Rider's Manual (US-Model)

R 1200 GS

BMW Motorrad

The Ultimate Riding Machine

Motorcycle/Retailer Data

Motorcycle data

Model

Vehicle Identification Number

Color number

First registration

Registration number

Retailer Data

Contact in Service

Ms./Mr.

Phone number

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

We wish you many miles of safe and enjoyable riding

BMW Motorrad.

Table of Contents

You can also use the index at the end of this Rider's Manual to find a specific topic.

General instructions

Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and repair work carried out on your motorcycle will be documented in Chapter 10. Proof of the maintenance work performed is a prerequisite for generous treatment of claims. Should you want to sell your BMW one day, please also remember to turn over the Rider's Manual to the new owner; it is an important part of your motorcycle.

Abbreviations and symbols

Indicates warnings you should always observe to ensure your own safety, the safety of others and to protect your motorcycle from damage.

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

◀ Indicates the end of a note.

• Instruction to take action.

» Results of an action.

Reference to a page with additional information.

◁ Indicates the end of accessory or equipment-dependent information.

Tightening torque.

Technical data.

OE Optional equipment BMW equipment available only as a factory installed option.

OA Optional accessories BMW optional accessories can be purchased and installed at your authorized BMW Motorrad retailer.

EWS Electronic immobilizer.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.

ASC Automatic Stability Control.

TPC Tire Pressure Control.

Equipment

When you ordered your BMW motorcycle, you chose various items of custom equipment. This Rider's Manual describes optional equipment (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 is equipped with options or accessories not described in this Rider's Manual, then this equipment is described in a separate operating manual.

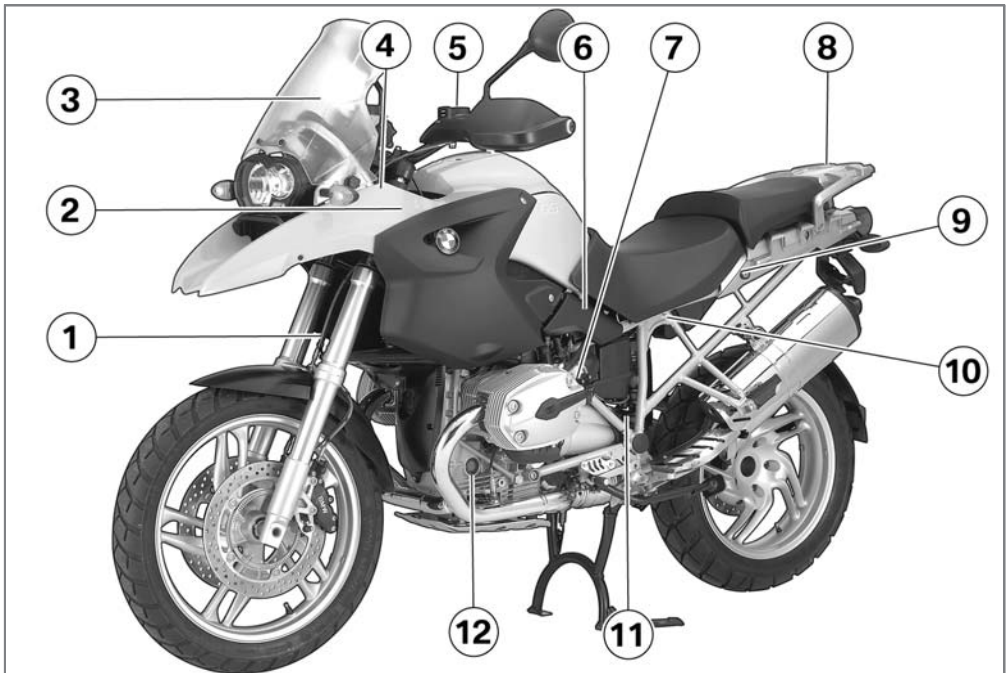
Technical data

All dimensions, weights and outputs in the Rider's Manual refer to the Deutsche Institut für Normung e. V. (DIN) and comply with its tolerance regulations. 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. In addition, BMW Motorrad cannot guarantee the total absence of errors. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.

Overviews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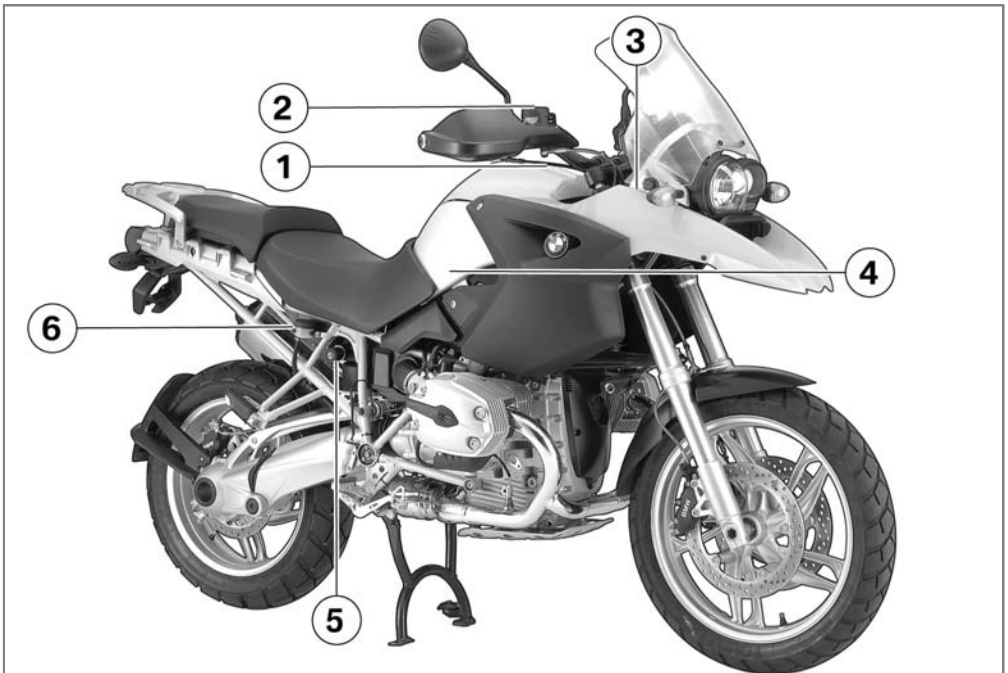
General view, left side

1 Adjusting front spring preload (➠ 64)
2 Onboard socket (OA) (➠ 88)
3 Adjustable windshield (➠ 56)
4 Headlight range adjustment (➠ 59)
5 Clutch fluid reservoir (➠ 103)
6 Type plate
7 Filler neck, engine oil (➠ 98)
8 Luggage rack (➠ 92)
9 Seat lock (➠ 61)
10 Onboard socket (➠ 88)
11 Adjusting rear damping (➠ 65)
12 Display for engine oil level (➠ 97)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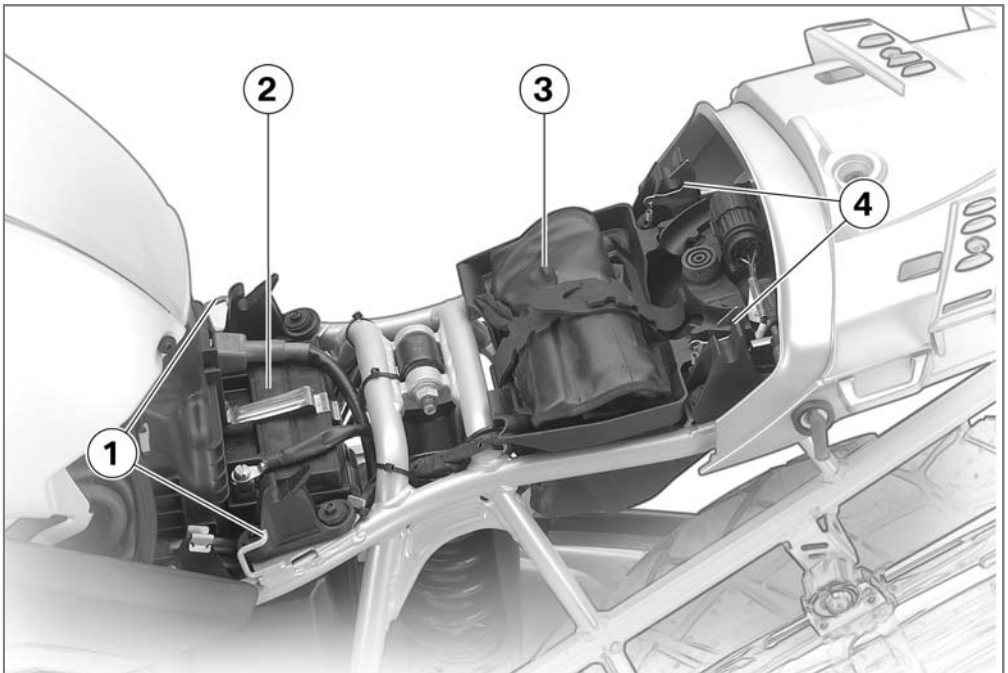
General view, right side

1 Fill location for fuel (➠ 78)
2 Brake-fluid reservoir, front (➠ 101)
3 Vehicle Identification Number
4 Air filter (under tank cover) (➠ 117)
5 Adjuster, spring preload, rear (➠ 64)
6 Brake-fluid reservoir, rear (➠ 102)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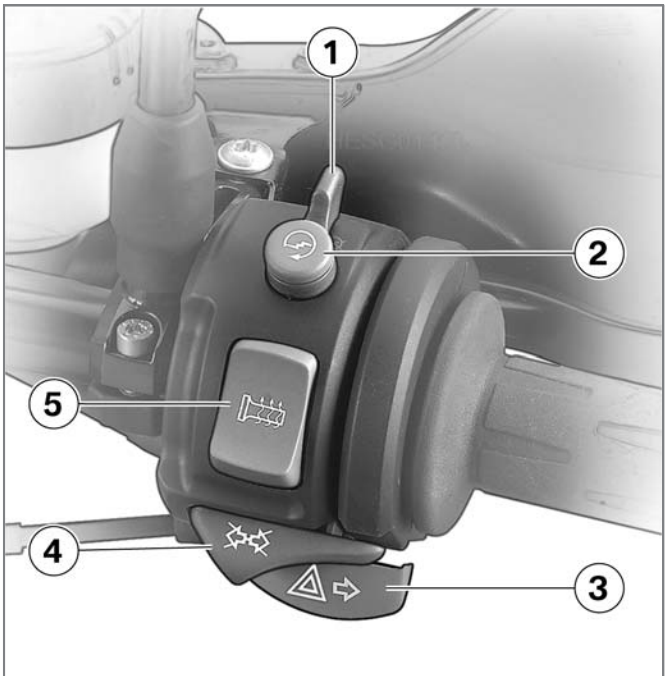
Underneath seat

1 Left and right helmet holder (➠ 63)
2 Battery (➠ 123)
3 Toolkit (➠ 96)
4 Seat mount (➠ 62)

Left handlebar fitting

1 Control, odometer (➡ 45), Operation of onboard computer[OE] (➡ 48)
2 ASC button[OE] (➡ 53)
3 ABS button[OE] (➡ 51)
4 Pushbutton, horn
5 Left turn indicator button (➡ 59), Hazard warning flashers button (➡ 44)
6 High-beam headlight switch (➡ 58), Switch for headlight flasher

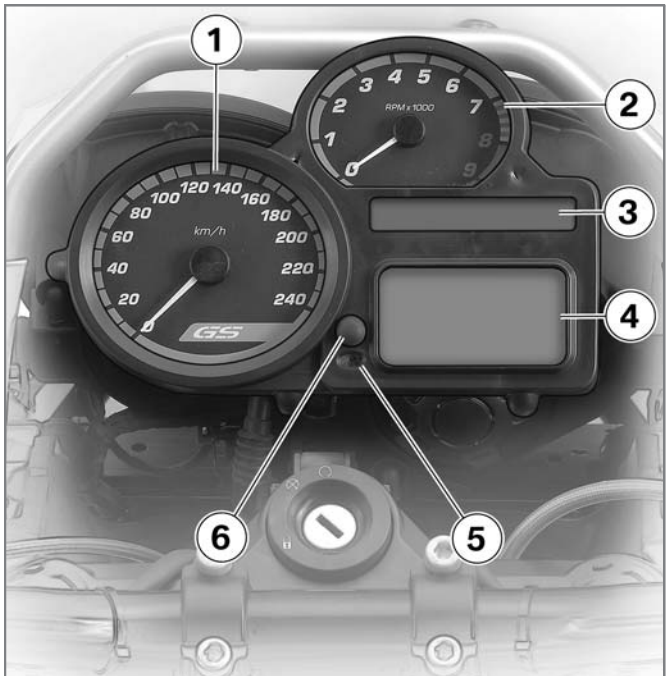


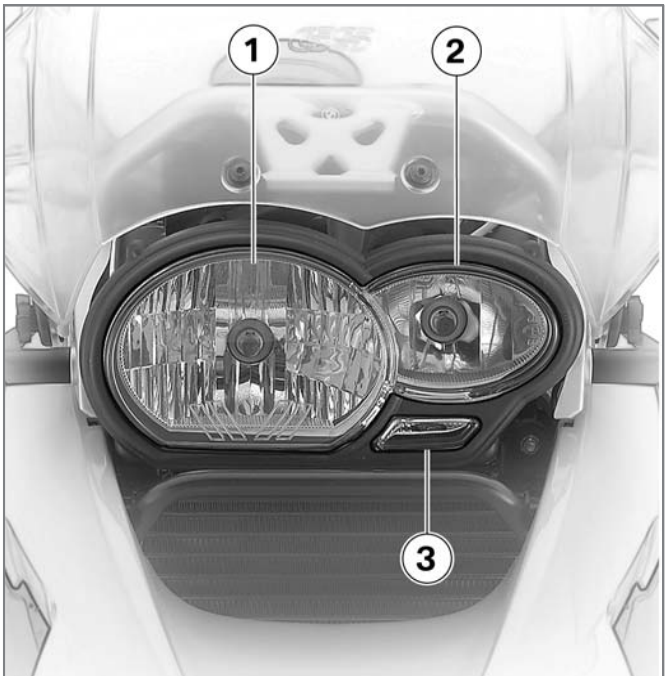
Handlebar fitting, right

1 Emergency ON/OFF switch (➡ 54)
2 Pushbutton, starter (➡ 72)
3 Right turn indicator button (➡ 60), Hazard warning flashers button (➡ 44)
4 Turn indicators off button (➡ 60), Hazard warning flashers off button (➡ 45)
5 Heated hand grips switch[OE] (➡ 55)

Instrument cluster

1 Speedometer
2 Tachometer
3 Warning and indicator lights (➠ 23)
4 Multifunction display (➠ 23)
5 Anti-theft alarm indicator light (OE) and sensor for instrument lighting
6 Control, odometer (➠ 45)



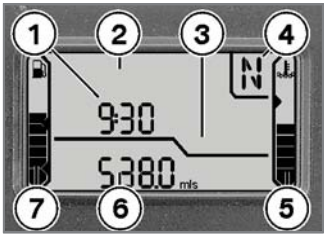


Headlight

1 Low-beam bulb
2 High-beam bulb
3 Parking-light bulb

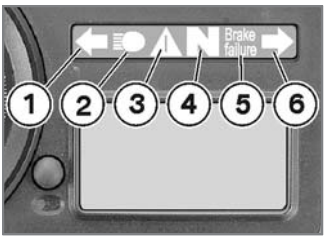
Status indicators

Multifunction display



1 Clock (➡ 46), Area for TPC displays[OE] (➡ 47), Area for oil level information[OE] (➡ 51)
2 Area for warning symbols (➡ 23)
3 Area for onboard computer displays[OE] (➡ 48)
4 Gear indicator (➡ 23)
5 Engine-oil temperature display (➡ 23)
6 Odometer display (➡ 45)
7 Fuel level display (OE) (➡ 22)

Warning and indicator lights



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

ABS warning light[OE]

In some countries a different display of the ABS warning light is possible.

Possible country-dependent versions.

Function indicators

Fuel capacity (OE)

The horizontal bars under the gas pump symbol indicated the remaining fuel quantity.
On motorcycles without an onboard computer, the upper cross bars are shown enlarged. As a result, the upper bar is equal to approximately half the possible tank volume, and the next bar approximately one-quarter. The remaining fuel tank volume is shown in greater detail with the smaller horizontal bars.

Gear

Engaged gear is indicated.

If no gear is engaged, the gear indicator displays N and the 'neutral' indicator light lights up.

Engine temperature

The lateral bars under the temperature symbol show the engine temperature level.

ASC intervention (OE)

General warning light flashes rapidly in yellow.

ASC symbol lights up.

