Rider's Manual

K1200 R

BMW Motorrad

Welcome to BMW

We congratulate you on choosing a BMW motorcycle 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 any questions concerning your motorcycle, your authorised BMW motorcycle dealer will gladly provide advice and assistance.

We hope you enjoy reading this Rider's Manual and wish you many a pleasant, safe journey on your BMW motorcycle.

Best wishes,

BMW Motorrad

Table of contents

Use the index (➠ 155), to find a certain topic quickly.

General information

About this Rider's Manual

Chapter 1 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 9. This record of the maintenance work you have had performed on your motorcycle is a precondition for generous treatment of claims submitted after the warranty period has expired.
When the time comes to sell your BMW, please remember to hand over this Rider's Manual; it is an important part of your motorcycle.

Symbols and abbreviations

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

 Special information on operating and inspecting your motorcycle as well as maintenance and adjustment procedures.◀

 Depending on national market specification, this symbol may appear instead of the ABS-Symbol.

◀ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

(➠ 4) Reference to a page with more detailed information.

OE Optional extras you have chosen are taken into account during production of your motorcycle.

OA Optional accessories can be purchased and retrofitted at your authorised BMW motorcycle dealer.

EWS Electronic immobiliser

ESA Electronic Suspension Adjustment

DWA Anti-theft alarm system

ABS Anti-lock braking system

Custom 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. Country-specific deviations from the motorcycle illustrated are also possible. If your BMW contains equipment which is not described in this Rider's Manual, this will be described in separate operating instructions.

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. (DIN). 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 errors and omissions be entirely ruled out. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.

BMW Service

Advanced technology requires specially adapted methods of maintenance and repair.

Incorrectly executed maintenance and repair work could result in subsequent damage and the safety risks associated with this. BMW recommends that you have the necessary work on your motorcycle performed either by an authorised BMW motorcycle dealer or by a workshop that operates to BMW specifications and employs suitably trained personnel.◀

Your authorised BMW motorcycle 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 (➠ 145) in this manual.

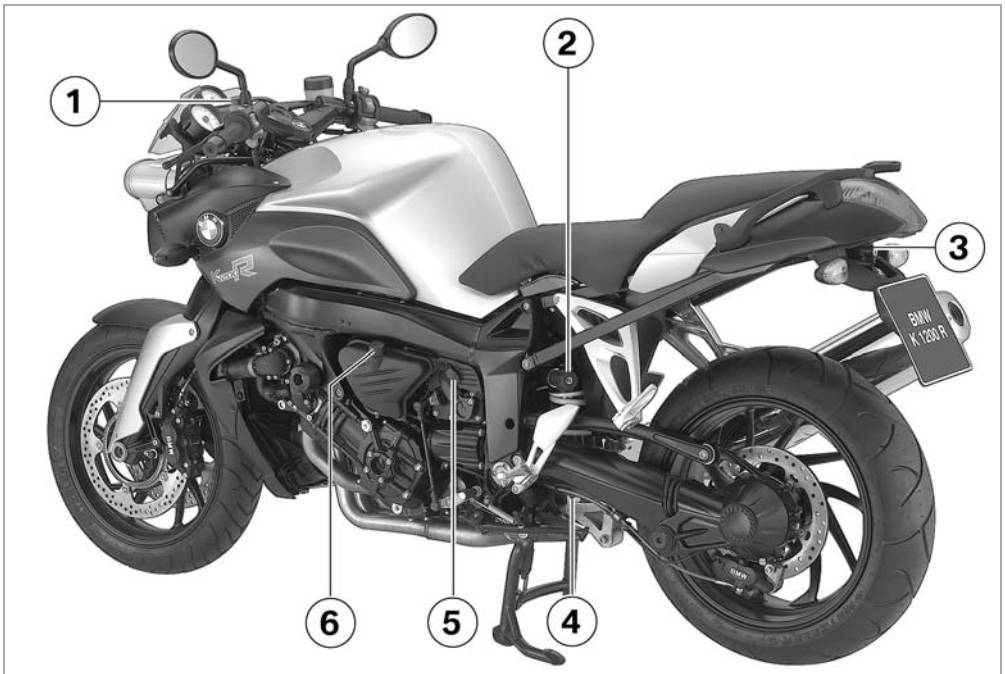
Authorised BMW motorcycle dealers are supplied with the latest technical information and have the necessary technical know-how. Consequently, we recommend that you contact your authorised BMW motorcycle dealer if you have any questions regarding your motorcycle.

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 motorcycle dealer will be glad to advise you on the correct clothing for every purpose.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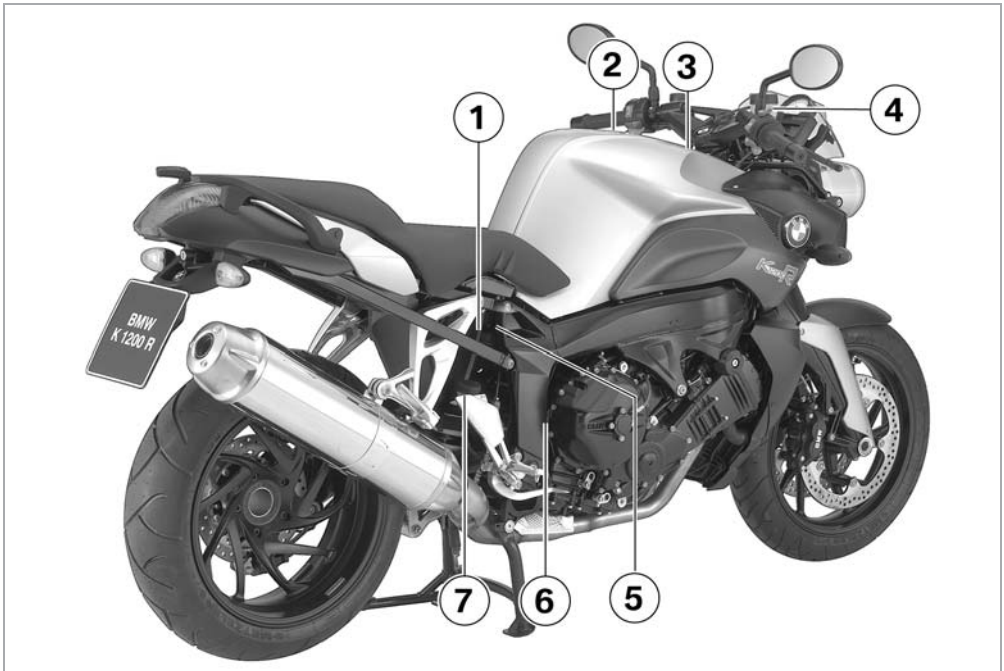
BMW
K 1200 R

General view, left side

1 Clutch-fluid reservoir (➠ 97)
2 Adjuster, spring preload, rear (➠ 47)
3 Seat lock (➠ 44) beneath rear light
4 Adjuster, rear shock absorber (➠ 48)
5 On-board socket (➠ 80)
6 Filler neck, coolant (➠ 92)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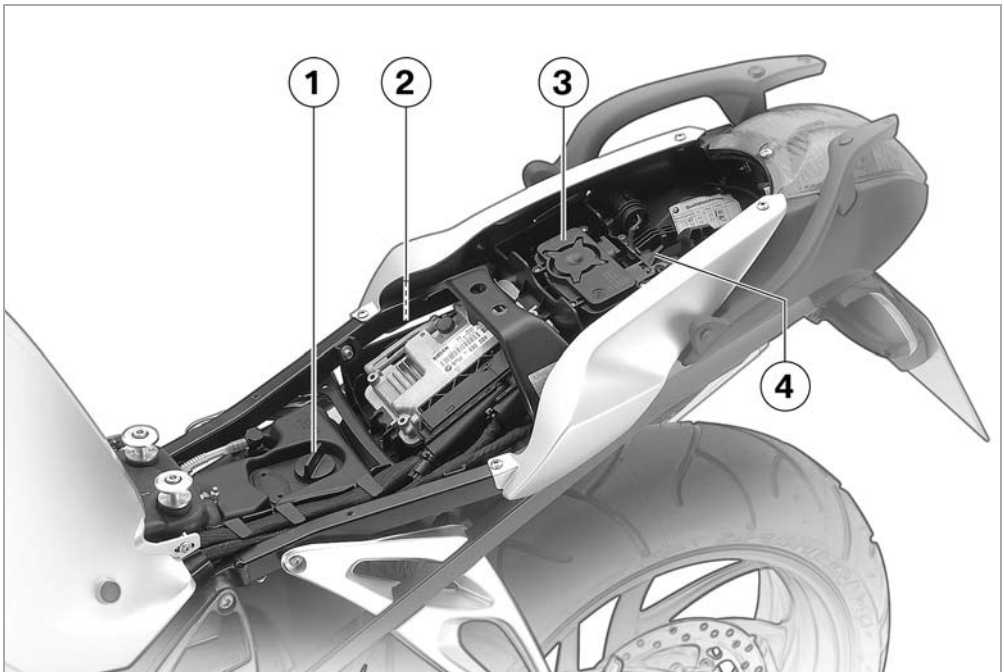
BMW
K 1200 R

General view, right side

1 Indicator, engine-oil level (➠ 89)
2 Filler neck, fuel tank
3 Battery compartment (➠ 116)
4 Front brake-fluid reservoir (➠ 95)
5 Type plate
6 Vehicle identification number
7 Brake-fluid reservoir, rear (➠ 95)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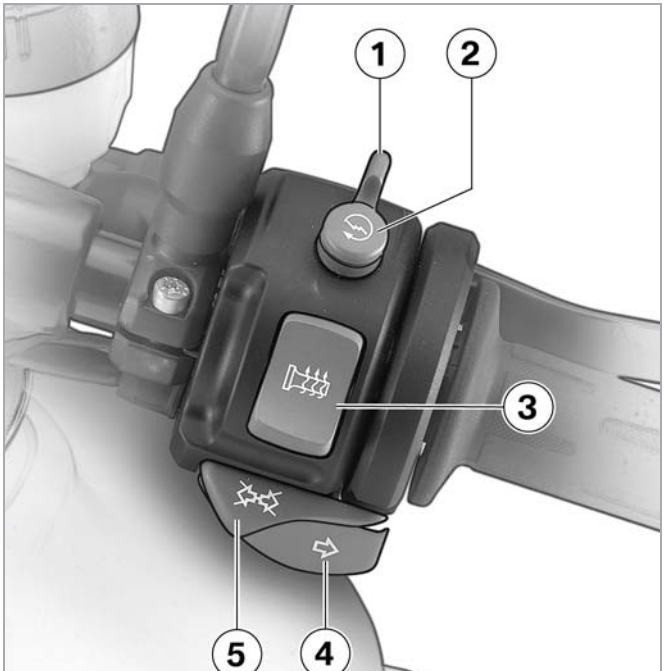
Underneath the seat

1 Filler neck, engine oil (➠ 91)
2 Toolkit (➠ 89)
3 Anti-theft alarm[OE]
4 Helmet holder (➠ 45)

Handlebar fitting, left

1 Pushbutton, Tripmaster (➠ 37)
2 Pushbutton, hazard warning flashers (➠ 36)
3 Pushbutton, ESA^{OE} (➠ 49)
4 Pushbutton, horn
5 Pushbutton, left flashing turn indicators (➠ 43)
6 Switch, high-beam headlight and headlight flasher (➠ 42)



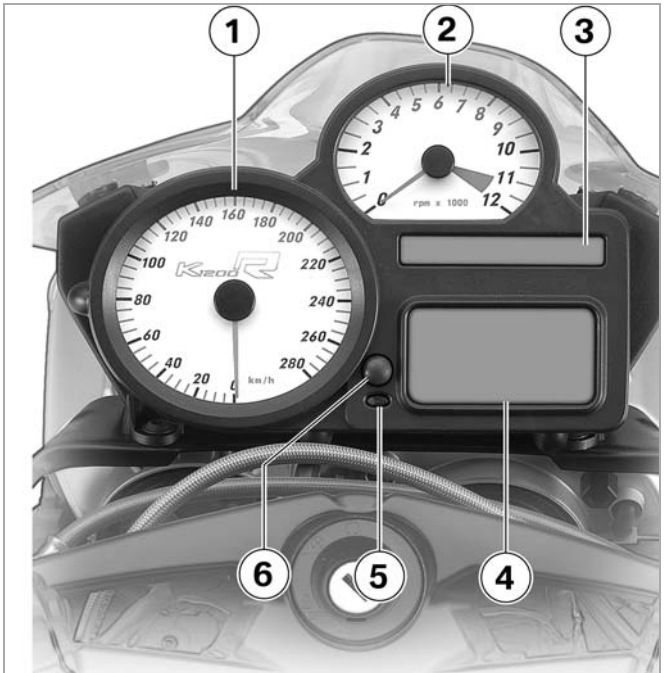
Handlebar fitting, right

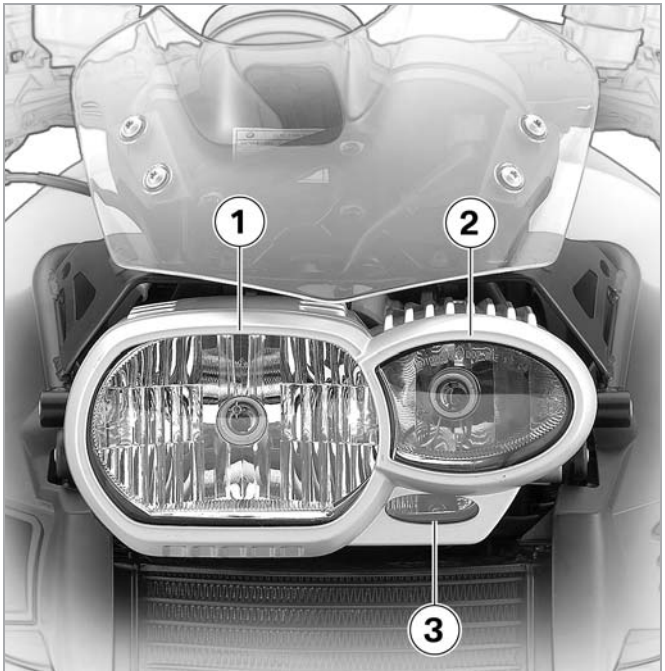
1 Emergency off switch (kill switch) (➠ 38)
2 Pushbutton, starter
3 Switch, grip heating[OE] (➠ 39)
4 Pushbutton, flashing turn indicators, right (➠ 43)
5 Pushbutton, cancel flashing turn indicators (➠ 43)

Instrument cluster

1 Speedometer
2 Rev. counter
3 Warning and telltale lights (➠ 20)
4 Multifunction display (➠ 20)
5 Telltale light, anti-theft alarm[OE] and sensor, instrument-cluster lighting
6 Adjuster, clock (➠ 39)

▷ The instrument-cluster lighting has automatic day and night switchover.◀

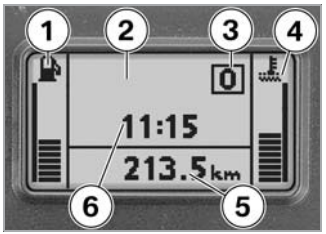




Headlight

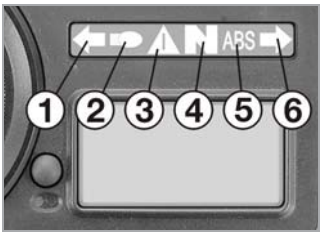
1 Low-beam headlight
2 High-beam headlight
3 Side light

Multifunction display



1 Fuel gauge
2 Display area for warning symbols
3 Gear indicator
4 Coolant temperature display
5 Tripmaster display (➠ 37)
6 Clock

Warning and telltale lights



1 Telltale light, left turn indicator
2 Telltale light, high-beam headlight
3 Warning light, general
4 Telltale light, neutral
5 ABS warning light OE
6 Telltale light, right turn indicator

Function indicators

Fuel level

The horizontal bars indicate the level in the fuel tank. When only four bars show, the fuel level is down to reserve.

