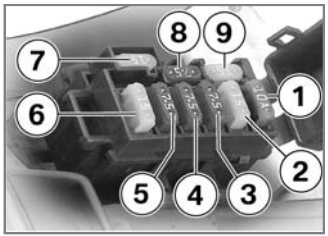
If fuse defects recur frequently have the electric circuits checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing seat (➠ 33)
- Switch off the ignition.



- Push latching lever **1** and open the fuse cover.
- Check the fuse-assignment diagram and pull the defective fuse up and out of the fuse box.

Fuse assignment



1 ABS (OE) (10 A)
2 Engine management control unit (15 A)
3 Low-beam headlight (7.5 A)
4 Brake light, horn, instrument cluster, diagnosis plug (7.5 A)
5 Side light, number-plate light, headlight flasher, high-beam headlight (7.5 A)
6 Starter relay, flashing turn indicators, diagnosis plug (15 A)

7 Spare fuse (15 A)
8 Spare fuse (7.5 A)
9 Spare fuse (15 A)

Installing fuses

- Remove the defective fuse and replace it with a fuse of the correct amperage rating.
- Close the fuse cover.

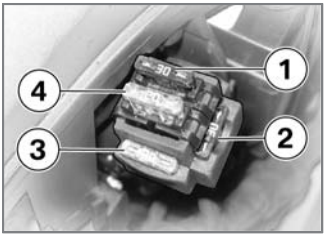
» The latch engages with an audible click.

- Install the seat (➠ 34)

Removing ABS fuses OE

- Removing right side panel (➠ 95)
- Switch off the ignition.
- Check the fuse-assignment diagram and pull the defective fuse up and out of the fuse box.

Fuse assignment, ABS OE



1 ABS (30 A)
2 Spare fuse (30 A)
3 Spare fuse (20 A)
4 ABS (20 A)

Installing ABS fuses OE

- Remove the defective fuse and replace it with a fuse of the correct amperage rating.
- Installing right side panel (➠ 96)

Bulbs

General instructions

⚠ A defective bulb places your safety at risk because it is easier for other users to oversee you and your motorcycle.
Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

⚠ The bulb is pressurised and can cause injury if damaged.
Wear protective goggles and gloves when changing bulbs.◀

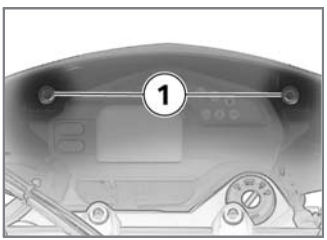
▷ The types of bulb fitted to your motorcycle are listed in the section entitled "Technical data".◀

▷ Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth

to hold the bulbs when handling 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.◀

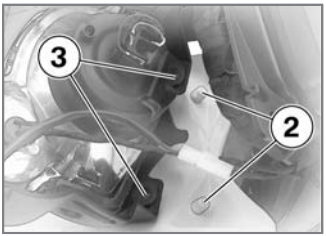
Removing headlight housing

- Make sure the ground is level and firm and place the motorcycle on its stand.

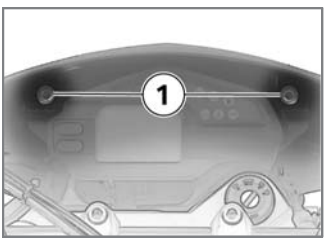


- Remove two screws **1**.
- Ease the headlight housing forward and up to remove.

Installing headlight housing



- Engage the headlight housing with mounts **3** in holders **2**.



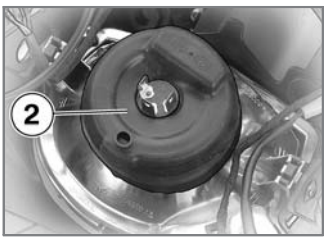
- Install two screws **1**.

Replacing low-beam and high-beam headlight bulb

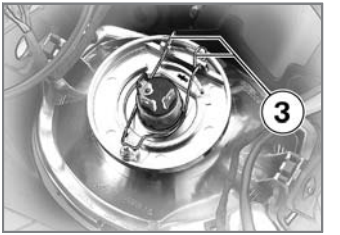
⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Always make sure that the motorcycle is stable and firmly supported.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing headlight housing (➠ 83)
- Switch off the ignition.

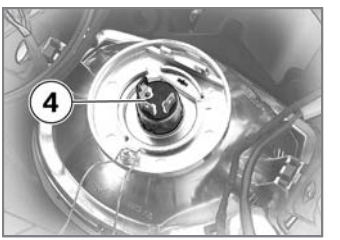
• Disconnect plug **1**.



• Remove rubber cap **2**.



• Disengage spring clip **3** from the latches and swing it up.



