Rider's Manual (US Model)

R 1200 RT

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 any questions concerning your motorcycle, your authorized BMW Motorrad retailer is always happy to 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 11. Proof of the maintenance work performed is a prerequisite for generous treatment of claims. When the time comes to sell your BMW, please remember to hand over this Rider's Manual; it is an important part of the motorcycle.

Abbreviations and symbols

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

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

◄ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

 Reference to a page with more detailed information.

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

 Tightening torque.

 Technical data.

OE Optional equipment
The motorcycles are assembled complete with all the BMW optional extras originally ordered.

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.

ESA Electronic Suspension Adjustment
Electronic suspension adjustment.

RDC Tire Pressure Control (TPC).

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.

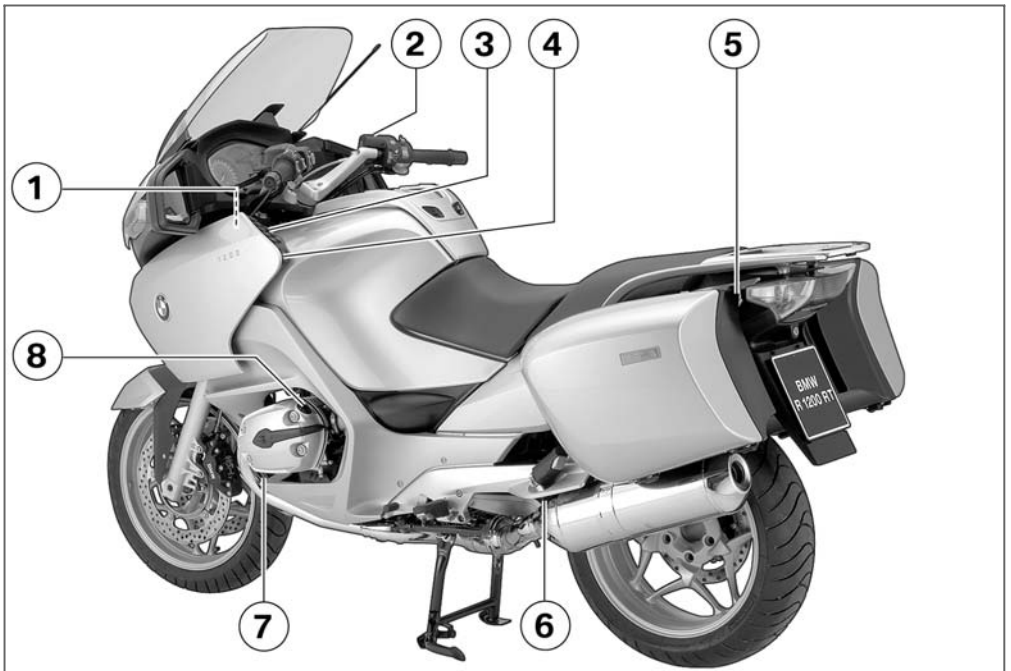
Technical data

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.

Currentness of this manual

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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BMW
R 1200 RT

General view, left side

1 Headlight range adjustment (below instrument cluster) (➠ 72)
2 Brake-fluid reservoir, front (➠ 111)
3 Radio operating unit (OE) (see radio operating manual)
4 Onboard socket (➠ 98)
5 Additional onboard socket (OE) (➠ 98)
6 Adjustment of rear damping (➠ 68)
7 Engine oil level indicator (➠ 107)
8 Engine oil fill location (➠ 108)