The ASC has detected instability at the rear wheel and has reduced the torque. The warning light flashes one second longer than the ASC intervention lasts. As a result, the driver is provided with optical feedback on the regulation carried out even after the critical driving situation.

Offroad ASC intervention (OE)

General warning light flashes rapidly in yellow.

Offroad ASC symbol lights up.

The offroad ASC has detected instability at the rear wheel and has reduced the torque. The warning light flashes one second longer than the ASC intervention lasts. As a result, the driver is provided with optical feedback on the regulation carried out even after the critical driving situation.

General warning indicators

Display

General warnings are displayed by means of information and symbols in the multifunction display. In some cases, an additional general warning light lights up red or yellow. If several warnings are active, all corresponding indicator lights and warning symbols are displayed. Warnings are shown alternately.

Overview of warning indicators

Display			Meaning
Lights up yellow		EWS! warning appears.	Electronic immobilizer is active (➡ 26)
Lights up yellow		FUEL! warning appears.	Fuel down to reserve (➡ 26)
Lights up yellow		Is indicated	Engine electronics (➡ 26)
Flashes in red		Is indicated	Engine oil pressure insufficient (➡ 27)
		Displayed with CHECK OIL warning	Engine oil level too low (➡ 27)
Lights up red		Is indicated	Battery charge current insufficient (➡ 28)
Lights up yellow		LAMPR! warning appears.	Rear bulb defective (➡ 28)
		LAMPF! warning appears.	Front bulb defective (➡ 28)
Lights up yellow		LAMPS! warning appears.	Bulbs defective (➡ 29)

Display		Meaning
	Is indicated	Ice warning (OE) (➡ 29)
	DWALO! warning appears	Anti-theft alarm battery (OE) weak (➡ 29)
 Lights up yellow	DWA! warning appears.	Anti-theft alarm battery (OE) dead (➡ 30)

Electronic immobilizer is active

General warning light lights up yellow.

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

- Remove other motorcycle keys from the ignition key ring.
- Use the reserve key.
- Have the defective key replaced, preferably by an authorized BMW Motorrad retailer.

Fuel down to reserve

General warning light lights up yellow.

FUEL! warning appears.

A fuel shortage can lead to misfiring and to the engine dying unexpectedly. Misfiring can damage the catalytic converter, and the engine dying unexpected can lead to accidents.
Do not drive until the fuel tank is completely empty.◀

The probable operating range is indicated.◀

At the most, the fuel tank still contains the reserve fuel quantity.

Reserve fuel quantity
– 1.1 gal (4 l)

- Refueling (➡ 78)

Engine electronics

General warning light lights up yellow.

Engine electronics symbol is displayed.

The engine is in the emergency operating mode. Only reduced engine performance may be available, which can lead to danger driving situations, especially during passing maneuvers.
Adapt your driving style to the possibly reduced engine performance.◀

The engine-electronics control unit has diagnosed a fault. In exceptional cases, the engine stops and can no longer be started. Otherwise, the engine runs in emergency operating mode.

- Continued driving is possible, however the accustomed engine performance may not be available.

- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Engine oil pressure insufficient

General warning light flashes in red.


Engine oil pressure symbol is displayed.

The oil pressure in the lubricating oil circuit is too low.
If the warning light lights up, stop immediately and switch off the engine.

The warning on insufficient engine oil pressure is no substitute for the function of an oil-level indicator.The correct engine oil level can only be checked at the oil sight glass.◀

The cause of the warning on insufficient engine oil pressure can be an insufficient engine oil level.

- Checking engine oil level (➠ 97)

If oil level is too low:

- Top up engine oil.

If the warning on insufficient engine oil pressure appears despite a correct engine oil level:

In addition to an insufficient engine oil level, other problems in the engine can lead to the warning on insufficient engine oil pressure. Continuing to ride in these cases can cause engine damage.
If this warning appears, do not continue to ride even though the engine oil level might be correct.◀

- Do not continue driving.
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Engine oil level too low


Oil level symbol is display with CHECK OIL warning.
The electronic oil level sensor has detected a low engine oil level.

The exact engine oil level can only be determined by conducting a check on the oil sight glass. During the next refueling stop:

- Checking engine oil level (➠ 97)

If oil level is too low:

- Topping up engine oil (➠ 98)

If "Check oil level" appears in the display, although a correct oil level has been read off at the oil sight glass, the oil level sensor may be defective.

- Checking engine oil level (➡ 97)

If oil level is too low:

- Contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

Battery charge current insufficient

General warning light lights up red.


Battery charge current symbol is displayed.


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


If the battery is no longer charged, continued driving can lead to deep discharging, and therefore to the destruction of the battery. If possible, do not continue driving.◀

The battery is not being charged.

- Continued driving is possible until the battery is discharged. However, the engine can die suddenly and the battery can be exhaustively discharged and therefore destroyed.
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Rear bulb defective


General warning light lights up yellow.

`LAMPR!` warning appears.


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.◀

Tail light or brake light bulb defective.

- Replacing brake and rear light bulb (➡ 115)

Front bulb defective

`LAMPF!` warning appears.


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 car-

ry a complete set of spare bulbs if possible.◀

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

- Replacing low-beam/high-beam bulb (➠ 112)
- Replacing parking light bulb (➠ 114)
- Replacing front and rear turn indicator bulbs (➠ 116)

Bulbs defective

General warning light lights up yellow.

LAMPS! warning appears.


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 several bulb defects is present.

- See the fault descriptions above.

Ice warning (OE)


Ice warning symbol is displayed.

The air temperature measured at the motorcycle is lower than 37 °F (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.◀

- Think well ahead when driving.

Anti-theft alarm battery (OE) weak

DWALO! warning appears.


This error message is only displayed for a short time following the pre-ride check.◀

The anti-theft alarm battery no longer has its full capacity. The operation of the anti-theft alarm is only ensured for a limited time with the motorcycle battery disconnected.

- Contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

Anti-theft alarm battery (OE) dead

General warning light lights up yellow.

DWA! warning appears.

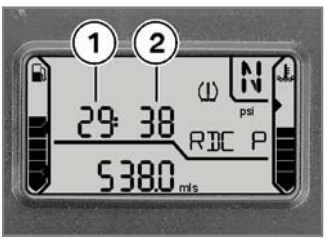
This error message is only displayed for a short time following the pre-ride check.◀

The anti-theft alarm battery has no capacity. The operation of the anti-theft alarm is no longer ensured with the motorcycle battery disconnected.

- Contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

Warning indicators of Tire Pressure Control TPC^{OE}

Display of TPC warning indicators



In the display area of the clock or the onboard computer, the air pressure of the front wheel **1** and the rear wheel **2** are displayed with the text TPC. The critical air pressure flashes
If the critical value is at the limit of the permissible tolerance, the general warning light also lights up in yellow. If the determined tire pressure is outside the permissible tolerance, the general warning light flashes in red.

Overview of warning indicators

Display		Meaning
 Lights up yellow	 The critical air pressure flashes	Tire pressure in limit area of permissible tolerance (➡ 32)
 Flashes in red	 The critical air pressure flashes	Tire pressure outside permissible tolerance (➡ 32)
	"- -" or "- - - -" is displayed	Transmission error (➡ 32)
 Lights up yellow	 Is displayed with "- -" or "- - - -"	Sensor defective or system fault (➡ 33)
 Lights up yellow	 Is displayed with TPC! note	Battery of tire pressure sensor weak (➡ 33)

Tire pressure in limit area of permissible tolerance


General warning light lights up yellow.


The critical air pressure flashes.

The measured tire pressure is in the limit area of the permissible tolerance.

- Correct tire pressure in accordance with instructions on back of cover of Rider's Manual.

The pressure values on the back of the cover refer to a tire air temperature of 68 °F (20 °C). To also adapt the air pressure at other tire temperatures, proceed as follows:

Calculate the difference between the nominal value according to the Rider's Manual and the value determine by the TPC system. Change the air pressure in the tire by this difference using an air pressure tester at a filling station.◀

Tire pressure outside permissible tolerance


General warning light flashes in red.


The critical air pressure flashes.

The measured tire pressure is outside the permissible tolerance.

- Check tire for damage and drivability.

Is it still possible to drive with tire:


Incorrect tire pressure result in poorer handling of the motorcycle.

Always adapt your driving style to the incorrect tire pressure.◀

- Correct tire pressure at next opportunity.
- Have the tire checked for damage by a specialized workshop, preferably an authorized BMW Motorrad retailer.

If you are unsure about the drivability of the tire:

- Do not continue driving.
- Inform roadside service.
- Have the tire checked for damage by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Transmission error

"- -" or "- - - -" is displayed.

The motorcycle's speed has not exceeded the threshold of approx. 20 mph (30 km/h). The TPC sensors do not transmit their signal until a speed above this threshold is reached (➠ 80).

- Watch TPC display at higher speed. A permanent fault has not occurred until the general warning light also lights up. In this case:
- Have the fault eliminated by a specialized workshop, preferably an authorized BMW Motorrad retailer.

There is a fault in the radio connection to the TPC sensors. Possible causes are radio systems in the surrounding area, which interfere with the connection between the TPC control unit and the sensors.

- Watch the TPC display in another environment. A permanent fault has not occurred until the general warning light also lights up. In this case:
- Have the fault eliminated by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Sensor defective or system fault


General warning light lights up yellow.


Is displayed with "- -" or "- - - -".

Tires without installed TPC sensors are mounted.

- Retrofit wheel set with TPC sensors.

One or two TPC sensors have failed.

- Have the fault eliminated by a specialized workshop, preferably an authorized BMW Motorrad retailer.

A system fault has occurred.

- Have the fault eliminated by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Battery of tire pressure sensor weak

General warning light lights up yellow.

Is displayed with TPC! note.


This error message is only displayed for a short time following the pre-ride check.◀

The battery of the tire pressure sensor no longer has its full capacity. The operation of the tire pressure control is only ensured for a limited time.

- Contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

ABS warning indicators[OE]

Display

brake failure ABS warnings are indicated by the ABS warning light. The warning light can light up continuously or flash.
In some countries an alternative display of the ABS warning light is possible.

Possible country-dependent versions.

Overview of warning indicators

Display	Meaning
brake failure Flashes	Self-diagnosis not completed (➡ 36)
brake failure Lights up	ABS deactivated (➡ 36)
brake failure Lights up	ABS error (➡ 36)

Self-diagnosis not completed

brake failure ABS warning light flashes.

The ABS function is not available, because the self-diagnosis has not been completed. To check the wheel sensors, the motorcycle must be driven a few yards.

- Ride off slowly. It must be noted that the ABS function is not available until the self-diagnosis has been completed.

ABS deactivated

brake failure ABS warning light ON.

The ABS system has been deactivated by the driver.

with OE BMW Motorrad Integral ABS:

- Switching on ABS function (➠ 52)

ABS error

brake failure ABS warning light ON.

The ABS control unit has detected an error. The ABS function is not available.

- Continue driving is possible. It must be noted that the ABS function is not available. Observe additional information on situations which can lead to an ABS error (➠ 84).
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

ASC warning indicators[OE]

Display

 ASC warnings are indicated by the ASC warning symbol in conjunction with the general warning light. The ASC warning light can light up continuously or flash.

 In the offroad mode, ASC warnings are indicated with this warning symbol.

Overview of warning indicators

Display		Meaning
	 Flashes slowly	Self-diagnosis not completed (➡ 38)
	 Flashes slowly	Self-diagnosis not ended in offroad mode (➡ 38)
	 Is indicated	ASC deactivated (➡ 38)
 Lights up yellow	 Is indicated	ASC error (➡ 38)

Self-diagnosis not completed

 ASC symbol flashes slowly.

The self-diagnosis was not completed; the ASC function is not available. So that the ASC self-diagnosis can be completed, the engine must be running and the motorcycle must be moved at a speed of at least 3 mph (5 km/h).

- Ride off slowly. It must be noted that the ASC function is not available until the self-diagnosis has been completed.

Self-diagnosis not ended in offroad mode

 Offroad ASC symbol flashes slowly.

The ASC self-diagnosis has not yet been completed, however the system has already switched over to the offroad mode. The offroad ASC function is not yet available. So that the self-diagnosis can be completed, the engine must be running and the motorcycle must be moved at a speed of at least 3 mph (5 km/h).

- Ride off slowly. It must be noted that the ASC function is not available until the self-diagnosis has been completed.

ASC deactivated

 ASC symbol is displayed.

The ASC system has been deactivated by the driver.

with OE Automatic Stability Control (ASC):

- Activating ASC function (➠ 54)

ASC error

 General warning light lights up yellow.

 ASC symbol is displayed.

The ASC control unit has detected an error. The ASC function and the offroad ASC function are not available.

- Continue driving is possible. It must be noted that the ASC function is not available. Observe additional information on situations which can lead to an ASC error (➠ 85).
- Have the malfunction corrected as soon as possible by a specialized workshop,

preferably an authorized
BMW Motorrad retailer.

Operation

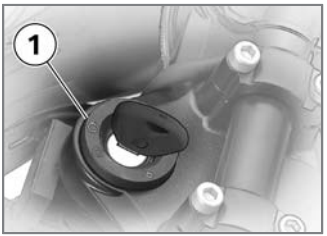
Ignition switch and steering lock

Keys

You receive one master key and one spare key. If a key is lost, please note the information on the electronic immobilizer (EWS) (➠ 43).

▷ Ignition key and steering lock, tank filler cap lock and seat lock are all operated with the same key. On request the cases (OA) and the Topcase (OA) can be operated with the same key.◀

Switching on ignition



- Turn key to position **1**.
» Parking lights and all function circuits switched on.
» Engine can be started.
» Pre-ride check is performed. (➠ 73)

with OE BMW Motorrad Integral ABS:

- Turn key to position **1**.
» In addition to the points named above, the ABS self-diagnosis is also carried out. (➠ 74)◁

with OE Automatic Stability Control (ASC):

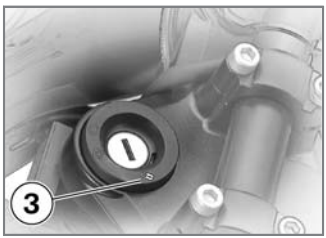
- Turn key to position **1**.
» In addition to the points named above, the ASC self-diagnosis is also carried out. (➠ 74)◁

Switching off ignition

- Turn key to position **2**.
» Light 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 onboard socket.

Locking handlebars



When you prop the motorcycle 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 handlebars to full left or right lock position.
- Turn key to position **3** while moving handlebars slightly.

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

Electronic immobilizer EWS

Theft protection

The electronic immobilizer 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 immobilizer can be started only with the keys that belong to the motorcycle. You can also have your authorized BMW Motorrad retailer disable particular keys, for example in the event that you lose your keys. The engine cannot be started with a key that has been barred.

Electronics in the key

An electronic component is integrated into each of your keys. The motorcycle's electronics exchange certain continuously changing signals with the electronics in the key; these signals are specific to your motorcycle and they are transmitted via the ring antenna in the ignition lock. The ignition is not enabled for starting until the key has been recognized as "authorized" 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 warning EWS is shown in the multifunction display.
Always store the spare key separately from the ignition key.◀

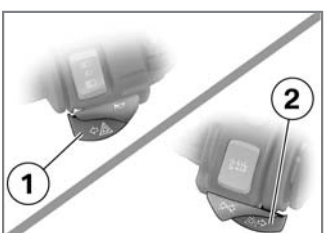
Replacement and extra keys

Replacement and spare keys are only available through an authorized BMW Motorrad retailer. The keys are part of an integrated security system, so the retailer 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 must bring along all 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 hazard warning flashers

• Switch on ignition.



• Press button for left turn indicator **1** and right turn indicator **2** simultaneously.

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

If a turn indicator button is pressed with the ignition switched on, the flashing function replaces the emergency flashing function as long as the button is pressed. If the turn indicator button is released, the emergency flasher function becomes active again.◀

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

Switching off hazard warning flashers

- Press turn-indicator cancel button **1**.

» The hazard warning flashers are switched off.

Odometer and tripmeters

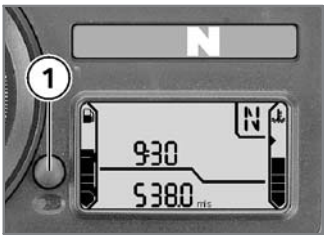
Operating odometer

On motorcycles without an onboard computer and without TPC, the operation of the odometer described in the following can also be carried out with the INFO **1** button.

Selecting readings

- Switch on ignition.

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



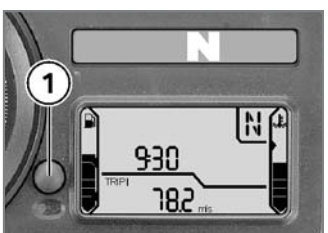
- Press button **1** once briefly.