Gear indicator

The gear indicator shows which gear is selected. When the gearbox is in neutral the gear indicator shows 0 and the neutral telltale light is on.

Coolant temperature

The horizontal bars indicate the coolant temperature.

Warning indicators

Warnings are displayed by means of symbols in the multi-function display. In some cases, they are accompanied by the "General" warning light showing red or yellow. Multiple warnings can be issued simultaneously.

Overview

The warnings are listed in the table below, along with the page numbers of the pages you can refer to for more information.

Light	Symbol	Meaning	Explanations
		Ignition key not authorised.	(➠ 24)
		Low-beam headlight, high-beam headlight, parking light or turn signal lamp defective.	(➠ 26)
		Defective lamp.	(➠ 26)
 yellow		Fuel reserve reached.	(➠ 24)
 yellow		Fault in the engine electronics.	(➠ 25)
 yellow		Rear light or brake light lamp defective.	(➠ 26)
 red		Coolant temperature too high.	(➠ 24)
 red		Engine-oil pressure too low.	(➠ 25)

Light	Symbol	Meaning	Explanations
 red		Battery is no longer being charged.	(➠ 26)
 red		Brake switch defective.	(➠ 27)
	 1 flash per second	ABS pull-away test not completed.	(➠ 27)
	 4 flashes per second	ABS self-diagnosis not completed.	(➠ 28)
 red		Relay for ABS warning light defective.	(➠ 28)
 red	 1 flash per second	ABS function not available.	(➠ 29)
 red	 4 flashes per second	ABS in residual braking mode.	(➠ 29)
 1 red flash per second	 1 flash per second	Insufficient brake fluid.	(➠ 30)
 4 red flashes per second	 4 flashes per second	Multiple ABS faults.	(➠ 31)

Electronic immobiliser (EWS)

EWS Immobiliser symbol is displayed.

The key being used is not authorised for starting, or communication between the key and engine electronics is disrupted.

- Remove all other vehicle keys from the same keyring as the ignition key (➠ 34).
- Use the reserve key.
- Have the defective key replaced, preferably by an authorised BMW motorcycle dealer (➠ 36).

Fuel reserve

General warning light lights up yellow.

Fuel reserve symbol is displayed and flashes 10 times.

The fuel tank contains a fuel reserve of a maximum of 4 litres. The Tripmaster computer shows the estimated residual operating range (➠ 38).

Lack of fuel can result in the engine cutting out unexpectedly and this could result in a hazardous situation. Do not run the fuel tank dry.◀

Lack of fuel can result in misfiring and this in turn could damage the catalytic converter.
Do not run the fuel tank dry.◀

- Refuel.

Coolant temperature

General warning light lights up red.

Coolant temperature indicator flashes 10 times.

Coolant temperature too high.

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

- Check coolant level, top up if necessary.
- If possible, ride in the part-load range to cool down the engine.
- In traffic jams, switch off the engine, but keep the ignition on so that the radiator fan continues to operate.

Engine electronics


General warning light lights up yellow.


Engine electronics symbol is displayed.

Fault in the engine electronics. In exceptional cases, the engine stops and refuses to start. Otherwise, the engine runs in emergency operating mode.

You can continue to ride, but bear in mind that the usual engine power is not available.

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

Engine oil pressure


General warning light lights up red.


Engine oil pressure symbol is displayed.

Insufficient engine oil pressure

The "engine oil pressure" warning indicates that there is no oil pressure or that the oil pressure in the lubricating oil circuit is too low; under no circumstances is it to be regarded as fulfilling the function of an oil gauge. The warning must disappear when oil pressure builds up 1 to 2 seconds after the engine starts.

If the "engine oil pressure" warning is displayed while the motorcycle is being ridden, take account of the traffic situation and:

- Disengage the gear.
- Press the kill switch.
- Bring the motorcycle safely to a halt.
- Check the engine oil level.


There are other engine-related problems besides a low engine-oil level that can trigger the "engine-oil pressure" warning. Continuing to ride under these circumstances can result in engine damage.

If the "engine oil pressure" warning is issued, do not continue to ride if a check shows that the engine oil level is correct.◀

- Have the fault rectified by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Battery charge current


General warning light lights up red.


Battery charge current symbol is displayed.

The battery is no longer being charged. You can continue to ride only until the battery is discharged.


A discharged battery can result in the engine cutting out unexpectedly, causing a hazardous situation.
If possible, do not continue to ride.◀

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

Defective bulb


A defective bulb can make it harder for you to see or your motorcycle less noticeable for other road users.
Have defective bulbs replaced as soon as possible.◀


General warning light lights up yellow.


Defective bulb symbol with arrow pointing to the rear is displayed.

Rear light or brake light lamp defective.
- Replace bulbs (➠ 109).


Defective bulb symbol with arrow pointing to the front is displayed.

Low-beam headlight, high-beam headlight, parking light or turn indicator defective.
- Replace bulbs (➠ 109).


Defective bulb symbol with two arrows is displayed.

A combination of the bulb defects described above has occurred.
- Replace bulbs (➠ 109).

ABS[OE] warning indicators

ABS warnings are indicated by a combination of the general warning light and the ABS warning light. Both warning lights can light up continuously or flash once or 4 times per second.

General warning light

General warning light lights up red.

Brake switch defective or incorrectly adjusted. BMW Integral ABS detects the rider's braking request by the pressure build-up from the brake lever. There may be an unusual response from the brakes. You can continue to ride. However, bear in mind that the brakes may respond in a manner to which you are not accustomed.

There is a defect in the brake system that can lead to delayed braking, with the corresponding risk of accidents.
Think well ahead and brake early, because the braking effect might be delayed.◀

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

ABS[OE] warning light

ABS warning light flashes once per second.

ABS function not available because pull-away test (➠ 63) not completed.
You can continue to ride. To prevent the wheels from locking:

- Do not use emergency braking until the pull-away test has been completed.

 Without the ABS function, the wheels could lock under very severe braking, with the associated risk of accidents.
Avoid severe braking, if possible.◀

 ABS warning light flashes 4 times per second.

Only residual braking function available in both brake circuits, because self-diagnosis (➠ 59) has not completed. You can continue to ride. However, bear in mind that until self-diagnosis has completed, neither the ABS function nor the brake booster is available.

 Without the ABS function, the wheels could lock under very severe braking. Without servo-assisted brakes, considerably more force has to be applied to the brake pedal and brake lever in order to slow the motorcycle. This changed braking characteristic can result in accidents. Avoid severe braking, if possible. Think well ahead and brake early, because more force has to be applied to brake lever and brake pedal in order to slow the motorcycle.◀

- If circumstances permit, do not apply the brakes until self-diagnosis has completed.

General warning light and ABS^{OE} warning light

 General warning light lights up red.

 ABS warning light lights up.

The controller of the ABS warning indicators is defective. No ABS faults can be displayed.
You can continue to ride, but bear in mind that you will not receive warnings of ABS faults if they occur.

 ABS warning indicators not working. No warnings can be issued in the event of BMW Integral ABS functions failing.

Think well ahead, brake early and avoid sharp braking if possible, because BMW Integral ABS functions might not be available.◀

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


General warning light lights up red.


ABS warning light flashes once per second.

ABS function (➠ 76) unavailable in at least one brake circuit.
You can continue to ride. However, bear in mind that the ABS function is not available.


Without the ABS function, the wheels could lock under very severe braking, with the associated risk of accidents.
Avoid severe braking, if possible.◀

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


General warning light lights up red.


ABS warning light flashes 4 times per second.

Only residual braking function (➠ 77) available in at least one brake circuit.
You can continue to ride. However, bear in mind that neither the ABS function nor servo assistance is available.


Without the ABS function, the wheels could lock under very severe braking. Without servo-assisted brakes, considerably more force has to be applied to the brake pedal and brake lever in order to slow the motorcycle. This changed braking characteristic can result in accidents. Avoid severe braking, if possible. Think well ahead and brake early, because more force has to be applied to brake lever and brake pedal in order to slow the motorcycle.◀

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

 General warning light flashes red once per second.

 ABS warning light flashes once per second.

Fluid level in BMW Integral ABS too low.

 You cannot check the fluid level in a wheel brake circuit by observing the level in the brake-fluid reservoir.◀

Several factors, including very badly worn brake pads, can trigger this warning.

 Worn brake pads can considerably lengthen braking distances.
Think well ahead and brake early.◀

 Worn brake pads can damage the brake discs.
Avoid severe braking, if possible.◀

- Check the thickness of the brake pads (➠ 94).
- Have worn brake pads replaced as soon as possible by a specialist workshop, preferably an authorised BMW motorcycle dealer.

If the brake pad thickness is sufficient:

- Check the following functions:

– Ignition off, brake pressure present at the brake levers.
– Brakes acting on both wheels.
– Brake system leaktight, no signs of brake fluid escaping.

If the functions are not shown:

 There is a defect in the brake system.
Do not continue to ride.◀

If these functions are in order, you can continue riding. However, bear in mind that a loss of brake fluid that cannot be detected might be the cause of the warning.

 There is a fault in the brake system that can lead to decreased braking efficiency.
Avoid severe braking, if possible.◀

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

 General warning light flashes red 4 times per second.

ABS warning light flashes 4 times per second.

There are two faults:
– Only residual braking function (➠ 77) available in at least one brake circuit, indicated by the general warning light and the ABS warning light flashing 4 times per second.
– Fluid level in the BMW Integral ABS is too low, indicated by the general and ABS warning lights flashing once per second.

See the fault descriptions above.

Ignition switch and steering lock

Keys

You receive one master key and one spare key. If a key is lost, please note the information on the EWS electronic immobiliser (➠ 24).

Ignition switch and steering lock, tank filler cap lock and seat lock are all operated with the same key. If you wish you can arrange to have sport cases[OA] fitted with locks that can be opened with this key as well.◀

Switching on the ignition

- Turn the key to the ○ position.

» Parking light and all function circuits switched on.

» Pre-ride check is performed (➠ 57).

» ABS self-diagnosis is performed (➠ 59).

» Engine can be started.

Switching off the ignition

- Turn the key to the ⊗ position.

» Light switched off.

» Handlebars not locked.

» In this position, you can remove the key.

Locking the handlebars

- Turn the handlebars to the full left or right lock position.
- Turn the key to the position for OFF, while moving the handlebars slightly.

» Ignition, light and all function circuits switched off.
» Handlebars locked.
» In this position, you can remove the key.

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. On level ground, a secure stance is only ensured with the handlebars turned to the left. On level ground, always turn the handlebars to the left and lock them in this position.◀

Brake servo assistance is not available when the ignition is off.
Do not switch off the ignition when riding.◀

Electronic immobiliser

The electronic immobiliser helps protect your BMW motorcycle from theft, and this enhanced security is at your disposal without any need for you to set parameters or activate additional systems. The engine of a motorcycle fitted with this electronic immobiliser can only be started with the keys that belong to the vehicle. You can also have your authorised BMW motorcycle dealer bar individual keys, for example if a particular key goes missing. The engine cannot be started with a key that has been barred.

In-key security

An electronic component is integrated into each of your keys. The motorcycle's electronics exchange certain continuously changing signals with the electronics in the key; these signals are specific to

your motorcycle and they are transmitted via the ring antenna in the ignition lock. The ignition is not enabled for starting until the key has been recognised as "authorised" for your motorcycle.

A spare key attached to the same ring as the ignition key used to start the engine could "upset" the electronics, in which case the enabling signal for starting is not issued. The "EWS" warning is displayed in the multifunction display.
Always keep the spare key separately from the ignition key.◀

Replacement keys and extra keys

You can obtain replacement/extra keys only through an authorised BMW motorcycle dealer. The keys are part of an integrated security system, so the dealer is under an obligation to check the legitimacy of all applications for replacement/extra keys.
If you want to have a lost key barred, you have to bring with you all the keys that belong to the motorcycle. A key that has been barred can subsequently be cleared and reactivated for use.

Hazard warning flashers

Switching on the hazard warning flashers

- Switch on the ignition.
- Press hazard warning flashers button **1**.

» Hazard warning flashers in operation.
» Left/right turn indicator telltale lights flash.

- Switch off the ignition.

» The hazard warning flashers continues to operate.
» Left/right turn indicator telltale lights off.

You can also switch on the hazard warning flashers by simultaneously pressing the buttons for the left and right turn indicators.◀

The hazard warning flashers place a strain on the battery.
Do not use the hazard warning flashers for longer than absolutely necessary.◀

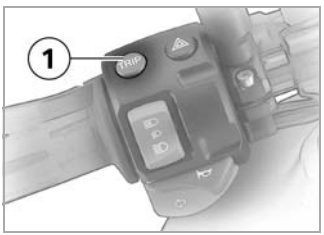
Switching off the hazard warning flashers

- Press hazard warning flashers button **1** or switch on the ignition.

» Hazard warning flashers cease to operate.

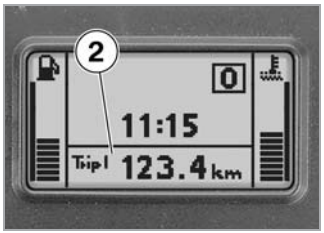
Tripmaster

Selecting the display



When you switch on the ignition, the information shown by the Tripmaster when the ignition was switched off always reappears on the multifunction display.◀

- Switch on the ignition.
- Briefly press Tripmaster button **1** to step through the settings one by one.



» Pressing the button cycles display field **2** through the following sequence:
– Total distance covered
– Tripmeter 1 (Trip I)
– Tripmeter 2 (Trip II)
– Residual range (not shown unless the fuel level is down to reserve)

Residual range

The residual range is not displayed until the fuel level drops to reserve. It is calculated on the basis of your style of riding and the amount of fuel left in the tank.