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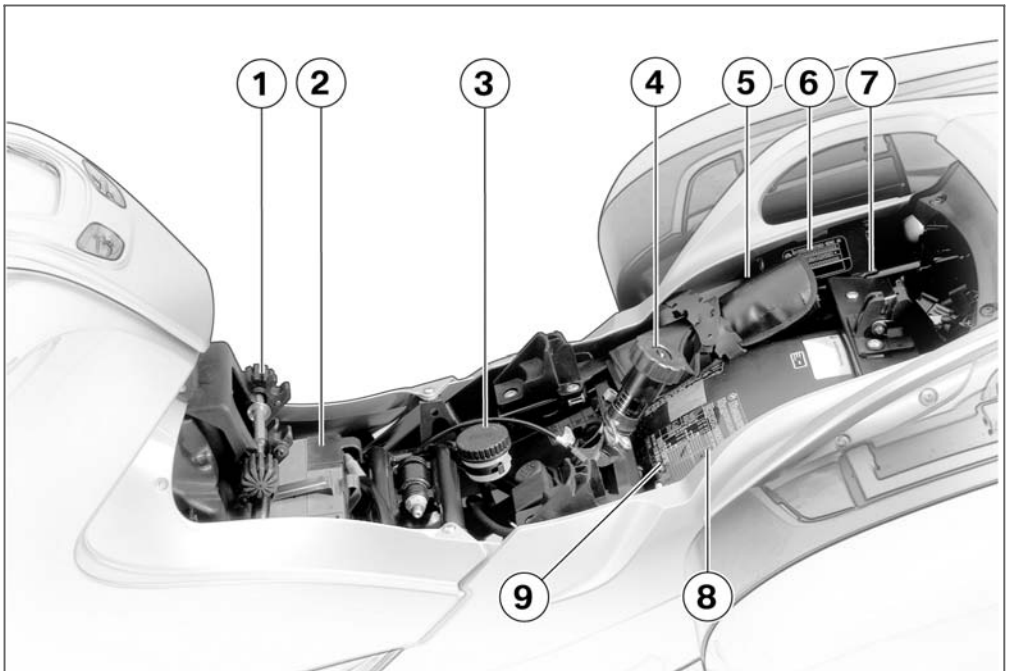
BMW
R 1200 RT

General view, right side

1 Seat lock (➠ 73)
2 Passenger seat heater (under passenger seat) OE (➠ 61)
3 Tank rucksack mount
4 Fuel filler opening (➠ 86)
5 Clutch fluid reservoir
6 Windshield (➠ 62)
7 Storage compartment (➠ 66)
– with radio with CD drive OE
Radio compartment (➠ 66)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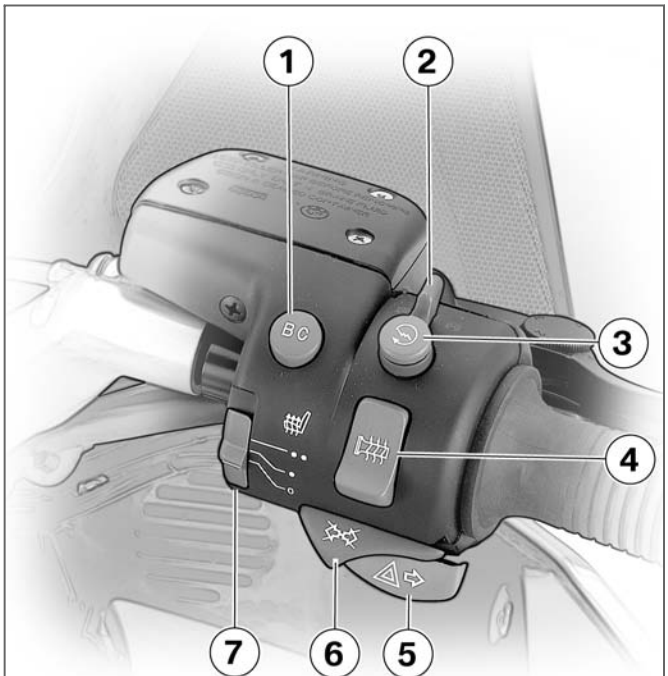
Underneath seat

1 Driver's seat height adjustment (➠ 62)
2 Battery (➠ 131)
3 Brake-fluid reservoir, rear (➠ 112)
4 Adjuster for spring preload, rear (➠ 67)
5 Onboard toolkit
6 Type plate
7 Helmet holder (➠ 76)
8 Tire inflation pressure table
9 Payload table

Left handlebar fitting

1 Cruise-control system OE (➡ 63)
2 Operating ESA OE (➡ 69)
3 Radio operating unit (OE)
4 Operating ASC OE (➡ 59)
5 Windshield adjustment (➡ 62)
6 Horn
7 Flashing turn indicators, left (➡ 56), Hazard warning flashers (➡ 57)
8 High-beam headlight and headlight flasher (➡ 56)