The odometer display field indicates the values below in

the following order beginning with the current value:
– Total distance covered
– Tripmeter 1 (Trip I)
– Tripmeter 2 (Trip II)
– Operating range (after reaching reserve level)

Resetting tripmeter

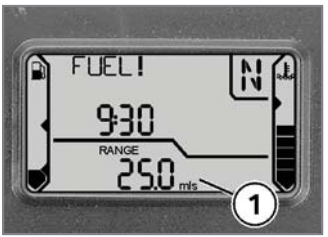
- Switch on ignition.
- Select desired tripmeter.



- Press and hold button **1** until display changes.

» The tripmeter is reset to zero.

Residual range



The operating range **1** is shown together with the lettering RANGE and indicates the distance that can still be driven with the remaining fuel. It is only displayed on motorcycles without an onboard computer (OE) after the fuel reserve is reached. The calculation is carried out based on the average consumption and the fuel level.
When refueling, fuel is not registered until the quantity added is approx. one gallon (several liters).

The determined residual range is an approximate reading. BMW Motorrad therefore recommends that you do not try to use the full remaining range before refueling.◀

Clock

Setting clock

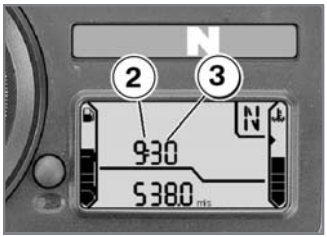
Attempting to set the clock while riding the motorcycle can lead to accidents.
Adjust the clock only when the motorcycle is stationary.◀

- Switch on ignition.

- Press INFO button **1** repeatedly until total mileage is shown.

with OE Onboard computer:

- Press INFO button **1** repeatedly until clock is shown.◁



- Press and hold INFO button until display changes.

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

- Press INFO button.

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

- Press and hold INFO button until display changes.

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

- Press INFO button.

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

- Press and hold INFO button until display changes.

» The display stops flashing.

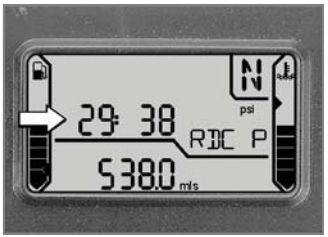
» Clock setting ended.

Tire Pressure Control TPC^{OE}

Displaying tire pressures

- Switch on ignition.

- Repeatedly press INFO button **1** until the tire pressures appear in the display.



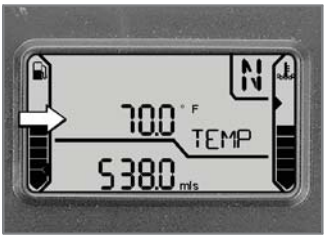
The tire pressures are shown alternately with the clock. The left-hand value indicates the air pressure of the front wheel, and the right-hand value the air pressure of the rear wheel. On motorcycles with an onboard computer, the tire pressures are displayed as an additional value of the onboard computer.

Onboard computer[OE]

Selecting readings

- Switch on ignition.

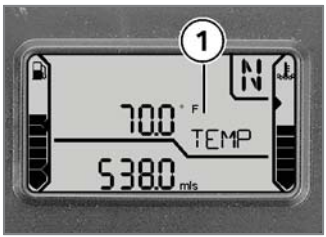
- INFO button **1** once each time.



The onboard-computer display field indicates the values below in the following order beginning with the current value:

– Ambient temperature
– Average speed
– Average consumption
– Range
– Oil level
– Tire pressures (OE)

Ambient temperature



The display of the ambient temperature **1** is only active when the engine is running. Otherwise - - - is shown.

An ice warning appears if the ambient-temperature reading drops below 37 °F (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.

Calculation of average speed

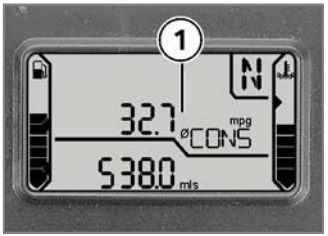
The average speed **1** is calculated based on the elapsed time since the last "RESET". Times during which the engine was stopped are excluded from the calculation.

Resetting average speed

- Repeatedly press INFO button **1** until the average speed appears in the display.
- Press and hold INFO button until display changes ("RESET").

» Display shows "--- mph".

Calculation of average consumption



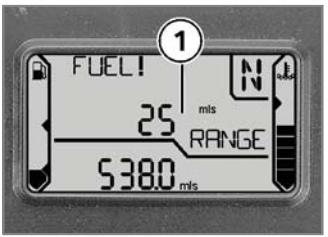
The average consumption **1** is calculated by dividing the distance covered since the last "RESET" by the corresponding amount of fuel used.

Resetting average consumption

- Repeatedly press INFO button **1** until average consumption appears in display.
- Press and hold INFO button until display changes ("RESET").

» Display shows "--.- mpg".

Range



The functional description of the operating range (➠ 46) also applies to the range display. However, the range **1** can also be displayed before the fuel reserve is reached. To calculate the range, a special average consumption is used, which does not always match the value that can be shown on the display.

The determined range is an approximate reading. BMW Motorrad therefore recommends that you do not

try to use the full range before refueling.◄

Oil level

The oil level indicator **1** provides information on the oil level in the engine. It can only be displayed when the motorcycle is stopped.

The conditions for the oil level check are as follows:
– Engine idling for at least 10 seconds.
– Engine at operating temperature.
– Side-stand retracted.

The readings mean:

OK: Oil level is correct.

CHECK: Check oil level.

>Displayed until correct oil level has been detected again.

---: No measurement possible (above-mentioned conditions not met).

The most recently measured level is displayed for 5 sec. when you next switch on the ignition.

If, despite a correct oil level on the oil sight glass, "Check oil level" continually appear on the display, the oil level sensor may be defective. In this case, please contact your authorized BMW Motorrad retailer.◄

BMW Motorrad Integral ABS^{OE}

Switching off ABS function

• Switch on ignition.

The ABS function can only be deactivated with the motorcycle at a standstill.◄

• Hold down ABS button **1**.

brake failure ABS warning light lights up; if self-diagnosis is not completed, the ABS warning light changes from flashing to being continuously lit.

- Release ABS button within five seconds after ABS warning light lights up.

» ABS function is switched off.

brake failure ABS warning light continues to light up.

Behavior with ABS deactivated

With the ABS function deactivated, first only the control on the front wheel is switched off. If the motorcycle is only braked with the handbrake lever, ABS regulation continues to be active for the rear wheel also braked via the integral function. The ABS regulation for the rear wheel is not switched off until the footbrake lever is actuated.

Switching on ABS function

- Hold down ABS button **1**.

brake failure ABS warning light goes out; if self-diagnosis is not completed, the ABS warning light changes from being continuously lit to flashing.

- Release ABS button within five seconds after ABS warning light goes out.

» ABS warning light remains off.

» If the ABS self-diagnosis is not completed, ABS warning light continues to flash.

» ABS function is switched on.

- As an alternative to pressing the ABS button, the ignition can also be switched off and then on again.

If the ABS light continues to light up after switching the ignition off and then on again, an ABS fault has occurred.◀

Automatic Stability Control ASC^{OE}

Operating the ASC

The ASC button switches into the offroad mode (➠ 85) and deactivates or activates the ASC.

If no ASC symbol is shown, the ASC is active.

If this symbol is shown, the offroad ASC is active.

If this symbol is shown, the ASC is deactivated.

Operating sequence of ASC button:

– Switch over ASC to offroad ASC
– Deactivate ASC
– Activate ASC

Switching ASC function over and off

• Switch on ignition.

The ASC function can also be deactivated while driving.◀

• Hold down ASC button **1**.

Offroad ASC symbol is displayed; if self-diagnosis is not completed, offroad ASC symbol flashes.

• Release ASC button within five seconds after offroad ASC symbol appears.

Offroad ASC symbol is displayed.

» Offroad ASC function is activated.

• Hold down ASC button **1**.

ASC symbol is displayed.

• Release ASC button within five seconds after ASC symbol appears.

ASC symbol continues to be displayed.

» ASC function is deactivated.

Activating ASC function

- Hold down ASC button **1**.

ASC symbol is no longer displayed; if self-diagnosis is not completed, ASC symbol begins to flash.

- Release ASC button within five seconds after ASC symbol goes out.

» ASC symbol remains off.

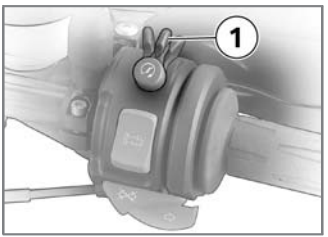
» If the ASC self-diagnosis is not completed, ASC symbol continues to flash.

» ASC function is activated.

- As an alternative to pressing the ASC button, the ignition can also be switched off and then on again.

If the ASC warning light lights up after switching the ignition off and on and then continued driving over 5 mph (10 km/h), an ASC error has occurred.◀

Emergency ON/OFF switch

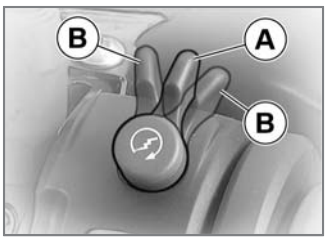


1 Emergency ON/OFF switch.

Actuating the emergency ON/OFF switch while driving can cause the rear wheel to lock up, resulting in a fall.

Do not operate the emergency ON/OFF switch while riding.◀

The engine can be easily and quickly switched off using the emergency ON/OFF switch.



A Operating position
B Engine switched off.

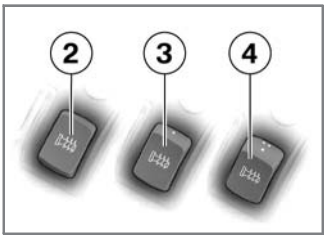
▷ The engine can only be started in the operating position.◀

Heated hand grips[OE]

1 Heated hand grips switch

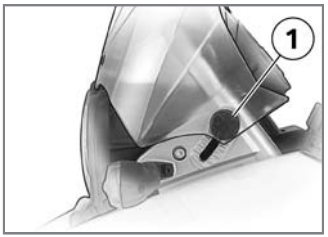
The handlebar grips can be heated at two different levels. The heated hand grips option can only be activated when the engine is running.

▷ The increase in power consumption caused by the heated hand grips can drain the battery if you are riding at low engine speeds. If the battery is inadequately charged, the heated hand grips are switched off to ensure starting capability.◀



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

Adjusting windshield



- Loosen clamping screws **1** on left and right.
- Bring windshield into desired position by rotating it forward or back.

The windshield can be set to several positions.◀

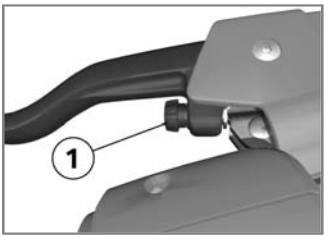
- Make sure that the clamping screws **1** are adjusted symmetrically on the left and right.
- Tighten clamping screws.

Clutch

Adjusting clutch lever

If the position of the clutch fluid reservoir is changed, air can enter the clutch system.
Do not reposition the handlebar controls on the handlebars or the handlebars in their mounts.◀

Adjusting the clutch lever while driving can lead to accidents.
Only adjust the clutch lever when the motorcycle is stationary.◀



- Turn adjusting screw **1** clockwise.

The adjusting screw has a limit position and can be turned more easily when you press the clutch lever forward.◀

» Distance between handlebar grip and clutch lever increases.

- Turn adjusting screw **1** counterclockwise.

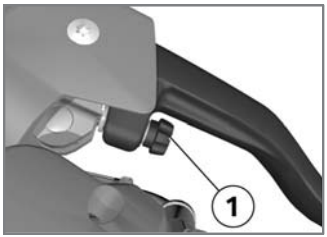
» Distance between handlebar grip and clutch lever decreases.

Brakes

Adjusting handbrake lever

Changing the position of the brake-fluid reservoir can allow air to penetrate the brake system.
Do not reposition the handlebar controls on the handlebars or the handlebars in their mounts.◀

Adjusting the brake lever while driving can lead to accidents.
Only adjust the brake lever when the motorcycle is stationary.◀



- Turn adjusting screw **1** clockwise.

The adjusting screw has a limit position and can be turned more easily when you press the handbrake lever forward.◀

» Distance between handlebar grip and handbrake lever increases.

- Turn adjusting screw **1** counterclockwise.

» Distance between handlebar grip and handbrake lever decreases.

Lights

Switching on side lights

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

The parking lights are a strain on the battery. Do not leave the ignition switched on longer than absolutely necessary.◀

Switching on low-beam headlight

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

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

Switching on high-beam headlight

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

» The high-beam headlight is switched on.

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

» High-beam headlight switched off.

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

» High-beam headlight is switched on as long as switch is pressed (headlight flasher).

Switching on parking lights

- Switch off ignition.

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

- Press and hold left turn indicator switch **1** until parking light is switched on.

» Parking light switched on.

Switching off parking lights

- Switch ignition on and then off again.

» The parking lights are switched off.

Headlight

Adjusting headlight for RHD/LHD traffic

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

Have the headlight adjusted to the relevant conditions by a specialized workshop, preferably an authorized BMW Motorrad retailer.

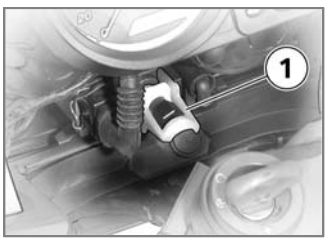
Ordinary adhesive tape damages the plastic lens.
To prevent damage to the plastic lens, consult a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

Headlight range and spring preload

The headlight range generally remains constant due to the adjustment of the spring preload to the loading state. Spring preload adjustment may only be insufficient when the motorcycle is very heavily loaded. In this case, the headlight range must be adjusted to the weight.

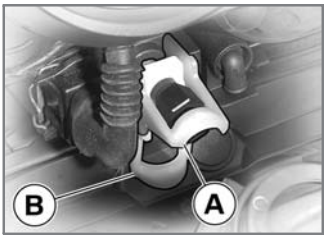
If you are unsure whether the basic headlight setting is correct, consult a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

Headlight range adjustment



1 Headlight range adjustment

In the case of very high payloads, the available spring preload adjustment might not be adequate. To avoid dazzling oncoming traffic, the headlight adjustment can be corrected by adjusting the swivel lever.



A Neutral position
B Position with heavy payload

Turn indicators

Switching on left-hand turn indicator

- Switch on ignition.

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

After driving for approx. ten seconds or after covering a distance of approx. 650 ft (200 m), the turn indicators are automatically switched off.◄

» The left-hand turn indicator switched on.
» The indicator light for left-hand turn indicator flashes.

Switching on right-hand turn indicator

- Switch on ignition.

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

After driving for approx. ten seconds or after covering a distance of approx. 650 ft (200 m), the turn indicators are automatically switched off.◄

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

Switching off turn indicators

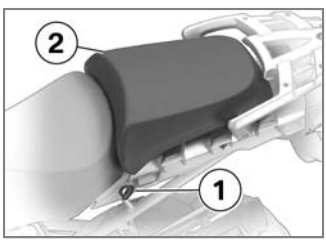
- Press turn-indicator cancel button **3**.

» The turn indicator is switched off.
» The turn indicator lights in the indicator light panel are off.

Front and rear seats

Removing passenger seat

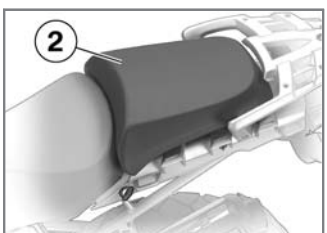
- Make sure the ground is level and firm and park the motorcycle.



- Turn key **1** in seat lock clockwise while pressing down on front region of passenger seat **2**.
- Lift front of passenger seat and remove.

Installing passenger seat

⚠ If too much pressure is applied in the forward direction, there is a danger that the motorcycle will be pushed off its stand.
Make sure that the motorcycle is steady on its stand.◀

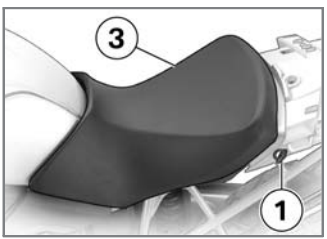


- Insert passenger seat **2** into rear locking device.
- Press down firmly on front region of passenger seat.

» Passenger seat clicks audibly into place.

Removing driver's seat

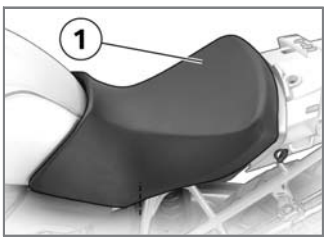
- Make sure the ground is level and firm and park the motorcycle.
- Removing passenger seat (➠ 61)



- Turn key **1** in seat lock counterclockwise while pressing down on rear region of driver's seat **3**.
- Lift rear of driver's seat and remove.