If the motorcycle is resting on its side stand the level in the tank cannot be measured correctly, so this estimate of residual operating range will be inaccurate.

The Tripmaster registers that you have refuelled when approximately 3 litres have been added.

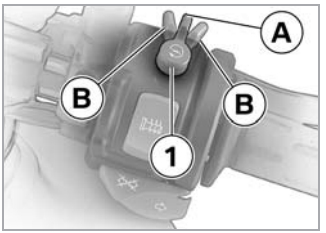
Resetting the trip meter

- Switch on the ignition.
- Select the desired tripmeter.
- Press Tripmaster button **1** for longer than 2 seconds.

» The tripmeter is reset to zero.

Emergency off switch (kill switch)

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



⚠ Operating the kill switch when riding can cause the rear wheel to lock, provoking a fall.

Do not operate the kill switch when riding.◀

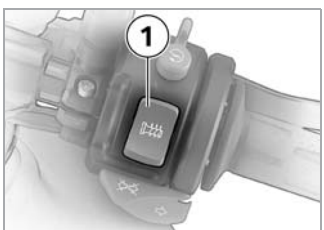
- Turn kill switch **1** to the left or right to position **B**.

» The engine electronics control unit switches the engine off.

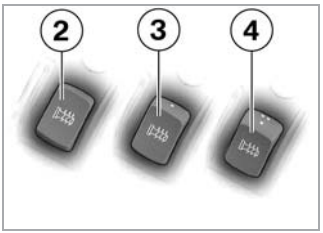
» The engine cannot be started while the switch is in this position.

If you move the kill switch to the **B** position while the ignition is switched on, the BMW Integral ABS remains operational (➠ 75).◀

Grip heating[OE]



1 Grip heating switch



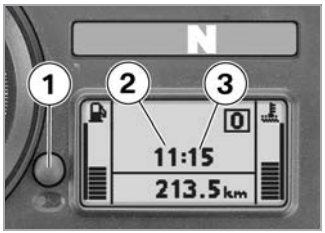
2 Heating function off
3 50% heating power (one dot)
4 100% heating power (three dots)

Grip heating can only be activated when the engine is running.

The increase in power consumption caused by the grip heating can drain the battery if you are riding at low engine speeds. If the charge level is low, grip heating is switched off to ensure the battery's starting capability.◀

Clock

Attempting to set the clock while riding the motorcycle can lead to accidents. Set the clock only when the motorcycle is stationary.◀



- Switch on the ignition.
- Press button **1** for longer than 2 seconds.

» Hours reading **2** starts to flash.

- Briefly press button **1**.

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

- Press button **1** for longer than 2 seconds.

» Minutes reading **3** starts to flash.

- Briefly press button **1**.

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

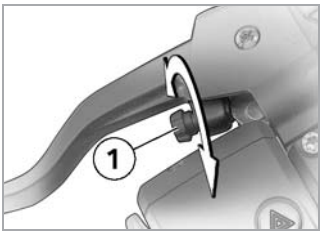
- Press button **1** for longer than 2 seconds.

» Setting confirmed.

Handlebar levers

Adjusting the clutch lever

Attempting to adjust the clutch lever while riding the motorcycle can lead to accidents. Adjust the clutch lever only when the motorcycle is stationary.◀



- Turn adjusting screw **1** to adjust the span between the handlebar grip and the clutch lever.

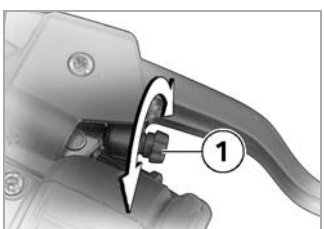
» Turn clockwise: to increase span.

» Turn counter-clockwise: to reduce span.

The adjusting screw is indexed and is easier to turn if you push the clutch lever forward.◀

Adjusting the handbrake lever

Attempting to adjust the brake lever while riding the motorcycle can lead to accidents.
Adjust the brake lever only when the motorcycle is stationary.◀



- Turn adjusting screw **1** to adjust the span between the handlebar grip and the brake lever.
  - » Turn clockwise: to increase span.
  - » Turn counter-clockwise: to reduce span.

The adjusting screw is indexed and is easier to turn if you push the brake lever forward.◀

Light

Parking light

The parking light switches on automatically when the ignition is switched on.

The parking light places 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 you start the engine.

With the engine switched off, you can briefly switch on the light by switching on the high-beam headlight with the ignition switched on or by operating the headlight flasher.◀

High-beam headlight/ headlight flasher

- Press the top part of switch **1** for the high-beam headlight.

» High-beam headlight switched on.

- Move switch **1** for the high-beam headlight to the centre position.

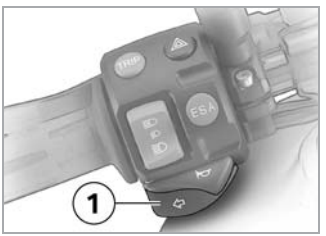
» High-beam headlight switched off.

- Press the bottom part of switch **1** for the high-beam headlight.

» Headlight flasher.

Parking light

You can switch on the parking light only immediately after switching off the ignition.



- Switch off the ignition.
- Press left-hand turn indicator switch **1**.

» Parking light switched on.

- Switch the ignition on and off again.

» Parking light switched off.

Headlight setting RHD/ LHD vehicles

When riding in countries where traffic drives on the opposite side of the road to that in which the vehicle was registered, the asymmetric low headlight beam will dazzle oncoming traffic.

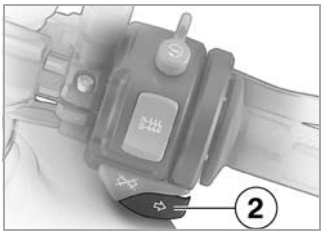
Adhesive films with unsuitable adhesives can destroy the plastic of the headlight lens.
Use only suitable adhesive films.◀

- Have the headlight adjusted to the relevant conditions by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Turn indicators

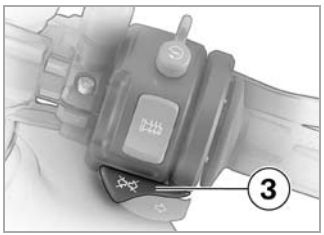
Switching on turn indicators

- Press left-hand turn indicator button **1**.
» Left-hand turn indicators switched on.
» Telltale light for left-hand turn indicators flashes.



- Press right-hand turn indicator button **2**.
» Right-hand turn indicators switched on.
» Telltale light for right-hand turn indicators flashes.

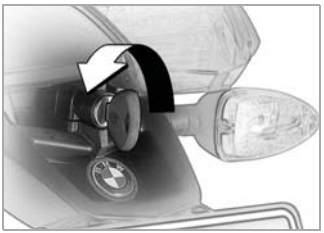
Cancelling turn indicators



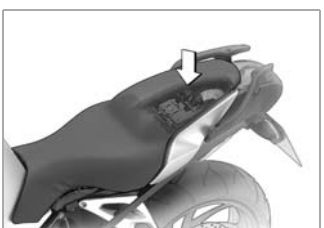
- Press cancel button **3**.
» Turn indicators off.
» Turn indicator telltale light is off.

Seat

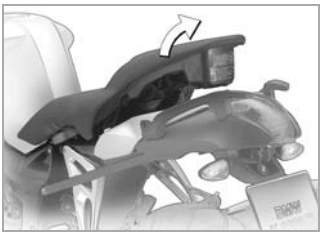
Removing seat



- Turn the key counter-clockwise in the seat lock.



- When doing so, press the seat downwards for support.

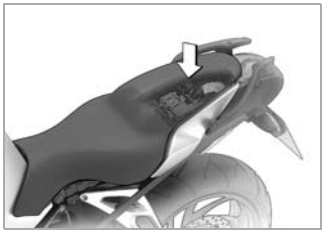


- Raise the seat at the rear.
- Let go of the key and pull the seat from the retaining brackets towards the rear.
- Place the seat with the covered side downwards on a smooth and clean surface.

Installing seat

If you apply too much forward pressure, there is a danger of pushing the motorcycle off its stand. Make sure that the motorcycle is steady on its stand.◀

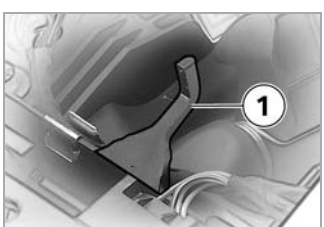
- Slip the seat forward into holders **1**.



- Press the seat firmly downwards over the detent.

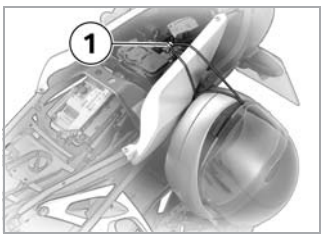
» The seat engages with an audible click.

Helmet holder



Helmet holder **1** is underneath the seat. It can accommodate one motorcycle helmet.

- Remove the seat (➠ 44).

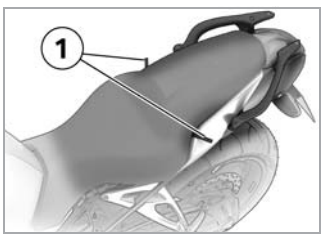


- Pass the wire rope through the helmet and engage the ends in the holder.
- Install the seat.

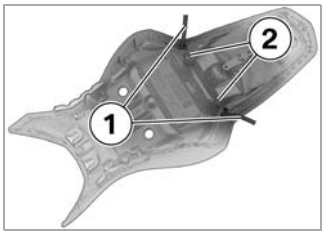
⚠ On the right-hand side of the motorcycle, the helmet could be damaged by heat from the end silencer.

Always attach the helmet on the left-hand side of the motorcycle.◀

Luggage loops



Loops **1** for attaching luggage straps are located on the underside of the seat.



To make the loops accessible:

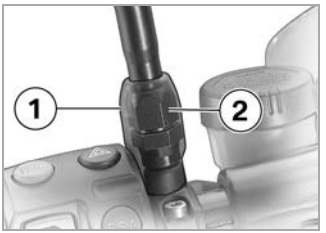
- Remove the seat and turn it upside down.
- Pull loops **1** out of holders **2**.
- Turn the seat back over and reinstall.

Mirrors

Adjusting mirrors

- Pivot the mirrors to the correct position.

If the pivot does not allow sufficient movement, you can adjust the mirror arm:



- Push protective cap **1** up over the threaded fastener on the mirror arm.
- Slacken union nut **2**.
- Turn the mirror arm to the appropriate position.
- Tighten the union nut.
- Pull the protective cap into position over the threaded fastener.

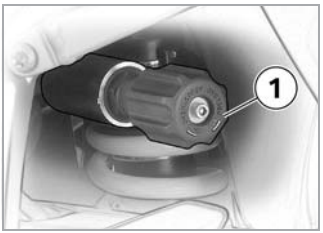
Spring preload

Adjusting spring preload for rear wheel

Attempting to adjust spring preload while riding the motorcycle can lead to accidents.
Adjust spring preload only when the motorcycle is stationary.◀

You must adjust spring preload to suit the load on the motorcycle. Increase spring preload when the motorcycle is heavily loaded and reduce spring preload accordingly when the motorcycle is lightly loaded.

- Make sure the ground is level and firm and place the motorcycle on its centre stand[OE] or side stand.



To increase spring preload:
- Turn knob **1** in the direction indicated by the HIGH arrow.

To decrease spring preload:
- Turn knob **1** in the direction indicated by the LOW arrow.

Basic setting for one-up riding:
- Turn knob **1** all the way in the direction indicated by the LOW arrow.
- Turn back 15 clicks in the direction indicated by the HIGH arrow.

One click corresponds to a half turn of the knob.
The range of adjustment comprises 15 turns. The basic setting is for one-up riding with a person weighing 85 kg.◀

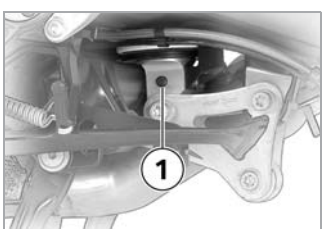
Your motorcycle's handling will suffer if you do not match the spring-preload and damping-characteristic settings.
Adjust the damping characteristic to suit spring preload.◀

Shock absorbers

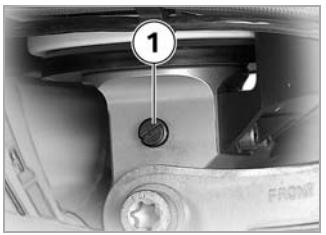
Adjusting rear shock absorber

You must adjust the damping characteristic to suit spring preload. An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

- Make sure the ground is level and firm and place the motorcycle on its centre stand[OE] or side stand.



- Adjust the rear shock absorber, using a screwdriver to turn adjusting screw **1**.



Harder damping:

- Turn adjusting screw **1** in the direction indicated by the **H** arrow.

Softer damping:

- Turn adjusting screw **1** in the direction indicated by the **S** arrow.

Basic setting for one-up riding:

- Turn adjusting screw **1** all the way in the direction indicated by the **H** arrow.
- Back off adjusting screw **1** by one and a half turns in the direction indicated by the **S** arrow.

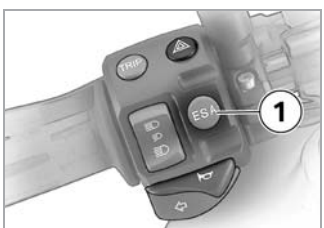
The range of adjustment comprises three and a half turns of the adjusting screw. The basic setting is for one-up riding with a rider weighing 85 kg.◀

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.◀

ESA[OE]

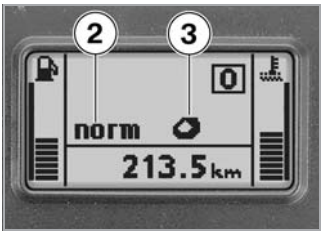
Electronic Suspension Adjustment (ESA) makes the motorcycle's suspension easy to adjust to suit changing surfaces.

Calling up settings



- Switch on the ignition.
- Briefly press button **1**.

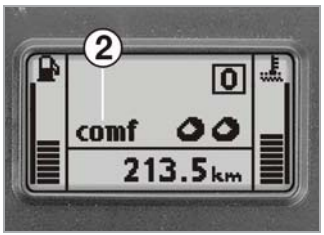
» The current setting is displayed.



2 Damping set
3 Spring preload set

The reading disappears if you do not press button **1** within two seconds.

Adjusting the shock absorbers

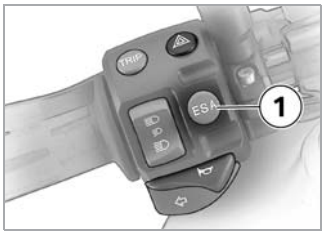


You have a choice of three settings, indicated in field **2** as follows:

comf Comfort
Soft damping characteristic

norm Normal
Medium damping characteristic

sport Sport
Hard damping characteristic



- Switch on the ignition.
- Briefly press button **1**.