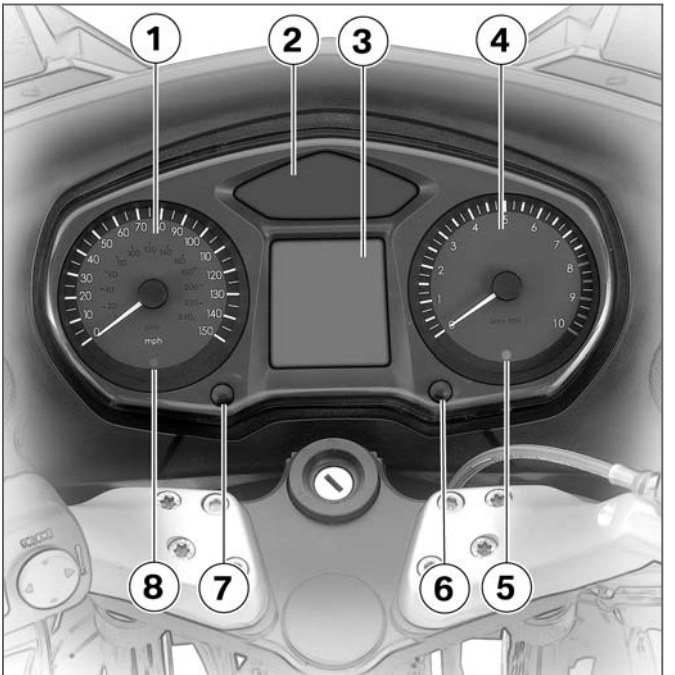


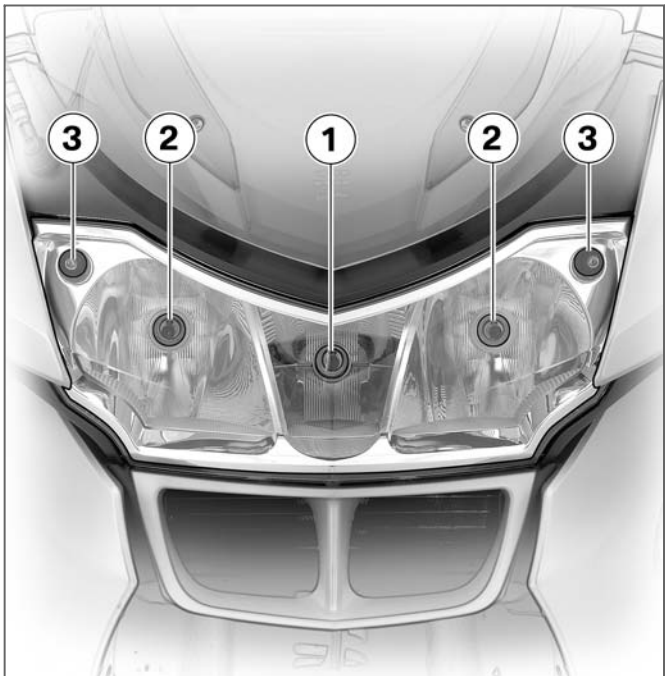
Handlebar fitting, right

1 Operation of onboard computer OE (➠ 51)
2 Emergency ON/OFF switch (➠ 59)
3 Starter button (➠ 80)
4 Heated hand grips OE (➠ 60)
5 Flashing turn indicators, right (➠ 57), Hazard warning flashers (➠ 57)
6 Turn indicators off (➠ 57), Hazard warning flashers off (➠ 58)
7 Driver's seat heater OE (➠ 61)

Instrument cluster

1 Speedometer
2 Indicator lights (➠ 22)
3 Multifunction display (➠ 22)
4 Tachometer
5 Anti-theft alarm indicator light (OE) (see anti-theft alarm operating instructions)
6 Operating clock (➠ 49) Adjusting dimming (➠ 51)
7 Operating odometer (➠ 49)
8 Ambient brightness sensor (for brightness adjustment of instrument lighting)





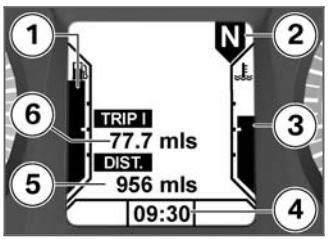
Headlight

1 High-beam headlight
2 Low-beam headlight
3 Parking lights

Status indicators

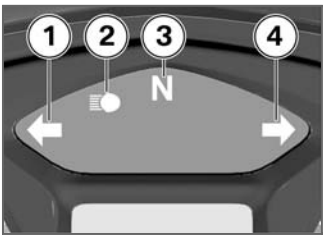
Standard displays

Multifunction display



1 Fuel capacity (➠ 22)
2 Gear indicator (➠ 22)
3 Engine temperature (➠ 22)
4 Clock (➠ 49)
5 Odometer
6 Trip meter (➠ 49)

Indicator lights



1 Flashing turn indicators, left
2 High-beam headlight
3 Idling
4 Flashing turn indicators, right

Fuel capacity

The vertical bar under the gas pump symbol indicates the remaining fuel quantity. When the fuel in the tank is topped up the gauge briefly shows the original level, before the reading is updated.