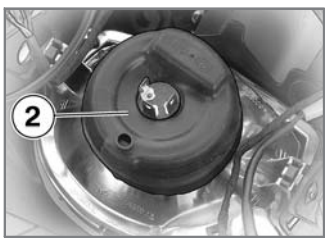
• Remove bulb **4**.
• Replace the defective bulb.

Bulb of low-beam and high-beam headlight

– H4 / 12 V / 55...60 W

• Install bulb **4**.

- Close spring retainer **3** and engage it in the catches.



- Install rubber cap **2**.

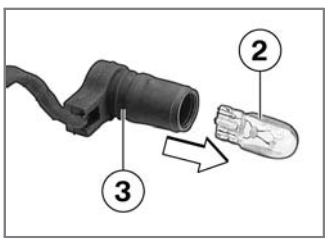
- Connect plug **1**.
- Install the headlight housing (➠ 83)

Replacing side-light bulb

⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Always make sure that the motorcycle is stable and firmly supported.◄

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing headlight housing (➠ 83)
- Switch off the ignition.

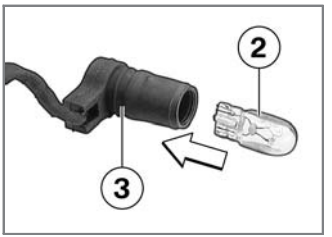
- Pull bulb socket **1** out of the headlight housing.



- Pull bulb **2** out of socket **3**.

• Replace the defective bulb.

Side-light bulb
– W5W / 12 V / 5 W



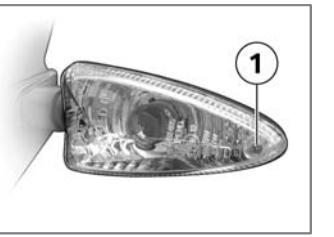
• Insert bulb **2** into socket **3**.

• Insert bulb socket **1** into the headlight housing.
• Install the headlight housing (➠ 83)

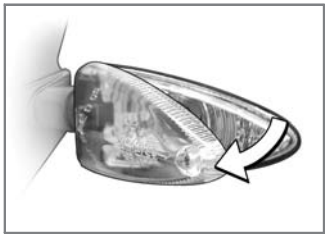
Replacing turn indicator bulbs, front and rear

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Always make sure that the motorcycle is stable and firmly supported.◀

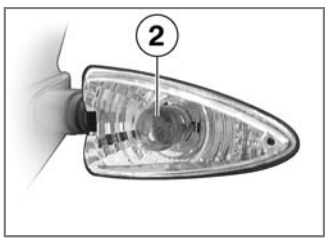
• Make sure the ground is level and firm and place the motorcycle on its stand.



• Remove screw **1**.



- Pull the glass out of the reflector housing at the threaded-fastener side.

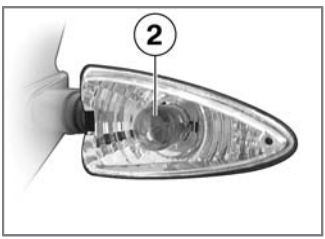


- Turn bulb **2** counter-clockwise and remove it from the bulb housing.

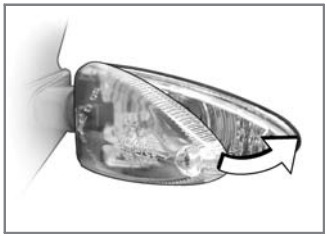
- Replace the defective bulb.

Front flashing turn indicator bulbs
– RY10W / 12 V / 10 W

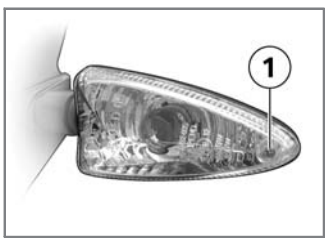
Rear flashing turn indicator bulbs
– RY10W / 12 V / 10 W



- Turn bulb **2** clockwise to install it in the bulb housing.



- Working from the inboard side, insert the glass into the bulb housing and close the housing.

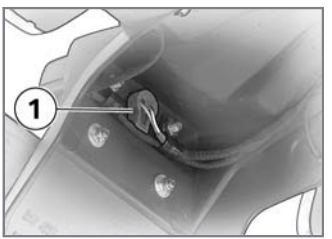


- Install screw **1**.

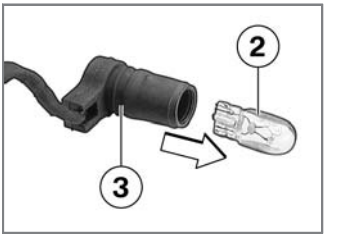
Replacing number-plate light

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Always make sure that the motorcycle is stable and firmly supported.◄

- Make sure the ground is level and firm and place the motorcycle on its stand.

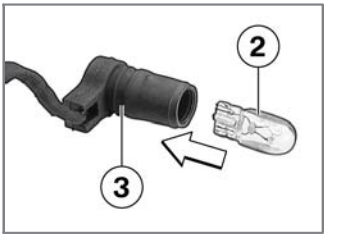


- Pull bulb holder **1** out of the light carrier.