» The current setting is displayed.

- Briefly press button **1** to step through the settings one by one.

» Starting with the current setting, the settings are displayed in the following sequence:
  – Comfort
  – Normal
  – Sport

The shock absorbers are adjusted to the setting shown on the display if you do not press button **1** within one second.
The display flashes while adjustment is in progress.

Adjusting spring preload

You cannot adjust spring preload while riding.

You have a choice of three settings, indicated in field **3** as follows:

One-up riding

One-up riding with luggage

Two-up riding (with luggage)

- Start the engine.
- Briefly press button **1**.

» The current setting is displayed.

- Press button **1** for longer than one second to step through the settings one by one.

» Starting with the current setting, the settings are displayed in the following sequence:
  – One-up riding
  – One-up riding with luggage
  – Two-up riding (with luggage)

Spring preload is adjusted to the setting shown on the display if you do not press button **1** within one second. The display flashes while adjustment is in progress.

Wheels

Checking tyre pressures

Incorrect tyre pressures adversely affect the handling of the motorcycle and can lead to accidents.
Always keep the tyres inflated to the correct pressures.◀

Incorrect tyre pressures result in accelerated tyre wear.
Always keep the tyres inflated to the correct pressures.◀

The correct tyre pressures are listed in the Technical Data (➠ 130).

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

To prevent sudden deflation, use a metal valve cap with rubber sealing ring on the rear wheel and tighten it securely.◀

Safety instructions

Speed

When riding at high speed, various marginal conditions can adversely affect the handling characteristics of the motorcycle:

- Adjustment of the spring-strut and shock absorber system
- Unequally distributed load
- Loose clothing
- Insufficient tyre pressure
- Poor tyre tread
- etc.

Correct loading

Overloading can adversely affect the riding stability of the motorcycle. Never exceed the motorcycle's permissible gross weight (➠ 140).◀

Alcohol and drugs

Even small amounts of alcohol or drugs can considerably adversely affect your perception, judgement and ability to make decisions, as well as your reflexes. Taking medication can increase 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 lead to electric shocks.
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 ride the motorcycle with the fuel tank empty.
– Do not run the engine with the spark-plug cap removed.
– In the event of engine misfiring, stop the engine immediately.
– Only refuel using unleaded fuel.
– Be sure to adhere to the prescribed maintenance intervals.

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

Risk of fire

High temperatures occur at the exhaust pipe.

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 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 components 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.◀

Safety check

Prior to every journey

Use the following checklist to check important functions, settings and wear limits before starting to ride.

Checklist

- Brakes (➠ 93)
- Brake fluid level (➠ 95)
- Clutch (➠ 96)
- Clutch fluid level (➠ 97)
- Warning and telltale lights (➠ 20)
- Shock absorber setting (➠ 48) and spring preload (➠ 47)
- Rims (➠ 98), tread depth (➠ 98) and tyre pressure (➠ 51, 130)
- Load, gross weight (➠ 140)
- Luggage system

At regular intervals:

- Engine oil level (every time you refuel) (➠ 89)
- Brake pads (every second/ third time you refuel) (➠ 93)

First time out

Safe handling of your motorcycle

You have to take the time to familiarise yourself with your motorcycle's unique character:

- Acceleration
- Roadholding
- Cornering
- Braking

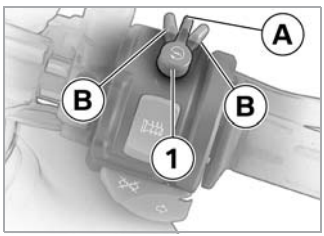
Bear in mind, too, that the engine has to be run in over the first 1,000 km (➠ 63).

The description of the BMW Integral ABS^{OE} starts on page (➠ 75).

⚠ BMW Integral ABS^{OE} incorporates a brake booster, so braking efficiency is significantly higher than with conventional brake systems. Inadvertently severe braking can lead to dangerous situations, particularly when the motorcycle is cornering. Practice braking with BMW Integral ABS^{OE} under safe conditions.◀

Before you start

Switching on the ignition



- See the notes on the electronic immobiliser (EWS) (➠ 24).
- Kill switch **1** in operating position **A**.
- Switch on the ignition.

» Pre-ride check is performed.

» With BMW Integral ABS[OE]: ABS self-diagnosis is performed.

Pre-ride check

A pre-ride check is performed after you switch on the ignition. All the warning lights and warning symbols are checked to make sure that they are in working order. The multifunction display shows the following in the order in which they are described below:

Phase 1

General warning light lights up red.

Engine oil pressure symbol is displayed.

Battery charge current symbol is displayed.

Phase 2

General warning light lights up yellow.

Engine electronics symbol is displayed.

EWS symbol is displayed.

Phase 3

Warning light for defective bulb is displayed.

If a warning light or a warning symbol cannot be displayed, a malfunction cannot be indicated if one occurs in the corresponding system.
Check that all the lights and symbols are activated in the pre-ride check.◀

Phase 4 (only if anti-theft alarm[OE] is fitted)

DWA The "DWA" battery warning for the anti-theft alarm appears if the voltage level of the batteries in the anti-theft alarm system[OE] is too low.

If a warning light or a warning symbol cannot be displayed, a malfunction cannot be indicated if one occurs in the corresponding system.

Check that all the lights and symbols are activated in the pre-ride check.◀

If a light or symbol is not displayed:
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Once the pre-ride check completes, the various gauges and indicators show their current values.

The pre-ride check is aborted if you start the engine before it completes.◀

If the motorcycle is equipped with BMW Integral ABS, the ABS self-diagnosis routine is performed as well.

ABS[OE] self-diagnosis

The BMW Integral ABS performs self-diagnosis and a pull-away test to ensure its operability (➠ 63). Self-diagnosis is performed automatically when you switch on the ignition.
Self-diagnosis is not performed unless both brake levers are in their fully released positions. Only the residual braking function (➠ 77) is available until self-diagnosis completes.

- Release the brake levers.
- Switch on the ignition.

Phase 1

General warning light lights up.

ABS warning light flashes 4 times per second.

Self-diagnosis is in progress.

Phase 2

ABS warning light flashes once per second.

Self-diagnosis is complete.

The warning light goes out when the pull-away test completes (➠ 63).

If you switch on the ignition while the brakes are applied, then start the engine and ride off immediately, the BMW Integral ABS remains in its residual braking function mode (➠ 77). Self-diagnosis is performed as soon as the brake levers are in their fully released positions for the first time. Until this completes the ABS function is not available; the same applies to power assistance for the brakes.
Wait for ABS self-diagnosis to complete before you start the engine.◀

Starting on gradients: Switch on the ignition with gear engaged, clutch lever released and both brake levers released. When self-diagnosis completes, apply the brakes, disengage the clutch, and start the engine.◀

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.

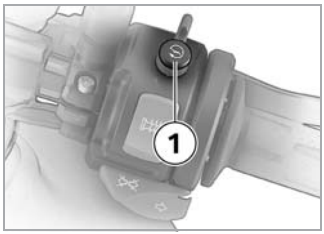
Gearbox

You can start the engine when the gearbox is in neutral or if you pull the clutch with a gear engaged. Switch on the ignition before you pull the clutch. When the gearbox is in neutral, the green neutral telltale light is on and the gear indicator in the multifunction display shows 0.

Starting

Do not turn the throttle twistgrip when starting the engine. At ambient temperatures below 0 °C, disengage the clutch after switching on the ignition.◀

- Switch on the ignition.



- Press starter button **1**.

» The engine starts.

- Observe instruments and display for warnings and information (➠ 20).

The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you start the engine (➠ 116) or use jump leads and a donor battery to start (➠ 115).◀

High engine speeds while the engine is cold accelerate engine wear.
Avoid high engine speeds when the engine is cold.◀

Consult the troubleshooting chart below if the engine refuses to start.◀

Troubleshooting chart

Fault: Engine does not start or only starts with difficulty.

Possible cause	Remedy	see page
Kill switch activated	Kill switch in operating position	(➠ 57)
Side stand extended, gear engaged	Fully retract the side stand	(➠ 69)
Gear engaged, clutch not disengaged	Select neutral or pull clutch lever	(➠ 60)
Clutch pulled when ignition was OFF	Switch on the ignition, then pull the clutch lever	(➠ 57)
No fuel in tank	Refuel	(➠ 73)
Battery not adequately charged	Recharge the battery	(➠ 116)

Riding

ABS pull-away test

ABS warning light flashes once per second.

The BMW Integral ABS checks the ABS sensors when you pull away after starting. The ABS warning light then goes out and the BMW Integral ABS is active.

Running in

- 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 guideline values as stated below.◀

For the first 1,000 km:

- Engine speed max. 7,000 rpm.
- No full-load acceleration.
- At full load, avoid low engine speeds.
- The first inspection should always be performed after 500 to 1,200 km.

Brake pads

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

 New brake pads can considerably lengthen the braking distance.
Think well ahead and brake carefully; avoid severe braking.◀

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.

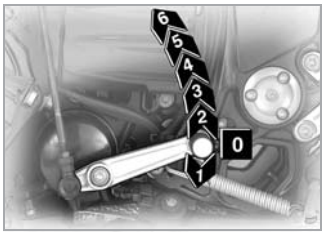
 Tyres do not have their full grip when new and there is a risk of accident at extreme angles of heel.
Avoid extreme angles of heel.◀

Shifting gear

Engine speed

Do not use the high end of the engine-revolutions range in any gear unless the engine is at operating temperature. When the revolution counter needle enters the red zone on the dial, the throttle-valve angle is limited in order to protect the engine against overspeeding. The governor cuts in at 11,000 rpm.

Gear shifts



Attempting to shift gear with the clutch engaged can damage the gearbox. Always disengage the clutch in order to shift gears.◀

The gear indicator in the multifunction display tells you which gear is engaged.◀

Placing motorcycle on its side stand

The motorcycle cannot stand securely on uneven ground.
Always check that the ground under the stand is level and firm.◀

When sitting on the motorcycle:
- Switch off the engine.
- Pull the handbrake lever.
- Hold the motorcycle upright and balanced.
- Use your left foot to extend the side stand fully (arrow).
- Slowly lean the motorcycle to the side until its weight is taken by the stand and dismount to the left.
- Turn the handlebars to full left or right lock.
- Check that the motorcycle is standing firmly.

If the motorcycle is on the side stand, the surface of the ground determines 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 and lock them in this position.◀

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.◀

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

Removing motorcycle from side stand

Brake servo assistance is not available when the ignition is off; the motorcycle can start to roll.
Particularly when the motorcycle is parked on a gradient, switch on the ignition and wait for the ABS to complete its self-diagnosis (➠ 59).◀

- Unlock the ignition lock, switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- 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.
- Sit on the motorcycle and use your left foot to retract the side stand.

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.◀

Placing motorcycle on its centre stand[OE]

⚠ The motorcycle cannot stand securely on poor ground.
Always check that the ground under the stand is level and firm.◀

- Switch off the engine.
- Dismount and keep your left hand on the left handlebar grip.
- With your right hand, grip the rear grab handle or the rear frame.
- Place your right foot on the pin of the centre stand, and press the stand down until its curved feet touch the ground.
- Place the full weight of your body on the centre stand, while pulling the motorcycle to the rear (arrow).
- Check that the motorcycle is standing firmly.

⚠ Excessive movements could cause the centre stand to retract, and the motorcycle would topple in consequence.
Do not lean or sit on the motorcycle with the centre stand extended.◀

Pushing motorcycle off centre stand[OE]

Brake servo assistance is not available when the ignition is off; the motorcycle can start to roll.
Particularly when the motorcycle is parked on a gradient, switch on the ignition and wait for the ABS to complete its self-diagnosis (➠ 59).◀

- Unlock the ignition lock, switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- Place your left hand on the left handlebar grip.
- Grip the rear grab handle with your right hand.
- Push the motorcycle forward off the centre stand.
- Check that the centre stand has fully retracted.

Fuel

Fuel is flammable and explosive.
Do not smoke. Never bring a naked flame near the fuel tank.◀

Fuel expands under the influence of high temperatures and exposure to sunlight.
Do not fill the tank past the bottom edge of the filler neck.◀

Fuel can damage plastic parts.
Do not permit fuel to come into contact with body panels.◀

Fuel grade

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

The engine is designed to run on:
– Super Plus (premium) unleaded (98 RON)
Use fuel of this grade by preference, in order to achieve rated performance and fuel consumption.
You can also run the engine on fuel of the following grade:
– Super unleaded (95 RON)

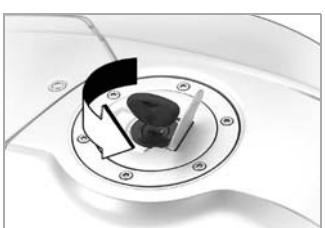
Capacity

– Usable fuel capacity: 19 litres
– Including reserve of: approx. 4 litres

The fuel gauge in the multifunction display works only when the ignition is switched on.◀

Refuelling

- Make sure the ground is level and firm and place the motorcycle on its centre stand[OE] or side stand.



- Open the protective cap.
- Using the ignition key, turn the fuel cap counter-clockwise to open the tank.

- Refuel with the specified grade of fuel (➠ 73).
- Press the filler cap down firmly to close.
- Remove the key and close the protective cap.

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 washing the motorcycle, after riding through water or when it is raining, the braking effect can be delayed due to damp brake discs and brake pads.
Bear in mind that this extends your stopping distance, because the brakes have to either dry out as you ride, or dry themselves when applied.◀

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.
Bear in mind that this extends your stopping distance, because the force of friction has to remove the layer of salt when the brakes are applied.◀

Oil or grease on the brake

Oil and grease deposits on brake discs and pads considerably reduce the braking effect.
It is particularly important to check the brake pads and discs after repair and maintenance work is carried out, to make sure they 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.
Bear in mind that this extends your stopping distance, because the brakes have to clean themselves when applied.◀

BMW Integral ABS[OE]

In extreme situations, it takes skill and sensitive control of the brakes to pull up safely on a motorcycle. If the front wheel brake locks and the wheel skids, the necessary longitudinal and lateral stabilising forces are lost, and a fall can result. For this reason, the rider seldom makes full use of available braking performance in an emergency.
By preventing both wheels from locking and optimising braking-force distribution by means of the integral function,

BMW Integral ABS offers improved braking efficiency. Making full use of the motorcycle's braking capability significantly shortens braking distances, even when road conditions are poor. When the motorcycle is ridden in a straight line, the BMW Integral ABS is able to handle emergency braking safely, if circumstances permit.

Reserves for safety

The potentially shorter braking distances which BMW Integral 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 Integral ABS is unable to counteract their effects.

Partially integral brakes

Your motorcycle is equipped with partially integral brakes. Both front and rear brakes are applied when you pull the handbrake lever.