Gear indicator

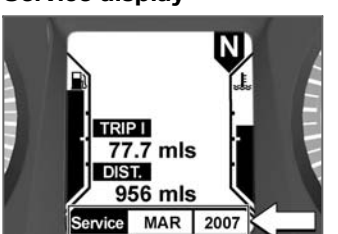
N The gear engaged or N for neutral appears on the display.

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

Engine temperature

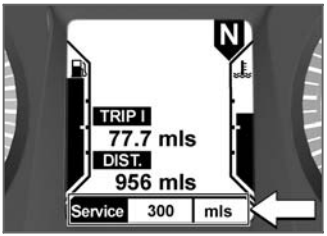
The vertical bar under the temperature symbol shows the engine temperature level.

Service display



If the time remaining until the next service lies within a month,

the service date is briefly displayed following the pre-ride check. The month and year are shown with the SERVICE lettering; in this example the display means "March 2007".

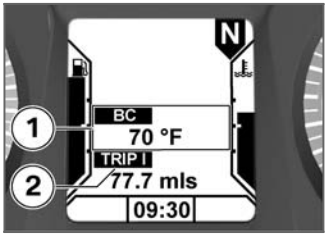


If the motorcycle is driven long distances annually, it is possible that earlier service is required. If the odometer reading for the earlier service lies within 600 miles (1000 km), the remaining miles (kilometers) are counted down in 60-mile (100-km) steps and briefly displayed following the pre-ride check.

If the service interval has been exceeded, the general warning light also lights up yellow in addition to the date or mileage display. The Service lettering is displayed continuously.

▷ If the service display already more than one month before the service date, or if the Service lettering does not stop after the service date is exceeded, then the date stored in the instrument cluster must be set. This situation can occur if the battery has been disconnected for a longer time.
Consult a certified workshop, preferably an authorized BMW Motorrad retailer, for setting of the date.◀

Displays with onboard computer OE



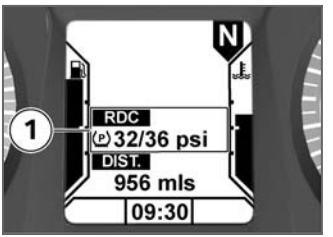
1 Onboard computer display area OE (➠ 51)

2 The tripmeters are shown alternately with the odometer.

Displays with radio OE

1 Area for displays of audio system (see radio operating instructions)

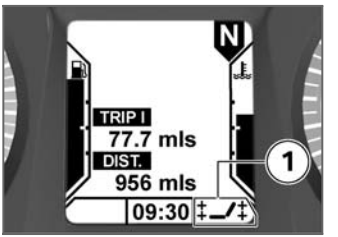
Displays with Tire Pressure Control TPC/ RDC OE



1 Display of tire inflation pressures OE (➠ 55)
– with onboard computer OE
The lettering "RDC" changes to "BC".

The tire inflation pressures are shown temperature-compensated (see the chapter "Technology in Detail").◀

Displays with seat heater OE



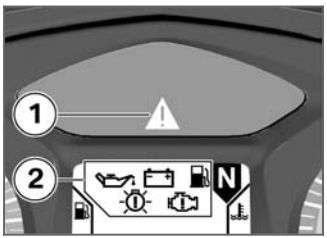
1 Display of activated heating levels OE (➠ 61)

Indicator light of cruise-control system OE

1 Indicator light of cruise-control system OE (➠ 63)

Standard warning indicators

Display



Warnings are indicated with the general warning light **1** in combination with one of the warning symbols **2**. The 'General' warning light shows red or yellow, depending on the urgency of the warning.

If several warnings are active, all corresponding warning lights and warning symbols are displayed. The general warning light is shown in accordance with the most urgent warning.

The possible warnings are listed on the next page.