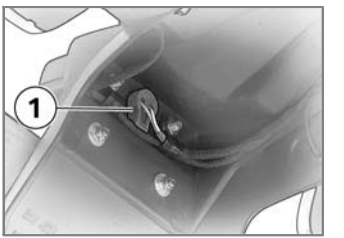


- Pull bulb **2** out of socket **3**.
- Replace the defective bulb.

Bulb of number-plate light
– W5W / 12 V / 5 W



- Insert bulb **2** into socket **3**.



- Seat bulb holder **1** in the light carrier.

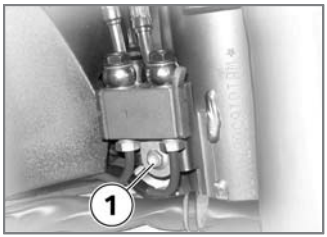
Air filter

Replacing air-filter element

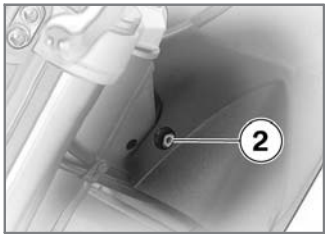
⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Always make sure that the motorcycle is stable and firmly supported.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing seat (➠ 33)

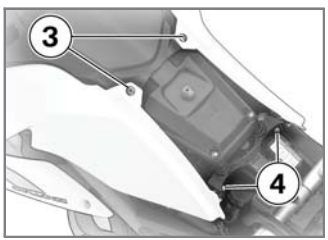
with OE BMW Motorrad ABS:



- For ease of access, slacken screw **1** of the brake-pipe distributor on the right side.◁

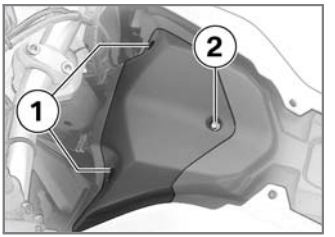


- Remove screws **2** on left and right.

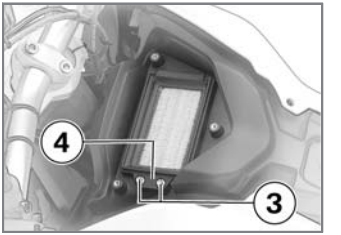


- Remove screws **3**.
- Pull the side panels out of holders **4**.

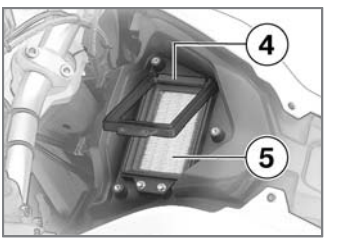
- Push the side panels apart and remove the fairing centre section.



- Remove screws **1** and screw **2** and lift off the air filter cover.

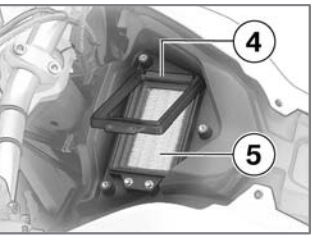


- Remove screws **3** and lift up frame **4** on the left-hand side.

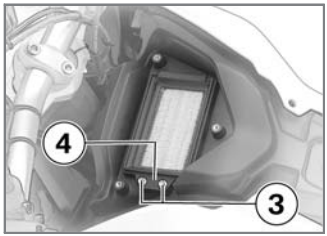


- Remove frame **4** on the right-hand side and remove air filter element **5**.

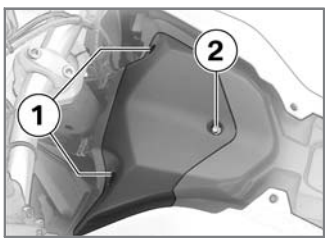
- Either tap the air filter element clean or replace it, depending on how dirty it is.



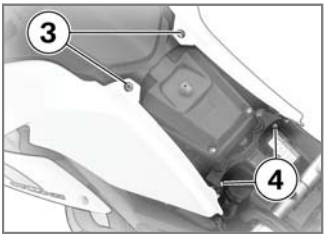
- Install air filter element **5** and install frame **4**.



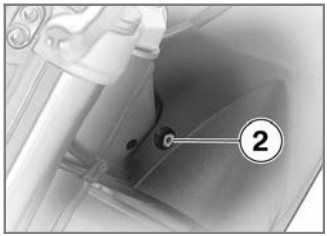
- Close frame **4** and install screws **3**.



- Place the air filter cover in position and install screws **1** and screw **2**.

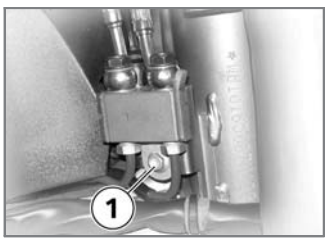


- Push the side panels apart and install the fairing centre section.
- Seat the side panels in holders **4**.
- Install screws **3**.



