Rider's Manual

K 1200 S

BMW Motorrad

Motorcycle data/dealership details

Motorcycle data

Model

Vehicle identification number

Colour code

Date of first registration

Registration number

Dealership details

Person to contact in Service department

Ms/Mr

Phone number

Dealership address/phone number (company stamp)

Welcome to BMW

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

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

BMW Motorrad.

Table of Contents

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

General instructions

Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and servicing work on the motorcycle is documented in Chapter 10. This record of the maintenance work you have had performed on your motorcycle is a precondition for generous treatment of 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 the motorcycle.

Abbreviations and symbols

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

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

◄ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

Reference to a page with more detailed information.

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

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

EWS Electronic immobiliser (Elektronische Wegfahrsicherung).

ESA Electronic Suspension Adjustment
Electronic Suspension Adjustment.

DWA Anti-theft alarm (Diebstahlwarnanlage)

ABS Anti-lock brake system

Equipment

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

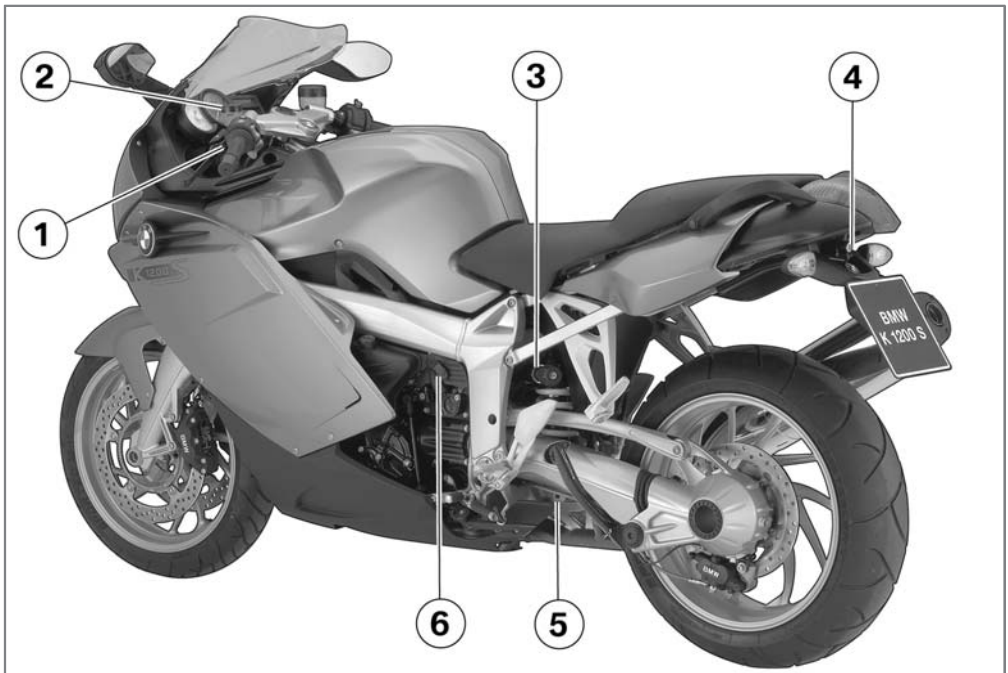
Technical data

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

General views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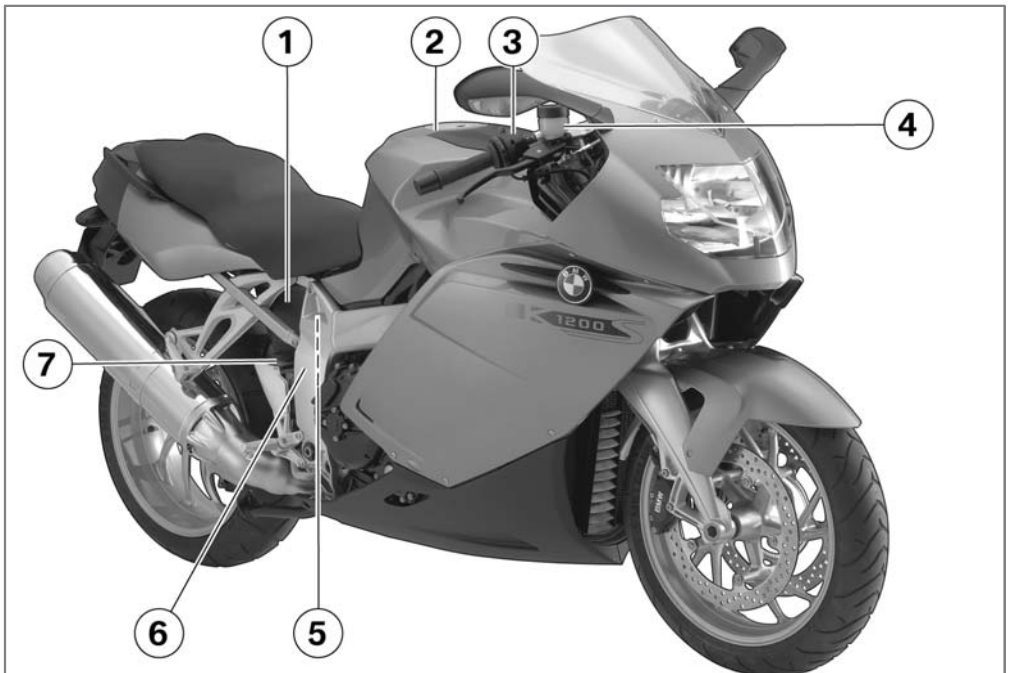
General view, left side

1 Adjuster for headlight beam throw (➡ 49)
2 Clutch-fluid reservoir (➡ 100)
3 Adjuster, spring preload, rear (➡ 54)
4 Seat lock beneath rear light (➡ 50)
5 Rear shock absorber adjuster (➡ 54)
6 Power socket (➡ 82)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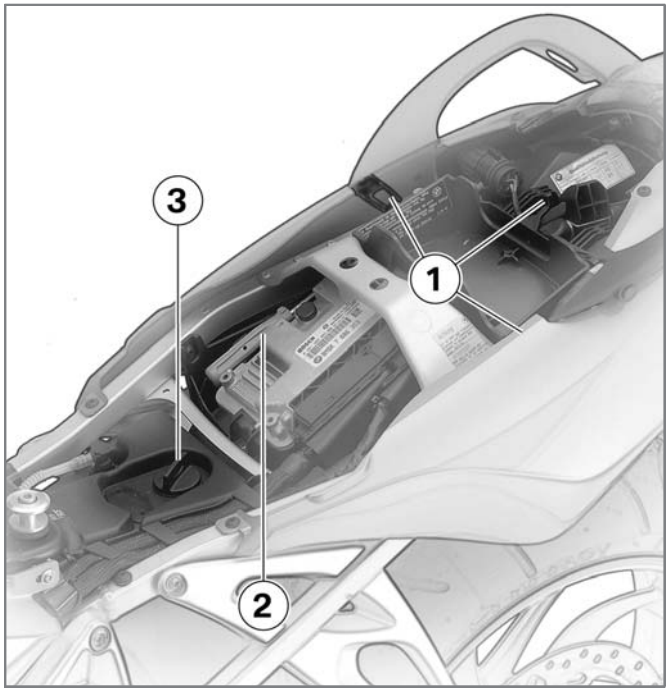
K 1200 S

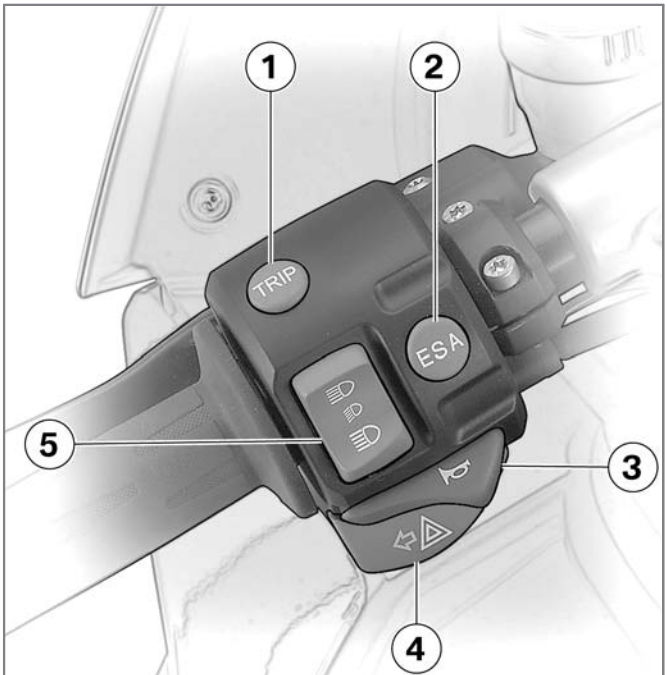
General view, right side

1 Indicator for engine oil level (➡ 93)
2 Filler neck, fuel tank (➡ 76)
3 Battery compartment (➡ 121)
4 Brake-fluid reservoir, front (➡ 97)
5 Type plate on rear cross pipe
6 Vehicle identification number on front right side panel
7 Brake-fluid reservoir, rear (➡ 98)

Underneath the seat

1 Helmet holder underneath seat (➡ 52)
2 Toolkit (➡ 92)
3 Filler neck, engine oil (➡ 94)



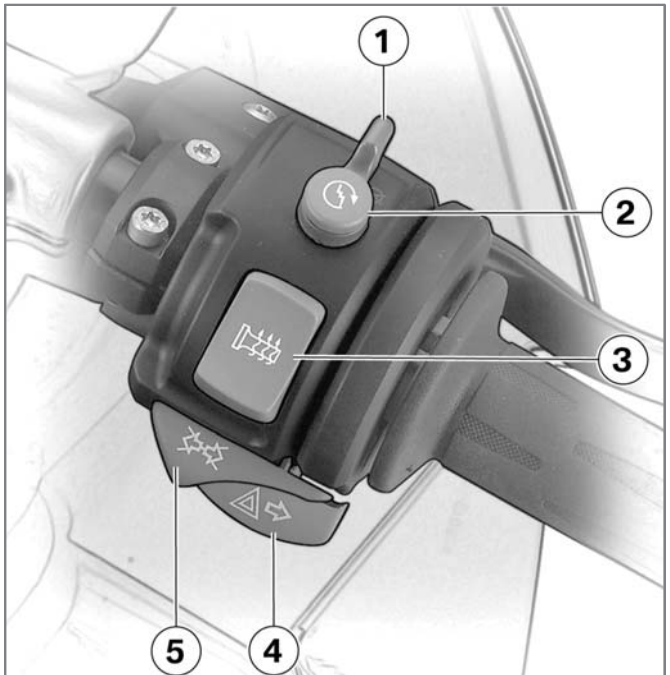


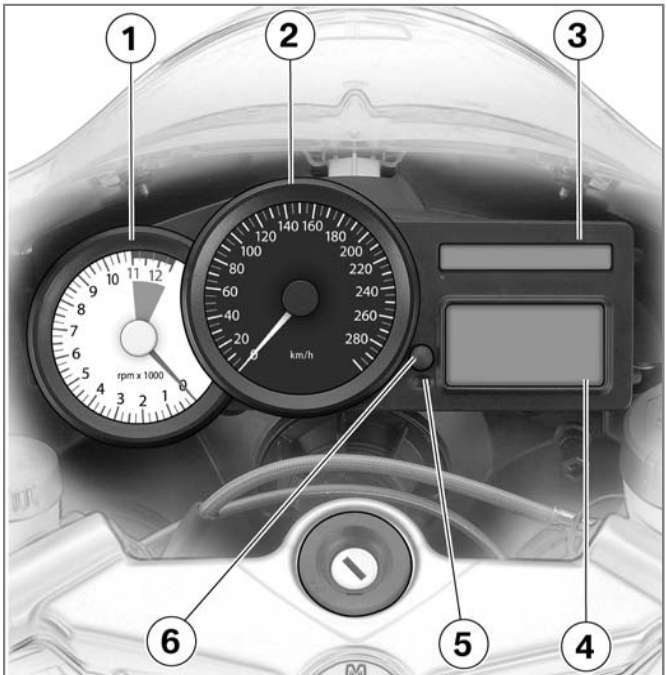
Handlebar fitting, left

1 Pushbutton, Tripmaster / on-board computer (OE) (➡ 39) (➡ 41)
2 Pushbutton, ESA (➡ 56)
3 Pushbutton, horn
4 Pushbutton, left flashing turn indicators and hazard warning flashers (➡ 49) (➡ 38)
5 Switch, high-beam headlight and headlight flasher (➡ 47)

Handlebar fitting, right

1 Emergency off switch (kill switch) (➡ 45)
2 Pushbutton, starter (➡ 62)
3 Grip heating switch (➡ 45)
4 Pushbutton, right flashing turn indicators and hazard warning flashers (➡ 49) (➡ 38)
5 Pushbutton, cancel flashing turn indicators and hazard warning flashers (➡ 50) (➡ 39)





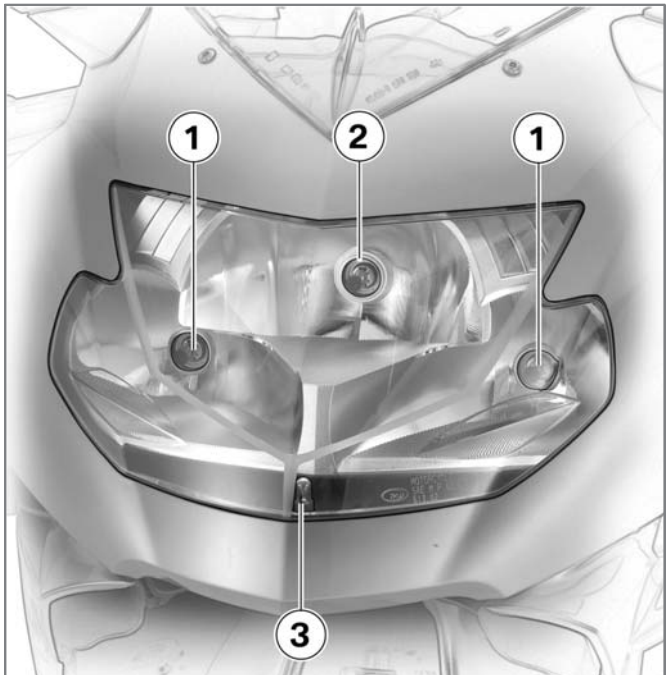
Instrument cluster

1 Speedometer
2 Rev. counter
3 Warning and telltale lights (➠ 20)
4 Multifunction display (➠ 20)
5 Telltale light, anti-theft alarm (OE) and sensor for instrument lighting
6 Adjuster, clock (➠ 44)

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

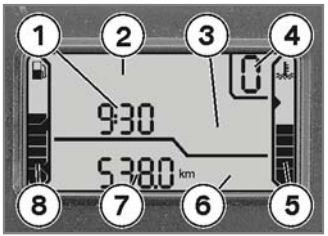
Headlight

1 High-beam headlights
2 Low-beam headlight
3 Parking light



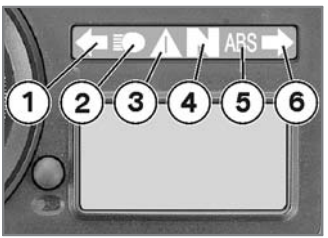
Status indicators

Multifunction display



1 Clock
2 Panel for warnings (➡ 21)
3 Panel for the on-board computer's status indicators
4 Gear indicator (➡ 20)
5 Engine temperature readout (➡ 21)
6 Panel for ESA status indicators (➡ 56)
7 Tripmaster display (➡ 39)
8 Fuel gauge (➡ 20)

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
6 Telltale light, right turn indicator

ABS warning light

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

Alternative for the ABS warning light.