Installing driver's seat

If too much pressure is applied in the forward direction, there is a danger that the motorcycle will be pushed off its stand.
Make sure that the motorcycle is steady on its stand.◀



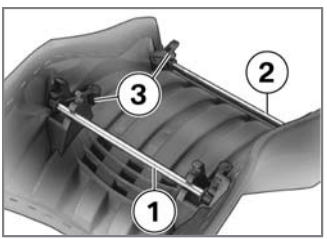
- Install driver's seat **1** into front locking device.
- Place driver's seat loosely on motorcycle.
- Press driver's seat lightly forward in rear area and then firmly downward.

» Driver's seat clicks audibly into place.

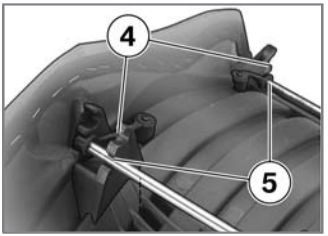
- Installing passenger seat (➡ 61)

Adjusting driver's seat

- Make sure the ground is level and firm and park the motorcycle.
- Removing driver's seat (➡ 61)
- Turn driver's seat over.



- Insert seat rods **1** and **2** into the mounts **3**.



If both seat rods are not in the same position, the driver's seat can come loose from the locking device and wiggle.
Always insert both seat rods in the same position.◀

- Insert seat rod into position **4**.

» High seat position.

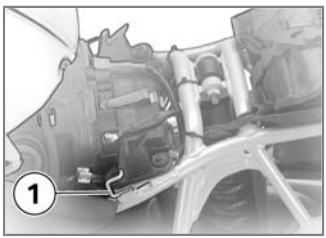
- Insert seat rod into position **5**.

» Low seat position.

- Installing driver's seat (➡ 62)

Helmet holder

Helmet holder under seat



Helmet holders **1** are provided on the right and left under the seat.

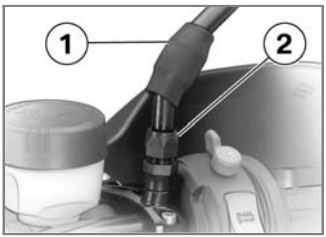
A motorcycle helmet can be hung on these helmet holders.

Mirrors

Adjusting mirrors

- Move the mirror into the desired position by applying light pressure at the edge.

Adjusting mirror arm



- Slide the protective cap **1** up over the screw connection on the mirror arm.
- Loosen union nut **2**.
- Turn the mirror arm into the desired position.
- Retighten union nut **2**.

	Mirror on clamping piece
– 18 lb/ft (25 Nm)	

- Slide the protective cap **1** over the screw fitting.

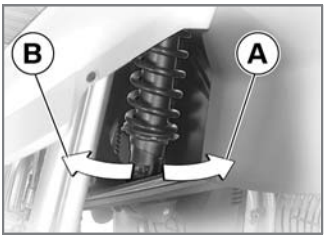
Spring preload

Adjusting spring preload

The spring preload on the front wheel must be adapted to the nature of the terrain. Uneven terrain requires a high spring preload, flat terrain requires a lower spring preload. The spring preload on the rear wheel must be adapted to the load of 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 on front wheel

- Make sure the ground is level and firm and park the motorcycle.



- To reduce spring preload, turn spring retainer in direction **A**.
- To increase spring preload, turn spring retainer in direction **B**.

The range of adjustment has nine positions.◀

Spring preload on front wheel
– Spring preload at position 2 (For street use)
– Spring preload at position 3 (For riding on gravel tracks etc. and loading)
– Spring preload at position 5 (For offroad use)

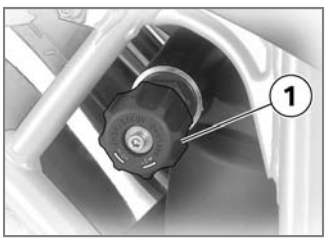
Adjusting spring preload for rear wheel

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

Adjusting the spring preload while the motorcycle is being ridden can lead to accidents.
Adjust the spring preload on-

ly when the motorcycle is stationary.◀

- Make sure the ground is level and firm and park the motorcycle.



- To increase spring preload, turn handwheel **1** in direction of arrow HIGH.
- To decrease spring preload, turn handwheel **1** in direction of arrow LOW.

Rear wheel preload (for rider traveling solo)

– Rotate handwheel toward left in arrow direction LOW (L) all the way to stop, then rotate ten clicks to the right

Rear wheel spring preload (for offroad use or with passenger and luggage)

– Turn handwheel toward right in arrow direction HIGH (H) all the way to stop.

Shock absorbers

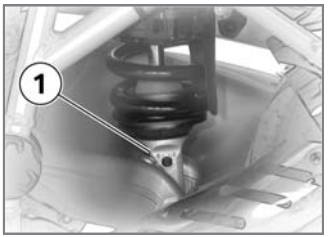
Damping and spring preload

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

Adjusting damping on 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 the spring preload.◀

- Make sure the ground is level and firm and park the motorcycle.



- Adjust rear wheel shock with adjusting screw **1**.

- To increase absorption, turn adjusting screw **1** in arrow direction H.
- To reduce absorption, turn adjusting screw **1** in arrow direction S.

Basic setting for rear-wheel damping
– Single rider with one person weighing approx. 185 lbs (85 kg)
– Turn adjusting screw in arrow direction H until stop, then turn one and a half turns in arrow direction S.

Tires

Checking tire pressures

Incorrect tire pressures result in poorer handling of the motorcycle and can lead to accidents.
Ensure proper tire pressure.◀

At high road speeds, tire valves have a tendency to open as a result of centrifugal force.
Fit metal valve caps with rubber seals and screw them on firmly to prevent sudden deflation.◀

Incorrect tire pressure reduces the life of the tires.
Ensure proper tire pressure.◀

- Check the tire pressure using the following data.

Front tire pressure
– 31.9 psi (2.2 bar) (Single rider, with cold tire)
– 36.3 psi (2.5 bar) (Driver with passenger and/or load, with cold tire)

 Rear tire pressure
– 36.3 psi (2.5 bar) (Single rider, with cold tire)
– 42.1 psi (2.9 bar) (Driver with passenger and/or load, with cold tire)

In case of insufficient tire pressure:

• Correct tire pressure.

Riding

Safety instructions

Rider's equipment

Do not ride without the correct clothing. Always wear:
- Helmet
- Rider's suit
- Gloves
- Boots

This applies even to short journeys, and to every season of the year. Your authorized BMW Motorrad retailer will be glad to advise you and has 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 tire pressure
- Poor tire tread
- Etc.

Correct loading

Overloading and uneven loading can diminish the riding stability of the motorcycle.
Do not exceed the gross weight limit and observe the loading information.◀

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 colorless and odorless but highly toxic.

Inhaling 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 closed rooms.◀

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 run the engine with the spark-plug cap removed
- Stop the engine immediately if it misfires
- Use unleaded fuel only
- 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.
Make sure that no highly flammable materials can come in 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. After starting, ride off immediately.◀

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

⚠ Modification of the engine-electronics control unit can lead to damage to the motorcycle, and therefore to accidents.
Do not modify the engine-electronics control unit.◀

⚠ Tampering with control unit of 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
– Front and rear brake fluid levels
– Clutch
– Clutch fluid level
– Shock absorber setting and spring preload
– Tread depth and tire pressure
– Firm seating of cases and luggage

At regular intervals:

– Engine oil level (every time you refuel)
– Brake pad wear (during every third stop for refueling)

Starting

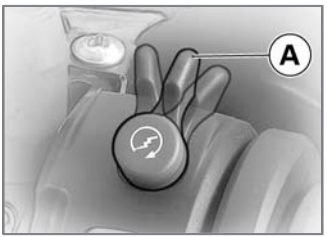
Side stand

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 transmission in neutral and then engage a gear before retracting the side stand.

Transmission

You can start the engine when the transmission is in neutral or if you pull the clutch with a gear engaged. Do not engage the clutch until after switching on the ignition, as otherwise the engine cannot be started. When the transmission is in neutral, the green neutral indicator light is on and the gear indicator in the multifunction display shows N.

Starting engine



- Emergency ON/OFF switch in operating position **A**.
- Switch on ignition.

» Pre-ride check is performed. (➠ 73)

with OE BMW Motorrad Integral ABS:

- Switch on ignition.

» Pre-ride check is performed. (➠ 73)
» ABS self-diagnosis is performed. (➠ 74)◁

with OE Automatic Stability Control (ASC):

- Switch on ignition.

» Pre-ride check is performed. (➡ 73)
» ABS self-diagnosis is performed. (➡ 74)
» ASC self-diagnosis is performed. (➡ 74)◁

- Press the starter button **1**.

▷ At extremely low temperatures it may be necessary to operate the throttle twist grip during starting. At ambient temperatures below 32 °F (0 °C), actuate 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 if the engine refuses to start. (➡ 132)

Pre-ride check

After switching on the ignition, the instrument cluster carries out a general warning light test. In the process, the warning lamp first lights up red and then yellow to test its function. This test, called a "Pre-Ride Check", is indicated by the lettering CHECK! in the display. If the engine is started during the test, the test is canceled.

Phase 1

General warning light lights up red.

– CHECK! warning appears.

Phase 2

General warning light lights up yellow.

– CHECK! warning appears.

If the general warning light is not shown:

If the general warning light cannot be displayed, several malfunctions cannot be indicated.
Watch the display of the general warning light in red and yellow.◀

- Have the malfunction corrected as soon as possible by a specialized workshop,

preferably an authorized BMW Motorrad retailer.

ABS self-diagnosis[OE]

The readiness for operation of the BMW Motorrad Integral ABS is checked by the self-diagnosis. Self-diagnosis is performed automatically when you switch on the ignition. To check the wheel sensors, the motorcycle must drive faster than 3 mph (5 km/h).

Phase 1

» Checking the diagnosable system components while stopped.

ABS warning light flashes.


Possible country-specific version of ABS warning light.

Phase 2

» Checking the wheel sensors while starting off.

ABS warning light flashes.


Possible country-specific version of ABS warning light.

ABS self-diagnosis completed

» The ABS warning light goes out.

If an ABS fault is indicated after the ABS self-diagnosis is completed:

- Continue driving is possible. It must be noted that neither the ABS nor the integral function is available.
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

ASC self-diagnosis[OE]

The readiness for operation of the BMW Motorrad ASC is checked by the self-diagnosis. Self-diagnosis is performed automatically when you switch on the ignition. So that the ASC self-diagnosis can be completed, the engine must be running and the motorcycle must drive at a speed of at least 3 mph (5 km/h).

Phase 1

» Checking the diagnosable system components while stopped.


ASC symbol flashes slowly.

Phase 2

» Checking the diagnosable system components while driving.

 ASC symbol flashes slowly.

ASC self-diagnosis completed

» The ASC warning light goes out.

If an ASC fault is indicated after the ASC self-diagnosis is completed:

- Continue driving is possible. It must be noted that the ASC function is not available.
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Running in

The first 600 miles (1,000 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.
Adhere to the specified engine run-in speeds.◀

- Do not exceed the engine run-in speeds.

 Engine run-in speeds
– <4000 min^{-1}

- Do not accelerate at full throttle.
- Avoid low engine speeds at full load.
- After 300 - 750 miles (500 - 1,200 km), have the first inspection performed.

Brake pads

New brake pads must "bed down" and therefore do not achieve their optimum friction levels during the first 300 miles (500 km). This initial reduction in braking efficiency can be compensated for by exerting greater pressure on the levers.

 New brake pads can extend stopping distance by a significant margin.
Brake early.◀

Tires

New tires have a smooth surface. This must be roughened by riding in a restrained manner at various heel angles until the tires are run in. This running in procedure is

essential if the tires are to achieve maximum grip.

New tires have not achieved their full adhesion yet. There is a danger of accidents when driving at extreme angles. Avoid extreme angles.◀

Driving offroad

Wheels and tires

A tire pressure reduced for offroad driving leads to poorer handling of the motorcycle on paved roads and can result in accidents. Ensure proper tire pressure.◀

As a touring Enduro model, this motorcycle has also been designed for light offroad use on unpaved roads. However, heavier offroad use can result in damage to the standard cast aluminum rims. For heavier offroad use, use the cross-spoke wheels available as optional equipment◀

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 disks or brake pads.
Brake early until the brakes are braked clean.◀

Driving on unpaved or dirty roads leads to increased brake pad wear. Check the brake pad thickness more often and replace the brake pads sooner.◀

Deactivatable ABS^{OE}

For offroad use, you can switch off the BMW Integral ABS (➠ 51).

Spring preload and damping

Spring preload and damping values that have been changed for offroad use reduce handling characteristics on paved surfaces.
Before returning to on-road use, reset correct spring preload and correct damping.◀

Parking your motorcycle

Placing 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 side stand fully.

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

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

When you prop the motorcycle 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.
- Check that the motorcycle is standing firmly.

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

- Lock steering lock.

Remove from side stand

- Unlock steering lock.
- 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 vehicle.◀

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

Placing on center 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.

- Dismount and keep your left hand on the left handlebar grip.
- Grasp passenger seat handle or rear frame with your right hand.
- Place right foot on extended arm of center stand, and press stand down until its curved feet touch ground.
- Place full weight of body on center stand while pulling motorcycle toward rear.

Excessive movements could result in the center stand retracting, and the motorcycle would topple as a result.
Do not sit on the motorcycle while it is resting on the center stand.◀

- Check that the motorcycle is standing firmly.
- Lock steering lock.

Pushing off center stand

- Unlock steering lock.
- Place your left hand on the left handlebar grip.
- With your right hand, grip the rear grab handle or the rear frame.
- Push motorcycle forward off center stand.
- Make sure that center stand is fully retracted.

Refueling

Fuel is highly flammable. Fire at the fuel tank can result in fire and explosion.
Do not smoke. Never bring a naked flame near the fuel tank.◀

Fuel expands when exposed to heat. When the tank is overfilled, fuel can escape and get onto the rear wheel. This results in a danger of falling.
Do not fill the tank past the bottom edge of the filler neck.◀

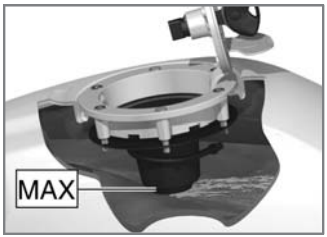
Fuel attacks plastic surfaces, making them cloudy or unattractive.
Wipe off any fuel that gets onto plastic parts immediately.◀

Fuel can attack the material of the windshield and the side wind deflectors, making them cloudy or unattractive.
Wipe off any fuel that gets onto the windshield and wind deflectors immediately.◀

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

- Make sure the ground is level and firm and park the motorcycle.

- Open protective cap.
- Open fuel tank cap with ignition key by turning counterclockwise.



- Refuel with quality listed below at most until lower edge of filler neck is reached.

The nominal value for mileage and consumption apply for the recommended fuel type.◀

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

Recommended fuel type
– 91 ROZ/RON (Regular unleaded (fuel type can be used with reduced performance and consumption))

Usable fuel quantity
– 5.3 gal (20 l)

Reserve fuel quantity
– 1.1 gal (4 l)

- Close fuel tank cap with firm pressure.
- Remove key and close protective cap.

Tire Pressure Control TPC[OE]

Function

A sensor is located in each tire, which measures the air temperature and the air pressure inside the tire and sends these values to the control unit.
The sensors are equipped with a centrifugal controller, which does not enable the transmission of the measured values until a speed of approx. 20 mph (30 km/h) is reached. Before initial reception of the tire pressure, - - is shown in the display for each tire. The sensors continue to transmit the measured values for approx. 15 minutes after the motorcycle comes to a stop.
The control unit can manage four sensors, and as a result two sets of wheels with TPC sensors can be driven. If a TPC control unit is installed, however the wheels have no sensors, then an error message is output.

Temperature compensation

The tire pressures are shown temperature-compensated in the multifunction display; they refer to a tire air temperature of 68 °F (20 °C). As the air-pressure testers at filling stations show a temperature-dependent tire pressure, they do not match the values indicated in the multifunction display in most cases.

Air pressure ranges

The TPC control unit distinguishes between three air pressure ranges matched to the motorcycle:

- Air pressure within the permissible tolerance.
- Air pressure at the limits of the permissible tolerance.
- Air pressure outside the permissible tolerance.

A warning is also output if the tire pressure drops rapidly within the permissible tolerance.