The electronic controller in the BMW Integral ABS regulates braking-force distribution between front and rear wheels. Braking-force distribution depends on load and is recalculated every time the ABS controller comes into action. The footbrake lever acts only on the rear brake.

Brake booster

The hydraulic pump in the BMW Integral ABS boosts the braking force acting on the wheel when the brakes are applied. By boosting the braking force in this way, the BMW Integral ABS achieves higher braking efficiency than standard brake systems.

ABS^{OE} anti-lock braking system

ABS prevents the wheels locking under braking, thus contributing significantly to road safety.

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.
Bear in mind that ABS cannot be relied on in all circumstances to prevent the rear wheel from lifting clear of the ground.◀

Residual braking function

When the ignition if off, while self-diagnosis is in progress, and if a fault develops in the BMW Integral ABS, only a residual braking function is available in the brake circuits in question. Residual braking function is the braking performance available without hydraulic assistance. Under these circumstances, therefore, you must apply considerably higher pressure to the brake levers in question in order to apply the brakes, and lever travel is longer. When the residual braking function is active, the ABS function is unavailable in the brake system in question. When the residual braking function is active, the integral braking function is partially or entirely unavailable.


Without the ABS function, the wheels may lock under braking; without braking power assistance, considerably greater force is required to brake.
Think well ahead and brake carefully; avoid severe braking. Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW motorcycle dealer.◀

The brake-lever travel needed to build up braking pressure can be considerably longer when the system is in residual braking function mode, so it is advisable to set the brake lever to a wider span (➠ 41).◀

When the residual braking function is active for both brake circuits, the noise of the pump is no longer audible when you operate the brake levers.◀

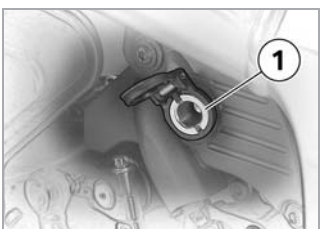
General instructions

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

BMW cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW motorcycles without constituting a safety hazard. This guarantee is also not given in the event that a country-specific official authorisation has been provided. 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 such modifications, comply with all the legal requirements. The motorcycle must not infringe national road-vehicle construction and use regulations.

Power socket



Power socket **1** provides a voltage of 12 V and can carry a maximum load of 5 A.

If the battery voltage is too low and/or the maximum permissible load is exceeded, the power socket is automatically deactivated.

Operating electrical accessories

You can start using electrical accessories only when the ignition is switched on. The auxiliary device remains operational if the ignition is subsequently switched off. Approx. 15 minutes after switching off the ignition and/or during the restart operation, the on-board socket is switched off to take the load off the vehicle electrical system.

Wiring

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.◀


BMW
K 1200 R

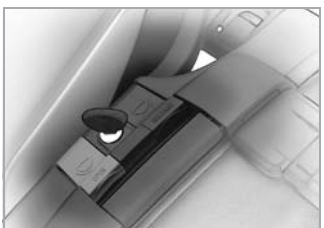
Luggage system[OA]

Correct loading

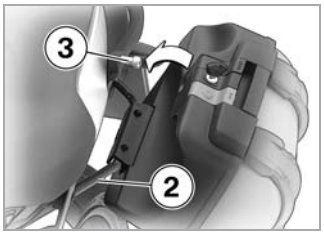
Fitting a luggage system will affect the handling of your motorcycle. Never exceed the motorcycle's permissible gross weight (➠ 140). Comply with the instructions for loading below.◀

- Set spring preload (➠ 47) and damping characteristic (➠ 48) to suit total weight.
- Check the tyre pressures (➠ 130).
- Make sure that the right and left cases are set to the same volume.
- Make sure that the weight is uniformly distributed between right and left.
- Pack heavy items at the bottom and toward the inboard side.
- Max. load in each case[OA] (left and right): 8 kg.

Fitting cases



- Turn the lock barrel in the RELEASE direction.

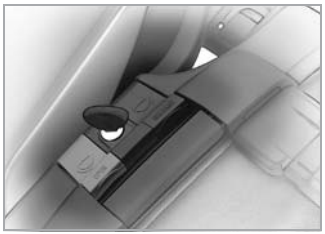


- Hook the case into its bottom mount **2**.
- Pull the black release lever upwards.
- Press the case into its top mount **3**.
- Press the black release lever downwards.

» The case is locked into place.

- Lock the case.
- Check that the case is securely locked.

Removing cases

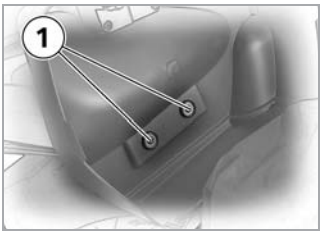


- Turn the lock barrel in the RELEASE direction.
- Pull the black release lever upwards.

- Pull the case out of the upper mounting.
- Lift the case out of the lower mounting.

Adapting cases

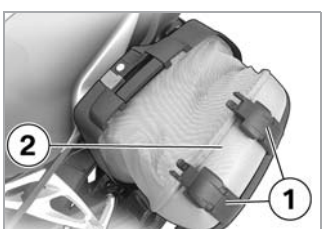
If a case wobbles or is difficult to fit, it has to be adapted to the gap between the upper and lower mounting.
To achieve this, the height of the lower bracket on the case can be changed.



- Open the case.
- Slacken screw **1**.
- Set the height of the bracket.
- Tighten the screws.

Opening cases

- Turn the lock barrel in the OPEN direction.
- Pull the grey release lever upwards.

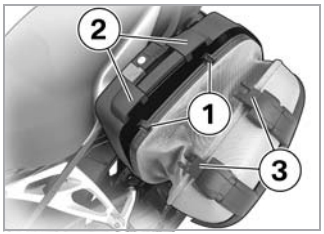


» Lock straps **1** open.

- Pull the grey release lever upwards once again.
- Pull case lid **2** out of the retainer.

» Case fully opened.

Closing cases



- Press catches **1** on the case lid into retainers **2**.

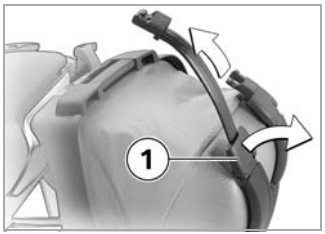
» The catches engage with an audible click.

- Press catches **3** on the lock straps into retainers **2**.

» The catches engage with an audible click.

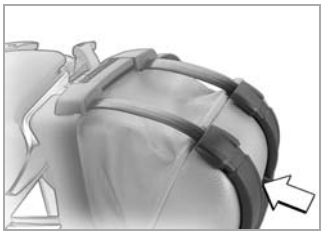
- Check that the catches are locked securely into place.

Adjusting case volume



- Close the case lid.
- Pull lock strap buckles **1** of the lock straps out.
- Pull the lock straps up and out.

» The case is set to maximum volume.



- Close the lock straps.
- Press the lock straps against the case body.

» The case volume is adapted to the contents.

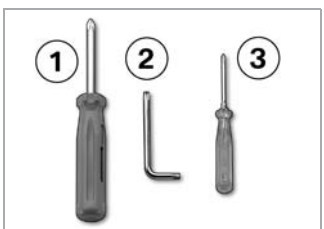
The "Maintenance" chapter describes work involving the replacement of wear parts that can be performed with minimum effort.

The types of threaded fastener used for the various components are listed on (➠ 128). You can use this chart to set aside the required tools.
If special tightening torques are to be taken into account for assembly, these are also listed. Screw connections for which there is a suitable tool in the toolkit are marked additionally.

If you are interested in information on more extensive work, we recommend the repair manual on CD-ROM which applies to your particular motorcycle. You can obtain a copy of this from your authorised BMW motorcycle dealer.

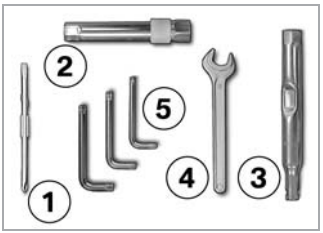
Toolkit

The toolkit is on the underside of the seat.
You can obtain a more extensive, additional set of tools from your authorised BMW motorcycle dealer.



Contents of the basic toolkit:

1 Screwdriver with reversible blade
2 Torx wrench, T25
3 Screwdriver, small



Contents of supplementary toolkit[OA]:

1 Screwdriver blade
2 Socket wrench, w/f 17
3 Spark plug socket spanner
4 Open-ended spanner, w/f 17
5 TORX® wrenches, T40, T45, T50

Engine oil

Checking the engine oil level

Check the oil level at regular intervals.

The oil level depends on the oil temperature. The higher the temperature the higher the oil level in the oil tank.
Check the engine oil level immediately after a lengthy journey.◀

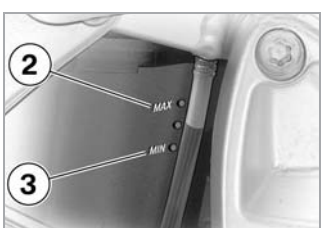
The oil that drains into the sump while the motorcycle is not in use has to be pumped back into the oil tank before you read the oil level. The engine oil must be at operating temperature. Checking the oil level with the engine cold or after no more than a

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 or place it on the centre stand, after ensuring that the ground is level and firm.
- Allow the engine to idle for one minute.
- Switch off the ignition.
- Read off the oil level.

1 Indicator for engine-oil level

- Check the oil level in oil-level indicator **1**.



2 Maximum engine oil level
3 Minimum engine oil level

The oil level must be between the **MIN** and **MAX** marks. The difference is approx. 0.5 litres.

If the oil level is below the **MIN** mark:

- Top up the engine oil.

If the oil level is above the **MAX** mark:

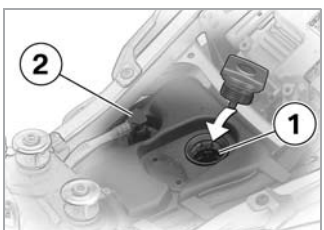
- Correct the level by draining off some of the engine oil.

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.◀

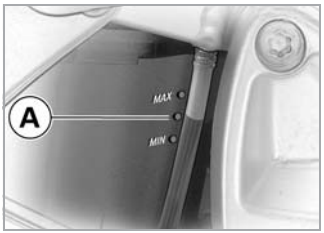
⚠ The engine can seize if the oil level is low, and this can lead to accidents. Always make sure that the oil level is correct.◀

Topping up the engine oil

- Remove the seat (➠ 44).



- Wipe the area around the filler neck clean.
- Remove the cap from engine oil filler neck **1**.



- Top up with fresh oil until the level is at midway mark **A**.
- Check the oil level.
- Repeat the filling and checking procedure until the engine oil level is between the **MIN** and **MAX** marks.
- Reinstall the cap in the filler neck.

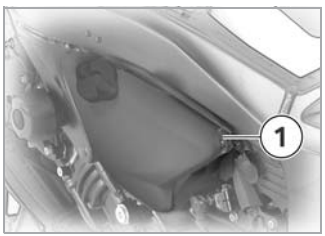
Draining off engine oil

- Remove the seat (➠ 44).
- Squeeze the retainer of transparent hose **2** on the left and right and pull it up out of the oil tank.
- Pull the transparent hose down out of the frame and drain off the oil into a suitable container.
- Insert the transparent hose into the oil tank and secure it.
- Check the oil level.
- Repeat the draining and checking procedure until the engine oil level is between the **MIN** and **MAX** marks.
- Store the excess engine oil or dispose of it in an environmentally responsible manner.

Coolant

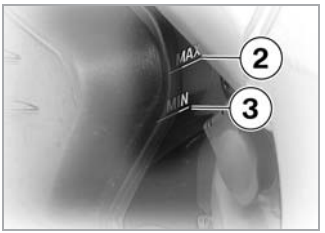
Checking coolant level

Check the coolant level at regular intervals.



1 Display for coolant level

- Check the coolant level in coolant indicator **1**.

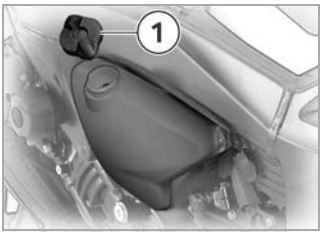


2 Maximum coolant level
3 Minimum coolant level

The coolant level must be between the **MIN** and **MAX** marks.
If the coolant level is below the **MIN** mark:

- Top up the coolant.

Topping up coolant



⚠ Do not open the cooling system while the engine is hot, otherwise you may scald yourself on the resultant coolant steam.◀

- Remove the cap from coolant filler neck **1**.
- Add coolant.
- Check the coolant level.
- Repeat the filling and checking procedure until the coolant level is between the **MIN** and **MAX** marks.

- Reinstall the cap in the coolant filler neck.

Brakes

A properly functioning brake system is a basic requirement for the road safety of your motorcycle.

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

Checking the function

Do not ride the motorcycle if you have any doubts about the dependability of the brake system. In this case:

- Have the brake system checked by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Vehicles without ABS

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

Vehicles with ABS^{OE}

- Switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- Press the handbrake lever.
» The pressure point must be clearly perceptible.
» The operating noise of the hydraulic pump must be audible.
- Press the footbrake lever.
» The pressure point must be clearly perceptible.
» The operating noise of the hydraulic pump must be audible.

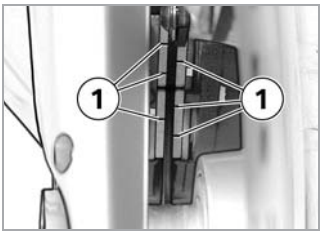
Brake pads

Brake pads worn past the minimum permissible thickness can impair 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.◀

Checking front brake pad thickness

- Make sure the ground is level and firm and place the motorcycle on its centre stand[OE] or side stand.

- Visually inspect the left and right brake pads to ascertain their thickness.

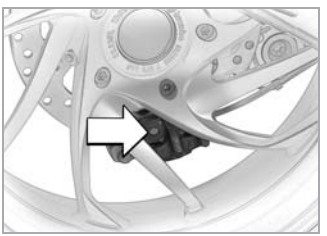


Wear indicating mark **1** must be clearly visible on the pads. If the wear indicating mark is no longer clearly visible:

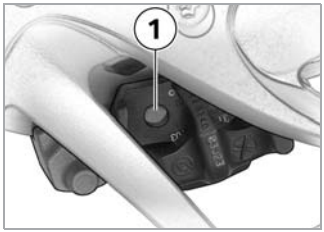
- Have the brake pads replaced by a specialist workshop, preferably by an authorised BMW motorcycle dealer.

Checking rear brake pad thickness

- Make sure the ground is level and firm and place the motorcycle on its centre stand[OE] or side stand.



- Visually inspect the brake pads from the right to ascertain their thickness.



Make sure that the brake disc is not visible through bore **1** in the inboard brake block. If the brake disc is visible:

- Have the brake pads replaced, preferably by an authorised BMW motorcycle dealer.