Function indicators

Fuel capacity

The horizontal bars below the fuel-pump symbol indicate the remaining quantity of fuel.

Gear

0 Shows which gear is engaged.

If no gear is engaged, the gear indicator displays 0; the 'neutral' telltale light also lights up.

Coolant temperature


The horizontal bars below the temperature symbol indicate the coolant temperature.

Warnings, general

Mode of presentation

General warnings are displayed by means of plain-text messages and symbols in the multifunction display. In some cases, they are accompanied by the 'General' warning light showing red or yellow. Two or more warnings can be issued at the same time.

Warnings, overview

Mode of presentation			Meaning
Lights up yellow		`EWS!` warning appears on the display	Electronic immobiliser active (➡ 24)
Lights up yellow		`FUEL!` warning appears on the display	Fuel down to reserve (➡ 24)
Lights up red			Coolant temperature too high (➡ 24)
Lights up yellow		Appears on the display	Engine electronics (➡ 25)
Lights up red		Appears on the display	Insufficient engine oil pressure (➡ 25)
Lights up red		Appears on the display	Insufficient battery charge current (➡ 26)
Lights up yellow		`LAMPR!` warning appears on the display	Rear light bulb defective (➡ 26)
`LAMPF!` warning appears on the display			Front light bulb defective (➡ 26)

Mode of presentation		Meaning
Lights up yellow	LAMPS! warning appears on the display	Bulbs defective (➠ 27)
 Appears on the display		Ice warning (➠ 27)
 Appears on the display, accompanied by the letters DWA		Anti-theft alarm battery weak (➠ 27)
 Lights up yellow	 Appears on the display, accompanied by the letters DWA	Anti-theft alarm battery flat (➠ 28)

Electronic immobiliser active


General warning light lights up yellow.

EWS! warning appears on the display.
The key being used is not authorised for starting, or communication between key and engine electronics is disrupted.

- Remove all other vehicle keys from the same ring as the ignition key.
- Use the reserve key.
- Have the defective key replaced, preferably by an authorised BMW Motorrad dealer.

Fuel down to reserve

General warning light lights up yellow.

FUEL! warning appears on the display.


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


The Tripmaster calculates the residual operating range and shows this estimated figure on the display.◀

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

– Reserve fuel
  4 l
- Refuelling (➠ 76)

Coolant temperature too high

General warning light lights up red.

Coolant temperature indicator flashes 10 times.

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

The coolant temperature is too high.

- You can continue to ride, but 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.
- If the coolant temperature is frequently too high, have the fault rectified as soon

as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Engine electronics

 General warning light lights up yellow.

 Engine electronics symbol appears on the display.

 The engine is running in emergency operating mode. Engine power might be reduced and this can cause hazardous situations, particularly if you attempt to overtake other road users. Engine power level might be lower than normal: adapt your style of riding accordingly.◀

The engine electronics control unit has diagnosed a fault. 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 might not be available.
- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Insufficient engine oil pressure

 General warning light lights up red.

 Engine oil pressure symbol appears on the display.

The oil pressure in the lube-oil system is too low.

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

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

- Checking the engine oil level (➠ 93)
- Topping up the engine oil (➠ 94)

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

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

correct: do not continue to ride.◀

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

Insufficient battery charge current

General warning light lights up red.

Battery charge current symbol appears on the display.

A discharged battery can result in the engine cutting out unexpectedly, causing a hazardous situation. Have faults rectified as soon as possible.◀

If the battery is not charging, continuing to ride can cause it to discharge completely, in which case it will suffer irreparable damage. If possible, do not continue your journey.◀

Battery is not being charged.

- You can continue to ride until the battery is discharged. Bear in mind, however, that the engine could cut out suddenly and that the battery could discharge until completely flat, in which case it might have suffered irreparable damage.
- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Rear light bulb defective

General warning light lights up yellow.

LAMPR! warning appears on the display.

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

Rear light or brake light bulb defective.

- Replacing the brake light and rear light bulbs (➠ 116)

Front light bulb defective

LAMPF! warning appears on the display.

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

Low-beam headlight, high-beam headlight, side-light or turn-indicator bulb defective.

- Replacing low-beam headlight bulb (➠ 112)
- Replacing high-beam headlight bulb (➠ 114)
- Replacing parking-light bulb (➠ 115)
- Replacing front turn indicator bulb (➠ 117)
- Replacing rear turn indicator bulb (➠ 117)

Bulbs defective

General warning light lights up yellow.

LAMPS! warning appears on the display.

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

A combination of the bulb defects described above has occurred.

- See the fault descriptions above.

Ice warning

Ice warning symbol appears on the display.

The air temperature measured at the motorcycle is lower than 3 °C.

The ice warning does not mean that there is no risk of black ice forming at measured temperatures above 3 °C.
Always take extra care and think well ahead when temperatures are low; remember that the danger of black ice is particularly high on bridges and where the road is in the shade.◀

- Ride carefully and think well ahead.

Anti-theft alarm battery weak

Battery symbol appears on the display, accompanied by the letters DWA.

The integral battery in the anti-theft alarm has lost a significant proportion of its original capacity. There is no assurance of how long the anti-theft alarm can remain operational if the motorcycle's battery is disconnected.

- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.

Anti-theft alarm battery flat

General warning light lights up yellow.


Battery symbol appears on the display, accompanied by the letters DWA.

The integral battery in the anti-theft alarm has lost its entire original capacity. There is no assurance that the anti-theft alarm will be operational if the motorcycle's battery is disconnected.

- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.

ABS warning indicators

Mode of presentation

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 at a rate of one or four flashes per second.

There are two country-dependent versions of the ABS warning light:

Country-dependent version 1.


Country-dependent version 2.

Country-dependent version 1 is used as the basis for the description of the warnings in this section.

Warnings, overview

Mode of presentation		Meaning
Lights up red		Brake switch defective (➡ 30)
 Flashes once per second		Pull-away test not completed (➡ 30)
 Flashes four times per second		Self-diagnosis not completed (➡ 30)
 Lights up red	 Lights up	ABS warning indicators defective (➡ 31)
 Lights up red	 Flashes once per second	ABS function not available (➡ 31)
 Lights up red	 Flashes four times per second	Residual braking function active (➡ 32)
 Flashes red once per second	 Flashes once per second	Brake fluid level in wheel brake circuit too low (➡ 32)
 Flashes red four times per second	 Flashes four times per second	ABS fault (➡ 33)

Brake switch defective


General warning light lights up red.

There is a defect in the brake system and it could result in delayed braking response and, consequently, accidents. Brake in good time as delayed braking response can be expected.◀

The brake switch is defective or incorrectly adjusted. The increase in pressure when the lever is pulled or the pedal depressed is the signal indicating to the BMW Integral ABS that the rider wants to apply the brakes. There may be an unusual response from the brakes.

- You can continue to ride. Bear in mind, however, that the brakes might respond in a manner to which you are not accustomed.
- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Pull-away test not completed


ABS warning light flashes once per second.

Without the assistance of the ABS function, the wheels could lock when the brakes are applied hard, and this could result in accidents. Avoid hard braking if possible.◀

The ABS function is not available because the pull-away test has not completed.

- You can continue to ride. However, the ABS function is not available until the pull-away test has completed.
- If possible, do not use emergency braking until the pull-away test has completed.

Self-diagnosis not completed

ABS warning light flashes four times per second.

Without the assistance of the ABS function, the wheels could lock when the brakes are applied hard. You have to apply considerably more force to the brake levers to brake without servo-assisted brakes. The changed braking response can cause accidents.
Avoid hard braking if possible. Apply brakes in good time as increased effort is required.◀

Only residual braking function available in both brake circuits, because self-diagnosis did not complete.

- You can continue to ride. However, the ABS function and brake servo assistance are not available until the pull-away test has completed.
- As soon as possible, leave the brake lever and the brake pedal released, so that self-diagnosis can complete.

ABS warning indicators defective

General warning light lights up red.

ABS warning light ON.


ABS warnings not available. The system is unable to draw your attention to the non-availability of BMW Integral ABS functions. This could result in unexpected braking response and therefore can cause accidents. Think well ahead, brake early and avoid sharp braking if possible, because BMW Integral ABS functions might not be available.◀

The controller of the ABS warnings is defective. ABS faults cannot be displayed.

- You can continue to ride. However, the system is unable to notify you of ABS faults if they occur.
- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ABS function not available

General warning light lights up red.

ABS warning light flashes once per second.


Without the assistance of the ABS function, the wheels could lock when the brakes are applied hard, and this could result in accidents. Avoid hard braking if possible.◀

The ABS function is unavailable in at least one brake circuit.

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

Residual braking function active

 General warning light lights up red.

 ABS warning light flashes four times per second.

 Without the assistance of the ABS function, the wheels could lock when the brakes are applied hard. You have to apply considerably more force to the brake levers to brake without servo-assisted brakes. The changed braking response can cause accidents.
Avoid hard braking if possible. Apply brakes in good time as increased effort is required.◀

Only residual braking function is available in at least one brake circuit.

- You can continue to ride. However, the ABS function and brake servo assistance are not available.
- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Brake fluid level in wheel brake circuit too low

 General warning light flashes red once per second.

 ABS warning light flashes once per second.

 The ABS wheel brake circuit is a closed system whose fluid level cannot be determined at the brake fluid reservoirs.◀

Very badly worn brake pads can also trigger the "Brake fluid too low" warning.

- Checking brake-pad thickness, front brakes (➠ 95)
- Checking brake pad thickness, rear brakes (➠ 96)

 Worn brake pads can lengthen stopping distances by a significant margin and consequently cause accidents.
Apply the brakes in good time.◀

 Worn brake pads can damage the brake discs.
Think well ahead and brake carefully; avoid severe braking.◀

- Have worn brake pads replaced as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

If the brake pads are not badly worn, the brake system

will have to be checked for malfunctions and leaks.

- Switch off the ignition and pull the brake lever, then release it and depress the brake pedal.

» Check the following:

– Brake pressure perceptible at brake lever and at brake pedal.
– Brakes acting on both wheels.
– No visible signs of brake fluid leaking.

 There is a defect in the brake system and it could result in brake fade. Apply the brakes in good time.◀

- If these criteria are satisfied, you can continue riding. Bear in mind, however, that a loss of brake fluid that cannot be detected might be the cause of the warning.
- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

If the function and leak check reveals a fault:

 There is a defect in the brake system and it could result in accidents. Do not continue your journey.◀

- Do not continue your journey.
- Notify a specialist workshop, preferably an authorised BMW Motorrad dealer.

ABS fault

 General warning light flashes red four times per second.

 ABS warning light flashes four times per second.

There are at least two faults in the brake system. Only the residual braking function is available in at least one brake circuit and the fluid level in the brake system is too low.

- See the fault descriptions above.

Operation

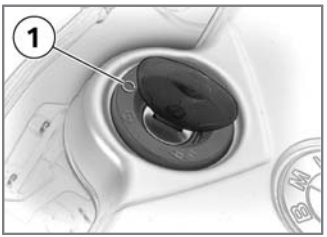
Ignition switch and steering lock

Keys

You receive one master key and one spare key. Please consult the information on the electronic immobiliser (EWS) if a key is lost or mislaid (➡ 37).

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 the cases available as optional accessories fitted with locks that can be opened with this key as well.◀

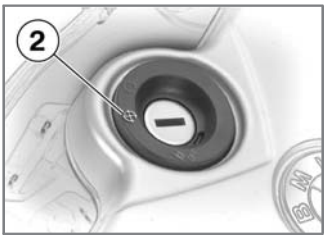
Switching on the ignition



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

» Side lights and all function circuits switched on.
» Engine can be started.
» Pre-ride check is performed. (➡ 63)
» ABS self-diagnosis is performed. (➡ 64)

Switching off the ignition



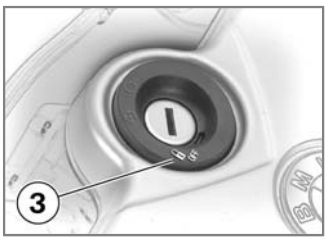
Brake servo assistance is not available when the ignition is off.
Do not switch off the ignition when riding.◀

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

» Lights switched off.
» Handlebars not locked.
» Key can be removed.
» Electrically powered accessories remain operational for a limited period of time.