General brake system

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 disks and pads might be wet and the brakes might not take effect immediately.
Brake early until the brakes are dry or braked until dry.◀

Salt on brakes

The full braking effect can be delayed if the motorcycle is ridden on salt-covered roads and the brakes are not applied for some time.
Brake early until the salt layer of the brake disks and brake pads has been braked off.◀

Oil or grease on brakes

Oil and grease on the brake disks and pads considerably diminish braking efficiency.
Especially after repair and maintenance tasks, 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 disks or brake pads.
Brake early until the brakes are braked clean.◀

Driving on unpaved or dirty roads leads to increased brake pad wear.
Check the brake pad thickness more often and replace the brake pads sooner.◀

Brake system with BMW Motorrad Integral ABS[OE]

Partially integral brake

Your motorcycle is equipped with a partially integral brake configuration. Both front and rear brakes are applied simultaneously when you pull the handbrake lever. The footbrake lever acts only on the rear brake.
The BMW Motorrad Integral ABS adapts the braking force distribution between the front and rear wheel brake to the loading of the motorcycle during braking.

Spinning of the rear wheel with the front brake pulled (burn out) is made considerably more

difficult by the integral function. The result may be damage to the rear wheel brake and the clutch. Avoid burn-outs.◀

How does ABS work?

The maximum braking force that can be transferred to the road surface is partially dependent on the friction coefficient of the road surface. Gravel, ice, snow and wet roads offer a considerably poorer friction coefficient than a dry, clean asphalt surface. The poorer the friction coefficient of the road surface is, the longer the braking distance will be.
If the maximum transferrable braking force is exceeded when the driver increases the brake pressure, the wheels begin to block and driving stability is lost, and a fall can result. Before this situation occurs, ABS intervenes and adjusts the brake pressure to the maximum transferrable braking force. This enables the wheels to continue to turn and maintains driving stability regardless of the road surface condition.

What happens when rough roads are encountered?

Bumpy or rough roads can briefly lead to a loss of contact between the tires and the road surface, until the transferrable braking force is reduced to zero. If braking is carried out in this situation, ABS must reduce the brake pressure to ensure driving stability when restoring contact to the road. At this point in time, the BMW Motorrad Integral ABS must assume extremely low friction coefficients (gravel, ice, snow) so that the running wheels turn in every imaginable case and the driving stability is ensured. After detecting the actual conditions, the system adjusts the optimum brake pressure.

How is the BMW Motorrad Integral ABS noticeable to the rider?

If the ABS system must reduce the braking forces due to the conditions described above, then vibrations can be felt at the handbrake lever.
If the handbrake lever is pulled, then braking pressure is built up at the rear wheel with the integral function.
If the footbrake pedal is first actuated after this, the brake pressure already built up can be felt earlier than

the counter-pressure, than when the footbrake pedal is actuated before or together with the handbrake lever.

How is the shortest braking distance achieved?

The dynamic load distribution between the front and rear wheel changes during braking. The heavier you brake, the more the front wheel is loaded. The greater the wheel load, the more braking force can be transferred.
To achieve the shortest possible braking distance, the front brake must be applied quickly and with increasing force. This optimally utilizes the dynamic load increase on the front wheel. At the same time, the clutch should also be actuated. With the "forced braking" often practiced in which the brake pressure is generated as quickly as possible and with great force, the dynamic load distribution cannot follow the increased deceleration and the braking force cannot be completely transferred to the road surface. To prevent the front wheel from locking, the ABS system must intervene and reduce the brake pressure; the braking distance increases.

Rear wheel lift

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

Severe braking can cause the rear wheel to lift off the ground.
When braking, bear in mind that the ABS control cannot be relied on in all circumstances to prevent the rear wheel from lifting off the ground.◀

What are the design characteristics of the BMW Motorrad Integral ABS?

The BMW Motorrad Integral ABS ensures driving stability on any surface within the limits of driving physics. The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack.

Special situations

To detect the tendency of the wheels to lock up, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ABS function is deactivated for safety reasons and an ABS fault is indicated. The condition for a fault message is the completed self-diagnosis.
In addition to problems on the BMW Motorrad Integral ABS, unusual driving conditions can also lead to a fault message.

Unusual driving conditions:

- Heating up on the main or auxiliary stand at idle or with gear engaged.
- Rear wheel locked-up for a longer period of time by engine brake, e.g. when riding downhill offroad.

Should a fault message result due to one of the driving conditions described above, the ABS function can be reactivated by switching the ignition off and then on again.

How important is regular maintenance?

Any technical system is always only as good as its maintenance condition.
To ensure that the BMW Motorrad Integral ABS is in an optimally maintained condition, it is vital that the specified inspection intervals be complied with.◀

Reserves for safety

But remember: the potentially shorter braking distances which BMW Motorrad 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 Motorrad Integral ABS is unable to counteract their effects.

Engine management with BMW Motorrad ASC^{OE}

How does ASC work?

The BMW Motorrad ASC compares the wheel speeds of the front and rear wheel. From the speed difference the slip, and with it the stability reserves on the rear wheel are determined. When a slip limit is exceeded, the engine torque is adapted by the engine management system.

What are the design characteristics of the BMW Motorrad ASC?

The BMW Motorrad ASC is an assistance system for the driver and is designed for driving on public roads. Especially in at the limits of driving physics, the driver has a considerable influence on the control options of the ASC (shifting weight in curves, loose loads).
The offroad mode can be activated when driving offroad. In this mode the controlling intervention by the ASC is carried out later, enabling controlled drifting.
The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack. The BMW Motorrad ASC can be deactivated for these cases.

Even with ASC, physical laws cannot be overridden. The driver is always responsible for adapting his/her driving style.
Do not reduce the additional safety provided with risky driving.◀

Special situations

At an increasing angle, the acceleration performance is increasingly limited in accordance with physical laws. This can result in delayed acceleration when coming out of very tight curves.

To detect the spinning of the rear wheel, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ASC function is deactivated for safety reasons and an ASC fault is indicated. The condition for a fault message is the completed self-diagnosis.
In the following unusual driving states, the BMW Motorrad ASC can be automatically deactivated.

Unusual driving conditions:

- Driving on the rear wheel (wheely) for a longer period.
- Rear wheel spinning in place with front brake pulled (burn out).
- Heating up on the main or auxiliary stand at idle or with gear engaged.

The ASC is reactivated by switching the ignition on and off and then driving at a speed above 10 km/h.

With extremely massive-bar tires, an ASC intervention can occur before the optimum propulsion is achieved due

to the greater slip involved. In these cases the BMW Motorrad ASC should be deactivated.

If the front wheel loses contact to the ground during extreme acceleration, the ASC reduces the engine torque until the front wheel touches the ground again.
In this case, BMW Motorrad recommends turning back the throttle twist grip somewhat to achieve a stable driving state again as quickly as possible.

On a slippery surface, the throttle twist grip should never be suddenly turned back completely without pull the clutch at the same time. The engine braking torque can cause the rear wheel to block, resulting in an unstable driving state. This case cannot be controlled by the BWM Motorrad ASC.

Accessories

General instructions

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

Your authorized BMW Motorrad retailer is the right place to go for genuine BMW parts and accessories,other BMW-approved products, and expert advice on their installation and use.

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

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

BMW Motorrad 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. Nor is this guarantee provided when the official approval of a specific country has been granted. 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. The motorcycle must not infringe on national road-vehicle construction and use regulations.

Onboard socket

Ratings

When the battery voltage is insufficient and the maximum permissible load is exceeded, the onboard socket **1** and the onboard socket available as an optional equipment (OE) are automatically switched off.

Operating electrical accessories

You can start using electrical accessories only when the ignition is switched on. The accessory remains oper-

ational if the ignition is subsequently switched off. Approx. 15 minutes after switching off the ignition and/or during starting, the onboard socket is switched off to take the load off the vehicle electrical system.

Cable routing

The cables from the onboard 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

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

Luggage

Correct loading

Overloading and uneven loading can diminish the riding stability of the motorcycle.

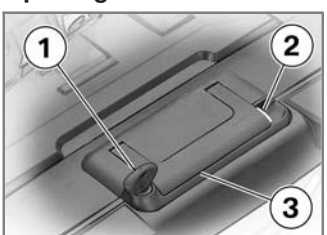
Do not exceed the gross weight limit and observe the loading information.◄

Fitting a luggage system will affect the handling of your motorcycle. When driving with cases (OA) and/or Topcase (OA), BMW Motorrad recommends a top speed of 112 mph (180 km/h).

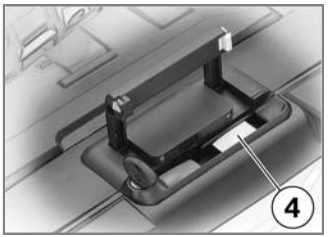
– Adjust setting of spring preload, damping characteristic and tire pressures to suit total weight.
– Make sure that the weight is uniformly distributed between right and left.
– Pack heavy items at bottom and toward inboard side.
– Max. load for left and right case (OA) in each case: 22 lbs (10 kg).
– Load Topcase (OA) with a maximum of 11 lbs (5 kg).

Case[OA]

Opening case



- Turn key **1** in case lock perpendicular to direction of travel.
- Hold down locking device **2** and fold out carrying handle **3**.



- Press ribbing of rocker button **4**.
- With rocker button pressed, lift case lid.

Closing case

- Turn key in case lock perpendicular to direction of travel.
- Close case lid.

» The lid clicks audibly into place.

If the case handle is folded down when the slot of the case lock is oriented in the direction of travel, the lock tab can be damaged.
Before folding down the case handle, make sure that the slot of the case lock is perpendicular to the direction of travel.◄

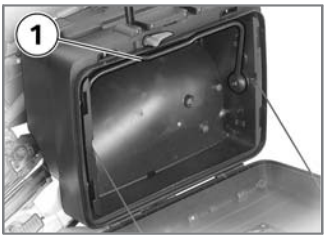
- Fold down case handle.

» The case handle clicks audibly into place.

- Turn key in case lock in the direction of travel and remove.

Adjusting case volume

- Open case.
- Empty case completely.

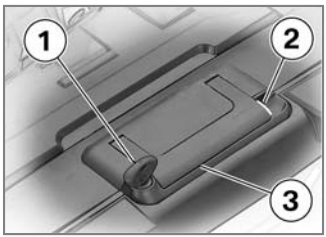


- To adjust case volume, lock pivot lever **1** in upper or lower end position.

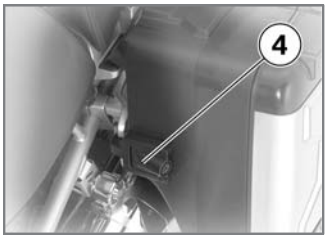
» Pivot lever in upper end position: small volume.

» Pivot lever in lower end position: large volume.

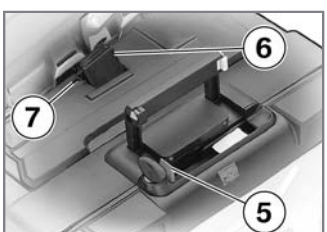
Removing case



- Turn key **1** in case lock perpendicular to direction of travel.
- Hold down locking device **2** and fold out carrying handle **3**.



- Open fastening lever **4**.



- Pull up red release lever **5**.

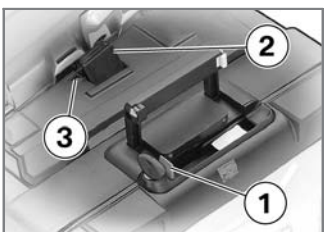
» Locking flap **6** pops up.

- Fold locking flap all the way open.

» A red bar shows in the viewing window **7**.

- Remove case from mount by its handle.

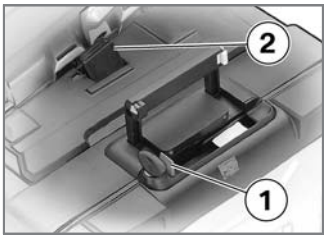
Mounting case



- Pull up red release lever **1**.

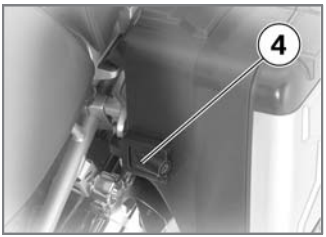
» Locking flap **2** pops up.

- Fold locking flap all the way open.
- Hook case into the upper bracket by lowering case into it from above.
- Push down locking flap until a black bar shows in the viewing window **3**.



- Pivot red release lever **1** down while pressing on locking flap **2**.

» The locking flap clicks into place.



- Hook case fasteners **4** into brackets.

- Make sure the case is securely held by the mushroom-headed fastener **5**.
- If the case wobbles or does not lock, adjust the mushroom-headed fastener to the proper height.
- Fold carrying handle down.
- Turn key parallel to direction of travel and remove.

Luggage rack

Additional luggage support

With the passenger seat removed and the cases (OA) mounted, removing the luggage rack provides a large luggage support to which various items can be lashed.
Be sure not to exceed the permissible total weight of the case.

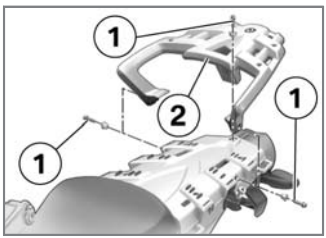
Removing luggage rack

- Make sure the ground is level and firm and park the motorcycle.

- Removing passenger seat (➡ 61)

with OA Case:

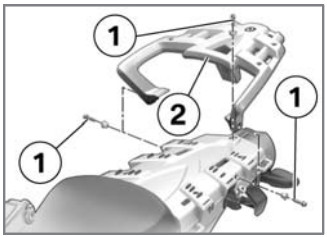
- Removing case (➡ 91)



- Remove three screws **1**.
- Remove sleeves and washers.
- Remove luggage rack **2**.

Installing luggage rack

- Make sure the ground is level and firm and park the motorcycle.



- Place luggage rack **2** into position.
- Install screws **1** with respective sleeves and washers.
- Installing passenger seat (➡ 61)

Maintenance

General instructions

The 'Maintenance' chapter describes work involving the checking and replacement of wear parts that can be performed with a minimum of effort.

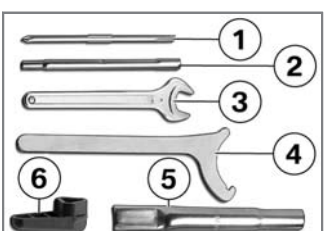
If special tightening torques are to be taken into account for assembly, these are listed. An overview of all required tightening torques is contained in the chapter "Technical Data".

Information on additional maintenance and repair work is provided in the Repair Manual for your motorcycle on DVD/CD-ROM (RepROM), which you can obtain from your authorized BMW Motorrad retailer.

Special tools and a thorough knowledge of motorcycles are required to carry out some of the work described here. If you are in doubt, consult a certified workshop, preferably your authorized BMW Motorrad retailer.

Toolkit

Standard onboard toolkit



1 Screwdriver, reversible blade

- Removing and installing turn indicator glasses
- Releasing battery terminals

2 Extension for screwdriver blade

- Adjusting damping on rear wheel

3 Open-ended wrench

- Adjusting mirror arm

4 Hook wrench

- Adjusting front spring preload

5 Extension

- Insert with hook wrench

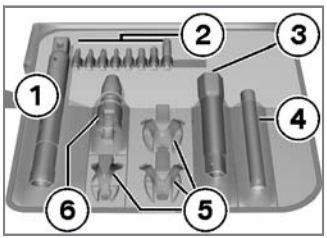
6 Oil cap wrench

- Opening and closing cap of oil fill location

Onboard-toolkit service set

Your BMW Motorrad retailer offers the onboard-toolkit service set for additional work. Information on conducting this work is provided in the

Repair Manual on DVD/CD-ROM, which is also available from your BMW Motorrad retailer.



1 Pull-out tool holder
- Holding of all tools with adapter
- Removing and installing spark plugs

2 1/4" bits
- 5x Torx, e.g. removing and installing rear wheel
- 2x Phillips
- 1x Straight-blade

3 3/8" Allen key, 22 mm
- Removing and installing front axle

4 Flashlight
- LED technology

5 Socket wrench
- 3x open-ended wrench, e.g. removing and installing battery terminal

6 Adapter
- Mounting for 1/4" bits
- 9x12 mm and 3/8" jointed adapter

Engine oil

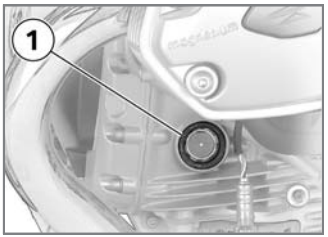
Checking engine oil level

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

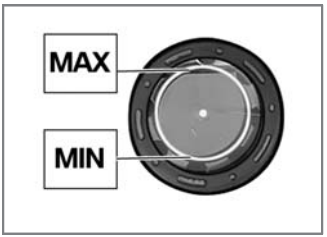
The oil level varies with the temperature of the oil. The higher the temperature, the higher the level of oil in the sump. Checking the oil level with the engine cold or after a short trip leads to misinterpretations and therefore to incorrect oil fill quantities. To ensure that the display of the engine oil level is correct, only check the oil level after a longer trip.◀

The warning on insufficient engine oil pressure is no substitute for the function of an oil-level indicator.The correct engine oil level can only be checked at the oil sight glass.◀

- Hold motorcycle vertically or place on center stand
- Wait five minutes after switching off the engine at operating temperature.