- Install screws **2** on left and right.

with OE BMW Motorrad ABS:



- Tighten screw **1** of the brake-pipe distributor.◁
- Install the seat (➡ 34)

Jump starting

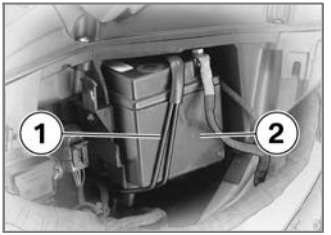
The wires leading to the power socket do not have a load-capacity rating adequate for jump-starting the engine. Excessively high current can lead to a cable fire or damage to the vehicle electronics.
Do not use the on-board socket to jump-start the engine of the motorcycle.◀

Touching live parts of the ignition system with the engine running can cause electric shock.
Do not touch parts of the ignition system when the engine is running.◀

A short-circuit can result if the crocodile clips of the jump leads are accidentally brought into contact with the motorcycle.
Use only jump leads fitted with fully insulated crocodile clips at both ends.◀

Jump-starting with a donor-battery voltage higher than 12 V can damage the vehicle electronics.
Make sure that the battery of the donor vehicle has a voltage rating of 12 V.◀

- Removing right side panel (➠ 95)
- When jump-starting the engine, do not disconnect the battery from the on-board electrical system.



- Disengage rubber retaining strap **1** from the holder at the bottom and pull battery **2** partly out.
- Run the engine of the donor vehicle during jump-starting.

- Begin by connecting one end of the red jump lead to positive terminal **3** of the discharged battery and the other end to the positive terminal of the donor battery.
- Then connect one end of the black jump lead to the negative terminal of the donor battery, and the other end to a suitable grounding point on this motorcycle.
- Start the engine of the vehicle with the discharged battery in the usual way; if the engine does not start, wait a few minutes before repeating the attempt in order to protect the starter motor and the donor battery.
- Allow both engines to idle for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from the negative terminal and the ground point first, then disconnect the second jump lead from positive terminal **3**.

▷ Do not use proprietary start-assist sprays or other products to start the engine.◀

- Installing right side panel (➠ 96)

Battery

Maintenance instructions

Correct upkeep, recharging and storage will prolong the life of the battery and are essential if warranty claims are to be considered.
Compliance with the points below is important in order to maximise battery life:

– Keep the surface of the battery clean and dry
– Do not open the battery
– Do not top up with water
– Be sure to read and comply with the instructions for charging the battery on the following pages
– Do not turn the battery upside down

⚠ If the battery is not disconnected, the on-board electronics (e.g. clock, etc.) gradually drain the battery.

This can cause the battery to run flat. If this happens, warranty claims will not be accepted.
If the motorcycle is to be out of use for more than four weeks, disconnect the battery or connect a suitable trickle charger to the battery.◀

Charging battery when connected

Charging the connected battery directly at the battery terminals can damage the vehicle electronics.
Always disconnect the battery from the on-board circuits before recharging it with a charger connected directly to the battery posts.◀

If you switch on the ignition and the multifunction display and telltale lights fail to light up, the battery is completely flat. Attempting to charge a completely flat battery via the on-board socket can cause damage to the motorcycle's electronics.
If a battery has discharged to the extent that it is completely flat, it has to be disconnected from the on-board circuits and charged with the charger connected directly to the battery posts.◀

- Charge via the power socket (OE), with the battery connected to the motorcycle's on-board electrical system.
- Comply with the operating instructions of the charger.

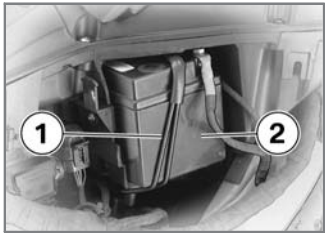
Charging battery when disconnected

- Charge the battery using a suitable charger.
- Comply with the operating instructions of the charger.
- Once the battery is fully charged, disconnect the charger terminal clips from the battery terminals.

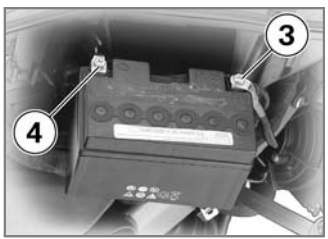
The battery has to be recharged at regular intervals in the course of a lengthy period of disuse. See the instructions for caring for your battery. Always fully recharge the battery before restoring it to use◀

Removing battery

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing right side panel (➡ 95)



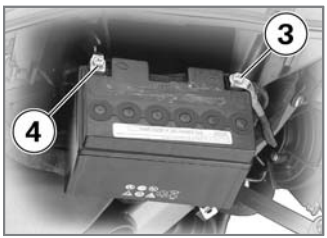
- Disengage retaining strap **1**.
- Remove battery **2**.