Checking brake fluid level

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This causes a serious reduction in braking efficiency. Avoid severe braking, if possible.◀

1 Front brake-fluid reservoir
2 **MIN** mark

1 Rear brake-fluid reservoir
2 **MIN** mark

- Hold the motorcycle upright or place it on the centre stand, after making sure the ground is level and firm.
- Make sure the handlebars are in the straight-ahead position.
- Read off the brake fluid level at the reservoir.

Motorcycle without ABS

The brake fluid level in the reservoir drops as the brake pads wear.◀

Do not permit the brake fluid level to drop below the **MIN** mark. If the brake fluid level drops below the **MIN** mark:

If there is too little brake fluid in the brake-fluid reservoir, air can enter the brake system. This causes a serious reduction in braking efficiency.
Think well ahead and brake carefully; avoid severe braking.◀

Under normal operating conditions the brake fluid level cannot drop below the **MIN** mark.

- Check the brake pads.
- Check the brake system for leaks.
- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Vehicles with ABS^{OE}

The brake fluid level remains constant despite wear of the brake pads.◀

Any drop in brake-fluid level, even if the level remains above the **MIN** mark, is indicative of a fault in the brake system.If the brake fluid level falls:

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

Clutch

Checking operation

- Pull the clutch lever.

» The pressure point must be clearly perceptible.

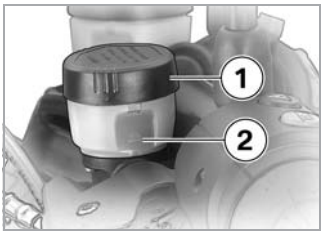
Do not ride the motorcycle if you have any doubts about the dependability of the clutch. In this case:

- Have the clutch checked by a specialist workshop, preferably an authorised BMW motorcycle dealer.

Checking clutch-fluid level

Changing the position of the clutch-fluid reservoir can allow air to penetrate the clutch system.
Do not turn either the handlebar fitting on the handlebars, or the handlebars in their mounts.◀

- Make sure the ground is level and firm and either hole the motorcycle upright or place it on the centre stand[OE].
- Make sure the handlebars are in the straight-ahead position.
- Read off the clutch fluid level at the reservoir.



1 Clutch fluid reservoir
2 **MIN** mark

Do not permit the clutch-fluid level to drop below the **MIN** mark. Have the clutch system checked immediately if the fluid level drops below the **MIN** mark.

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

The level of fluid in the reservoir rises as the clutch wears.◀

Unsuitable hydraulic fluids could cause damage to the clutch system.
Do not attempt to top up the system with fluids of any kind.◀

The clutch system is filled with a special hydraulic fluid that does not have to be changed.◀

Wheels

For each size of tyre BMW Motorrad tests certain makes, and approves those that it certifies as roadworthy. If BMW Motorrad has not approved the wheels and tyres, it cannot assess their suitability or provide any guarantee of road safety. Use only wheels and tyres approved by BMW Motorrad for your type of motorcycle.
You can obtain detailed information from your authorised BMW motorcycle dealer or by visiting
www.bmw-motorrad.com on the Internet.

Checking rims

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

Checking tyre tread depth

Do not allow the tyres to wear past the minimum depth permitted by law in the country of use.

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.◀

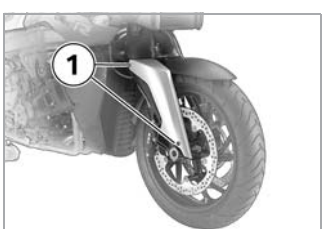
Tyres have wear indicators integrated into the main tread grooves. If the tyre tread has worn down to the level of the marks, the tyre is completely worn. The locations of the marks are indicated on the edge of the tyre, e.g. by the letters TI, TWI or by an arrow.◀

- Measure the tyre tread depth only in the main tread grooves with wear indicating marks.

Removing front wheel

The types of threaded fastener used are listed on (➠ 128).◀

There is a risk of damaging parts of the front brakes, particularly the BMW Integral ABS, in the course of the procedure described below.
Take care not to damage the brake system, in particular the ABS sensor with cable and the ABS sensor ring.◀

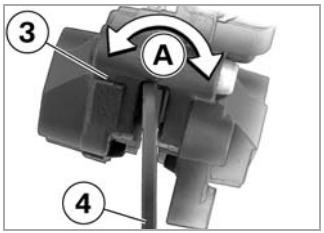


- Place the motorcycle on the centre stand[OE] or a suitable auxiliary stand.

It is advisable to use the BMW rear wheel stand for this purpose.◀

- Remove screws **1** on the left and right.
- Remove the wheel-guide cover.

- Remove securing screws **2** of the left and right brake calipers.



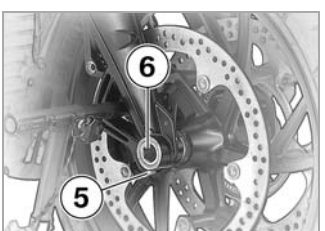
- Force brake calipers **3** slightly apart by rocking them back and forth **A** against brake discs **4**.

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.◀

- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.
- Pull the brake calipers back and out until clear of the brake discs.

Motorcycle on centre stand[OE]: if the motorcycle is raised too far at the front the centre stand will lift clear of the ground and the motorcycle could topple to one side.
When you raise the motorcycle, make sure that the centre stand remains on the ground.◀

- Raise the motorcycle with the BMW Motorrad front wheel stand (➠ 107) until the front wheel can rotate freely.



- Slacken right axle clamping screw **5**.
- Remove quick-release axle **6**, while supporting the wheel.

The left axle clamping screw locates the threaded bush in the front suspension. If the threaded bush is not correctly aligned the gap between the ABS sensor ring and the ABS sensor will not be correct and this can cause the ABS to malfunction or allow the ABS sensor to be damaged.
In order to ensure that the threaded bush remains correctly aligned, do not slacken or remove the left axle camping screw.◀

BMW Motorrad provides an adapter for removing the quick-release axle. This adapter can be combined with any commercially available w/f 22 open-end or ring spanner. The BMW special tool number is 363690 and the adapter is available from your authorised BMW motorcycle dealer.◀

- Lower the front wheel to the ground in the front suspension.
- Roll the front wheel forward to remove.

Installing front wheel

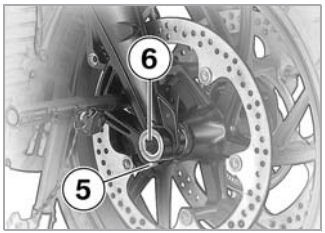
The types of screw used are listed, complete with tightening torques, on (➠ 128).◀

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 motorcycle dealer.◀

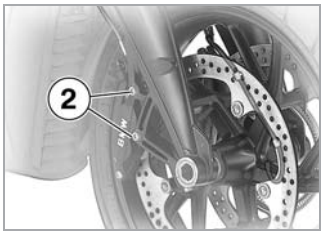
There is a risk of damaging parts of the front brake, particularly the BMW Integral ABS, in the course of the procedure described below. Take care not to damage the brake system, in particular the ABS sensor with cable and the ABS sensor ring.◀

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

- Roll the front wheel into the front wheel guide.

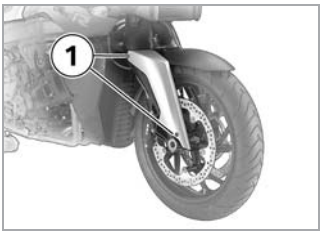


- Raise the front wheel, install quick-release axle **6** and tighten to 50 Nm.
- Tighten right axle clamping screw **5** to 19 Nm.
- Remove the front wheel stand.
- Slip the brake calipers onto the brake discs.



- Install securing screws **2** for the left and right brake calipers and tighten to 30 Nm.

⚠ The cable of the ABS sensor could chafe through if it comes into contact with the brake disc. Route the ABS sensor cable well clear of the brake disc.◀



- Install the wheel-guide cover and hand-tighten securing screws **1**.
- Remove the adhesive tape from the wheel rim.

The front brakes have to be operated a few times to bed the brake pads against the brake discs.

Without BMW Integral ABS:

- Press the handbrake lever firmly a number of times until the resistance point is noticeable.

With BMW Integral ABS[OE]:

- Switch on the ignition.
- Wait for self-diagnosis to complete (➠ 59).
- Firmly pull the handbrake lever a number of times, until the pressure point is perceptible.

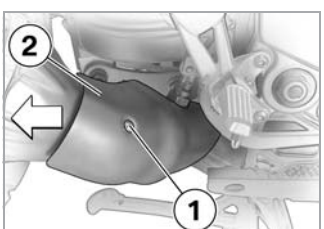
Braking efficiency is impaired if the brake pads are not correctly bedded against the discs.
Before riding off, always check that the brakes start to bite immediately.◀

Removing rear wheel

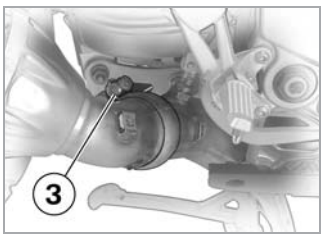
The types of screw used are listed on (➠ 128).◀

- Place the motorcycle on the centre stand[OE] or a suitable auxiliary stand.

It is advisable to use the BMW rear wheel stand for this purpose (➠ 108).◀



- Remove screw **1** from silencer cover **2**.
- Pull the cover to the rear to remove.

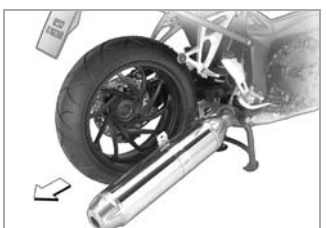


- Slacken clamp **3** on the silencer.

Do not remove the sealing grease from the clamp.◀

- Remove screw **4** for the bracket of the end silencer from the rear footrest.
- Turn the end silencer out.
- Engage first gear.

- Remove studs **5** from the rear wheel while supporting the wheel.
- If you are using a BMW Motorrad rear wheel stand (➠ 108): remove the lock washer.



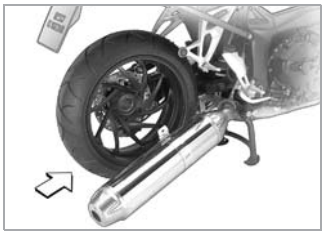
- Lower the rear wheel to the ground.
- Roll the rear wheel out toward the rear.
- If you are using a BMW Motorrad rear wheel stand (➠ 108): reinstall the lock washer.

Installing rear wheel

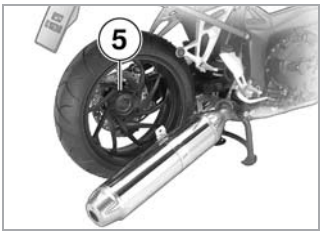
The types of screw used are listed, complete with tightening torques, on (➠ 128).◀

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, preferably by an authorised BMW motorcycle dealer.◀

- If you are using a BMW Motorrad rear wheel stand (➠ 108): remove the lock washer.

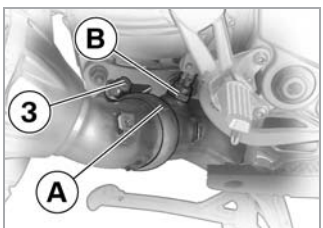


- Roll the rear wheel onto the rear wheel support.
- Place the rear wheel on the rear wheel support.
- If the BMW Motorrad rear wheel stand is used: attach the retaining disc again.



- Install studs **5** and tighten in diagonally opposite sequence to 60 Nm.

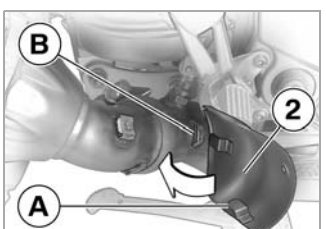
- Turn the end silencer to its initial position.
- Install screw **4** for the bracket of the end silencer in the rear footrest, but do not tighten it at this point.



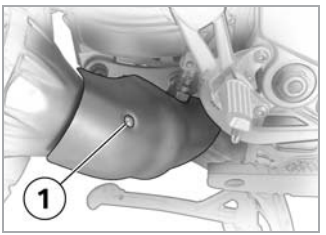
- Align clamp **3** on the end silencer with mark **A** (arrow) on the oxygen sensor **B**.
- Tighten clamp **3** on the end silencer to 35 Nm.

- Tighten screw **4** for the bracket of the end silencer in the rear footrest to 16 Nm.

⚠ A lack of clearance between the rear wheel and the end silencer can result in damage to the rear wheel. The clearance between rear wheel and end silencer is correct when the handle of the screwdriver from the toolkit can be slipped between the two.◀



- Push silencer cover **2** with guides **A** into brackets **B**.



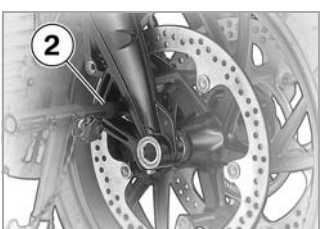
- Install screw **1** and hand-tighten.
- Remove the auxiliary stand, if used.

Front-wheel stand

A front-wheel stand for simple, safe changing of the front wheel is available from BMW Motorrad. The BMW special tool number is 363971 and the front-wheel stand is available from your authorised BMW motorcycle dealer. In addition, you require the adapters with BMW special tool number 363973.

Installing front-wheel stand

- Place the motorcycle on the centre stand[OE] or a suitable auxiliary stand such as the BMW Motorrad rear-wheel stand (➠ 108).
- Slacken adjusting screws **1**.
- Push pins **2** apart until the front forks fit between them.
- Use locating pins **3** to set the front-wheel stand to the desired height.
- Centre the front-wheel stand relative to the front wheel and push it against the front axle.



- Push both pins **2** in through the triangles of the brake caliper supports until there is just enough room for the front wheel to be rolled between them.

⚠ Take care not to damage the ABS sensor ring if the motorcycle is fitted with BMW Integral ABS.
Do not push the pin in too far; make sure that it does not touch the sensor ring of the BMW Integral ABS.◀

- Tighten adjusting screws **1**.

- Apply uniform pressure to push the front-wheel stand down and raise the motorcycle.

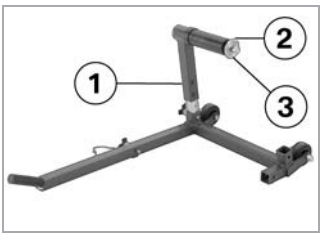
⚠ When the motorcycle is standing on its centre stand: if the motorcycle is raised too far at the front the centre stand will lift clear of the ground and the motorcycle could topple to one side.

When you raise the motorcycle, make sure that the centre stand remains on the ground.◀

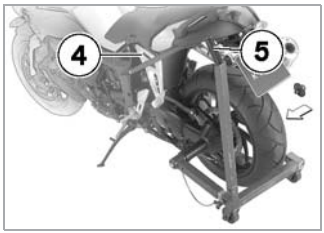
Rear wheel stand

BMW Motorrad offers a rear-wheel stand for working on a motorcycle that does not have a centre stand. The BMW special tool number is 363980 and the rear-wheel stand is available from your authorised BMW motorcycle dealer.