Overview of warning indicators

Indicator lights	Displays	Meaning
 Lights up yellow	EWS ! appears on the display	Electronic immobilizer is active (➠ 27)
 Lights up yellow	 Flashes	Fuel down to reserve (➠ 27)
 Lights up yellow	 Is indicated	Engine in emergency-operation mode (➠ 27)
 Flashes red	 Is indicated	Engine oil pressure insufficient (➠ 28)
 Lights up red	 Is indicated	Battery charge current insufficient (➠ 28)
 Lights up yellow	 Is indicated	Rear bulb defective (➠ 28)
	 Is indicated	Front bulb defective (➠ 29)
 Lights up yellow	 Is indicated	Bulbs defective (➠ 29)

Electronic immobilizer is active

General warning light shows yellow.

EWS ! appears on the display.

Possible cause:

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 shows yellow.

Fuel reserve symbol flashes.

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.◀

Possible cause:

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

Reserve fuel quantity
– ≥1.1 gal (≥4 l)

- Refueling (➠ 86)

Engine in emergency-operation mode

General warning light shows yellow.

Engine symbol appears on the display.

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.◀

Possible cause:

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


Oil-can symbol appears on the display.

The oil pressure in the lubricating oil circuit is too low. Stop immediately and switch off 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.◀

Possible cause:

The engine oil level is too low.

- Checking engine oil level (➠ 107)

If oil level is too low:

- Top up engine oil.

Possible cause:

The engine oil pressure is insufficient.

Driving with insufficient engine oil pressure can result in engine damage.
Do not continue driving.◀

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

Battery charge current insufficient


General warning light shows red.


Battery symbol appears on the display.

A discharged battery leads to the failure of various motorcycle systems, e.g. lighting, engine or ABS. This can result in dangerous driving situations.
If possible, do not continue driving.◀

Possible cause:

Alternator or alternator belt defective

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

Rear bulb defective


General warning light shows yellow.


Lamp symbol with arrow pointing to the rear is displayed.

A defective bulb places your safety at risk because it is easier for other users to oversee the motorcycle.
Replace defective bulbs as soon as possible; always carry a

complete set of spare bulbs if possible.◀

Possible cause:

Tail light or brake light bulb defective.

- Replacing rear brake, tail light or rear turn indicator bulbs (➠ 128)

Front bulb defective

Lamp symbol with arrow pointing to the front is displayed.

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

Possible cause:

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

- Replacing high-beam bulb (➠ 122)
- Replacing left low-beam bulb (➠ 122)
- Replacing right low-beam bulb (➠ 123)
- Replacing parking light bulb (➠ 125)
- Replacing front turn indicator bulb (➠ 129)

Bulbs defective

General warning light shows yellow.

Lamp symbol with two arrows is displayed.

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

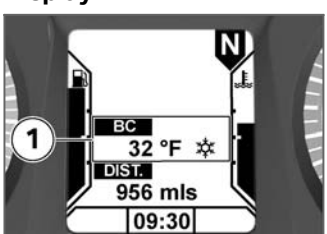
Possible cause:

A combination of several bulb defects is present.

- See the fault descriptions above.

Warning indicators of onboard computer OE

Display



Warnings of the onboard computer are shown in area **1**.

The possible warnings are listed on the next page.

Overview of warning indicators

Indicator lights	Displays	Meaning
	`Oil` appears on the display	Engine oil level too low (➠ 32)
	 Is indicated	
	Ambient temperature display flashes	Ice warning (➠ 32)
	 Flashes	

Engine oil level too low

`Oil` appears on the display.

Oil level symbol appears on the display.

Possible cause:

The electronic oil level sensor has detected a low engine oil level. Check the engine oil level on the oil level indicator the next time you stop for refueling:

- Checking engine oil level (➠ 107)

If oil level is too low:

- Topping up engine oil (➠ 108)

Possible cause:

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.

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

Ice warning

The ambient temperature display flashes.

Ice crystal symbol flashes.

Possible cause:

The ambient 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 37 °F (3 °C). Always think well ahead when temperatures are low, especially on bridges and where the road is in the shade.◀

- Think well ahead when driving.

ABS warning indicators

Display

ABS warnings are indicated by the ABS warning light **1**.

In some countries an alternative display of the ABS warning light is possible.

Possible country-dependent versions.

Additional information on the BMW Motorrad Integral ABS is provided from page (➠ 92); an

overview of the possible warnings
is provided on the following page.