» The battery can be recharged via the on-board socket.

Locking the handlebars



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

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

- Turn the handlebars to the full left or right lock position.
- Turn the key to position **3**, while moving the handlebars slightly.

» Ignition, lights and all function circuits switched off.
» Handlebars locked.
» Key can be removed.

Electronic immobiliser

Protection against theft

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 be started only with the keys that belong to the vehicle. You can also have your authorised BMW Motorrad 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 electronics

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 aerial 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 "irritate" the electronics, in which case the enabling signal for starting is not issued. The EWS warning appears in the multifunction display.
Always keep the spare key separately from the ignition key.◀

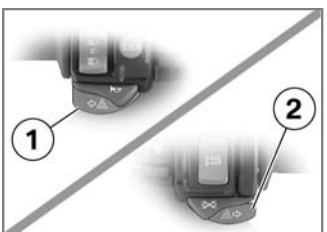
Replacement keys and extra keys

You can obtain replacement/extra keys only through an authorised BMW Motorrad 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 other 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.



• Simultaneously press button **1** for left turn indicators and button **2** for right turn indicators.

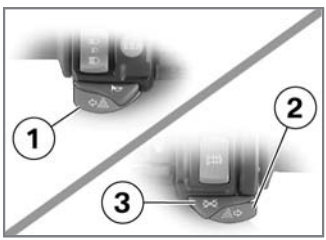
The hazard warning flashers place a strain on the battery. Do not use the hazard warning flashers for longer than absolutely necessary.◀

If you press a turn-indicator button with the ignition switched on, the turn-indicator function is activated instead of the hazard warning flashers, and remains active until you release the button. The hazard warning flashers recommence flashing as soon as the button is released.◀

» Hazard warning flashers in operation.
» Left/right turn indicator telltale lights flash.
• Switch off the ignition.
» The hazard warning flashers continue to operate.

» Left/right turn indicator telltale lights off.

Switching off the hazard warning flashers



- Press cancel button **3**.

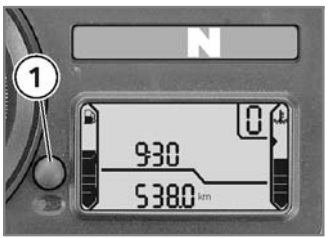
» Hazard warning flashers switched off.

- Alternative: Simultaneously press button **1** for left turn indicators and button **2** for right turn indicators.

» Hazard warning flashers switched off.

Tripmaster

Operating the Tripmaster



You have the option of using pushbutton **1** in the instrument cluster to operate the Tripmaster as described below.

Selecting readings

- Switch on the ignition.

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

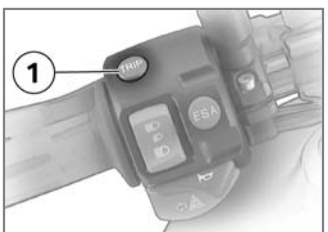
- Briefly press the Tripmaster button **1** once to proceed to each subsequent step in the cycle.

The Tripmaster display field cycles through the following sequence:

– Total distance covered
– Tripmeter 1 (Trip I)
– Tripmeter 2 (Trip II)
– Residual range

Resetting the tripmeter

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



- Press and hold down Tripmaster button **1** until the reading changes.

» The tripmeter is reset to zero.

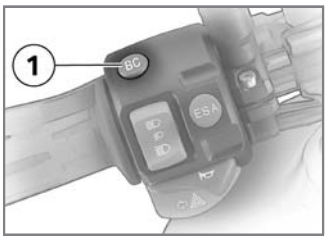
Residual range

Residual range **1** is displayed with the word RANGE only when the fuel level has dropped to reserve. Residual range is calculated on the basis of your style of riding and the amount of fuel left in the tank; the reading indicates the estimated distance you can travel before the fuel supply runs out.
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.
When you refuel, the Tripmaster does not register the increase in fuel level unless several litres are added to the fuel already in the tank.

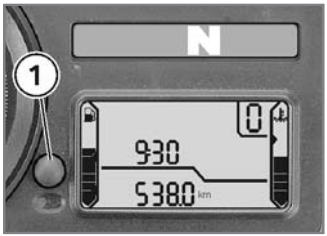
The calculated range is an approximate value. Consequently, BMW Motorrad recommends that you should not try to use the full residual range before refuelling.◄

On-board computer[OE]

Pushbutton, on-board computer



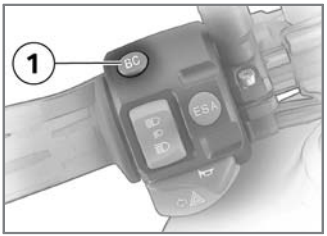
If the motorcycle is equipped with an on-board computer, the on-board computer button **1** takes the place of the Tripmaster button on the handlebar fitting.



In this case, you have to use button **1** in the instrument cluster to operate the Tripmaster. The on-board computer incorporates the function for calculating and displaying the residual range.

Selecting readings

- Switch on the ignition.



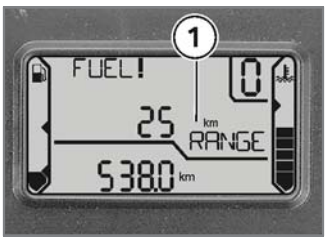
- Press BC button **1** once.

The on-board computer's display field cycles through the following sequence:

– Clock
– Residual range
– Average speed

– Average consumption
– Oil level
– Ambient temperature

Residual range

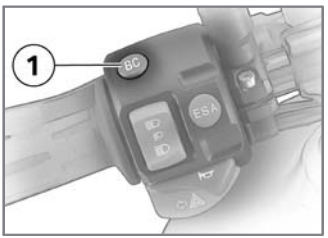


You can also view residual range **1** before the fuel level drops to reserve. The description of how to read the residual range in the section on the Tripmaster (➠ 40) also applies to the on-board computer.

Calculating average speed

Average speed **1** is calculated on basis of the time elapsed since the last RESET. Times during which the engine was stopped are excluded from the calculation.

Resetting average speed



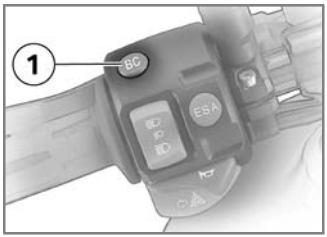
- Repeatedly press BC button **1** until the average speed appears in the display.
- Hold the BC button down for at least 2 seconds (RESET).

» The display shows "---.-- km"

Calculating average consumption

Average consumption **1** is calculated by dividing the distance covered since the last RESET by the corresponding amount of fuel used.

Resetting average consumption



- Repeatedly press BC button **1** until the average fuel consumption appears in the display.
- Hold the BC button down for at least 2 seconds (RESET).

» The display shows "--.- l/100 km".

Ambient temperature

The current ambient temperature **1** appears on the display.

An ice warning appears if the ambient-temperature reading drops below 3 °C. The display automatically switches from any other mode to the temperature reading when the temperature drops below this threshold for the first time. The reading flashes until you select some other display mode.

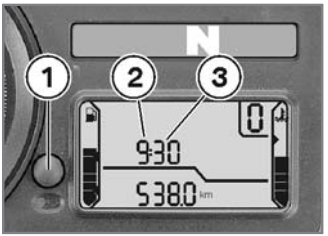
Clock

Setting the clock

You have the option of using Tripmaster button **1** to set the clock as described below.

Setting the clock

- Switch on the ignition.



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

- Press and hold down button **1** until the reading changes.

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

- Press button **1**.

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

- Press and hold down button **1** until the reading changes.

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

- Press button **1**.

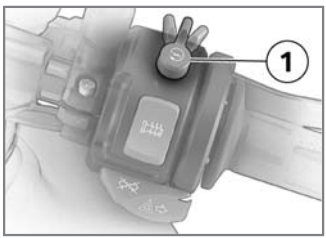
» The minute increments by one each time you press the button.

- Press and hold down button **1** until the reading changes.

» The reading stops flashing.

» The time is now set.

Emergency off switch (kill switch)



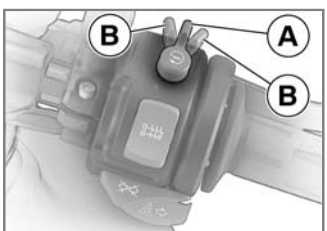
1 Emergency off switch (kill switch).

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

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

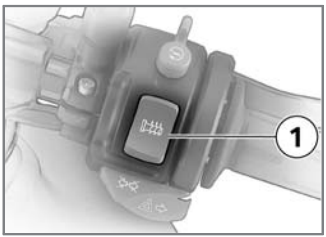
You cannot start the engine unless the kill switch is in the run position.◄

If you move the kill switch away from the RUN position while the ignition is switched on, the BMW Integral ABS remains operational.◄



A Normal operating position (run)
B Engine switched off.

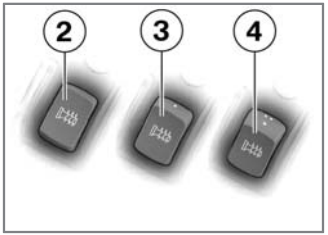
Grip heating[OE]



1 Grip heating switch

The handlebar grips have two-stage heating. Grip heating can be activated only 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.◄



2 Heating off.
3 50 % heat output (one dot visible)
4 100 % heat output (three dots visible)

Clutch

Adjusting the clutch lever

If the position of the clutch fluid reservoir is changed, air can enter the clutch system.
Do not twist the handlebar fitting or the handlebars.◄

Attempting to adjust the clutch lever while riding the motorcycle can lead to accidents.
Do not attempt to adjust the clutch lever unless the motorcycle is at a standstill.◄

- Turn adjusting screw **1** clockwise.

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

» Span between handlebar grip and clutch lever increases.

- Turn adjusting screw **1** counter-clockwise.

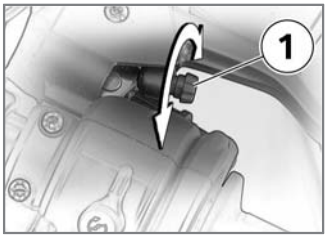
» Span between handlebar grip and clutch lever decreases.

Brakes

Adjusting the handbrake lever

Changing the position of the brake-fluid reservoir can allow air to penetrate the brake system.
Do not twist the handlebar fitting or the handlebars.◄

Attempting to adjust the brake lever while riding the motorcycle can lead to accidents.
Do not attempt to adjust the brake lever unless the motorcycle is at a standstill.◄



- Turn adjusting screw **1** clockwise.

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

» Span between handlebar grip and handbrake lever increases.

- Turn adjusting screw **1** counter-clockwise.

» Span between handlebar grip and handlebar lever decreases.

Lights

Switching on the side lights

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

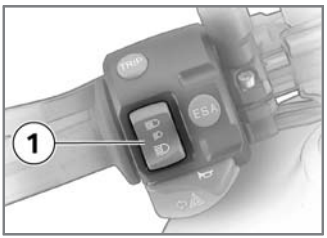
The side lights place a strain on the battery. Do not switch the ignition on for longer than absolutely necessary.◀

Switching on the low-beam headlight

The low-beam headlight switches on automatically when you start the engine.

When the engine is not running you can switch on the lights by switching on the ignition and either switching on the high-beam headlight or operating the headlight flasher.◀

Switching on the high-beam headlight



- 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.

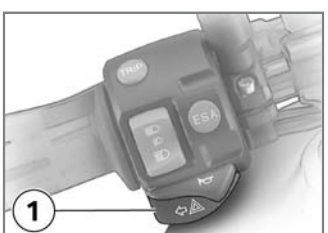
- Press the bottom part of switch **1** for the high-beam headlight.

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

Switching on the parking lights

• Switch off the ignition.

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



• Press and hold down switch **1** for the left turn indicators until the parking lights are ON.

Switching off the parking lights

• Switch on the ignition.
» Parking lights switched off.

Headlight

Adjusting headlight for driving on left/driving on right

If the motorcycle is ridden in a country where the opposite rule of the road applies, its asymmetric low-beam headlight will tend to dazzle oncoming traffic.
Have the headlight set accordingly by a specialist workshop, preferably an authorised BMW Motorrad dealer.

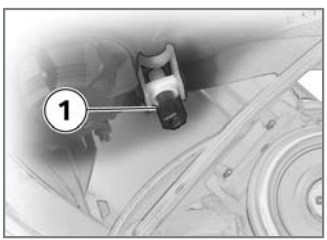
Commercially available adhesive tape will damage the plastic cover over the light.
Use only the special, black adhesive film for bodywork applications available from trade outlets.◄

Headlight beam throw and spring preload

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

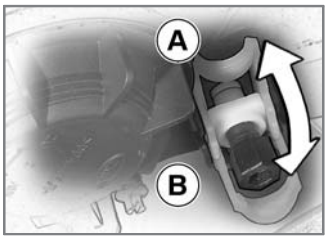
Consult a specialist workshop, preferably an authorised BMW Motorrad dealer, if you are unsure whether the headlight basic setting is correct.◀

Headlight beam-throw adjustment



1 Headlight beam-throw adjustment

Spring preload adjustment might not suffice if the motorcycle is very heavily loaded. Moving the pivot lever adjusts headlight beam throw so as not to dazzle oncoming traffic.

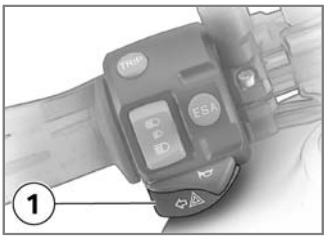


A Neutral position
B Position for heavy load

Turn indicators

Switching on the left flashing turn indicators

- Switch on the ignition.



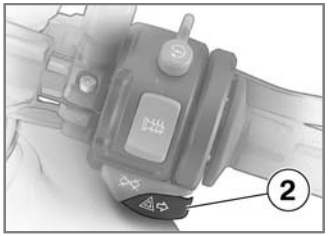
- Press left-hand turn indicator button **1**.