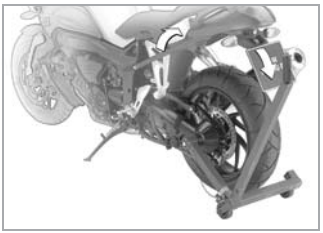
Installing rear-wheel stand



- Use screws **1** to set the rear-wheel stand to the desired height.
- Press release button **3** and remove lock washer **2**.



- Push the rear wheel stand from the left into position at the rear axle.
- Press the release button and fit the lock washer from the right.
- Take a firm grip of the motorcycle's left grab handle **4** with your left hand and grip the lever of rear-wheel stand **5** with your right hand.



- Raise the motorcycle to the upright position, while pressing the lever down until the motorcycle is vertical.

- Push the lever down to the ground.

Bulbs

Information on bulbs

The 'bulb defect' symbol appears in the display if a bulb is defective. If the brake or rear light fails, the general warning light also lights up yellow.
If the rear light fails the second filament of the brake light shines at reduced brightness to double as a rear light. Even though you have this substitute rear light, the indicators in the display tell you that a bulb defect has occurred.

A defective bulb places your safety at risk because it is easier for other road 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 types of bulb used are listed on (➠ 139).◀

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.◀

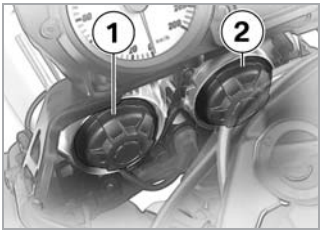
The types of threaded fastener used are listed on (➠ 128).◀

Replacing low-beam headlight bulb

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

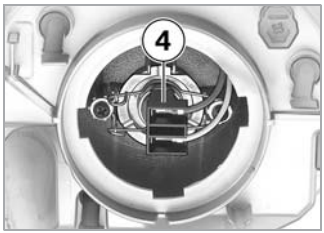
The bulb is pressurised and can cause injury if damaged.
Wear protective goggles and gloves when changing bulbs.◀

Turn the handlebars to the right to facilitate access.◀

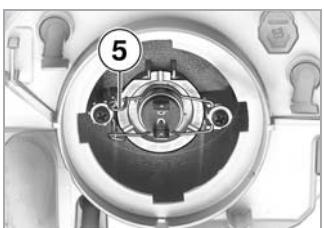


High-beam headlight **1** and low-beam headlight **2** are accessible from behind.

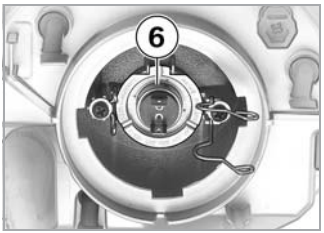
- Switch off the ignition.
- Turn cover **3** counter-clockwise and remove it.



• Disconnect plug **4**.

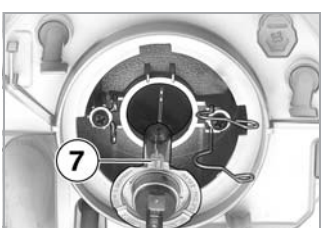


• Disengage spring clip **5** and push it aside.



• Remove bulb **6**.

Installation is the reverse of the removal procedure.



• When installing, make sure that lug **7** is pointing up.

Replacing high-beam headlight bulb

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

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

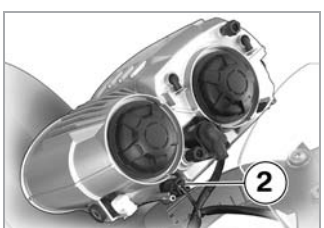
Turn the handlebars to the left to facilitate access.◀

- The procedure for changing the high-beam headlight bulb is the same as that for the low-beam bulb. Note, however, that the high-beam headlight bulb is held in place by a single-leg, vertical spring clip.

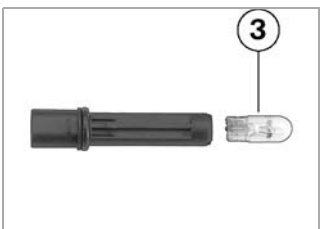
Replacing parking light

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

- Switch off the ignition.
- Remove securing screws **1** on both sides of the bulb housing.



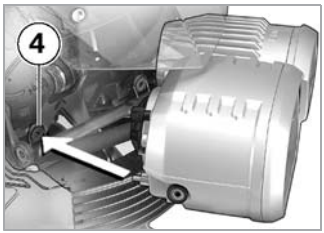
- Pull the bulb housing forward and tilt it slightly down.
- Turn bulb holder **2** counterclockwise to remove it from the headlight housing.



- Remove bulb **3** from the bulb holder.

Installation is the reverse of the removal procedure.

- Use a clean, dry cloth to hold the new bulb.



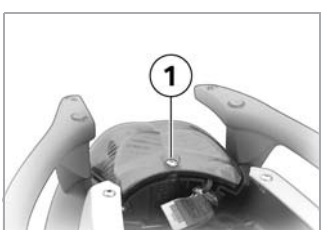
- Press the bulb housing into mounts **4** on the frame and install the securing screws.

Incorrectly routed headlight cables could catch on the steering.
Use suitable retainers to secure the cables to the rear of the headlight.◀

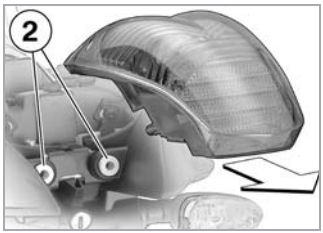
Replacing brake light and rear light bulbs

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

- Switch off the ignition.
- Remove the seat (➠ 44).



- Remove screw **1**.



- Pull the bulb housing to the rear until it is clear of holders **2**.

- Turn bulb holder **3** counterclockwise to remove it from the bulb housing.

- Press the bulb into its socket and turn it counter-clockwise to remove.

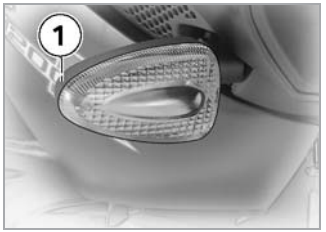
Installation is the reverse of the removal procedure.

- Use a clean, dry cloth to hold the new bulb.

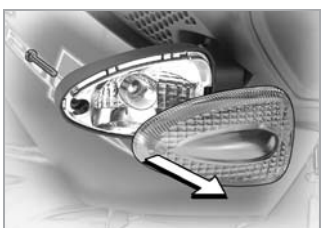
Replacing front/rear turn indicator bulbs

⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

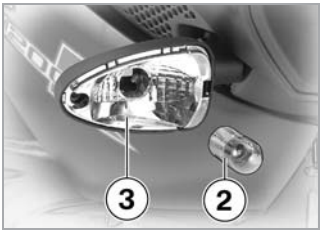
- Switch off the ignition.



- Remove screw **1**.



- Pull the fastener side to remove the glass from the turn-indicator housing.



- Press bulb **2** into socket **3** and turn it counter-clockwise to remove.

Installation is the reverse of the removal procedure.

- Use a clean, dry cloth to hold the new bulb.

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.◀

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

Inadvertent contact between the terminal clips of the jump leads and the vehicle can lead to short circuits. Use only jump leads fitted with fully insulated crocodile clips at both ends.◀

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

- When jump-starting the engine, do not disconnect the battery from the on-board electrical system.
- Remove the cover of the battery compartment (➠ 118).
- Start the engine of the donor vehicle and allow it to run for the duration of the jump-start procedure.
- Begin by connecting one end of the red jump lead to the positive terminal 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 the negative terminal of the discharged battery.
- 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 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 terminals first, then disconnect the second lead from the positive terminals.
- Screw down the cover of the battery compartment.

Touching live parts of the ignition system with the engine running can lead to electric shocks.
Do not touch parts of the ignition system when the engine is running.◀

Battery

Maintenance instructions

Your motorcycle is supplied with a maintenance-free battery.
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 (clock, etc.) will 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 two months, disconnect the battery or connect a suitable trickle charger to the battery.◀

BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, you can keep the battery charged during long periods of disuse, without having to disconnect the battery from the motorcycle's on-board systems.
More information is available on request from your authorised BMW motorcycle dealer.◀

Charging the battery when connected

If the telltale lights do not light up and the multifunction display remains blank when you switch on the ignition, the battery is completely flat.

- Charge the disconnected battery via the power socket.
- Comply with the operating instructions of the charger.

Attempting to charge a completely flat battery via the on-board socket can cause damage to the motorcycle's electronics. If the battery is completely flat it must always be recharged directly at the terminals.◀

- Do not attempt to recharge a completely flat battery via the on-board socket; instead, disconnect the battery from the on-board system and connect the charger directly to the battery terminals.
- Comply with the operating instructions of the charger.

Your authorised BMW motorcycle dealer will be happy to provide information on suitable chargers.◀

If the battery is only partially discharged, it can be recharged via the on-board socket.

- If electrical accessories are connected to an additional on-board socket[OA], disconnect them before connecting the charger.
- Switch on the ignition.
- Plug the charger into the on-board socket. Comply with the operating instructions of the charger.
- Switch off the ignition.

The motorcycle's on-board electronics know when the battery is fully charged. The on-board socket is switched off when this happens.◀

If you are unable to charge the battery via the power socket, you may be using a charger that is not compatible with your motorcycle's electronics. If this happens, disconnect the battery from the on-board systems and connect the charger directly to the battery.◀

Charging the battery when disconnected

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.◀

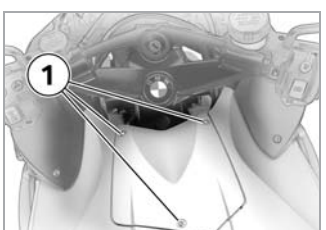
- Charge the battery using a suitable charger.
- Comply with the operating instructions of the charger.
- Once the battery is fully charged, disconnect the charger terminal clips from the battery terminals.

Removing battery

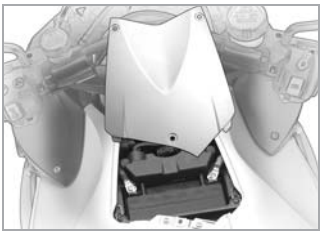
The types of screw used are listed on (➠ 128).◀

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

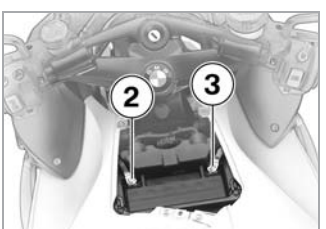
- Switch off the ignition.



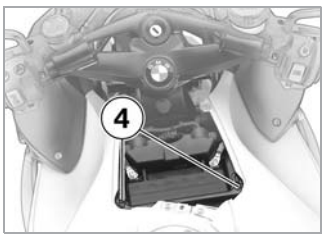
- Remove screws **1**.



- Slip the cover of the battery compartment forward and lift it clear.



- Disconnect the battery's negative lead **2** first.
- Then disconnect positive lead **3**.



- Slacken screws **4** and pull the retainer to the rear.
- Lift the battery up and out; work it slightly back and forth if it is difficult to remove.

Installing battery

The types of screw used are listed, complete with tightening torques, on (➠ 128).◀

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

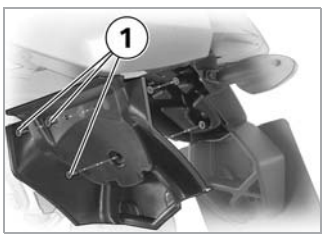
- Switch off the ignition.
- Place the battery in the battery compartment, positive terminal on the right in the direction of travel.
- Slip the clip over the battery and hand-tighten the screws.
- Connect the positive lead first and hand-tighten the screw.
- Then connect the negative lead and hand-tighten the screw.
- Install the cover of the battery compartment and hand-tighten the screw.
- Switch on the ignition.
- Fully open the throttle once or twice.

» The engine management system records the throttle-valve position.

Remember to reset the clock after reconnecting the battery.◀

Spray guard

A spray guard is supplied with the motorcycle and can be fitted to the number-plate holder if required.



- Secure the spray guard to the bottom of the number-plate holder with screws **1**.

Cleaning and care

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

Care products

We recommend that you use the cleaning and care products you can obtain from your authorised BMW motorcycle dealer. The materials 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 the motorcycle

We recommend 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.

Warm water reinforces the effects of the salt.
Use only cold water to wash off road salt.◀

Wet brake discs reduce the braking effect.
After washing the motorcycle, dry the brakes by braking.◀

The high pressure of steam cleaners can damage seals, the hydraulic brake system, the electrical system, adhesive labels and badges.
Do not use a steam jet or high-pressure cleaning equipment.◀

Plastics

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

– Windscreens
– Headlight lenses made of plastic
– Covering glass 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 dead insects by covering the affected areas with a wet cloth.◀

Windscreen

Clean off dirt and insects with a soft sponge and plenty of water.

Fuel and chemical solvents attack the windscreen.
Do not use cleaning agents.◀

Chrome

Especially in the case of road salt, carefully clean chrome with plenty of water and BMW vehicle shampoo. 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.◀

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, e.g. tree resin or pollen.

However, remove particularly aggressive materials immediately; otherwise changes in the paint or discolouration can occur. These include spilt fuel, oil, grease, brake fluid and bird droppings. BMW vehicle polish or BMW paint cleaner are recommended here. Contamination on the paint finish is particularly easy to see after the motorcycle as been washed. Remove stains of this kind immediately using cleaning-grade benzine or petroleum spirit on a clean cloth or ball of cotton wool. We recommend BMW tar remover for removing specks of tar. Complete the cleaning operation by applying a protective coating to these areas.

Protective wax coating

For the protective wax coating of paint, we recommend that you use only BMW vehicle wax or agents that contain carnauba wax or synthetic waxes. The best way to see whether the paint has to be protected is that water no longer forms pearls.

Touching up

Your authorised BMW motorcycle dealer has suitable systems for rapid, cost-effective treatment of minor paint damage. Minor damage can be touched up with a BMW paint spray or a BMW paint pencil, but it is advisable to have more serious paint damage dealt with by an authorised BMW motorcycle dealer, who can perform specialised paint jobs in accordance with factory specifications, using genuine BMW paints.

Rubber

Treat rubber components with water or BMW rubber protection coating agent.

The use of silicon sprays to care for rubber gaskets can lead to damage. Do not use silicone sprays or other care products that contain silicon.◀

Laying up

- Clean the motorcycle (➠ 122).
- Remove the battery (➠ 118).
- Spray the brake and clutch lever pivots and the main and side stand pivots with a suitable lubricant.