Overview of warning indicators

Indicator lights	Displays	Meaning
brake failure	Flashes	Self-diagnosis not completed (➠ 35)
brake failure	Lights up	ABS error (➠ 35)

Self-diagnosis not completed

brake failure ABS warning light flashes.

Possible cause:

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 error

brake failure ABS warning light lights up.

Possible cause:

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

- Continued driving is possible while taking the failed ABS function into account. Observe additional information on situations which can lead to an ABS error (➠ 93).
- 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 light **1**. Additional information on the BMW Motorrad ASC is provided from page (➠ 94); an overview of the possible warnings is provided on the following page.

Overview of warning indicators

Indicator lights	Displays	Meaning
	Flashes rapidly	ASC intervention (➠ 37)
	Flashes slowly	Self-diagnosis not completed (➠ 37)
	Lights up	ASC deactivated (➠ 37)
	Lights up	ASC error (➠ 37)

ASC intervention

 ASC warning light flashes rapidly.

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

Self-diagnosis not completed

 ASC warning light flashes slowly.

Possible cause:

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 once 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 warning light lights up.

Possible cause:

The ASC system has been deactivated by the driver.

– with Automatic Stability Control (ASC) OE

- Activating ASC function (➠ 60)

ASC error

 ASC warning light lights up.

Possible cause:

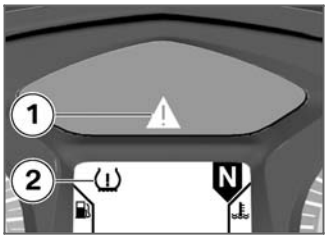
The ASC control unit has detected an error. The ASC function is not available.

- 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 (➠ 95).
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

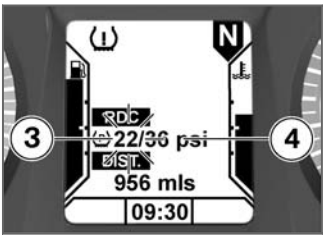
TPC/RDC warning indicators OE

Display

The displayed tire inflation pressures refer to a tire temperature of 68 °F (20 °C) (➠ 96).



The warning symbol **2** signals a critical tire pressure and the corresponding display flashes. If the critical value is at the limit of the permissible tolerance, the general warning light **1** also lights up in yellow. If the determined tire pressure is outside the permissible tolerance, the general warning light flashes in red.



The critical air pressure of the front wheel **3** or the rear wheel **4** flashes.

– with onboard computer OE
The lettering **RDC** changes to **BC**.◁

Additional information on the BMW Motorrad TPC/RDC is provided from page (➠ 95); an overview of the possible warnings is provided on the following page.

Overview of warning indicators

Indicator lights	Displays	Meaning
 Lights up yellow	 Is indicated	Tire pressure in limit area of permissible tolerance (➠ 40)
	Critical inflation pressure flashes	
 Flashes red	 Is indicated	Tire pressure outside permissible tolerance (➠ 40)
	Critical inflation pressure flashes	
	"- - " or "- - - - " is displayed	Transmission error (➠ 40)
 Lights up yellow	 Is indicated	Sensor defective or system fault (➠ 41)
	"- - " or "- - - - " is displayed	
 Lights up yellow	**RDC** is displayed	Battery of tire pressure sensor weak (➠ 41)
	 Is indicated	

Tire pressure in limit area of permissible tolerance


General warning light shows yellow.


Tire symbol appears on the display.

Critical inflation pressure flashes.
Possible cause:

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

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

Before adjusting the tire inflation pressure, observe the information on temperature compensation and on inflation pressure adjustment in the chapter "Technology in detail".◀

Tire pressure outside permissible tolerance

General warning light flashes red.

Tire symbol appears on the display.

Critical inflation pressure flashes.
Possible cause:

The measured tire inflation pressure is outside the permissible tolerance.

- Check tire for damage and drivability.

If it is still possible to drive with tire:

Incorrect tire inflation pressure result in poorer handling of the motorcycle.
Always adapt your driving style to the incorrect tire inflation pressure.◀

- Correct tire inflation pressure at next opportunity.

Before adjusting the tire inflation pressure, observe the information on temperature compensation and on inflation pressure adjustment in the chapter "Technology in detail".◀

- 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.
Possible cause:

The motorcycle's speed has not exceeded the threshold of approx. 20 mph (30 km/h). The TPC sensors do not send their

signal until after this speed has been exceeded for the first time (➠ 95).