The turn indicators are cancelled automatically after you have ridden for approximately 10 seconds, or covered a distance of about 200 m.◀

» Left-hand turn indicators switched on.
» Telltale light for left-hand turn indicators flashes.

Switching on the right flashing turn indicators

- Switch on the ignition.

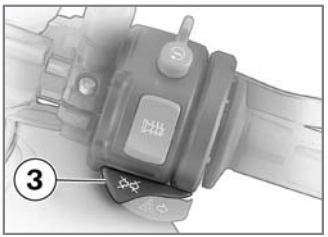


- Press right-hand turn indicator button **2**.

▷ The turn indicators are cancelled automatically after you have ridden for approximately 10 seconds, or covered a distance of about 200 m.◀

» Right-hand turn indicators switched on.
» Telltale light for right-hand turn indicator flashes.

Cancelling the turn indicators



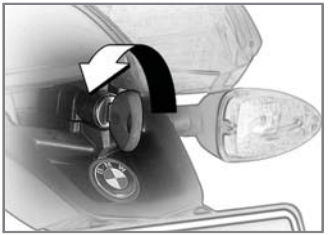
- Press cancel button **3**.

» Flashing turn indicators switched off.
» Turn indicator telltale light is off.

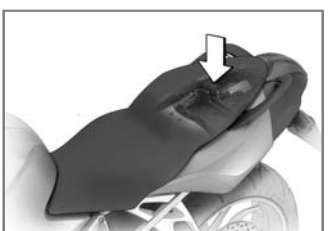
Seat

Removing the seat

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



- Turn the key counterclockwise in the seat lock.



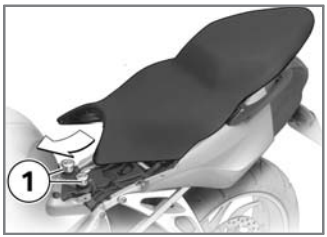
- Press the seat down at the same time.

- Lift the rear of the seat.

⚠ The seat can be damaged at the edges if it is placed on a rough surface. Lay the seat upholstered side down on a smooth, clean surface, such as the fuel tank.◀

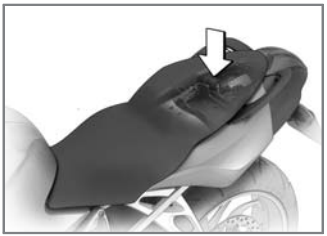
- Release the key and pull the seat back out of its holder.

Installing the seat



⚠ If too much pressure is applied in the forward direction, there is a danger that the motorcycle will be pushed off its stand. Always make sure that the motorcycle is stable and firmly supported.◀

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

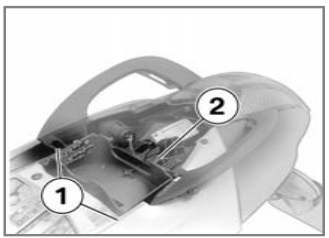


- Push down firmly on the seat, applying pressure to the point above the latch.

» The seat engages with an audible click.

Helmet holder

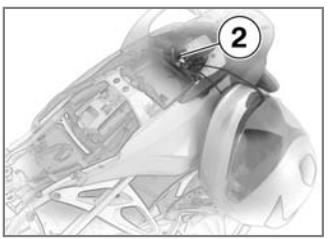
Helmet holder underneath seat



Helmet holders **1** and **2** are located under the seat.
A motorcycle helmet with chin strap can be attached to helmet holders **1**. If cases are fitted or if the chin strap is too short, a steel cable can be used to secure the motorcycle helmet to helmet holder **2**.

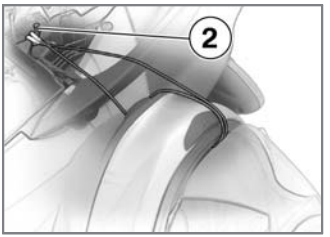
Using helmet holder

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing the seat (➠ 50)



⚠ The helmet catch can scratch the panelling. Make sure the lock is out of the way when you hook the helmet into position.◀

- Use the wire rope available as an optional extra to secure the helmet to helmet holder **2**.



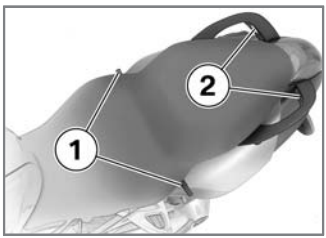
⚠ On the right-hand side of the motorcycle, the helmet could be damaged by heat from the end silencer. Attach the helmet on the left-hand side of the motorcycle only.◀

- Pull the steel cable through the helmet and hook it into bracket **2**.

▷ You can obtain a suitable steel cable from your authorised BMW Motorrad dealer.◀

Luggage loops

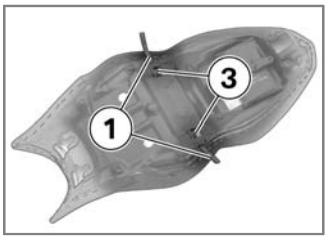
Luggage loops underneath seat



Loops **1** on the underside of the seat are for attaching luggage straps. You can use them and eyelets **2** in the grab handles to strap luggage on the rear seat.

Using luggage loops

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing the seat (➡ 50)
- Turn the seat upside down.

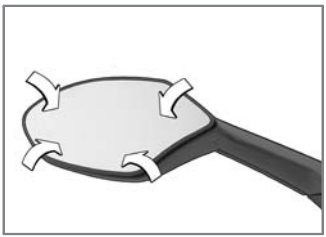


- Pull loops **1** out of holders **3**.

» You can hook luggage straps into the loops.

Mirrors

Adjusting mirrors



- Move the mirror to the desired position by pressing lightly at the appropriate point close to the rim.

Spring preload

Adjusting spring preload

It is essential to set spring preload to suit the load carried by the motorcycle. Increase spring preload when the motorcycle is heavily loaded and reduce spring

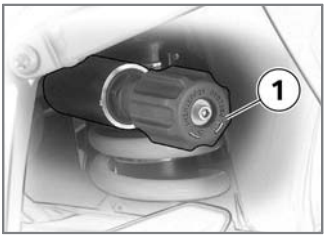
preload accordingly when the motorcycle is lightly loaded.

Adjusting spring preload for rear wheel

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

Adjusting spring preload while the motorcycle is being ridden can lead to accidents.
Do not attempt to adjust spring preload unless the motorcycle is at a standstill.◄

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



- If you want to increase spring preload, turn knob **1** in the direction indicated by the HIGH arrow.
- If you want to reduce spring preload, turn knob **1** in the direction indicated by the LOW arrow.

One click corresponds to a half turn of the knob. The range of adjustment comprises 15 turns.◄

– Rear spring preload, basic setting
One-up, rider weighing 85 kg
Turn the knob as far as it will go in the direction indicated by the LOW arrow and then turn it back 15 clicks in the direction indicated by the HIGH arrow.

Shock absorbers

Adjusting suspension damping

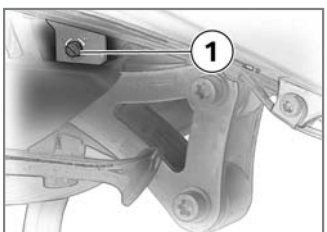
Damping must be adapted to suit spring preload. An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting rear shock absorber

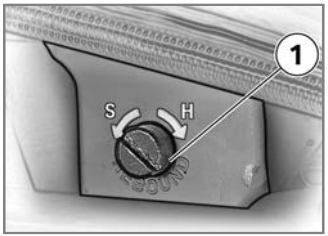
Your motorcycle's handling will suffer if you do not match the spring-preload

and damping-characteristic settings.
Adjust the damping characteristic to suit spring preload.◀

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



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



- If you want a harder damping characteristic, use a screwdriver to turn the adjusting screw **1** in the direction indicated by the H arrow.
- If you want a softer damping characteristic, use a screwdriver to turn the adjusting screw **1** in the direction indicted by the S arrow.

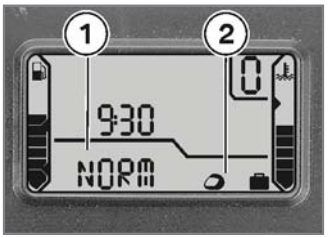
The adjusting screw can be turned through three and a half turns.◀

– Rear suspension, basic setting

One-up, rider weighing 85 kg
Turn the adjusting screw as far as it will go in the direction indicated by the H arrow and then turn it back one and a half turns in the direction indicated by the S arrow.

Electronic Suspension Adjustment ESA[OE]

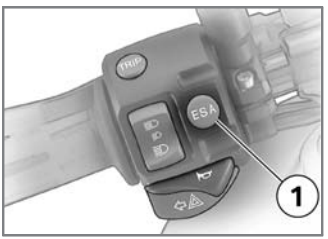
Settings



Electronic Suspension Adjustment ESA provides a convenient way of adapting the motorcycle to different conditions. Three spring preload settings can be combined with three damping characteristics to fine-tune the motorcycle's suspension to the load it carries and the surface over which you want to ride. The damping characteristic is shown in panel **1** of the multifunction display, and spring preload in panel **2**.
The Tripmaster readings are not shown while the ESA readout is active.

Calling up settings

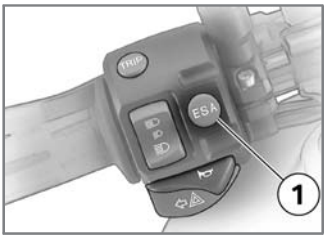
• Switch on the ignition.



• Press button **1**.
» The current setting appears on the display.
» The reading remains visible for a few seconds before disappearing automatically.

Adjusting suspension damping

• Switch on the ignition.



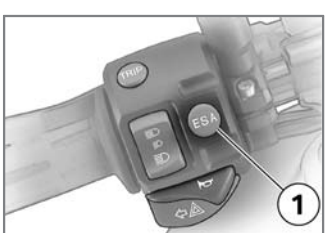
• Press button **1**.
» The current setting appears on the display.
• Press button **1** once briefly.
The display field starts at the current status and cycles through the following sequence:
– COMF Comfortable damping characteristic
– NORM Normal damping characteristic

– SPORT Sporty damping characteristic

» The setting shown on the display is automatically accepted as the damping characteristic if you allow a certain length of time to pass without pressing button **1**. The reading flashes while adjustment is in progress.

Adjusting spring preload

• Start the engine.



• Press button **1**.

» The current setting appears on the display.

• Press button **1** once, without releasing it immediately.

You cannot adjust spring preload while the motorcycle is on the move.◄

The display field starts at the current status and cycles through the following sequence:

One-up

One-up with luggage

Two-up (with luggage)

» The setting shown on the display is automatically accepted as the spring preload if you allow a certain length of time to pass without pressing button **1**. The reading flashes while adjustment is in progress.

Tyres

Checking tyre pressures

Incorrect tyre pressure adversely affects the handling characteristics of the motorcycle and can lead to accidents.
Always check that the tyre pressures are correct.◄

At high road speeds, tyre valves have a tendency to open as a result of centrifugal force.
In order to avoid a sudden loss of tyre pressure, fit a metal valve cap with rubber sealing ring to the rear tyre and make sure that the cap is screwed on firmly.◄

Incorrect tyre pressure reduces the operating life of the tyres.
Always check that the tyre pressures are correct.◀

- Check that tyre pressures are correct as per the data below.

– Front wheel, tyre pressure 2.5 bar (When cold)
– Rear wheel, tyre pressure 2.9 bar (When cold)

If tyre pressure is too low:

- Correct the tyre pressures.

Riding

Safety instructions

Rider's equipment

Do not ride without the correct clothing. Always wear:
– Helmet
– Motorcycling jacket and trousers
– Gloves
– Boots

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

Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:
– Settings of the spring-strut and shock-absorber system
– Imbalanced load
– Loose clothing
– Insufficient tyre pressure
– Poor tyre tread
– Etc.

Correct loading

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

Alcohol and drugs

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

Risk of poisoning

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

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

High voltage

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

Catalytic converter

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

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

Risk of fire

Temperatures at the exhaust are high.

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

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

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

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

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

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.◀

Checklist

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

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

Starting

Side stand

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

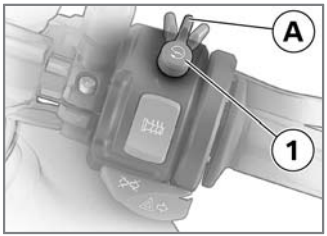
Gearbox

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

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 residual braking function mode. 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. When you start the engine, wait for the ABS to complete its self-diagnosis.◀

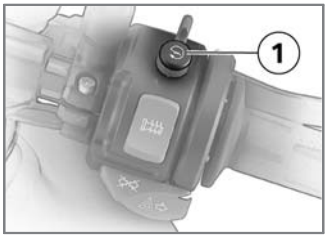
• Switch on the ignition.



- Kill switch **1** in run position **A**.
- Switch on the ignition.

» Pre-ride check is performed. (➡ 63)

» ABS self-diagnosis is performed. (➡ 64)



- Press starter button **1**.

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

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

» The engine starts.

» Consult the troubleshooting chart below if the engine refuses to start. (➡ 132)

Pre-ride check

The instrument cluster runs a test of the 'General' warning light when the ignition is switched on. The warning light shows first yellow and then red, so that you can check that it is in working order. This pre-ride check is indicated by the word CHECK! in the display. The test is aborted if you start the engine before it completes.

Phase 1

General warning light lights up yellow.

– CHECK! indicator appears on the display.

Phase 2


General warning light lights up red.

– CHECK! indicator appears on the display.

If the 'General' warning light is not displayed:


Some malfunctions cannot be indicated if the 'General' warning light cannot be displayed.

Check that the 'General' warning light comes on, and that it lights up yellow and then red.◄

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

ABS warning lights

There are two country-dependent versions of the ABS warning light:


Country-dependent version 1.


Country-dependent version 2.