- Read off the oil level from the engine oil level display **1**.



	Specified level of engine oil
–	between MIN and MAX marking

If the oil level is below the MIN mark:

- Add engine oil up to specified level.

When oil level is above MAX mark:

- Have the fault eliminated by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Topping up engine oil

- Checking engine oil level (➠ 97)

⚠ Both too little and too much engine oil can lead to engine damage.
Always make sure that the oil level is correct.◄

- Wipe the area around the filler neck clean.
- Remove cap of fill location for engine oil with toolkit.
- Add engine oil up to specified level.
- Replace engine oil filler neck cap.

General brake system

Brake safety

A properly functioning 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.
In this case, have the brake system checked by a specialized workshop, preferably by an authorized BMW Motorrad retailer.

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

Checking brake operation

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

If no clear pressure points are perceptible:

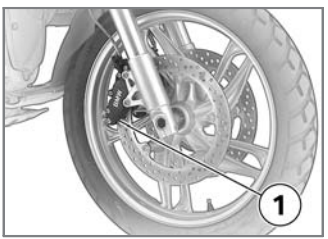
- Have the brakes checked by a certified workshop, preferably an authorized BMW Motorrad retailer.

Brake pads

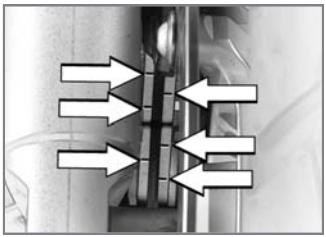
Checking front brake pad thickness

Continuing to use brake pads beyond the minimum pad thickness leads to reduced braking power and under certain circumstances to brake damage.
In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀

- Make sure the ground is level and firm and park the motorcycle.



- Visually check brake pad thickness **1** on left and right. Direction of view: between wheel and fork tube at brake caliper.



Front brake pad thickness

– The brake pads must have clearly visible wear marks (arrows).

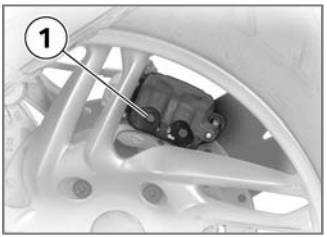
If the wear indicating mark is no longer clearly visible:

- Have the brake pads replaced by a specialized workshop, preferably an authorized BMW Motorrad retailer.

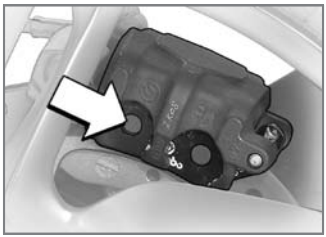
Checking brake pad thickness at rear

Continuing to use brake pads beyond the minimum pad thickness leads to reduced braking power and under certain circumstances to brake damage.
In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀

- Make sure the ground is level and firm and park the motorcycle.



- Visually check brake pad thickness **1** from left side.



Rear brake-pad thickness

– The brake disk must not be visible through the bore hole of the inner brake pad.

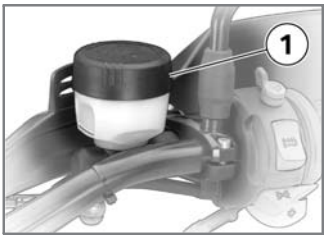
If the brake disk is visible:
- Have the brake pads replaced by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Brake fluid

Checking front brake fluid level

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

- Make sure the ground is level and firm and park the motorcycle.
- Move handlebars into straight-ahead position.



- Read off brake fluid level at front brake-fluid reservoir **1**.

In the event of brake pad wear, the brake fluid level in the brake-fluid reservoir falls.◀

Front brake fluid level

– Brake fluid DOT4

– The brake fluid level must not fall below the MIN mark. (Brake-fluid reservoir horizontal)

If the brake fluid level drops below the permissible level:

- Have the defect corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

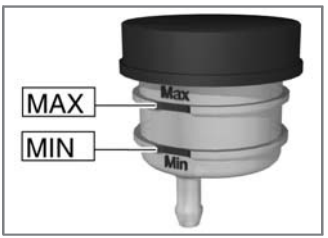
Checking rear brake fluid level

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

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

- Read off the brake fluid level at the reservoir **1**.

In the event of brake pad wear, the brake fluid level in the brake-fluid reservoir falls.◀



Rear brake fluid level

– Brake fluid DOT4

– The brake fluid level must not fall below the MIN mark. (Brake-fluid reservoir horizontal)

If the brake fluid level drops below the permissible level:

- Have the defect corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Clutch

Checking clutch operation

- Pull the clutch lever.

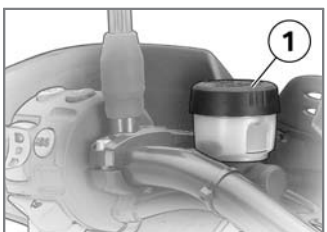
» The pressure point must be clearly perceptible.

If no clear pressure point can be felt:

- Have the clutch checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Checking clutch fluid level

- Make sure the ground is level and firm and park the motorcycle.
- Move handlebars into straight-ahead position.



- Read off clutch fluid level at reservoir **1**.

The fluid level in the clutch fluid reservoir rises due to clutch wear.◀

Clutch fluid level

– The clutch fluid level must not drop. (Motorcycle standing upright with handlebars straight ahead)

If the fluid level drops:

Unsuitable hydraulic fluids could cause damage to the clutch system.
No fluids may be poured in.◀

- Have the defect corrected as soon as possible by a specialized workshop,

preferably an authorized BMW Motorrad retailer.

The clutch system is filled with a special hydraulic fluid that does not require changing.◀

Tires

Checking tire tread depth

The handling of your motorcycle can already change for the worse before the legally prescribed minimum tread depth is reached. Have tires replaced even before the minimum tread depth is reached.◀

- Make sure the ground is level and firm and park the motorcycle.
- Measure tire tread depth in main tread grooves with wear indicating marks.

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

When the minimum tread depth is reached:

- Replace tires concerned.

Top speed

The maximum speed specified for the motorcycle may be higher than the maximum speed permissible for the tires. Excessively high speeds can lead to tire damage and accidents. Observe the maximum permissible speed for the tires.◀

With massive-bar tires, the top speed permissible for the tire must be observed. Attach maximum permissible speed decal in field of view.

Rims

Checking rims

- Make sure the ground is level and firm and park the motorcycle.
- Visually inspect the rims for defects.
- Have damaged rims checked and, if necessary, replaced by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Checking spokes[OE]

- Make sure the ground is level and firm and park the motorcycle.

- Sweep across spokes with a screwdriver handle or similar item, paying attention to resulting series of notes.

If you hear an uneven series of notes:

- Have the spokes checked by a certified workshop, preferably an authorized BMW Motorrad retailer.

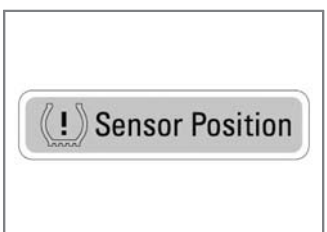
Wheels

Approved wheels and tires

For every size of tire, BMW Motorrad has tested certain makes and approved those it has found to be roadworthy. If you use wheels and tires that have not been approved, BMW Motorrad cannot assess their suitability or provide any guarantee as to their road safety.

Use only wheels and tires that BMW Motorrad has approved for your type of motorcycle. Extensive information is available at your authorized BMW Motorrad retailer or on the Internet at www.bmw-motorrad.com.

TPC sticker[OE]

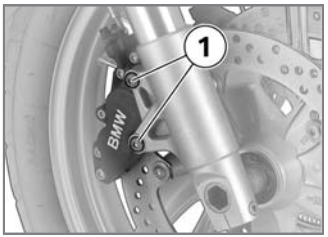


The TPC sensors can be damaged by improper tire mounting.
Inform the BMW Motorrad retailer or the specialized workshop that the wheel is equipped with a TPC sensor.◄

On motorcycles equipped with TPC, a corresponding sticker is located on the wheel rim at the position of the TPC sensor. During a tire change it must be ensured that the TPC sensor is not damaged. Inform the BMW Motorrad retailer or the specialized workshop of the TPC sensor.

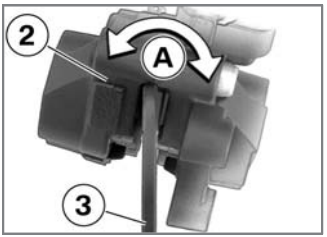
Removing front wheel

- Placing on center stand (➠ 77)



⚠ 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 disk on reassembly.
Do not operate the handbrake lever when the brake calipers have been removed.◀

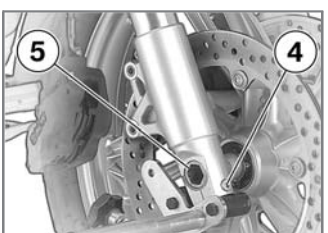
- Remove mounting bolts **1** of brake calipers on left and right.



- Press brake pads in brake caliper **2** apart slightly by rocking back and forth **A** in relation to brake disks **3**.
- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.
- Carefully pull brake calipers back and out until clear of brake disks.

with OE BMW Motorrad Integral ABS:

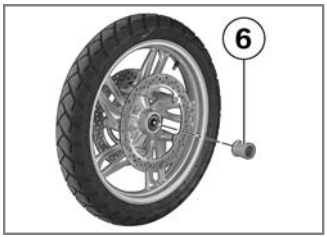
- When pulling off left brake caliper, make sure that ABS sensor cable is not damaged.◁
- Raise front of motorcycle until front wheel can rotate freely. To lift motorcycle, BMW Motorrad recommends using BMW Motorrad front wheel stand.
- Fitting front wheel stand (➠ 111)



- Remove axle clamping screw **4**.
- Remove quick-release axle **5**, holding wheel as you do so.

BMW Motorrad offers an adapter for removing the quick-release axle. This adapter can be combined with a commercially available 22 mm open-end or ring wrench. The adapter with the BMW special tool number 36 3 691 can be obtained from your authorized BMW Motorrad retailer.◀

- Place the front wheel in the front wheel guide on the ground.
- Roll the front wheel forward to remove.



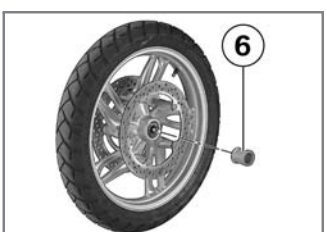
- Remove spacer bushing **6** from front wheel hub.

Installing front wheel

ABS malfunctions due to incorrect speed signals. There are differently segmented sensor wheels which may not be interchanged. Only install the correct sensor wheel for the corresponding construction status.◀

Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.
Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

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



- Insert spacer bushing **6** into wheel hub.

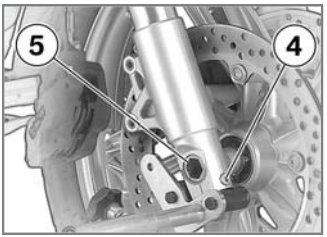
- Roll the front wheel into the front wheel guide.

with OE BMW Motorrad Integral ABS:

⚠ During the following work, parts of the front brake, in particular of the BMW Motorrad Integral ABS, can be damaged.
Take care not to damage the brake system, in particular the ABS sensor with cable and the ABS sensor ring.◀

⚠ The ABS sensor can be damaged when rolling in the front wheel.
Watch the ABS sensor when rolling in the front wheel.◀

- Roll the front wheel into the front wheel guide.◁



- Raise the front wheel, install the quick-release axle **5** and tighten to the appropriate tightening torque.

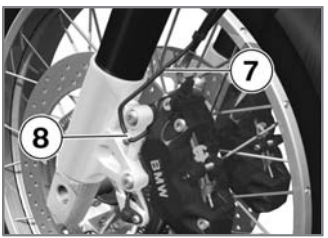
Quick-release axle in axle mount	
– 37 lb/ft (50 Nm)	

- Tighten axle clamping screw **4** to the appropriate tightening torque.

Clamping screw for quick-release axle	
– 14 lb/ft (19 Nm)	

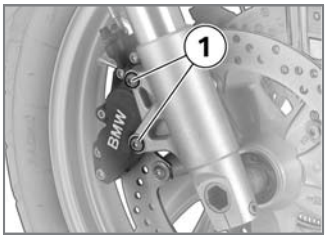
- Remove front wheel stand.
- Ease the brake calipers on to the brake disks.

with OE BMW Motorrad Integral ABS:



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

- Route ABS sensor cable **7** as shown in picture.
- Make sure that ABS sensor cable is clipped into holder **8**.◁



- Install securing screws **1** on left and right and tighten to appropriate tightening torque.

Brake caliper on slider tube	
– 22 lb/ft (30 Nm)	

- Remove the adhesive tape from the wheel rim.

⚠ Braking efficiency is impaired if the brake pads are not correctly bedded against the disks.
Before driving off, check that the braking effect kicks in without any delay.◀

- Squeeze handbrake levers forcefully several times.

» The pressure point must be clearly perceptible.

with OE BMW Motorrad Integral ABS:

- Switch on ignition.
- Wait for ABS self-diagnosis to complete.◁

Removing rear wheel

- Placing on center stand (➡ 77)
- Engage first gear.

- Remove mounting bolts **1** of rear wheel, holding wheel as you do so.
- Roll rear wheel out toward rear.

Installing rear wheel

⚠ Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.
Always have the tightening torques checked by a specialized workshop, preferably

an authorized BMW Motorrad retailer.◀

- Roll the rear wheel onto the rear wheel support.
- Place the rear wheel on the rear wheel support.

The lengths of the wheel studs of the cross-spoke wheel (optional equipment) and the cast aluminum wheel differ from each other. Mixing or confusion of the wheel studs leads to inadequate securing of the rear wheel, and therefore to the risk of accidents.

Use only wheel studs with the same permitted length code numbers. Do not oil/grease wheel studs.◀

- Mount wheel bolts **1** and tighten diagonally to appropriate tightening torque.

	Rear wheel on wheel carrier
–	Tightening sequence: Tighten diagonally
–	44 lb/ft (60 Nm)
	with OE Cross-spoke wheels:
–	Tightening sequence: Tighten diagonally
–	44 lb/ft (60 Nm)◁

Front wheel stand

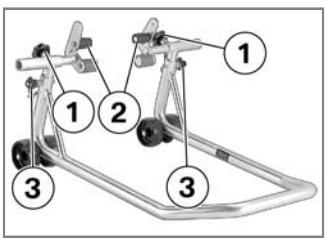
Use

A front wheel stand for simple, safe changing of the front wheel is available from BMW Motorrad. The front wheel stand with the BMW special tool number 36 3 970 can be obtained from your authorized BMW Motorrad retailer.

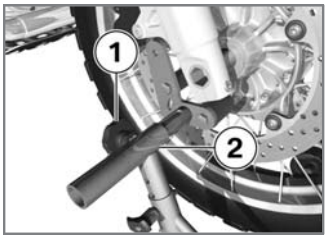
The BMW Motorrad front wheel stand is not designed for holding motorcycles without a center or other auxiliary stands. A motorcycle standing on the front wheel stand and the rear wheel alone can fall over. Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad front wheel stand.◀

Fitting front wheel stand

- Make sure ground is level and firm and park motorcycle on its center stand.



- Loosen adjusting screws **1**.
- Push two mounts **2** far enough apart that front forks fit between them.
- Use locating pins **3** to set front wheel stand to desired height.
- Center the front wheel stand relative to the front wheel and push it against the front axle.



- Align two mounts **2** so that front forks rest securely on them.
- Tighten adjusting screws **1**.