Disconnection in the wrong sequence increases the risk of short-circuits.
Always proceed in the correct sequence.◀

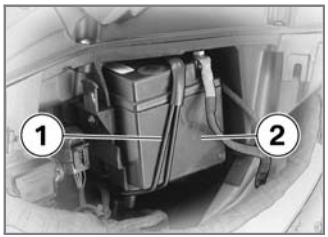
- Disconnect negative battery lead **4** first.
- Then disconnect positive battery lead **3**.

Installing battery



Installation in the wrong sequence increases the risk of short-circuits.
Always proceed in the correct sequence.◀

- Connect battery positive lead **3** first.
- The connect battery negative lead **4**.

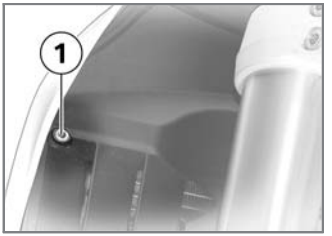


- Install battery **2**, negative terminal first.
- Engage retaining strap **1**.
- Installing right side panel (➡ 96)
- Set the clock (➡ 29)

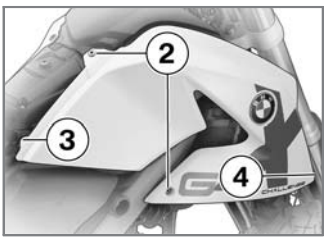
Removing right side panel

- Make sure the ground is level and firm and place the motorcycle on its stand.

- Removing seat (➡ 33)



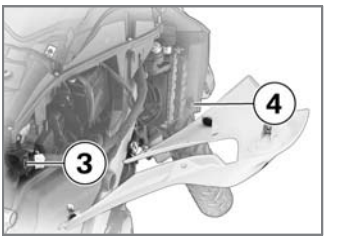
- Remove screw **1** at the front right.



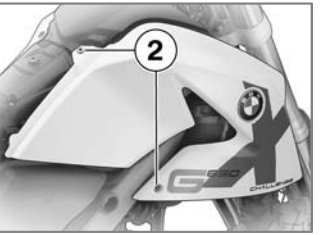
- Remove screws **2**.
- Begin by pulling the side panel out of holder **3**, then pull it to the rear to disengage it from holder **4**.
- Remove the side panel.

Installing right side panel

- Make sure the ground is level and firm and place the motorcycle on its stand.



- Begin by seating the side panel in holder **4**, then seat it in holder **3**.



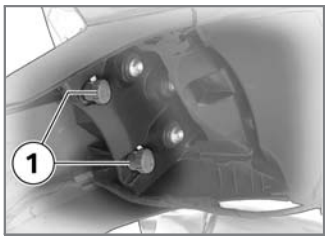
- Install screws **2**.

- Install screw **1** at the front right.
- Install the seat (➡ 34)

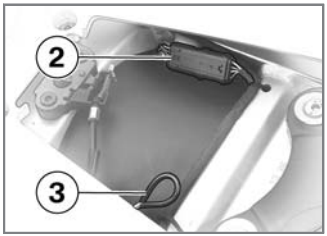
Number-plate carrier

Removing number-plate carrier

- Make sure the ground is level and firm and place the motorcycle on its stand.

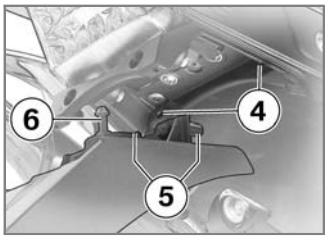


- Remove two screws **1**.



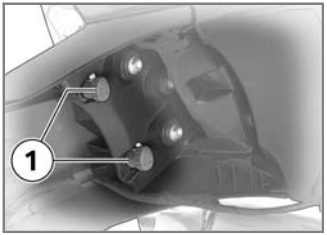
- Disconnect plug **2**.
- Release the number-plate carrier with wire loop **3** and remove, working plug **2** with the cable free.

Installing number-plate carrier

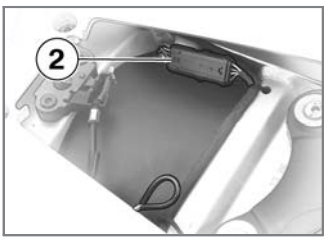


- Work the cable into position, seat the number-plate carrier with holders **5** in mounts **4** and push it up.

» Pin **6** engages with an audible click.



• Install two screws **1**.



• Connect plug **2**.

Care

Care products

BMW Motorrad recommends that you use the cleaning and care products you can obtain from your authorised BMW Motorrad dealer. The substances in BMW Care Products have been tested in laboratories and in practice; they provide optimised care and protection for the materials used in your vehicle.

The use of unsuitable cleaning and care products can damage vehicle components.