The description below is based on country-dependent version 1.

ABS self-diagnosis

BMW Integral ABS performs self-diagnosis and a pull-away test to ensure its operability. 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.

Phase 1

Self-diagnosis is in progress.

General warning light lights up red.


ABS warning light flashes four times per second.

Phase 2

Self-diagnosis is complete.


ABS warning light flashes once per second.

If self-diagnosis did not complete:

- Release the brake levers as soon as possible.

If an error message appears when self-diagnosis completes:

- See the section entitled "Status indicators" for information on how to interpret these messages.

The ABS warning light does not go out until the pull-away test completes.◀

Pulling away

Starting on gradients

- Select a gear.
- Release the clutch lever and both brake levers.
- Switch on the ignition.

» Pre-ride check is performed. (➡63)

- Wait for ABS self-diagnosis to complete.
- Apply the brakes and disengage the clutch.
- Start the engine.

ABS pull-away test

When you pull away, the BMW Integral ABS checks the ABS sensors.

ABS warning light flashes once per second.

» The ABS warning light goes out when the pull-away test completes.

If an error message appears when the pull-away test completes:

- See the section entitled "Status indicators" for information on how to interpret these messages.

Running in

The first 1000 km

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

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

Keep to the specified engine speeds for running in.◀

- Do not exceed the rpm limits recommended for running in.

– Running-in speeds 7000 min^{-1}

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

Brake pads

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


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

Tyres

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


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

Parking your motorcycle

Placing motorcycle on side stand

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

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

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

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

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

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

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

Removing motorcycle from side stand

- Unlock the steering lock.

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.◀

- 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.

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

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

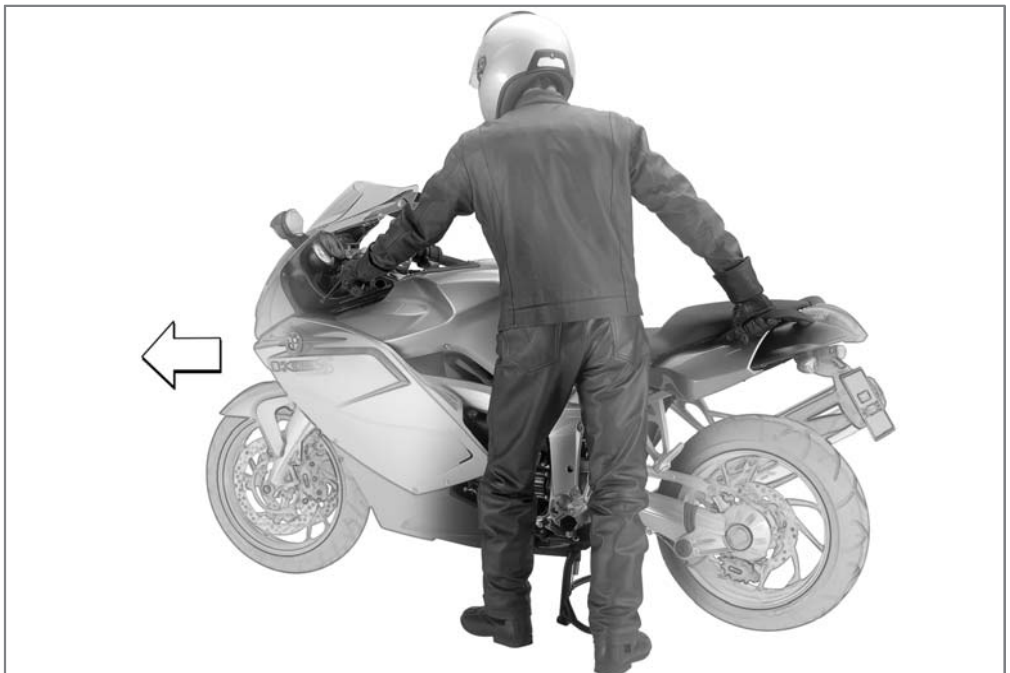
Placing motorcycle on centre stand[OA]

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

- Switch off the engine.
- 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 your full body weight on the centre stand and at the same time pull the motorcycle backwards (arrow).

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.◄

- Check that the motorcycle is standing firmly.



Removing motorcycle from centre stand[OA]

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.◀

- 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.

Refuelling

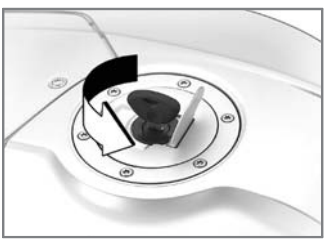
Fuel is highly flammable. A naked flame close to the fuel tank can cause a fire or explosion.
Do not smoke. Never bring a naked flame near the fuel tank.◄

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

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

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

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



- Open the protective cap.
- Open the fuel tank cap with the ignition key by turning it counter-clockwise.
- Refuel with fuel of the grade stated below.

– Recommended fuel grade
  – Super Plus, unleaded
  – 98 ROZ
– Fuel grade, usable with power- and consumption-related restrictions
  – Super unleaded
  – 95 ROZ
– Usable fuel capacity
  19 l
– Reserve fuel
  4 l

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

Salt on brakes

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

Oil or grease on brakes

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

Dirt or mud on brakes

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

Brake system with BMW Integral ABS

Sensitive electronic control

It takes skill and sensitive control of the brakes to pull up safely on a motorcycle. If the front brakes lock 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. BMW Integral ABS provides improved braking deceleration by means of anti-lock braking for both wheels and braking force distribution by means of the integral braking function. Making full use of the motorcycle's technical braking capacity will minimise braking distances noticeably, even when road conditions are poor. When the motorcycle is ravelling in a straight line, BMW Integral ABS enables safe optimised emergency braking adapted to match the road-surface conditions.

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 footbrake lever acts only on the rear brake.
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.

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, BMW Integral ABS achieves higher braking efficiency than standard brake systems.

ABS 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 is switched off, during self-diagnosis, or if the BMW Integral ABS malfunctions, only a residual braking function remains available in the brake circuits in question. The residual braking function is the braking power without the hydraulic servo assistance of the BMW Integral ABS. 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 assistance of the ABS function, the wheels could lock when the brakes are applied hard. You have to apply considerably more force to the brake levers to brake without servo-assisted brakes. The changed braking response can cause accidents.
Avoid hard braking if possible. Apply brakes in good time as increased effort is required. Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad 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 BMW Motorrad re-

commends setting the brake lever to a wider span.◀

▷ 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.◀

Accessories

General instructions

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

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

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

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

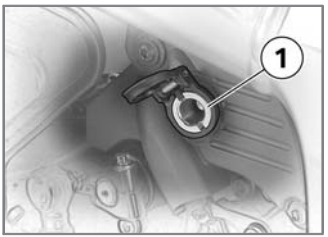
⚠ BMW cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW motorcycles without constituting a safety hazard. Country-specific official authorisation does not suffice as assurance. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances.

Use only parts and accessories approved by BMW for your motorcycle.◀

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

Power socket

Ratings



The supply to socket **1** is cut off automatically if battery voltage is low or the load exceeds 5 A.

Operating electrical accessories

You can start using electrical accessories only when the ignition is switched on. The accessory remains operational if the ignition is subsequently switched off. In order to ensure that the drain on the on-

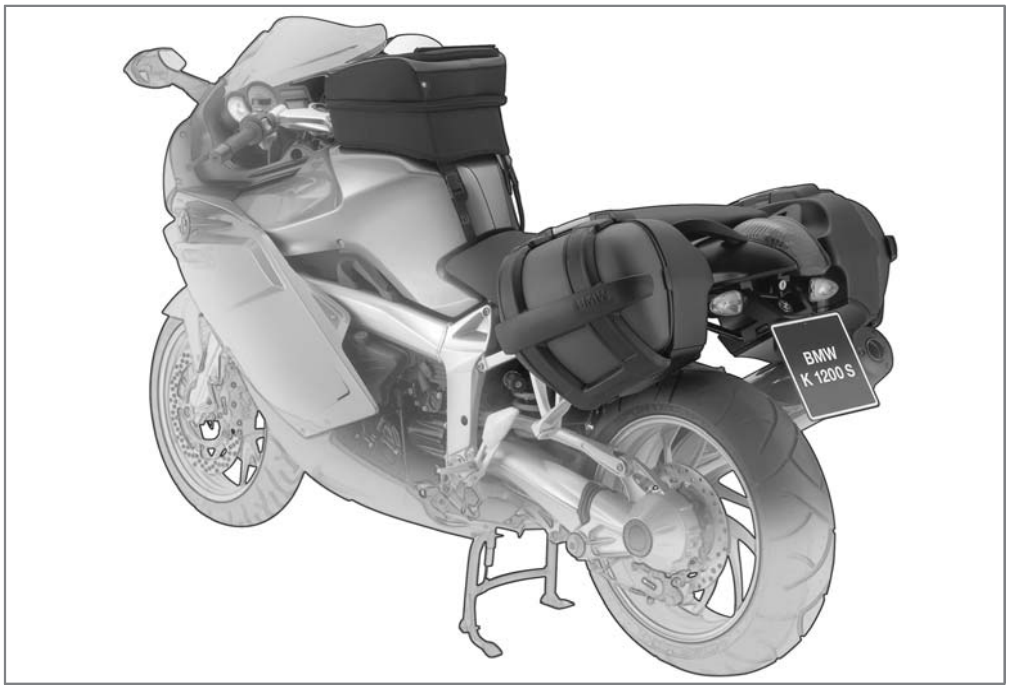
board power supply system is minimised, the supply to the power socket is cut off approximately 15 minutes after the ignition is switched off, and it is also temporarily interrupted during the start procedure.

Cable routing

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

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

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


BMW
K 1200 S

Luggage

Correct loading

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

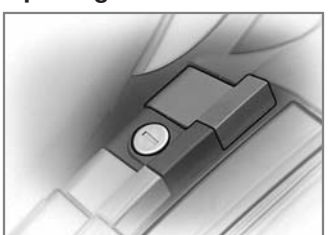
- Set spring preload, damping characteristic and tyre pressures to suit total weight.
- Ensure that the case volumes on the left and right are equal.
- Make sure that the weight is uniformly distributed between right and left.
- Pack heavy items at the bottom and toward the inboard side.
- Max. load in each case (left and right): 8 kg.
- Max. load in tank rucksack 5 kg.

Case[OA]

Release levers

Each case has two levers, one on each side of the lock. The grey lever marked OPEN is for opening and closing the case.
The black lever marked RELEASE is for removing and attaching the case.

Opening cases



- Turn the lock barrel until it is at right angles to the forward direction of travel.

» Case can be opened.

– Case secured.
– Key can be removed.

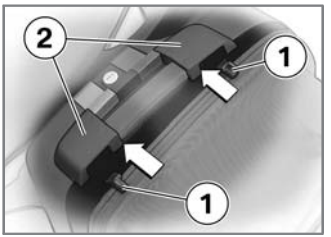
- Pull the grey release lever (OPEN) up.

» Lock straps **1** open.

- Pull the grey release lever (OPEN) up again.
- Pull case lid **2** out of the retainer.

» Case fully opened.

Closing cases



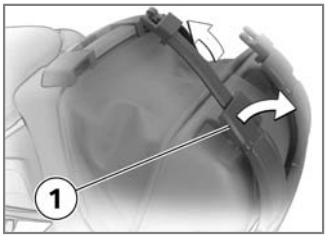
- Press catches **1** of the case lid into retainers **2**.

» The catches engage with an audible click.

- Close the lock straps.

Adjusting case volume

- Close the case lid.



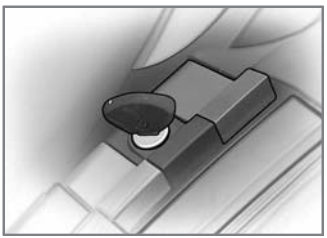
- Turn the lock strap buckles **1** of the lock straps out.
- Pull the lock straps up and out.

» This expands the case to maximum volume.

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

» The case volume adapts to the contents.

Removing the case



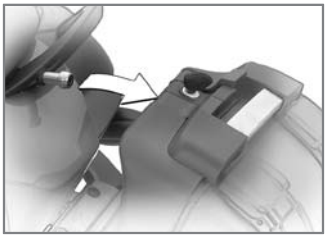
- Turn the case lock until it is at an angle of 45° to the forward direction of travel.

» Key cannot be removed.

– Case locked.

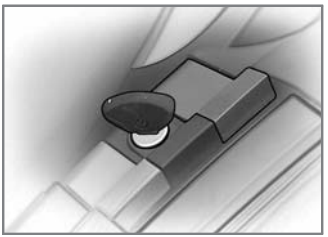
– Cases can be removed.

- Pull the black release lever (RELEASE) up.



- Pull the case out of the top holder.
- Lift the case out of the bottom holder.

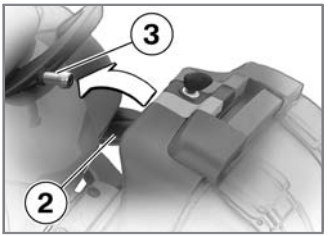
Installing cases



- Turn the case lock until it is at an angle of 45° to the forward direction of travel.

» Key cannot be removed.

– Case locked.



- Hook the case into bottom holder **2**.
- Pull the black release lever (RELEASE) up.
- Press the case into top holder **3**.
- Push the black release lever (RELEASE) down.

» The case is locked into place.

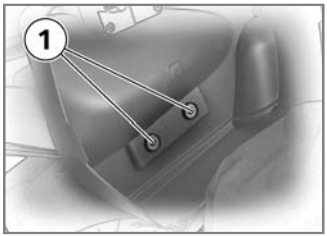
- Lock the case.
- Check that it is correctly engaged.

Secure attachment

If a case wobbles or is difficult to fit, it has to be adapted to the gap between the top and bottom holders. The bottom bracket on the case can be moved up or down for this purpose.

Adapting cases

- Open the case.



- Remove screws **1**.
- Adjust the height of the holder.
- Tighten screws **1**.