If the motorcycle is resting on the center stand: The motorcycle is raised too far at the front, the center stand lifts off the ground and the motorcycle can tip over to the side.
When raising the motorcycle, make sure that the center stand remains on the ground.◀

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

Lamps

General instructions

A bulb failure is signaled to you in the multifunction display by a warning indicator. If the brake or rear light fails, the general warning light also lights up in yellow. If the rear light fails, the brake light is used as a substitute in that the luminosity of the second glow filament is reduced to rear light level. Failure of the rear light is nevertheless indicated in 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.◀

The bulb is pressurized and can cause injury if damaged.
Wear eye and hand protection when replacing bulbs.◀

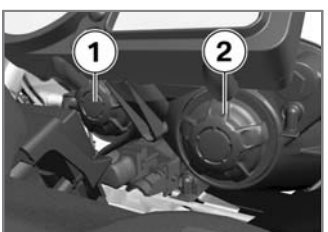
An overview of the bulb types installed in your motorcycle is provided in the chapter "Technical Data".◀

Do not touch the glass of new bulbs with your fingers. For installation, use a clean, dry cloth. Dirt deposits, in particular oil and grease, interfere with heat radiation from the bulb. Overheating and therefore short service life of the bulbs are the consequence.◀

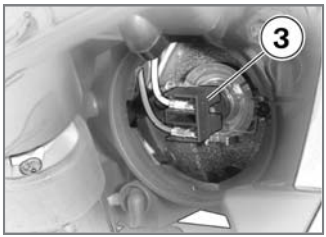
Replacing low-beam/high-beam bulb

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

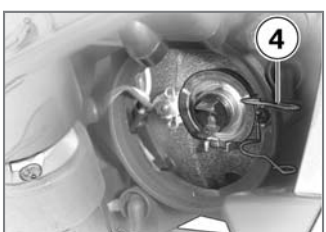
- Make sure the ground is level and firm and park the motorcycle.
- Switch off ignition.
- Turn handlebars to left.



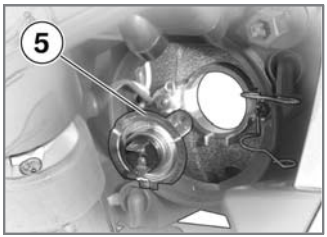
- For low-beam light, remove cover **1** by turning counterclockwise.
- For high-beam light, remove cover **2** by turning counterclockwise.



• Disconnect plug **3**.



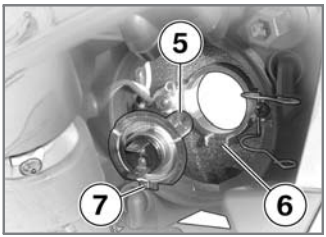
• Detach top and bottom of spring clip **4** from catch and fold to the side.



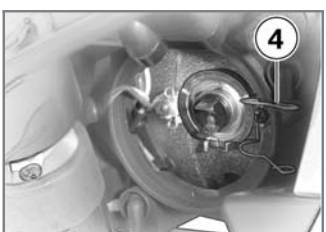
• Remove bulb **5**.
• Replace defective bulb.

Low-beam headlight bulb
– H7 / 12 V / 55 W

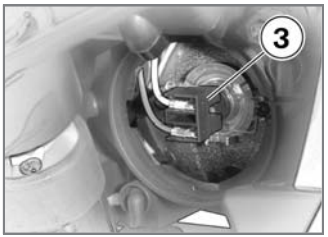
High-beam headlight bulb
– H7 / 12 V / 55 W



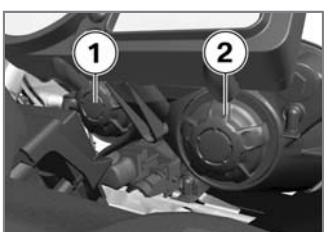
• Insert tab **7** of bulb **5** into guide **6**.



• Insert spring clip **4** into catch.



- Insert plug **3**.

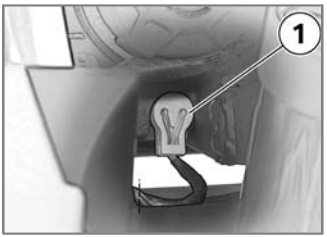


- For low-beam headlight, install cover **1** by turning clockwise. Make sure the word TOP is pointing up.
- For high-beam headlight, install cover **2** by turning clockwise. Make sure the word TOP is pointing up.

Replacing parking light bulb

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

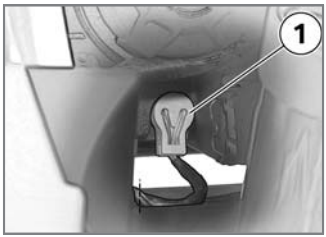
- Make sure the ground is level and firm and park the motorcycle.
- Switch off ignition.
- Turn handlebars to the right.



- Remove bulb holder **1** from headlight housing.
- Remove bulb from bulb socket.
- Replace defective bulb.

Side-light bulb
– W5W / 12 V / 5 W

- Insert bulb into bulb socket.

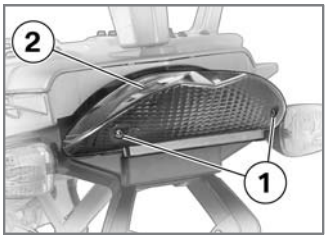


- Insert bulb holder **1** into headlight housing.

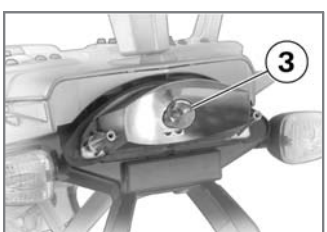
Replacing brake and rear light bulb

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

- Make sure the ground is level and firm and park the motorcycle.
- Switch off ignition.

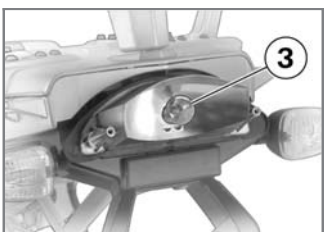


- Remove screws **1**.
- Pull lamp housing **2** toward rear from retaining brackets.



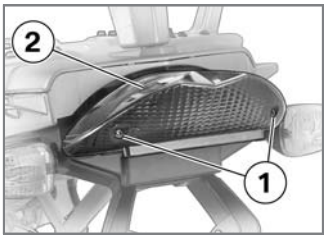
- Press bulb **3** into its socket and turn it counterclockwise to remove.
- Replace defective bulb.

Bulb of tail/brake light
– P21/5W / 12 V / 5 W / 21 W



- Press bulb **3** into the fitting and install turning clockwise.

The bulb cannot only be inserted in the socket in one direction.◀



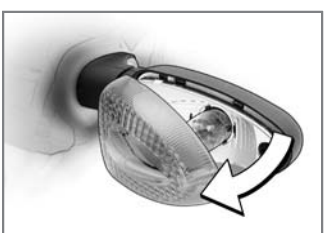
- Insert lamp housing **2** into retaining brackets.
- Install screws **1**.

Replacing front and rear turn indicator bulbs

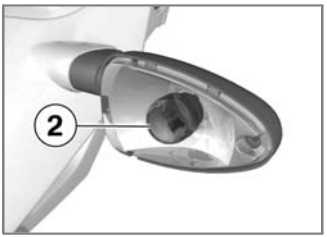
If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

- Make sure the ground is level and firm and park the motorcycle.

- Remove screw **1**.



- Pull screw connection side of lens out from mirror housing.

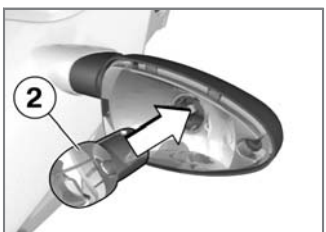


- Remove bulb **2** from light housing by turning it counterclockwise.
- Replace defective bulb.

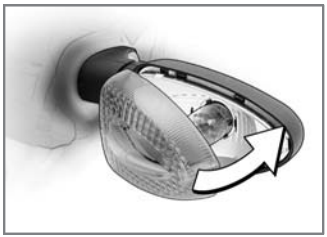
Bulb of front turn indicators
– R10W / 12 V / 10 W
with OE White turn indicator lamps:
– RY10W / 12 V / 10 W◁

Bulb of rear turn indicators
– R10W / 12 V / 10 W

Bulb of rear turn indicators
with OE White turn indicator lamps:
– RY10W / 12 V / 10 W◁



• Install bulb **2** by turning clockwise in light housing.



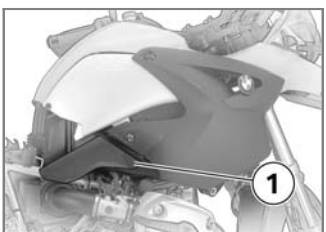
• Insert glass on motorcycle in lamp housing and close.

• Install screw **1**.

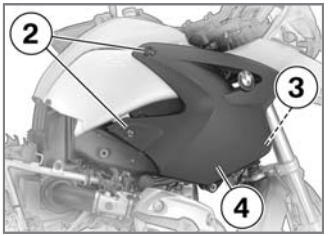
Air filter

Removing air filter

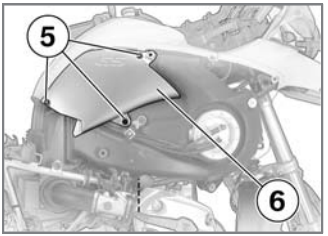
- Make sure ground is level and firm and place motorcycle on its center stand.
- Removing driver's seat (➡ 61)



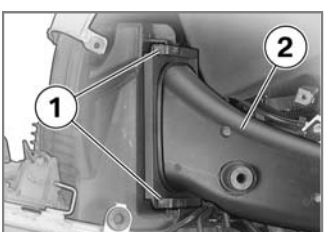
• Take off side trim piece **1**.



- Open quick-release fasteners **2**.
- Open quick-release fastener **3** from the inside by turning and removing from bracket.
- Pull side panel **4** forward out of bracket and remove.

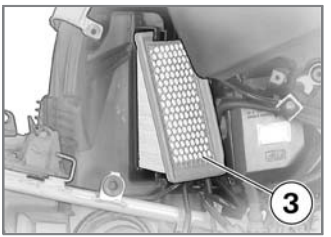


- Remove three mounting screws **5**.
- Remove tank cover **6**.



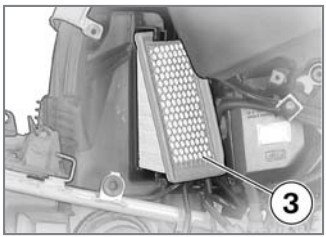
- Slide out both retaining brackets **1** by pressing on their rear ends.

- Remove intake snorkel **2**.

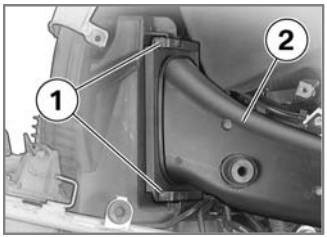


- Pull out bottom end of air filter **3**.

Installing air filter

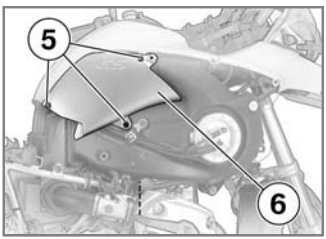


- Insert top of air filter **3** into air filter housing.
- Press bottom of air filter into air filter housing, making sure not to bend its layers in the process.

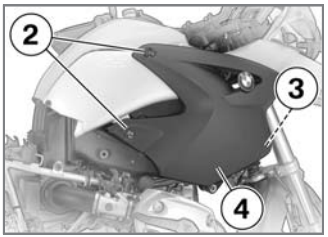


- Place intake snorkel **2** against air filter housing.
- Slide retaining brackets **1** into holder until they audibly click into place.

- Make sure that the throttle valve cable is seated in the guide **4** of the intake manifold and the throttle valve is resting against the stop.

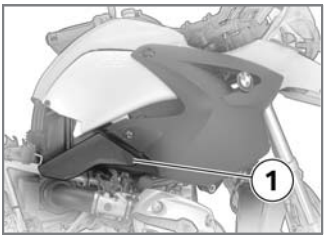


- Insert tank cover **6**.
- Install mounting screws **5**.



- Press front of side panel **4** into bracket.
- Close quick-release fasteners **2**.
- Orient quick-release fastener **3** horizontally and press into side panel **4**.

» The quick-release fastener clicks audibly into place.



- Insert side trim piece into socket **1**
- Installing driver's seat (➠ 62)

Jump starting

The wires leading to the onboard 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 motorcycle electronics.
Do not use the onboard socket to jump-start 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 motorcycle electronics.
The battery of the donor vehicle must have a voltage of 12 V.◄

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

- Make sure the ground is level and firm and park the motorcycle.
- Removing driver's seat (➡ 61)
- When jump-starting the engine, do not disconnect the battery from the onboard electrical system.
- Remove the protective cap from the positive battery terminal.
- 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 black jumper lead to negative terminal of donor battery, and other end to negative terminal of discharged battery.

▷ As an alternative to the negative battery terminal, the spring strut bolt can also be used.◀

- Run the engine of the donor vehicle during jump-starting.
- Start the engine of the motorcycle with the discharged battery in the usual way; if the engine refuses to start, wait a few minutes before repeating the attempt to protect the starter and the supporting 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.
- Place protective cover back onto positive battery terminal.

▷ To start the engine, do not use start sprays or similar items.◀

- Installing driver's seat (➡ 62)

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 maximize 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 onboard electronics (clock etc.) will drain the battery. This can cause the battery to run flat. If this happens, warranty claims will not be accepted.
During periods when the motorcycle is not being used, of more than four weeks, disconnect the battery from the motorcycle or connect a 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 when the motorcycle is not being used without having to disconnect the battery from the motorcycle's onboard systems. Additional information is available at your authorized BMW Motorrad retailer.◀

Charging connected battery

Charging the connected battery directly at the battery terminals can damage the motorcycle electronics.
To charge the battery via the battery terminals, disconnect the battery first.◀

If you switch on the ignition and the multifunction display and indicator lights fail to light up, the battery is completely flat. Attempting to charge a completely flat battery via the onboard socket can cause damage to the motorcycle's electronics.
Always charge a completely drained battery directly at the terminals of the disconnected battery.◀

Charging the battery via the onboard socket is only possible with suitable chargers. Unsuitable chargers can result in damage to the motorcycle electronics.
Use BMW chargers with the part numbers 71 60 7 688 864 (220 V) or 71 60 7 688 865 (110 V).
If in doubt, charge the

disconnected battery directly at the terminals.◀

- Charge the disconnected battery via the onboard socket.

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

- Comply with the operating instructions of the charger.

▷ If you are unable to charge the battery via the onboard socket, you may be using a charger that is not compatible with your motorcycle's electronics. In this case, please charge the battery directly at the terminals of the disconnected battery.◀

Charging disconnected battery

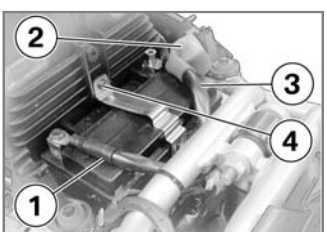
- Charge the battery using a suitable charger.
- Comply with the operating instructions of the charger.
- Once the battery is fully charged, disconnect the charger terminal clips from the battery terminals.

▷ In the case of longer periods when the motorcycle is not being used, the battery must be recharged regularly. See the instructions for caring for your battery. Always fully recharge the battery before returning it to use.◀

Removing battery

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

- Make sure the ground is level and firm and park the motorcycle.
- Switch off ignition.
- Removing driver's seat (➠ 61)
- Remove bracket according to operating instructions.



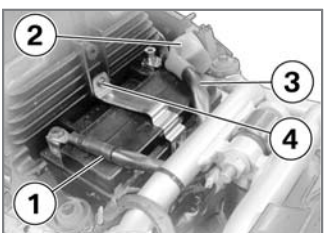
⚠ An incorrect disconnection sequence increase the risk of short-circuiting. Always observe the proper sequence.◀

- Remove battery ground wire **1** first.
- Fold open protective cover **2** for positive battery terminal.
- Then remove positive battery cable **3**.
- Remove screw **4** from battery retaining strap.
- Unhook retaining strap and remove.
- Lift battery up and out, using tilting movements if it is difficult to move.

Installing battery

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

- Make sure the ground is level and firm and park the motorcycle.
- Switch off ignition.
- Place the battery in the battery compartment, positive terminal on the right in the direction of travel.
- Hook battery retaining strap underneath and slide over battery.



- Install battery retaining strap screw **4**.

An incorrect installation sequence increases the risk of short-circuiting. Always observe the proper sequence.

Never install the battery without the protective cap.◀

- First install the positive battery cable **3**.
- Slide protective cover **2** for positive battery terminal into place.
- Attach negative battery cable **1**.
- Install bracket according to operating instructions.
- Switch on ignition.
- Fully open the throttle once or twice.

» Engine control unit detects throttle valve control.

- Installing driver's seat (➡ 62)
- Setting clock (➡ 46)

Care

Care products

BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. The materials in BMW Care Products have been tested in laboratories and in practice; they provide optimized care and protection for the materials used in your motorcycle.