Do not use solvents such as cellulose thinners, cold cleaners, fuel or the like, and do not use cleaning products that contain alcohol.◀

Washing motorcycle

BMW Motorrad recommends that you use BMW insect remover to soften and wash off insects and stubborn dirt on painted parts prior to washing the motorcycle.

To prevent stains, do not wash the motorcycle immediately after it has been exposed to strong sunlight and do not wash it in the sun.

Make sure that the motorcycle is washed frequently, especially during the winter months.

To remove road salt, clean the motorcycle with cold water immediately after every trip.

After the motorcycle has been washed, ridden through water or ridden in the rain, the brake discs and pads might be wet and the brakes might not take effect immediately.

Apply the brakes in good time until the brakes have dried out.◀

Warm water intensifies the effect of salt.

Use only cold water to wash off road salt.◀

The high pressure of steam cleaners can damage seals, the hydraulic brake system, the electrical system, and the seat.

Do not use a steam jet or high-pressure cleaning equipment.◀

Cleaning easily damaged components

Plastics

Clean plastic parts with water and BMW plastic care emulsion. This includes in particular:

- Windscreen and slipstream deflectors
- Headlight lens made of plastic
- Glass cover of the instrument cluster
- Black, unpainted parts

If plastic parts are cleaned using unsuitable cleaning agents, the surfaces can be damaged.
Do not use cleaning agents that contain alcohol, solvents or abrasives to clean plastic parts.
Even fly-remover pads or cleaning pads with hard surfaces can produce scratches.◀

Soften stubborn dirt and insects by covering the affected areas with a wet cloth.◀

Chrome

Use plenty of water and BMW shampoo to clean chrome, particularly if it has been exposed to road salt. Use chrome polish for additional treatment.

Radiator

Clean the radiator regularly to prevent overheating of the engine due to inadequate cooling.
For example, use a garden hose with low water pressure.

Cooling fins can be bent easily.
Take care not to bend the fins when cleaning the radiator.◀

Rubber

Treat rubber components with water or BMW rubber-care products.

Using silicone sprays for the care of rubber seals can cause damage.
Do not use silicone sprays or other care products that contain silicon.◀

Paint care

Washing the motorcycle regularly will help counteract the long-term effects of substances that damage the paint, especially if your motorcycle is ridden in areas with high air pollution or natural sources of dirt, for example tree resin or pollen.

Remove particularly aggressive substances immediately, however, as otherwise the paint can be affected or become discoloured. Substances of this nature include spilt fuel, oil, grease, brake fluid and bird droppings. We recommend BMW vehicle polish or BMW paint cleaner for this purpose.
Marks on the paintwork are particularly easy to see after the motorcycle has been washed. Remove stains of this kind immediately, using cleaning-grade benzene or petroleum spirit on a clean cloth or ball of cotton wool. BMW Motorrad recommends BMW tar remover for removing specks of tar. Remember to wax the parts treated in this way.

Protective wax coating

BMW Motorrad recommends applying only BMW car wax or products containing carnauba wax or synthetic wax.
It is time to rewax the paintwork when water "puddles" on the surface, instead of forming beads.

Laying up the motorcycle

- Clean the motorcycle.
- Remove the battery.
- Spray the brake and clutch lever pivots, the side stand pivots and the centre stand pivots (if the motorcycle is fitted with a centre stand) with a suitable lubricant.
- Coat bright metal and chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Stand the motorcycle in a dry room in such a way that there is no load on either wheel.

Before laying the vehicle up out of use, have the engine oil and the oil filter element changed by a specialist workshop, preferably an authorised BMW Motorrad dealer. Combine work for laying up/restoring to use with a BMW service or inspection.◀

Restoring motorcycle to use

- Remove the protective wax coating.
- Clean the motorcycle.
- Install a charged battery.
- Before starting: work through the checklist.

Technical data

Troubleshooting chart

Engine does not start at all or is difficult to start.

Possible cause	Remedy
Kill switch activated.	Kill switch in operating position (run).
Side stand extended and gear engaged.	Retract the side stand (➡ 48).
Gear engaged and clutch not disengaged.	Select neutral or pull clutch lever (➡ 48).
No fuel in tank.	Refuelling (➡ 53)
Battery not adequately charged.	Charge the battery when connected (➡ 94)

Threaded fasteners

Front wheel	Value	Valid
Nut on quick-release axle, front		
M20 x 1.25	80 Nm	
Front-axle retainer		
M6	10 Nm	

Rear wheel	Value	Valid
Nut on quick-release axle, rear		
M20 x 1.25	80 Nm	
Locknut of the final-drive chain tensioning screw		
M8	25 Nm	

Mirror arm	Value	Valid
Union nut, mirror		
	20 Nm	
Clamping screw, mirror to handlebar fitting		
	21 Nm	