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

Possible cause:

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

Sensor defective or system fault


General warning light shows yellow.


Tire symbol appears on the display.

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

Possible cause:

Wheels without installed TPC sensors are mounted.

- Retrofit wheel set with TPC sensors.

Possible cause:

One or two TPC sensors have failed.

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

Possible cause:

A system fault has occurred.

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

Battery of tire pressure sensor weak


General warning light shows yellow.

RDC appears on the display.


Battery symbol appears on the display.


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

Possible cause:

The battery of the tire inflation pressure sensor no longer has its full capacity. The operation of

the tire inflation pressure control is only ensured for a limited time.

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

Anti-theft alarm warning indicators OE

Display

Anti-theft alarm warning **2** are shown in conjunction with the general warning light **1** following the pre-ride check and refer to the capacity of the internal anti-theft alarm battery.

The possible warnings are listed on the next page.

Overview of warning indicators

Indicator lights	Displays	Meaning
	 Is indicated	Anti-theft alarm battery weak (➠ 44)
 Lights up yellow	 Is indicated	Anti-theft alarm battery drained (➠ 44)

Anti-theft alarm battery weak


Battery symbol appears on the display


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

Possible cause:

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 drained


General warning light shows yellow.


Battery symbol appears on the display

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

Possible cause:

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.

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) (➠ 48).

Ignition switch and steering lock, tank filler cap lock and the seat and case locks are all operated with the same key.

– with Topcase OA

A Topcase with a lock for the same key can be ordered on request. Please contact a specialized workshop for this purpose, preferably an authorized BMW Motorrad retailer.◁

Switching on ignition

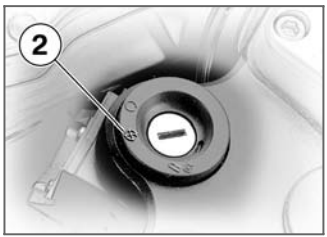
- Turn key to position **1**.

» Parking lights and all function circuits switched on.
» Engine can be started.
» Pre-ride check is performed. (➠ 81)
» ABS self-diagnosis is performed. (➠ 81)

– with Automatic Stability Control (ASC) OE

» ASC self-diagnosis is performed. (➠ 82)

Switching off ignition



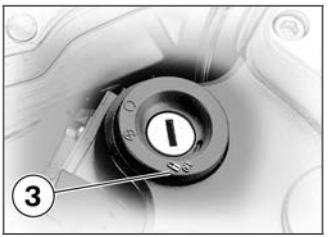
Brake servo assistance is not available when the ignition is off.

Do not switch off the ignition while the motorcycle is being ridden.◀

- 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.
» Battery can be recharged via socket.

Locking handlebars



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

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

- Turn 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 key

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

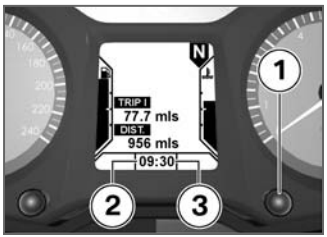
Replacement and spare keys are only available through an authorized BMW Motorrad retailer. The keys are part of an integrated security system, so the retailer is under an obligation to check the legitimacy of all applications for replacement/extra keys. If you want to have a lost key barred, you must bring along all other keys that belong to the motorcycle. A key that has been barred can subsequently be cleared and reactivated for use.

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.



- Hold down button **1**.
» Hours **2** flash.
- Press button **1**.
» Hours increase by one each time button is pressed.
- Hold down button **1**.
» Minutes **3** flash.
- Press button **1**.
» Minutes increase by one each time button is pressed.
- Press and hold button **1** or no longer press.
» End setting; set time is displayed.

Odometer and tripmeters

Selecting readings

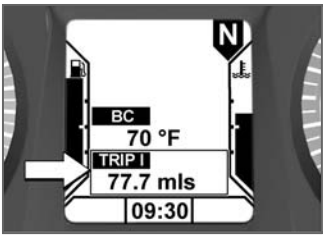
- Switch on ignition.

- Press button **1**.

Each time the button is pressed, the display shows values starting with the current value in the following order:

- Tripmeter 1 (Trip I)
- Tripmeter 2 (Trip II)
- Operating range (RANGE, after reaching reserve quantity)
- Tire pressures (OE)

– with onboard computer OE



Each time the button is pressed, the display shows values starting with the current value in the following order:

- Tripmeter 1 (Trip I)
- Tripmeter 2 (Trip II)
- Total mileage (DIST).