- Coat bright metal/chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Place the motorcycle in a dry room on the centre stand[OA] or rear wheel stand.
- Raise the engine with the front wheel stand in such a way that both wheels are clear of the ground.

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

Restoring to use

- Remove the protective wax coating.
- Clean the motorcycle (➠ 122).
- Install a charged battery (➠ 119).
- Perform the safety checks (➠ 56).
- Check the brakes (➠ 93).
- Check the tyre pressures (➠ 51).

Threaded fasteners

Activity	Type of threaded fastener	Tightening torque
Front wheel		
Mudguard	Internal TORX® T25 (1)	hand-tight
Wheel-guide cover	Internal TORX® T25 (1)	hand-tight
Brake caliper	Internal TORX® T45	30 Nm
Axle clamping screw	Internal TORX® T40	19 Nm
Quick-release axle	Allen screw w/f 22	50 Nm
Rear wheel		
Clip cover	Internal TORX® T25 (1)	hand-tight
End silencer to footrest	Internal TORX® T45	16 Nm
Clamp on end silencer	Internal TORX® T45	35 Nm
Rear wheel	Internal TORX® T50	60 Nm
Lamp housing		
Brake and rear light	Phillips screw, large (1)	hand-tight
Front turn indicators	Phillips screw, small (1)	hand-tight
Rear turn indicators	Phillips screw, small (1)	hand-tight

Threaded fasteners

Activity	Type of threaded fastener	Tightening torque
Battery		
Battery compartment lid	Internal TORX® T25 (1)	hand-tight
Battery-terminal clamps	External hexagon w/f 10 or slotted head screw, large (1)	hand-tight
Securing bracket	Internal TORX® T20	hand-tight
Splash guard		
Splash guard	Phillips screw, large (1)	hand-tight

(1) in the toolkit

Tyre pressures

Tyre pressures measured when tyres are cold.

Accessories and loads	Front	Rear
One-up	2.5 bar	2.9 bar
One-up with luggage	2.5 bar	2.9 bar
Two-up (with luggage)	2.5 bar	2.9 bar

Engine

Engine	
Type	4-cylinder in-line engine, transversely mounted, tilted 55°
Displacement	1,157 cc
Bore/stroke	79/59 mm
Compression ratio	13.0 : 1
Power rating	
Maximum rated output	120 kW
- at engine speed	10,250 rpm
Torque	
Max. torque	127
- at engine speed	8,250 rpm
Engine speeds	
Engine speed, maximum	11,000 rpm
Idle speed	1,150 ± 50 rpm
Consumption	
Fuel consumption at constant 90 km/h	4.7 l/100 km
Fuel consumption at constant 120 km/h	5.5 l/100 km
Maximum oil consumption	1 l/1,000 km

Power transmission

Clutch	
Type	hydraulic multi-plate oil-bath clutch
Transmission	
Type	6-speed gearbox
Overall ratios	1st gear = 2.524 2nd gear = 1.842 3rd gear = 1.455 4th gear = 1.287 5th gear = 1.143 6th gear = 1.015
Final drive	
Transmission from gearbox to rear wheel drive	Universal shaft with integrated torsional damper
Rear-wheel drive	Bevel gears
Final drive ratio	2.91:1

Frame and suspension

Frame	
Type	Main and rear frame in light-alloy design
Location of type plate	on the rear cross frame tube
Location of vehicle identification number (VIN)	on the side frame section at the front right
Front brake	
Type	Two floating brake discs with 4-piston fixed calipers
Brake pads	Sintered metal
Rear brake	
Type	One fixed brake disc with 2-piston floating caliper
Brake pads	Organic material
Front suspension	
Type	BMW Duolever
Steering lock angle	2 x 30.3°
Front wheel castor in normal-load position	101 mm
Rear suspension	
Type	BMW EVO Paralever swinging arm

Frame and suspension

Front suspension system	
Type	Central suspension strut with single-tube emulsion-filled shock absorber
Spring travel (bump)	60 mm
Spring travel (rebound)	55 mm
Total suspension travel	115 mm
Rear suspension system	
Type	Central suspension strut with single-tube gas pressure shock absorber Spring preload and rebound-stage damping infinitely variable
Spring travel (bump)	100 mm
Spring travel (rebound)	35 mm
Total suspension travel (at wheel)	135 mm

Wheels and tyres

Front wheel	
Type	MTH2 angled rim shoulder with double tyre retaining hump
Rim size	3.50 x 17"
Tyre size	120/70-ZR17
Rear wheel	
Type	MTH2 angled rim shoulder with double tyre retaining hump
Rim size	5.50 x 17“ (OE: 6.00 x 17“)
Tyre size	180/55-ZR17 (OE: 190/50-ZR17)

Fuel and lubricants

Engine oil	
Oil grade	Mineral engine oil of API classification SF, SG or SH. If you use a special oil for motorcycle engines, check that the oil is suitable for wet clutches. Do not use oil additives. Do not use synthetic engine oils unless they have been approved for this motorcycle by BMW Motorrad.
Capacity with filter change	3.5 l
Top-up volume between MIN and MAX	0.5 l
Permitted viscosity classes	
-15 °C – above 30 °C	SAE 15 W-40
-20 °C – 20 °C	SAE 10 W-40

BMW recommends Castrol

Fuel and lubricants

Transmission	
Transmission oil	joint oil circuit with engine
Fuel	
Fuel grade	Super Plus (premium) unleaded minimum octane number 98 (RON)
Capacity of fuel tank	19 l
Reserve volume	4 l
Brakes	
Brake fluid	DOT 4 We recommend BMW brake fluid

Electrical system

Battery	
Type	Maintenance-free AGM battery
Capacity	12 V 14 Ah
Spark plugs	
Spark plugs	BOSCH YR5DDE
Fuses	
	All circuits are electronically protected, so plug-in fuses are not necessary. If an electronic fuse trips and de-energises a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.

Electrical system

Bulbs	
High-beam headlight	H7 halogen bulb 12 V 55 W
Low-beam headlight	H7 halogen bulb 12 V 55 W
Parking light	12 V 5 W
Brake/rear light	12 V 21/5W
Flashing turn indicators	12 V 10 W
Power socket	
Ratings	12 V 5 A

Dimensions and weights

Dimensions	
Max. length (with luggage carrier)	2,228 mm
Maximum width (across mirrors)	856 mm
Maximum height (across mirrors)	1,230 mm
Seat height	820 mm
Seat height (low seat[OE])	790 mm
Wheelbase in normal-load position	1,580 mm
Ground clearance in normal-load position	118 mm
Weights	
Unladen weight (ready for road, fuel tank full)	237 kg
Maximum payload	213 kg
Permissible gross weight	450 kg

Riding specifications

Speed	
Top speed	over 200 km/h
Acceleration 0-100 km/h	2.9 s
Noises	
Ride-past noise level as per EU regulation	80 dB (A)
Stationary noise level as per EU regulation	94 dB (A) at 5125 rpm

BMW Motorrad service

BMW Motorrad service quality

BMW Motorrad stands not only for good handling and a high degree of reliability, but also for an excellent quality of service. To ensure that your BMW is always in optimum condition, we recommend that you have the regular maintenance work required for your motorcycle carried out, preferably by your authorised BMW motorcycle 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 motorcycle dealer knows 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

With all new BMW motorcycles, the BMW Motorrad Service Card protects you in the event of a breakdown with an extensive range of services such as breakdown assistance, motorcycle transportation etc. (differing regulations are possible in individual countries).

In the event of a breakdown, contact BMW Motorrad's Mobile Service. Here you will find our specialists ready to help in both word and deed.

Important country-specific contact addresses and the relevant after-sales service organisation phone numbers as well as information on Mobile Service and the dealership network can be found in the "Service Kontakt/Service Contact" brochures.

BMW Motorrad service network

Our extensive after-sales service organisation network is able 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 motorcycle dealers.

All information concerning the international dealership network can be found in the brochure "Service Contact Europe" or "Service Contact Africa, America, Asia, Australia, Oceania".

You will be given the relevant brochure for your country together with your motorcycle; you can obtain both brochures from your authorised BMW motorcycle dealer.

Maintenance work

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 tasks have 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 further 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 further 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 motorcycle dealer will be happy to supply a copy of the current maintenance schedule for your motorcycle on request.

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

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 changed:

BMW Integral ABS

☐ Wheel circuit

☐ Control circuit

Date, stamp, signature

Confirmation of maintenance work

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ____________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ____________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ____________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

Confirmation of maintenance work

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ____________

Brake fluid changed:

BMW Integral ABS

- [ ] Wheel circuit
- [ ] Control circuit

____

Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ____________

Brake fluid changed:

BMW Integral ABS

- [ ] Wheel circuit
- [ ] Control circuit

____

Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ____________

Brake fluid changed:

BMW Integral ABS

- [ ] Wheel circuit
- [ ] Control circuit

____

Date, stamp, signature

Confirmation of maintenance work

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ______________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ______________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ______________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

Confirmation of maintenance work

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ________________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ________________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading ________________

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

____

Date, stamp, signature

Confirmation of service

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

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

Confirmation of service

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

Confirmation of service

Instrument cluster replaced

at distance

_____

(odometer reading)

_____

Date, stamp, signature

Instrument cluster replaced

at distance

_____

(odometer reading)

_____

Date, stamp, signature

Instrument cluster replaced

at distance

_____

(odometer reading)

_____

Date, stamp, signature

V

W

Vehicle/dealership data

Vehicle data	**Dealership data**
Model	Person to contact in Service
Vehicle identification number	Ms./Mr.
Colour code	Phone number
First registration	
Registration number	Dealership address/phone (company stamp)

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

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

Printed in Germany

The most important data for a filling station stop can be found in the following chart:

Fuel		
Grade	Super Plus (premium), unleaded	
RON	98	
MON	88	
Fuel tank capacity	19 l	
Tyre pressures	Front	Rear
One-up	2.50 bar	2.90 bar
One-up with luggage	2.50 bar	2.90 bar
Two-up (with luggage)	2.50 bar	2.90 bar

BMW Motorrad

Order No.:
01 41 7 680 931
12.2004
1st edition GB / RF

The Ultimate
Driving Machine

How does ABS work?
The maximum braking force it is possible to transfer to the carriageway depends, among other things, on the road surface's coefficient of friction. Gravel, ice and snow, and water on the road, have significantly poorer coefficients of friction than a dry, clean asphalt road surface. The poorer the road's coefficient of friction, the longer the braking distance.
If the maximum braking force it is possible to apply to the road is exceeded when the rider increases brake pressure, the wheels will begin to lock and directional stability is lost; a fall threatens. Before this situation can arise, ABS intervenes and adapts the braking pressure to the maximum braking force it is possible to transfer so that the wheels continue to turn and driving stability is maintained whatever the prevailing road conditions.

What happens with bumps in the road?
Corrugated road surfaces or bumps in the road can cause the tyres to temporarily lose contact with the road surface and hence the braking force it is possible to apply to drop to zero. If the brakes are applied in this situation, the ABS must reduce the braking pressure to ensure driving stability when contact with the road surface is restored. At this moment, BMW Motorrad Integral ABS must assume extremely low coefficients of friction (gravel, ice, snow) so that the wheels turn in any conceivable situation and thus the stability of the motorcycle is ensured. Once the actual circumstances are detected, the system will set the brake pressure to the optimum value.

What do we observe during rider safety training?
Braking in which ABS has to intervene has, by comparison with normal braking, a significantly higher demand for electricity which puts a heavy load on the battery. The battery is constantly being charged in normal riding so that it always has sufficient capacity available.

If the motorcycle is not to be ridden for several weeks, a trickle charger, which can be obtained from your BMW Motorrad dealer, should be connected or the battery disconnected and then recharged before starting riding again.

During rider safety training, an unusual number of ABS-controlled braking operations take place in rapid succession interspersed with periods of waiting and assessment in which the motorcycle is not being ridden. The battery is put under heavy load by the ABS control actions, but at the same time it is not being recharged as practically no riding is being done.

In isolated cases, in this artificially created situation, braking operations in which the brake lever is operated with maximum force and extreme speed, in combination with declining on-board supply voltage, can bring the ABS up to its technical limits in which its control function is no longer fulfilled.

Field observations carried out by BMW Motorrad indicate that a comparable situation has not arisen in traffic or even during training rides.

The following notes must be observed during safety training:

- check the warning and indicator lamps before any braking exercise
- ride the motorcycle over sufficient distance to charge the battery after a maximum of five braking exercises
- switch off consumers such as seat and grip heating, radio, navigation system and accessories connected to the power sockets
- in pauses and discussions, switch off the ignition; if the engine is switched off with the emergency off switch, the lights and all electronic systems remain switched on and drain the battery

How can I achieve the shortest braking distance?

Dynamic load distribution between the front and rear wheels changes under braking. The heavier the brakes are applied, the more load is transferred to the front brake. The greater the load on the wheel, the more braking force can be transferred.

To achieve the shortest braking distance, it is necessary to apply the front brake gradually and with increasing force. This makes best use of the dynamic increase in load on the front wheel. At the same time, the clutch should be disengaged.
In emergency braking as it is often taught, in which the brake pressure is generated as quickly as possible and with all possible force, the dynamic load distribution cannot follow the increasing deceleration and the braking force cannot be completely transferred to the road. The ABS has to intervene to ensure that the front wheel does not lock up; this reduces the brake pressure and the braking distance is extended.

What happens if ABS control fails?
A fault in BMW Motorrad Integral ABS is indicated by a corresponding warning display in the instrument cluster. If only ABS control fails, the Integral system and the brake servo action remain operational. If these systems also fail, the residual brake function is applied. In this case, the forces to be applied to the brake levers will be significantly higher and the lever travel required will be longer. The residual brake function is a mechanical function and is always available in the event of the failure of the BMW Motorrad Integral ABS, whatever the battery condition. It meets all requirements of legislation around the world on the design of brakes for motor vehicles and allows the rider to brake the motorcycle. The following notes must be observed for riding with the residual braking function:

- set the brake lever to maximum travel
- always brake with both front and rear brakes
- where it is safe to do so, try out the brakes so that you can learn the brakes' response characteristics
- be aware of the prevailing road conditions and adapt your braking force accordingly
- since this is an emergency-run function, you should visit a specialist workshop, or better still a BMW Motorrad dealer, as quickly as possible

What is the role of regular maintenance?

Any technical system is only ever as good as its maintenance.

The service intervals specified must be kept to without fail to ensure that the BMW Motorrad Integral ABS is in an optimum maintenance condition.◀

What is the design specification for BMW Motorrad Integral ABS?

BMW Motorrad Integral ABS ensures stability of the motorcycle on any surface within the bounds of physics.

The system is not designed for special requirements such as those that arise under extreme conditions of competition off-road or on the racetrack.

BMW Motorrad

Order No:
01 41 7 699 271
07.2005
1st edition GB/RF

The Ultimate Riding Machine