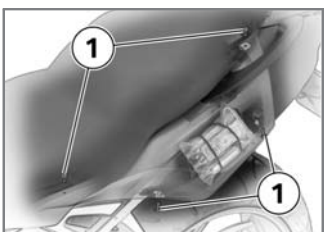
Breakdown assistance kit[OA]

Use

The stowage space for the breakdown assistance kit is under the left side panel. See the description enclosed with the breakdown assistance kit for instructions detailing the procedure and for safety information.

Removing breakdown assistance kit

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing the seat (➡ 50)



- Remove screws **1**.
- Remove the side panel.

▷ Lay the panel on the seat to protect the side panel from scratches.◀

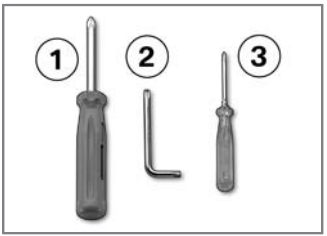
- Open the retaining strap and remove the breakdown assistance kit.

Maintenance

Maintenance - general instructions

The 'Maintenance' chapter describes work involving the replacement of wear parts that can be performed with minimum effort.
If special tightening torques are to be taken into account for assembly, these are also listed.
Threaded fasteners for which a suitable tool is included in the toolkit are marked accordingly.
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 from your authorised BMW Motorrad dealer.

Toolkit



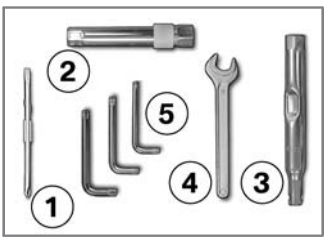
1 Screwdriver with reversible blade
2 Torx wrench, T25
3 Screwdriver, small

▷ The toolkit supplied with the motorcycle is underneath the seat.◀

Contents, supplementary kit[OA]

The supplementary kit is available as an optional accessory. Please consult your authorised BMW Motorrad dealer.

Overview, supplementary kit



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

⚠ 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.◀

⚠ Oil can collect in the sump if the motorcycle is out of use for an extended period of time; this oil has to be pumped into the oil tank before the level is read. The engine oil must be at operating temperature to do this. 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.◀

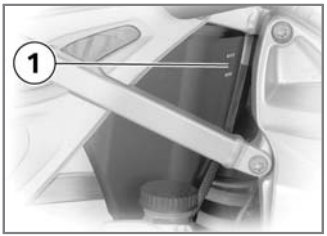
▷ The oil level varies with the temperature of the oil. The higher the temperature the higher the oil level in the oil tank. Check the engine oil level immediately after a lengthy journey.◀

- Make sure the engine is at operating temperature and hold the motorcycle upright.

with OA Centre stand:

- Check that the engine is at operating temperature, make sure the ground is level and firm and place the motorcycle on its centre stand.

- Allow the engine to idle for one minute.
- Switch off the ignition.



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

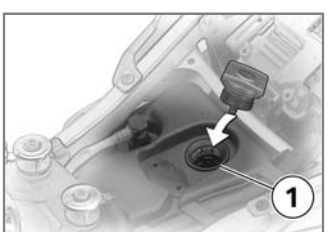
– Engine oil, specified level Between MIN and MAX marks

If the oil level is below the MIN mark:
- Top up the engine oil.

If the oil level is above the MAX mark:
- Drain off the engine oil.

Topping up the engine oil

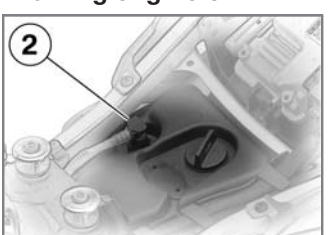
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing the seat (➠ 50)



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

- Wipe the area around the filler neck clean.
- Unscrew the cap of engine oil filler neck **1**.
- Top up the engine oil to the specified level.

Draining engine oil



- Squeeze the retainer of transparent tube **2** together on left and right and pull the tube up and out of the oil tank.
- Pull the transparent tube down out of the frame and drain the engine oil into a suitable container until the level is to specification.
- Insert the transparent tube into the oil tank and engage the retainer.
- Store or dispose of the excess engine oil in an environmentally compatible manner.

Brake system, general

Reliability

A fully functional brake system is a basic requirement for the road safety of your motorcycle.
Do not ride the motorcycle if you have any doubts about the dependability of the brake system.

Under these circumstances have the brake system checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.

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

Checking operation of the brakes

- Switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- Pull the handbrake lever.

» The pressure point must be clearly perceptible.
» The noise of the hydraulic pump running must be audible.

- Press the footbrake lever.

» The pressure point must be clearly perceptible.
» The noise of the hydraulic pump running must be audible.

with OE No BMW Motorrad Integral ABS:

- Pull the handbrake lever.

» The pressure point must be clearly perceptible.

- Press the footbrake lever.

» The pressure point must be clearly perceptible.

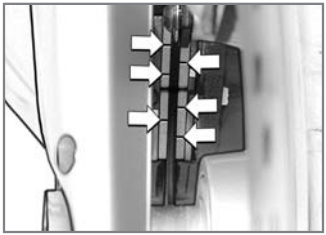
Brake pads

Checking brake-pad thickness, front brakes

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

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

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



– Brake-pad thickness, front
The wear indicators on the brake pads must be clearly visible.

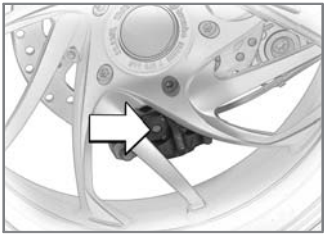
If the wear indicating mark is no longer clearly visible:

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

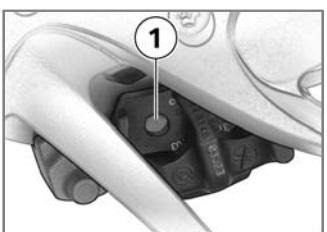
Checking brake pad thickness, rear brakes

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

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



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



– Brake-pad thickness, rear
Make sure that the brake disc is not visible through

the bore **1** in the inboard brake block.

If the brake disc is visible:
- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

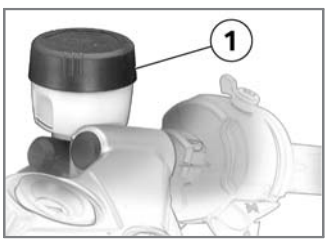
Brake fluid

Checking brake-fluid level, front brakes

⚠ A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency. Apply the brakes in good time.◀

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

with OA Centre stand:
- Make sure the ground is level and firm and place the motorcycle on its centre stand.
- Move the handlebars to the straight-ahead position.



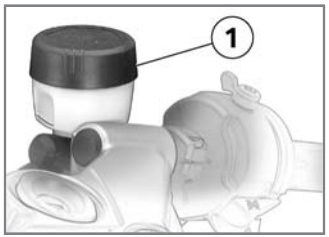
- Check the brake fluid level in reservoir **1**.

▷ The brake fluid level in the reservoir does not drop as the brake pads wear.◀

– Brake fluid level, front
DOT4 brake fluid
Do not permit the brake fluid level to drop.

Any drop in brake fluid level, even if the level remains above the MIN mark, is indicative of a fault in the brake system.
- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

with OE No BMW Motorrad Integral ABS:



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

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

– Brake fluid level, front with OE No BMW Motorrad Integral ABS:
DOT4 brake fluid
Do not permit the brake fluid level to drop below the MIN mark.

If the brake fluid level drops below the permitted level:

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

Checking brake-fluid level, rear brakes

⚠ A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency. Apply the brakes in good time.◀

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

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

▷ The brake fluid level in the reservoir does not drop as the brake pads wear.◀

– Brake fluid level, rear
DOT4 brake fluid
Do not permit the brake fluid level to drop.

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

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

with OE No BMW Motorrad Integral ABS:

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

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

– Brake fluid level, rear
with OE No BMW Motorrad Integral ABS:
DOT4 brake fluid
Do not permit the brake fluid level to drop below the MIN mark.

If the brake fluid level drops below the permitted level:

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

Clutch

Checking clutch operation

- Pull the clutch lever.

» The pressure point must be clearly perceptible.

If the pressure point is not clearly perceptible:

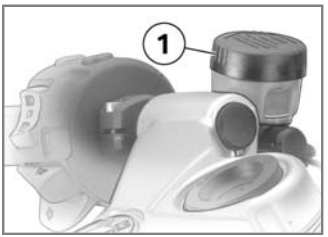
- Have the clutch checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Checking the clutch fluid level

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

with OA Centre stand:

- Make sure the ground is level and firm and place the motorcycle on its centre stand.
- Move the handlebars to the straight-ahead position.



- Check the clutch fluid level in reservoir **1**.

– Clutch fluid level

Do not permit the clutch fluid level to drop.

If the fluid level drops:

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

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

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

Tyres

Checking tyre tread depth

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

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

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

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

Rims

Checking rims

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

Wheels

Approved wheels and tyres

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 Motorrad dealer or on the Internet at www.bmw-motorrad.com.

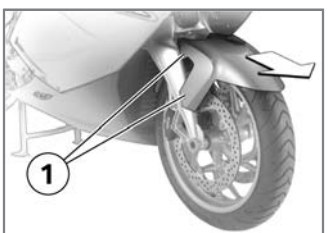
Removing front wheel

- Place the motorcycle on an auxiliary stand; BMW Motor-

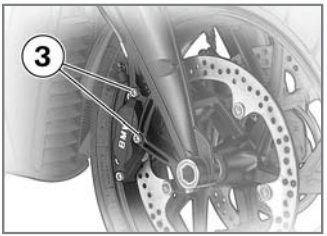
rad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand.

with OA Centre stand:

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

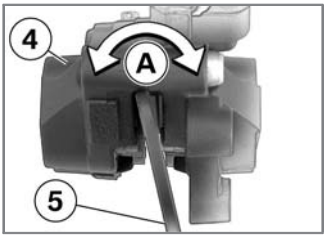


- Remove screws **1** on left and right.
- Pull the front mudguard forward to remove.



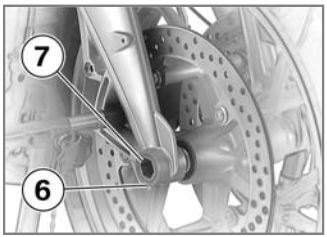
Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disc on reassembly.
Do not operate the handbrake lever when the brake calipers have been removed.◄

- Remove securing screws **3** of the brake calipers on left and right.



- Force the brake pads slightly apart by rocking brake calipers **4** back and forth **A** against brake discs **5**.
- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.
- Carefully pull the brake calipers back and out until clear of the brake discs.
- When removing the left brake caliper, take care not to damage the ABS sensor cable.

- Raise the front of the motorcycle until the front wheel can rotate freely. It is advisable to use the BMW Motorrad front wheel stand to lift the motorcycle.
- Fitting the front wheel stand (➡ 109)



⚠ 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.◀

- Remove right-hand axle clamping screw **6**.
- Remove quick-release axle **7**, holding the wheel as you do so.

▷ BMW Motorrad provides an adapter for removing the quick-release axle. This adapter can be combined with a commercially available w/f 22 open-end or ring spanner. The BMW special tool number is 36 3 691 and the adapter is available from your authorised BMW Motorrad dealer.◀

- Lower the front wheel to the ground between the front forks.
- Roll the front wheel forward to remove.

▷ Do not damage the ABS sensor when rolling the front wheel in or out between the forks.◀

Installing front wheel

⚠ Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.

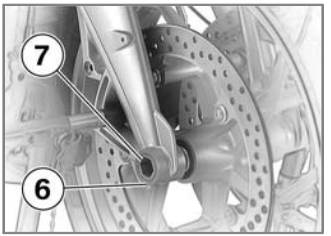
Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

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 or the wheel rim.◀

- Roll the front wheel into position between the front forks.

Do not damage the ABS sensor when rolling the front wheel in or out between the forks.◀



- Raise the front wheel, install quick-release axle **7** and tighten to specified tightening torque.

– Quick-release axle in threaded bush
50 Nm

- Tighten right-hand axle clamping screw **6** to the appropriate tightening torque.

– Clamping screw for quick-release axle in wheel carrier
19 Nm

- Remove the front wheel stand.

- Ease the brake calipers on to the brake discs.

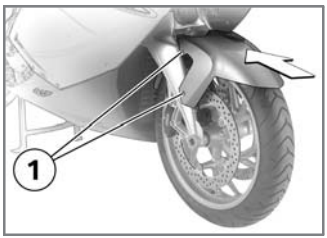
⚠ The cable of the ABS sensor could chafe through if it comes into contact with the brake disc. Make sure that the ABS sensor cable is routed correctly.◀

- Carefully route the ABS cable.

- Install securing screws **3**.

– Front brake caliper, wheel carrier installed (➠ 133)

- Remove the adhesive tape from the wheel rim.



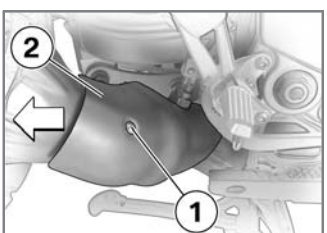
- Install the front mudguard and tighten screws **1**.
- Switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- Firmly pull the handbrake lever until the pressure point is perceptible, and repeat this operation several times.

Removing rear wheel

- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand.

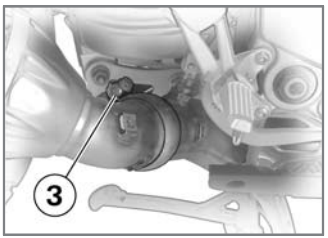
with OA Centre stand:

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

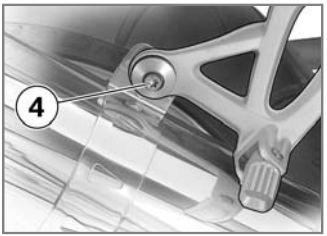


- Remove screw **1** from silencer cover **2**.