Engine

Engine design	Single-cylinder four-stroke, double overhead camshafts driven by roller chain, 4 valves operated by bucket tappets, balancing shaft, liquid-cooled cylinder and cylinder head, integral water pump, 5-speed gearbox and dry sump lubrication.
Effective displacement	652 cm^3
Cylinder bore	100 mm
Piston stroke	83 mm
Compression ratio	11.5:1
Nominal output	39 kW, - at engine speed: 7500 min^{-1}
Maximum torque	60 Nm, - at engine speed: 5250 min^{-1}
Maximum engine speed	7500 min^{-1}
Idle speed	1480 min^{-1}
Fuel	
Recommended fuel grade	95 ROZ/RON, Super unleaded
Usable fuel capacity	10 l
Reserve fuel	≥2 l

Engine oil	
Oil capacity, engine - total	2.3 l, with filter change
Engine oil, quantity for topping up	0.25 l, Difference between MIN and MAX
Oil grades	Mineral engine oils of API classification SF to SH. BMW Motorrad recommends not using oil additives, because they can have a detrimental effect on clutch operation. BMW Motorrad recommends not using synthetic oils for the first 10,000 km. Please do not hesitate to contact your authorised BMW Motorrad dealer if you have any questions relating the choice of a suitable engine oil for your motorcycle.
Permissible viscosity classes	
SAE 10 W-40	≥-20 °C, Operation at low temperatures
SAE 15 W-40	≥-10 °C

Performance figures

Top speed	165 km/h

Clutch

Clutch type	Multiplate clutch running in oil bath

Transmission

Gearbox type	claw-shift 5-speed gearbox
Gearbox transmission ratios	1.946 (37:72 teeth), Primary transmission ratio 2.750 (12:33 teeth), 1st gear 1.750 (16:28 teeth), 2nd gear 1.313 (16:21 teeth), 3rd gear 1.045 (22:23 teeth), 4th gear 0.875 (24:21 teeth), 5th gear

Rear-wheel drive

Final drive, type	Chain drive
Rear wheel guidance, type	2-arm cast-aluminium swinging arm
Secondary transmission ratio	3.1 (15:47 teeth)

Running gear

Front suspension	Upside-down telescopic fork
Front-suspension spring travel	270 mm, At wheel
Rear suspension type	Air Damping System, rebound-stage damping with 2 selectable settings, "Comfort" and "Sport"
Total spring travel at rear wheel	245 mm, At wheel

Brakes

Front brakes, type	Hydraulically operated single-disc brake with 2-piston floating caliper and fixed disc
Brake-pad material, front	Organic material
Rear brakes, type	Hydraulically operated single-disc brake with 1-piston floating caliper and fixed disc
Brake-pad material, rear	Organic material

Wheels and tyres

Front wheel, type	Spoked wheel
Front wheel rim size	1.60" x 21"
Tyre designation, front	90 / 90 x 21
Rear wheel type	Spoked wheel
Rear wheel rim size	2.50" x 18"
Tyre designation, rear	140 / 80 x 18

Tyre pressures	
Tyre pressure, front	1.9 bar, One-up, tyre cold 2 bar, Two-up and/or with luggage, tyre cold
Tyre pressure, rear	2 bar, One-up, tyre cold 2.2 bar, Two-up and/or with luggage, tyre cold

Electrics

Rating of on-board socket	
with OE BMW Motorrad ABS:	5 A
Fuses	Plug-in "Minifuses" with ratings of 7.5 A and 15 A
with OE BMW Motorrad ABS:	Plug-in "Minifuses" with ratings of 10 A, 20 A and 30 A
Battery	
Battery designation	ETZ 10 S
Battery type	AGM (Absorptive Glass Mat) battery
Battery rated voltage	12 V
Battery rated capacity	10 Ah

Spark plugs	
Spark plug manufacturer and designation	NGK DR8 EB
Spark plug electrode gap	0.6...0.7 mm, When new 0.9 mm, Wear limit
Lighting	
Bulb of low-beam and high-beam headlight	H4 / 12 V / 55...60 W
Side-light bulb	W5W / 12 V / 5 W
Front flashing turn indicator bulbs	RY10W / 12 V / 10 W
Rear flashing turn indicator bulbs	RY10W / 12 V / 10 W
Bulb of number-plate light	W5W / 12 V / 5 W

Frame

Frame type	Bridge-type steel frame, load-bearing drive unit and bolt-on rear frame
Type plate location	Front frame, right
VIN location	Front frame, right

Dimensions

Length of motorcycle	2205 mm
maximum height in normal-load position	1255 mm, without mirrors 1490 mm, with mirrors
Width of motorcycle	875 mm, Across mirrors
Front-seat height	945 mm, Without rider at unladen weight
Ground clearance	285 mm

Weights

Unladen weight	155 kg, DIN unladen weight, ready for road 90 % load of fuel, without optional extras
Permissible gross weight	335 kg
Maximum payload	180 kg

Service

BMW Motorrad service

Advanced technology requires specially adapted methods of maintenance and repair.