The use of unsuitable cleaning and care products can damage motorcycle components.
For cleaning, do not use any solvents such as nitro-thinners, cold cleaning agents, fuel or similar, and do not use cleaning agents that contain alcohol.◀

Washing your motorcycle

BMW Motorrad recommends that you use BMW Insect Remover to soften and wash off insects and stubborn dirt from painted parts before 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 disks and pads might be wet and the brakes might not take effect immediately.
Brake early until the brakes are dry or braked until dry.◀

Warm water intensifies the effect of salt.
Only use cold water to remove 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 sensitive motorcycle parts

Plastics

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

- Windshields and wind deflectors
- Headlight lens made of plastic
- Covering glass of the instrument cluster
- Black, unpainted parts

If plastic parts are cleaned using unsuitable cleaning agents, the surfaces can be damaged.
Do not use cleaning agents that contain alcohol, solvents or abrasives to clean plastic parts.

'Fly sponges' or sponges with hard surfaces can also lead to scratches.◀

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

Windshield

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

Fuel and chemical solvents attack the windshield material; the windshield becomes cloudy or dull.
Do not use cleaning agents.◀

Chrome

Especially in the case of road salt, carefully clean chrome parts with a great deal of water and BMW auto shampoo. Use chrome polish for additional treatment.

Radiator

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

Cooling fins can be bent easily.
When cleaning the radiator, ensure that the fins are not bent.◀

Rubber

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

Using silicone sprays for the care of rubber seals can cause damage.
Do not use silicon 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, e.g. tree resin or pollen.

However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilled fuel, oil, grease, brake fluid as well as bird droppings. BMW vehicle polish or BMW paint cleaner are recommended here.

Contamination on the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar spots with BMW Tar Remover. Then add a protective wax coating to the paint at these locations.

Protective wax coating

To preserve the finish of your motorcycle, BMW Motorrad recommends using BMW Car Wax or agents that contain carnauba or synthetic waxes. The best way to see whether the paint has to be protected is that water no longer forms pearls.

Storing motorcycle

- Clean the motorcycle.
- Remove the battery.
- Spray the brake and clutch lever, and the main and side stand pivots with a suitable lubricant.
- Coat bare metal and chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Park the motorcycle in a dry room so that both wheels are unloaded. Appropriate auxiliary stands are available at your authorized BMW Motorrad retailer.

Before storing the vehicle, have the engine oil and the oil filter element changed by a specialized workshop, preferably an authorized BMW Motorrad retailer.Combine work for storing/returning to use with maintenance service or an inspection.◀

Returning motorcycle to use

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

Technical data

Troubleshooting chart

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

Possible cause	Remedy
Emergency ON/OFF switch activated.	Emergency ON/OFF switch in operating position.
Side stand extended and gear engaged.	Retract side stand (➠ 72).
Gear engaged and clutch not operated.	Place transmission in neutral or disengage clutch (➠ 72).
Clutch disengaged with ignition switched off.	Switch on ignition first, then disengage clutch.
No fuel in tank.	Refueling (➠ 78)
Battery not adequately charged.	Charging connected battery (➠ 122)

Threaded fasteners

Mirror arm	Value	Valid
Mirror on clamping piece		
M10	18 lb/ft (25 Nm)	
Clamping piece on clamping block		
M10	22 lb/ft (30 Nm)	

Front wheel	Value	Valid
Brake caliper on slider tube		
M8 x 32 10.9	22 lb/ft (30 Nm)	
Clamping screw for quick-release axle		
M8 x 35	14 lb/ft (19 Nm)	
Quick-release axle in axle mount		
M24 x 1.5	37 lb/ft (50 Nm)	

Rear wheel	Value	Valid
Rear wheel on wheel carrier		
Wheel flange with bushing or cut thread, M10 x 40 x 1.25	**Tighten diagonally**	
	44 lb/ft (60 Nm)	
Wheel flange with bushing or cut thread, M10 x 53 x 1.25	**Tighten diagonally**	with OE Cross-spoke wheels:
	44 lb/ft (60 Nm)	

Engine

Type	
Engine design	Four-stroke opposed twin, air-cooled with oil-cooled exhaust section, installed longitudinally, two overhead camshafts, electronic engine management.
Technical data	
Effective displacement	1170 cc (1170 cm^3)
Cylinder bore	4 in (101 mm)
Piston stroke	2.9 in (73 mm)
Compression ratio	11.0:1
Rated output	101 hp (74 kW), At: 7000 min^{-1}

with OE Power reduction:	98 hp (72 kW), At: 7000 min^{-1}
Maximum torque	85 lb/ft (115 Nm), At: 5500 min^{-1}
Permissible maximum engine speed	7800 min^{-1}
Idle speed	$1150^{\pm 50}$ min^{-1}
Fuel	
Recommended fuel type	95 ROZ/RON, Super unleaded 91 ROZ/RON, Regular unleaded (fuel type can be used with reduced performance and consumption)
Usable fuel quantity	5.3 gal (20 l)
Reserve fuel quantity	1.1 gal (4 l)
Engine oil	
Engine oil capacity	1.1 gal (4 l), with filter change
Lubricant	Engine oil 20W-50
Engine oil top-up quantity	0.5 quarts (0.5 l), difference between MIN and MAX

Oil grades	Engine oils of the API classification SF or better. Engine oils of the ACEA classification A2 or better. BMW Motorrad recommends not using synthetic oils for the first 6,000 miles (10,000 km). Ask your BMW Motorrad retailer for engine oils suitable for your motorcycle.
Permissible viscosity classes	
SAE 5 W- ≥30	-4...68 °F (-20...20 °C), Operation at low temperatures
SAE 10 W-40	14...86 °F (-10...30 °C), Operation at moderate temperatures
SAE 15 W- ≥40	≥32 °F (≥0 °C)
SAE 20 W- ≥40	≥32 °F (≥0 °C)
SAE 5 W- ≥50	≥-4 °F (≥-20 °C), High-quality and synthetic oil for operation at all temperatures
SAE 10 W- ≥50	≥-4 °F (≥-20 °C), High-quality and synthetic oil for operation at all temperatures

Riding specifications

Speeds	
Top speed	>124 mph (>200 km/h)

Clutch

Clutch design	Single dry plate with high-leverage pressure plate

Transmission

Transmission design	Helical 6-speed transmission with integrated torsional vibration damper, claw shifting via sliding sleeves
Gear ratios	
Transmission gear ratios	1.824 (31:17 teeth), Primary gear ratio 2.277 (41:18 teeth), 1st gear 1.583 (38:24 teeth), 2nd gear 1.259 (34:27 teeth), 3rd gear 1.033 (31:30 teeth), 4th gear 0.903 (28:31 teeth), 5th gear 0.805 (29:36 teeth), 6th gear

Rear-wheel drive

Rear-wheel drive design	Shaft drive with bevel gears
Gear ratio of rear-wheel drive	2.82:1

Running gear

Front suspension design	BMW Telelever, upper fork bridge tilt decoupled, leading link mounted in engine and on telescopic fork, centrally positioned spring strut supported on leading link and main frame
Total suspension travel of front suspension	7.5 in (190 mm), On wheel
Rear suspension design	Central spring strut with single-tube gas-filled shock absorber, steplessly adjustable rebound-stage damping and hydraulically adjustable spring preload
Total suspension travel of rear-wheel suspension	7.9 in (200 mm), On wheel

Brakes

Front wheel brake	
Front-wheel brake design	Hydraulic two-disk brake with 4-piston fixed calipers and floating brake disks
Front brake-pad material	Sintered metal
Rear wheel brake	
Rear wheel brake design	Hydraulic disk brake with 2-piston floating caliper and fixed brake disk
Rear brake lining material	Organic

Wheels and tires

Front wheel design	Cast wheel with 5 double spokes, MT H2
with OE Cross-spoke wheels:	Cross-spoke wheel with 40 spokes, MT H2
Front-wheel rim size	2.50" x 19"
Front-wheel tire designation	110/80 R 19 M/C 59 V TL
Rear wheel design	Cast wheel with 5 double spokes, MT H2
with OE Cross-spoke wheels:	Cross-spoke wheel with 40 spokes, MT H2
Rear-wheel rim size	4.00" x 17"
Rear-wheel tire designation	150/70 R 17 M/C 69 V TL

Tire pressures	
Front tire pressure	31.9 psi (2.2 bar), Single rider, with cold tire 36.3 psi (2.5 bar), Driver with passenger and/or load, with cold tire
Rear tire pressure	36.3 psi (2.5 bar), Single rider, with cold tire 42.1 psi (2.9 bar), Driver with passenger and/or load, with cold tire

Electrical system

Ratings	5 A
Fuses	The circuits are electronically protected, so plug-in fuses are no longer necessary. If an electronic fuse trips and de-energizes a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.
Battery	
Battery design	AGM (Absorptive Glass Matt) battery
Battery nominal voltage	12 V
Battery nominal capacity	14 Ah

Spark plugs	
Spark plug manufacturer and designation	Bosch YR5LDE
	NGK DCPR 8 EKC
Spark-plug electrode gap	$0.03^{\pm 0.01}$ in ($0.8^{\pm 0.1}$ mm), New 0.04 in (1 mm), Wear limit
Secondary spark plug manufacturer and designation	Bosch YR5LDE
	NGK DCPR 8 EKC
Secondary spark-plug electrode gap	$0.03^{\pm 0.01}$ in ($0.8^{\pm 0.1}$ mm), New 0.04 in (1 mm), Wear limit
Bulbs	
High-beam headlight bulb	H7 / 12 V / 55 W
Low-beam headlight bulb	H7 / 12 V / 55 W
Side-light bulb	W5W / 12 V / 5 W
Bulb of tail/brake light	P21/5W / 12 V / 5 W / 21 W
Bulb of front turn indicators	R10W / 12 V / 10 W
with OE White turn indicator lamps:	RY10W / 12 V / 10 W
Bulb of rear turn indicators	R10W / 12 V / 10 W
with OE White turn indicator lamps:	RY10W / 12 V / 10 W

Frame

Frame design	Two-part steel tube frame and load-bearing drive unit
Location of type plate	Left side under side cover
Location of vehicle identification number (VIN)	Upper midsection of frame front

Dimensions

Motorcycle length	87 in (2210 mm)
Vehicle width	36 in (915 mm), Across mirrors
Motorcycle height	54.3 in (1380 mm), In DIN normal-load position; without mirrors, windshield down
Driver's seat height	33.1...33.9 in (840...860 mm), - at unladen weight

Weights

Unladen weight	496 lbs (225 kg), DIN unladen weight, ready for road, 90 % full tank of gas, without OE
Permissible gross weight	959 lbs (435 kg)
Maximum payload	463 lbs (210 kg)

Service

BMW Motorrad service

Advanced technology requires specially adapted methods of maintenance and repair.

If this maintenance and repair work is performed inexpertly, there is a danger of damage and associated safety risks.
BMW Motorrad recommends having corresponding work on your motorcycle carried out by a specialized workshop, preferably by an authorized BMW Motorrad retailer.◀

You can contact your authorized BMW Motorrad retailer for information on the procedures included in BMW service, inspections and the annual inspection.
Have all maintenance and repair work carried out confirmed in the "Service" chapter in this manual.
Your authorized BMW Motorrad retailer is supplied with all the latest technical information and therefore possesses the necessary technical know-how. BMW Motorrad recommends that you refer any questions about your motorcycle to your authorized BMW Motorrad retailer.

BMW Motorrad service quality

BMW Motorrad means not only quality workmanship and high reliability, but also an outstanding quality of service. To ensure that your BMW is always in optimum condition, BMW Motorrad recommends that you adhere to the regular maintenance schedule for your motorcycle, preferably having the work done by your authorized BMW Motorrad retailer. For generous treatment of claims submitted after the warranty period has expired, evidence of regular maintenance is essential.
Certain signs of wear, moreover, may otherwise not be noticed until it is too late to correct them at moderate cost. The workshop personnel at BMW Motorrad retailers have thorough knowledge of your motorcycle and can take action before minor problems can turn into major trouble. By having the necessary repairs done properly and in good time, you save time and money in the long run.

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

With all new BMW motorcycles, the BMW Motorrad Service Card protects you in the event of a breakdown with an extensive range of services such as breakdown assistance, motorcycle transportation etc. (differing regulations are possible in individual countries). In the case of a breakdown, you contact the Mobile Service of BMW Motorrad. Here you will find our specialists ready to help with both advice and action.
Important country-specific contact addresses and the relevant after-sales service organization phone numbers as well as information on Mobile Service and the dealership network can be found in the "Service Kontakt / Service Contact" brochures.

BMW Motorrad service network

With its worldwide service network, BMW Motorrad can attend to you and your motorcycle in over 100 countries around the globe. In Germany alone, there are approximately 200 authorized BMW Motorrad retailers ready to assist you.
All information on the international retail network is contained in the "Service Contact Europe" brochure and "Service Contact Africa, America, Asia, Australia and Oceania".

Maintenance work

Intervals

Some maintenance tasks must 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 300 miles (500 km) and 750 miles (1,200 km).

BMW Annual Inspection

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

BMW Service

After the first 6,000 miles (10,000 km) and every additional 12,000 miles (20,000 km) (18,000 miles, 30,000 miles, 42,000 miles etc. (30 000 km, 50 000 km, 70 000 km etc.)) if this distance is covered within a year.

BMW Inspection

After the first 12,000 mi/ 20,000 km and every additional 12,000 mi/20,000 km (24,000 mi/40,000 km, 36,000 mi/60,000 km, 48,000 mi/80,000 km etc.) if this distance is covered within a year.

Maintenance schedules

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

Confirmation of maintenance work

BMW Pre-Delivery Check

Carried out properly in accordance with workshop specifications.

Date, stamp, signature

BMW Running-In Check

Carried out properly in accordance with workshop specifications.

Odometer reading

☐ Brake fluid changed

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

- ☐ Brake fluid changed

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

- ☐ Brake fluid changed

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

- ☐ Brake fluid changed

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

- ☐ Brake fluid changed

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

- ☐ Brake fluid changed

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

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- ☐ BMW Service
- ☐ BMW Inspection

Carried out properly in accordance with workshop specifications.

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BMW Service

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- ☐ BMW Service
- ☐ BMW Inspection

Carried out properly in accordance with workshop specifications.

Odometer reading________

☐ Brake fluid changed

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

☐ Brake fluid changed

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

- ☐ Brake fluid changed

____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

- ☐ Brake fluid changed

____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

Odometer reading________

- ☐ Brake fluid changed

____

Date, stamp, signature

Confirmation of service

The table is intended as proof of maintenance, warranty and repair work, the installed optional accessories and any special campaign (recall) work carried out.

Work carried out	Odometer reading	Date

Work carried out	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 type	95 ROZ/RON, Super unleaded 91 ROZ/RON, Regular unleaded (fuel type can be used with reduced performance and consumption)
Usable fuel quantity	5.3 gal (20 l)
Reserve fuel quantity	1.1 gal (4 l)
Tire pressures	
Front tire pressure	31.9 psi (2.2 bar), Single rider, with cold tire 36.3 psi (2.5 bar), Driver with passenger and/or load, with cold tire
Rear tire pressure	36.3 psi (2.5 bar), Single rider, with cold tire 42.1 psi (2.9 bar), Driver with passenger and/or load, with cold tire

BMW recommends Castrol

Order No.: 01 47 7 704 007
06.2006, 4th Edition

Please attach this sticker to the inside back cover page of your Rider's Manual

Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying BMW of North America, LLC.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or BMW of North America, LCC.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1–888–327–4236 (TTY: 1–800–424–9153); go to *http://www.safercar.gov*; or write to: Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. You can also obtain other information about motor vehicle safety from *http://www.safercar.gov.*

BMW Motorrad
Order No: 01 47 7 706 697 08.2006

Subject: Motorcycles with hand protectors

Malfunctions due to twisted hand protector

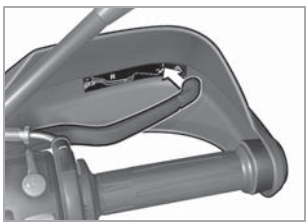
If the hand protector and the handlebar lever are twisted relative to each other so that they touch, a permanent actuation of the respective handlebar lever can result. This can lead to faults in clutch or brake operation.

Possible causes include:

– Accident or fall
– Improper transport
– Loose threaded connections
– Impermissible ergonomic settings (see Rider's Manual "Adjusting clutch/ handlebar lever" or "Adjusting brake/handlebar lever")

- Always check the smooth movement of the clutch and brake lever before driving off.

Checking smooth movement of handlebar levers



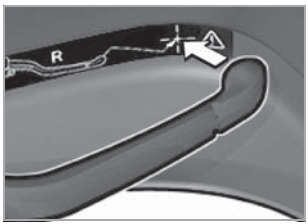
Smooth movement is ensured when

– a finger fits between the handlebar lever and the hand protector

or

– the handlebar lever can easily be moved forward out of the rest position.

Aligning hand protector



- Press the handlebar lever forward. Twist the hand protector so that the end of the handlebar lever touches the cross on the adhesive label.
- Have adjustments and torques checked by a specialized workshop, preferably by an authorized BMW Motorrad retailer.

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