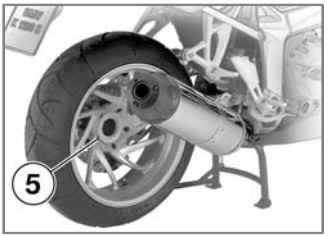
- Pull the cover to the rear to remove.



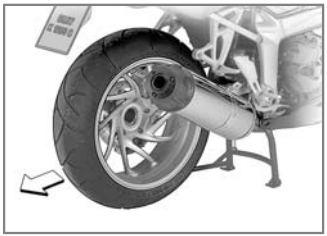
- Remove clamp **3** from the silencer.
- Do not remove the sealing grease from the clamp.



- 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, holding the wheel as you do so.
- If you are using a BMW Motorrad rear wheel stand: remove the retaining disc.

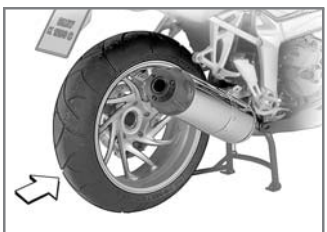


- Lower the rear wheel to the ground.
- Roll the rear wheel out toward the rear.
- If you are using a BMW Motorrad rear wheel stand: reinstall the retaining disc.

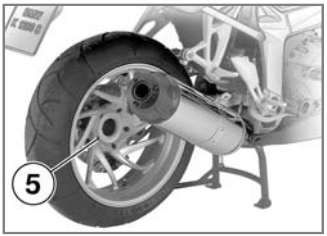
Installing rear wheel

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

- If you are using a BMW Motorrad rear wheel stand: remove the retaining disc.



- Roll the rear wheel into position at the rear-wheel adapter.
- Seat the rear wheel on the rear-wheel adapter.
- If you are using a BMW Motorrad rear wheel stand: reinstall the retaining disc.

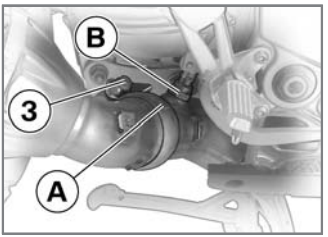


- Install studs **5** and tighten to the specified torque in diagonally opposite sequence.

– Rear wheel to wheel flange 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.



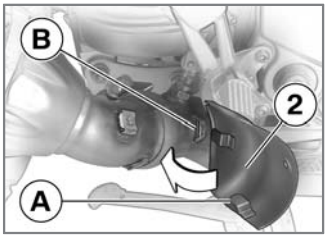
- Align clamp **3** on the end silencer with mark **A** (arrow) on oxygen sensor **B**.
- Tighten clamp **3** on the silencer.

– Silencer to manifold (➡ 133)

If the gap between the rear wheel and the end silencer is too small, the rear wheel can overheat.
The clearance between the rear wheel and the end silencer must be at least 15 mm.◀

- Install screw **4** for the bracket of the end silencer in the rear footrest.

– Silencer to rear footrest, right
28 Nm



- Push silencer heat shield **2** with guides **A** into retainers **B**.
- Remove the auxiliary stand, if installed.

Front-wheel stand

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 36 3 971 and the front wheel stand is available from your authorised BMW Motorrad dealer. You also need the adapters with the BMW special tool number 36 3 973.

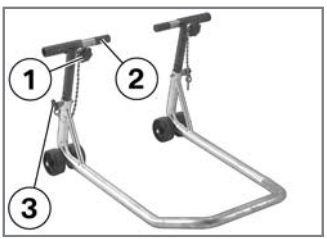
⚠ The BMW Motorrad front wheel stand is not designed to support motorcycles not fitted with a centre stand or without other auxiliary stands. A motorcycle resting only on the front wheel stand and the rear wheel can topple.
Place the motorcycle on its centre stand or another auxiliary stand before lifting the front wheel with the BMW Motorrad front wheel stand.◀

Fitting the front wheel stand

- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand.

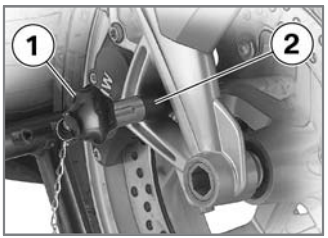
with OA Centre stand:

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



- Slacken adjusting screws **1**.
- Push the two pins **2** apart until the front suspension fits 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 mounting pins **2** through the triangles of the brake caliper anchorages just far enough to allow the front wheel to be rolled between them.

In the case of BMW Integral ABS, the ABS sensor ring can be damaged. Push the pin in just far enough to ensure that it clears the sensor ring of the BMW Integral ABS.◀

- Tighten adjusting screws **1**.

If the motorcycle is on the centre stand and is raised too far, the centre stand will lift clear of the ground and the motorcycle could topple to one side. When raising the motorcycle, make sure that the centre stand remains on the ground.◀

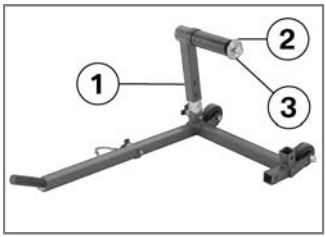
- Apply uniform pressure to push the front wheel stand down and raise the motorcycle.

Rear wheel stand

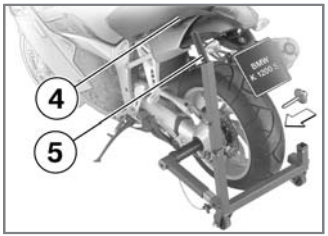
Rear wheel stand

BMW Motorrad offers an auxiliary stand for holding motorcycles (including those without centre stands) securely upright for maintenance work. The BMW special tool number is 36 3 980 and the auxiliary stand is available from your authorised BMW Motorrad dealer.

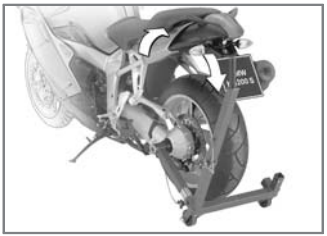
Fitting the rear wheel stand



- Use screws **1** to set the rear-wheel stand to the desired height.
- Remove retaining disc **2**. To do so, press release button **3**.



- Push the rear wheel stand from the left into the rear axle.
- Install the retaining disc from the right; to do so, press the unlock button.
- Place your left hand on the left grab handle of the motorcycle **4**, and your right hand on the lever of the rear wheel stand **5**.



- Lift the motorcycle upright, simultaneously pressing the lever down until the stand supports the motorcycle in the upright position.

- Press the lever down to the ground.

Bulbs

General instructions

The 'bulb defect' symbol appears in the display if a bulb is defective. If the brake or rear light fails, the symbol is accompanied by the general warning light, which 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 users to oversee you and your motorcycle.
Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

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

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

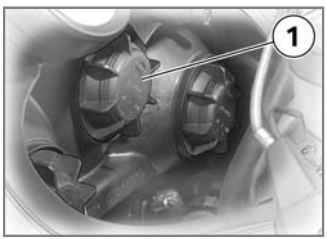
Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when handling them. Dirt deposits, in particular oil and grease, interfere with heat radiation from the bulb. This leads to overheating and shortens the bulb's operating life.◀

Replacing low-beam headlight bulb

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

Turn the handlebars to the left to facilitate access.◀

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



- Turn cover **1** counter-clockwise and remove it.

- Disconnect plug **2**.

- Release spring clip **3** at left and right and swing it up.

- Remove bulb **4**.
- Installation of the bulb is the reverse of the removal procedure.
- Use a clean, dry cloth to hold the new bulb.

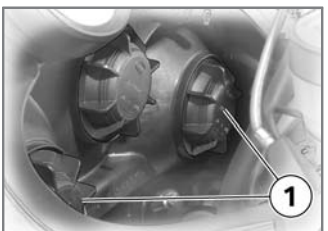
- When installing, make sure that tab **5** is pointing up.

Replacing high-beam headlight bulb

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

Turn the handlebars to the left to facilitate access.◀

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



- Turn cover **1** counterclockwise and remove it.

- Disconnect plug **2**.

- Release spring clip **3** at left and right and swing it up.

- Remove bulb **4**.
- Installation of the bulb is the reverse of the removal procedure.
- Use a clean, dry cloth to hold the new bulb.

- When installing, make sure that tab **5** is pointing up.

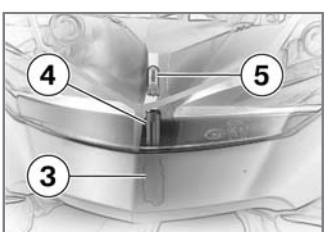
Position in headlight

Side-light bulb **1** is accessible through **2**.

Replacing parking-light bulb

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

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



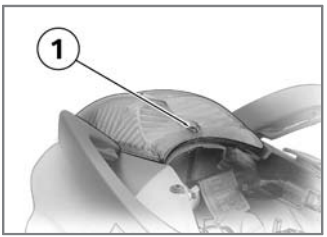
- Pull off the connector **3** beneath the headlight.

- Remove the bulb holder **4** from the headlight housing by turning it counter-clockwise.
- Twist the bulb **5** to remove it from the bulb holder.
- Installation of the bulb is the reverse of the removal procedure.
- Use a clean, dry cloth to hold the new bulb.

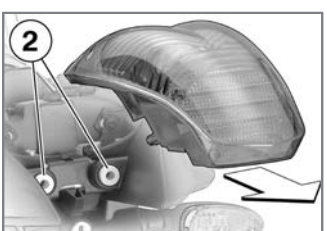
Replacing the brake light and rear light bulbs

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

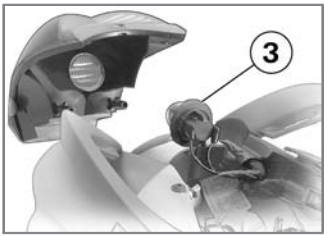
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Removing the seat (➠ 50)
- Switch off the ignition.



- Remove screw **1**.



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

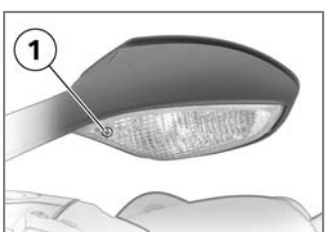


- Turn bulb holder **3** counter-clockwise to remove it from the bulb housing.
- Press the bulb into its socket and turn it counter-clockwise to remove.
- Installation of the brake light and rear light bulbs is the reverse of the removal procedure.
- Use a clean, dry cloth to hold the new bulb.

Replacing front turn indicator bulb

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

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



- Remove screw **1**.

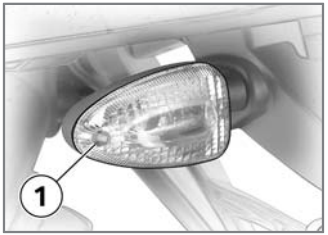
- Pull the bulb housing out of the mirror housing at the threaded-fastener side.

- Remove the bulb holder **2** from the bulb housing by turning it counter-clockwise.
- Remove the bulb **3** from the bulb holder.
- Installation of the bulb is the reverse of the removal procedure.
- Use a clean, dry cloth to hold the new bulb.

Replacing rear turn indicator bulb

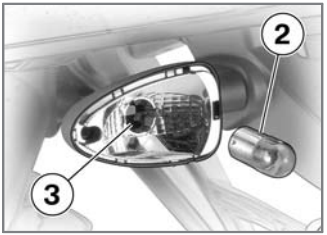
If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Always make sure that the motorcycle is stable and firmly supported.◄

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



• Remove screw **1**.

• Pull the glass out of the turn-indicator housing at the threaded-fastener side.



• Press bulb **2** into fitting **3** and remove by turning it counter-clockwise.
• Installation of the turn indicator bulb 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 of the motorcycle.◄

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

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

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

of the donor vehicle has a voltage rating of 12 V.◀

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

- Make sure the ground is level and firm and place the motorcycle on its stand.
- When jump-starting the engine, do not disconnect the battery from the on-board electrical system.
- Remove the screws.
- Lift the battery compartment cover up and forward to remove.
- Run the engine of the donor vehicle during jump-starting.
- 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 motor and the donor battery.
- Allow both engines to idle for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from the negative terminals first, then disconnect the second lead from the positive terminals.
- Install the cover of the battery compartment and install screws **1**.

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

Battery

Maintenance instructions

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

Compliance with the points below is important in order to maximise battery life:

– Keep the surface of the battery clean and dry
– Do not open the battery
– Do not top up with water

– Be sure to read and comply with the instructions for charging the battery on the following pages
– Do not turn the battery upside down

If the battery is not disconnected, the on-board electronics (e.g. clock, etc.) gradually drain the battery. This can cause the battery to run flat. If this happens, warranty claims will not be accepted.
If the motorcycle is to be out of use for more than four weeks, disconnect the battery or connect a suitable trickle charger to the battery.◀

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. You can obtain additional information from your authorised BMW Motorrad dealer.◀

Charging battery when connected

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

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

Only chargers suitable for this mode of charging can be used to recharge the battery via the on-board socket. Unsuitable chargers could cause damage to the motorcycle's on-board electrics.
Use BMW chargers with the part numbers 71 60 7 688 864 (220 V) or, as applicable, 71 60 7 688 865 (110 V). If you are in doubt, disconnect the battery from the on-board systems and

connect the charger directly to the battery.◀

- Charge via the power socket, with the battery connected to the motorcycle's on-board electrical system.

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

- Comply with the operating instructions of the charger.

▷ If you are unable to charge the battery through 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

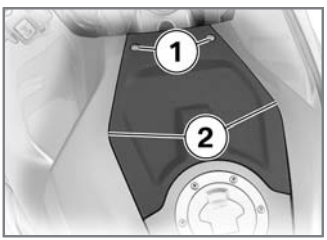
- Charge the battery using a suitable charger.
- Comply with the operating instructions of the charger.
- Once the battery is fully charged, disconnect the charger's terminal clips from the battery terminals.