⚠ If maintenance and repair work is performed inexpertly, it could result in consequential damage and thus constitute a safety risk. BMW Motorrad recommends you to have all the associated work on your motorcycle carried out by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

Your authorised BMW Motorrad dealer can provide information on the specified Service, Inspection and Annual Inspection work needed. Have all maintenance and repair work carried out confirmed in the "Service" chapter in this manual. Authorised BMW Motorrad dealers are supplied with the latest technical information and have the necessary technical know-how. BMW Motorrad recommends that you contact your authorised BMW Motorrad dealer if you have questions regarding your motorcycle.

BMW Motorrad service quality

Along with its reputation for engineering quality and high reliability, BMW Motorrad is a byword for excellent quality of service.

To ensure that your BMW is always in optimum condition, BMW Motorrad recommends that you have the maintenance work required for your motorcycle carried out regularly, preferably by your authorised BMW Motorrad dealer. For generous treatment of claims submitted after the warranty period has expired, evidence of regular maintenance is essential.

Certain signs of wear, moreover, may otherwise not be noticed until it is too late to put them right at moderate cost. Your authorised BMW Motorrad dealer's mechanics know every detail of your motorcycle and can take remedial action if necessary before minor faults develop into serious problems. By having the necessary repairs done properly and in good time, you save time and money in the long run.

BMW Motorrad Service Card: on-the-spot breakdown assistance

In the event of a breakdown, the BMW Motorrad Service Card issued with each new BMW motorcycle enables you to access an extensive range of services such as breakdown assistance, motorcycle transportation etc. (details can differ from country to country). In the event of a breakdown, contact BMW Motorrad's Mobile Service. The specialists will provide the necessary advice and assistance.
You will find important country-specific contact addresses and the after-sales service organisation phone numbers in the "Service Kontakt / Service Contact" brochures, along with information on Mobile Service and the dealership network.

BMW Motorrad service network

BMW Motorrad has an extensive after-sales service network in place to look after you and your motorcycle in more than 100 countries. In Germany alone, you have the best possible access to approximately 200 authorised BMW Motorrad dealers.
All information concerning the international dealership network can be found in the brochures entitled "Service Contact Europe" and "Service Contact Africa, America, Asia, Australia, Oceania".

Maintenance work

Intervals

Some maintenance tasks have to be performed after a certain time, others depend on the distance covered by the motorcycle.

BMW Running-in Check

The BMW running-in check has to be performed when the motorcycle has covered between 500 km and 1,200 km

BMW Annual Inspection

Some maintenance work has to be carried out at least once a year. Other tasks depend on the distance the motorcycle has covered.

BMW Service

After the first 10,000 km and every additional 20,000 km (30,000 km, 50,000 km, 70,000 km, etc.) if this distance is covered within a year.

BMW Inspection

After the first 20,000 km and every additional 20,000 km (40,000 km, 60,000 km, 80,000 km, etc.) if this distance is covered within a year.

Maintenance schedules

The maintenance schedule for your motorcycle depends on the equipment fitted, and on the motorcycle's age and the distance it has covered. Your authorised BMW Motorrad dealer will be happy to supply a copy of the current maintenance schedule for your motorcycle on request.

Confirmation of maintenance work

BMW Pre-delivery Check

Carried out in accordance with manufacturer's instructions

Date, stamp, signature

BMW Running-in Check

Carried out in accordance with manufacturer's instructions

Odometer reading_____

☐ Brake fluid, new

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- ☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- ☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- ☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- ☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- ☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- ☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

☐ Brake fluid, new

____
Date, stamp, signature

BMW Service

- [ ] BMW Annual Inspection
- [ ] BMW Service
- [ ] BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- [ ] Brake fluid, new

____
Date, stamp, signature

BMW Service

- [ ] BMW Annual Inspection
- [ ] BMW Service
- [ ] BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- [ ] Brake fluid, new

____
Date, stamp, signature

BMW Service

- [ ] BMW Annual Inspection
- [ ] BMW Service
- [ ] BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading________

- [ ] Brake fluid, new

____
Date, stamp, signature

Confirmation of service

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

Item	Odometer reading	Date

Item	Odometer reading	Date

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.

Printed in Germany.

Important data for refuelling.

Fuel	
Recommended fuel grade	95 ROZ/RON, Super unleaded
Usable fuel capacity	10 l
Reserve fuel	≥2 l
Tyre pressures	
Tyre pressure, front	1.9 bar, One-up, tyre cold 2 bar, Two-up and/or with luggage, tyre cold
Tyre pressure, rear	2 bar, One-up, tyre cold 2.2 bar, Two-up and/or with luggage, tyre cold

BMW recommends Castrol

Order No. 01 41 7 708 171
08.2006, 1st edition