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

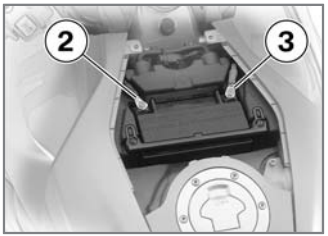
Removing the battery

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

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

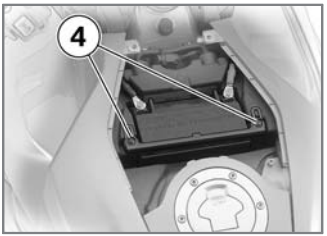


- Remove screws **1**.
- Lift the battery compartment cover up and forward to remove, noting latches **2**.



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

- Disconnect negative lead **2** first.
- Then disconnect positive lead **3**.

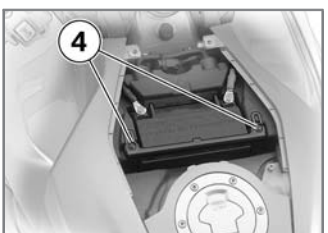


- Remove screws **4** and pull the retainer to the rear.
- Lift the battery up and out; work it slightly back and forth if it is difficult to remove.

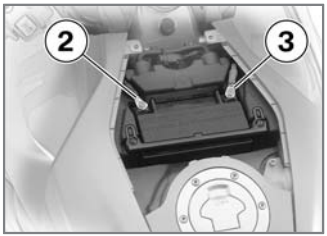
Installing battery

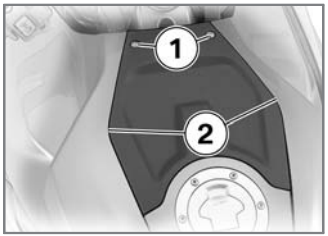
If it is not standing firmly, the motorcycle could topple in the course of the operations described below.
Always make sure that the motorcycle is stable and firmly supported.◄

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Switch off the ignition.
- Place the battery in the battery compartment, positive terminal on the right in the forward direction of travel.



- Slip the battery retainer over the battery and install screws **4**.





Connection in the wrong sequence increases the risk of short-circuits.
Always proceed in the correct sequence.
Never install the battery without the protective cap.◀

- Connect battery positive lead **3** first.
- The connect battery negative lead **2**.
- Install the cover of the battery compartment.
- Install the battery compartment cover, noting latches **2**.
- Install screws **1**.
- Switch on the ignition.
- Fully open the throttle once or twice.

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

- Setting the clock (➠ 44)

Care

Care products

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

The use of unsuitable cleaning and care products can damage vehicle components.
Do not use solvents such as cellulose thinners, cold cleaners, fuel or the like, and do not use cleaning products that contain alcohol.◀

Washing the motorcycle

We recommend that you use BMW insect remover to soften and wash off insects and resilient dirt on painted parts prior to washing the motorcycle.
To prevent stains, do not wash the motorcycle immediately after it has been exposed to strong sunlight and do not wash it in the sun.
Make sure that the motorcycle is washed frequently, especially during the winter months.
To remove road salt, clean the motorcycle with cold water immediately after every trip.

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

Warm water intensifies the effect of salt.
Use only cold water to wash off road salt.◀

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

Cleaning easily damaged components

Plastics

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

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

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

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

Windscreen

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

Fuel and chemical solvents attack the material of the windscreen; the windscreen becomes opaque or dull.
Do not use cleaning agents.◀

Chrome

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

Radiator

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

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

Rubber

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

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

Paint care

Washing the motorcycle regularly will help counteract the long-term effects of substances that damage the paint, especially if your motorcycle is ridden in areas with high air pollution or natural sources of dirt, for example tree resin or pollen. Remove particularly aggressive substances immediately, however, as otherwise the paint can be affected or become discoloured. Substances of this nature include spilt fuel, oil, grease, brake fluid and bird droppings. We recommend BMW vehicle polish or BMW paint cleaner for this purpose.
Marks on the paintwork are particularly easy to see after the motorcycle has been washed. Remove stains of this kind immediately, using cleaning-grade benzene or petroleum spirit on a clean cloth or ball of cotton wool. We recommend that specks of tar be removed with BMW tar remover. Remember to wax the parts treated in this way.

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.
It is time to rewax the paintwork when water "puddles" on the surface, instead of forming beads.

Laying up the motorcycle

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

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

Restoring motorcycle to use

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

Technical data

Troubleshooting chart

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

Possible cause	Remedy
Kill switch activated.	Kill switch in operating position (run).
Side stand extended and gear engaged.	Retract the side stand (➠ 62).
Gear engaged and clutch not disengaged	Select neutral or pull clutch lever(➠ 62).
Clutch pulled when ignition was OFF	Switch on the ignition, then pull the clutch lever.
No fuel in tank.	Refuelling (➠ 76)
Battery not adequately charged.	Charging battery when connected (➠ 120)

Threaded fasteners

Activity	Type of threaded connection	Tightening torques
Front wheel		
Front brake caliper, wheel carrier installed	M8 x 32 -10.9	30 Nm (Left)
	M8 x 32 -10.9	30 Nm (Right)
Clamping screw for quick-release axle in wheel carrier	M8 x 30	19 Nm
Quick-release axle in threaded bush	M24 x 1.5	50 Nm
Rear wheel		
Silencer to rear footrest, right	M8 x 30	28 Nm
Silencer to manifold	M8 - 10.9 self-locking, Optimoly TA	35 Nm
Rear wheel to wheel flange	M10 x 43 x 1.25	60 Nm
	M10 x 40 x 1.25	60 Nm

Engine

Type	
Type, engine	Transversely mounted, four-cylinder four-stroke in-line engine tilted 55° forward, with four valves per cylinder, two overhead camshafts with cam followers; liquid cooled, with electronic fuel injection, integrated six-speed cassette gearbox, dry-sump lubrication.
Technical data	
Effective displacement	1157 cm^3
Cylinder bore	79 mm
Piston stroke	59 mm
Compression ratio	13 : 1
Nominal output	123 kW, At engine rpm: 10250 min^{-1}
with OE Power reduction:	74 kW, At engine rpm: 7000 min^{-1}
with OE Power reduction:	79 kW, At engine rpm: 8750 min^{-1}
Max. torque	130 Nm, At engine rpm: 8250 min^{-1}
Maximum permissible engine speed	11000 min^{-1}
Idle speed	$1150^{\pm 50}$ min^{-1}

Fuel	
Recommended fuel grade	Super Plus, unleaded 98 ROZ
Fuel grade, usable with power- and consumption-related restrictions	Super unleaded 95 ROZ
Fuel tank capacity	19 l, Usable 4 l, Including reserve of
Engine oil	
Engine oil capacity, total	3.5 l, With filter change 0.5 l, Difference between MIN / MAX marks
Lubricant	Castrol GPS 10W-40 (SAE 10W40; API SG; JASO MA)
Oil grades	Mineral engine oils of API classification SF to SH. BMW Motorrad recommends not using oil additives, because they can have a detrimental effect on clutch operation.
Permissible viscosity classes	
SAE 5 W->30	-20...20 °C, Use in winter
SAE 10 W-40	-10...30 °C, At low temperatures

Riding specifications

Top speed	>200 km/h
Acceleration 0-100 km/h	2.8 s

Clutch

Clutch, type	Multiplate clutch running in oil bath

Transmission

Gearbox, type	Claw-shift 6-speed cassette gearbox, integrated into engine block
Gear ratios	
Total transmission ratio, 1st gear	2.521
Total transmission ratio, 2nd gear	1.842
Total transmission ratio, 3rd gear	1.455
Total transmission ratio, 4th gear	1.287
Total transmission ratio, 5th gear	1.143
Total transmission ratio, 6th gear	1.015

Final drive

Rear wheel drive, type	Shaft drive with bevel gears
Final drive gear ratio	2.82 : 1

Running gear

Front suspension, type	Double leading link
Front suspension, total suspension travel	115 mm, Static 125 mm, Dynamic
Rear suspension, type	Single-tube gas-pressure shock absorber
Rear suspension, total suspension travel	135 mm, At wheel

Brakes

Front brake, type	Hydraulically operated twin disc brake with 4-piston fixed calipers and floating brake discs
Front brake pads, material	Sintered metal
Rear brake, type	Hydraulically operated disc brake with 2-piston floating caliper and fixed disc
Rear brake pads, material	Organic material

Wheels and tyres

Front wheel, type	Cast aluminium, MT H2
Front wheel, rim size	3.50" x 17"
Front wheel, tyre designation	120/70 ZR 17
Rear wheel, type	Cast aluminium, MT H2
Rear wheel, rim size	6.00" x 17"
Rear wheel, tyre designation	190/50 ZR17
Tyre pressures	
Front wheel, tyre pressure	2.5 bar, When cold
Rear wheel, tyre pressure	2.9 bar, When cold

Electrics

On-board socket, rating	5 A
Fuses	All circuits are electronically protected, so plug-in fuses are no longer 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.
Type	
Type, battery	AGM (Absorptive Glass Mat) battery
Technical data	
Battery rated voltage	12 V
Battery rated capacity	14 Ah
Battery low-temperature test current	100 A
Technical data	
Spark plug, manufacturer and designation	Bosch YR5DDE
Spark plug, electrode gap When new	0.7 mm
Spark plug, electrode gap Wear limit	No wear limit; spark-plug replacement as per maintenance schedule

Lighting	
High-beam headlight bulb, standard designation	H7 halogen bulb
High-beam headlight bulb, voltage	12 V
High-beam headlight bulb, power	55 W
Low-beam headlight bulb, standard designation	H7 halogen bulb
Low-beam headlight bulb, voltage	12 V
Low-beam headlight bulb, power	55 W
Parking light bulb, standard designation	W5W
Parking light bulb, voltage	12 V
Parking light bulb, power	5 W
Tail light / brake light bulb, standard designation	P21W
Tail light / brake light bulb, voltage	12 V
Tail light / brake light bulb, power	21 W
Front flashing turn indicator bulbs, standard designation	W16W
Front flashing turn indicator bulbs, voltage	12 V
Front flashing turn indicator bulbs, power	10 W

Number-plate light bulb	Integrated in rear light

Frame

Main frame, type	Composite with internal-high-pressure forming and extruded sections and chill castings
Type plate, location	Frame cross-tube, rear
Vehicle identification number (VIN), location	Frame side section, front right

Dimensions

Overall motorcycle length	2182 mm
Maximum width	905 mm, Across mirrors
Maximum height	1211 mm, DIN unladen weight
Seat height, front	820 mm, Without rider
with OE Front seat, low:	790 mm, Without rider
Wheelbase in normal-load position	1571.64 mm, Full load of fuel, with rider: 85 kg
Ground clearance	144 mm, In normal-load position, full load of fuel, with rider: 85 kg

Weights

Unladen weight	248 kg, DIN unladen weight, ready for road 90 % load of fuel, without optional extras
Permissible gross weight	450 kg
Maximum payload	202 kg

Service

BMW Motorrad service

Advanced technology requires specially adapted methods of maintenance and repair.

If maintenance and repair work is performed inexpertly, it could result in consequential damage and thus constitute a safety risk. BMW recommends that you have the necessary work on your motorcycle performed either by an authorised BMW Motorrad dealer or by a workshop that operates to BMW specifications and employs suitably trained personnel.◀

Your authorised BMW Motorrad dealer can provide information on the specified Service, Inspection and Annual Inspection work needed.

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

BMW Motorrad service quality

Along with its reputation for engineering quality and high reliability, BMW Motorrad is a byword for excellent quality of service.
To ensure that your BMW is always in optimum condition, we recommend that you have the maintenance work required for your motorcycle carried out regularly, preferably by your authorised BMW Motorrad dealer. Evidence of regular maintenance is essential for generous treatment of claims submitted after the warranty period has expired. Certain signs of wear, moreover, might otherwise not be noticed until it is too late to put them right at moderate cost. Your authorised BMW Motorrad dealer's mechanics know every detail of your motorcycle and can take remedial action if necessary before minor faults develop into serious problems. By having the necessary repairs done properly and in good time, you save time and money in the long run.

BMW Motorrad Service Card - On-the-spot breakdown assistance

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

BMW Motorrad service network

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

Maintenance work

Intervals

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

BMW Running-in Check

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

BMW Annual Inspection

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

BMW Service

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

BMW Inspection

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

Maintenance schedules

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

Every authorised BMW Motorrad 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 billed as itemised items.◀

Confirmation of maintenance work

BMW Pre-delivery Check

Carried out in accordance with manufacturer's instructions

Date, stamp, signature

BMW Running-in Check

Carried out in accordance with manufacturer's instructions

Odometer reading_____

Brake fluid, new

- ☐ Without BMW Integral ABS
- With 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, new

- ☐ Without BMW Integral ABS
  With 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, new

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  With BMW Integral ABS
  - ☐ Wheel circuit
  - ☐ Control circuit

_____

Date, stamp, signature

BMW Service

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- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading_____

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  With BMW Integral ABS
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Carried out in accordance with manufacturer's instructions

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BMW Service

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- With BMW Integral ABS
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Date, stamp, signature

BMW Service

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

Carried out in accordance with manufacturer's instructions

Odometer reading_____

Brake fluid, new

- ☐ Without BMW Integral ABS
- With BMW Integral ABS
  - ☐ Wheel circuit
  - ☐ Control circuit

_____

Date, stamp, signature

Confirmation of service

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

Item	Odometer reading	Date

Item	Odometer reading	Date

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

Printed in Germany.

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

Fuel	
Recommended fuel grade	Super Plus, unleaded 98 ROZ
Minimum octane number	95 ROZ
Fuel tank capacity	19 l, Usable 4 l, Including reserve of
Tyre pressures	
Front wheel, tyre pressure	2.5 bar, When cold
Rear wheel, tyre pressure	2.9 bar, When cold

BMW recommends Castrol

BMW Motorrad

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3rd Issue

The Ultimate Riding 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

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The Ultimate Riding Machine