Resetting tripmeter

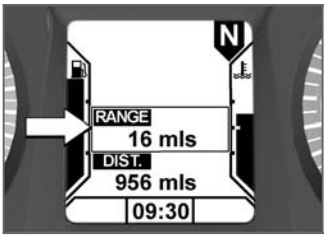
- Switch on ignition.
- Select desired tripmeter.

- Hold down button **1**.

» Tripmeter is reset.

Residual range

– without onboard computer OE



The operating range indicates what distance can still be driven with the remaining fuel. It is only displayed after the fuel reserve is reached. This distance is calculated on the basis of fuel level and average consumption.

When refueling after running on reserve, make sure that you top up the tank to a level above reserve, as otherwise the sensor will not be able to register the new level. Otherwise neither the fill level nor the operating range display can be updated.

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.◀◁

Multifunction display

Adjusting dimming

Adjusting the dimming while driving can lead to accidents.

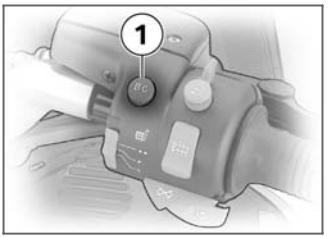
Only adjust the dimming when the motorcycle is stationary.◀

- Press button **1**.
» The level of dimming appears in display field **2**.
- Press button **1** again.
» The display lighting becomes brighter by one level each time the button is pressed. Each time the button is pressed after maximum brightness is reached, brightness is reduced by one level.

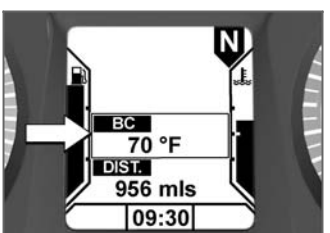
Onboard computer OE

Selecting readings

- Switch on ignition.



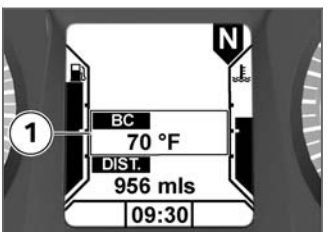
• Press button **1**.



Each time the button is pressed, the display shows values starting with the current value in the following order:

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

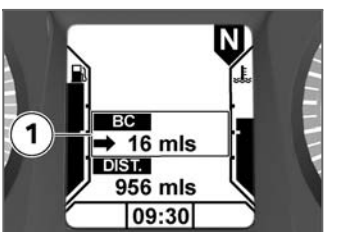
Ambient temperature



When the motorcycle is stopped, the engine heat can falsify the measurement of the ambient temperature **1**. If the influence of the engine heat becomes too great, **- -** is temporarily shown in the display.

If the ambient temperature drops below 37 °F (3 °C), a warning of possible icing-up appears. The display automatically switches from any other mode to the temperature reading when the temperature drops below this threshold for the first time.

Range

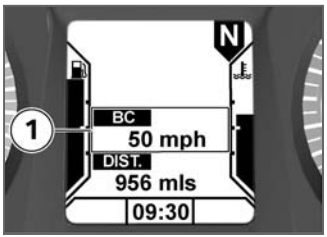


The functional description of the operating range (➠ 51) also applies to the range **1**. However, the range can also be displayed before the fuel reserve is reached.

To calculate the range, a special average consumption is used, which does not always match the value that can be shown on the display.
If the motorcycle is standing on the side stand, the fuel level cannot be correctly determined due to the inclined position. For this reason the range is only calculated while driving.

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

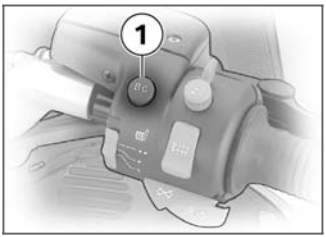
Average speed



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

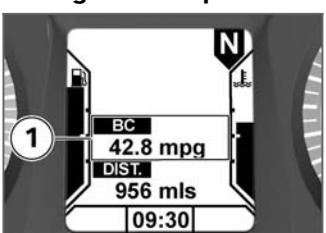
- Switch on ignition.
- Select average speed.



- Hold down button **1**.

» Average speed is reset.

Average consumption

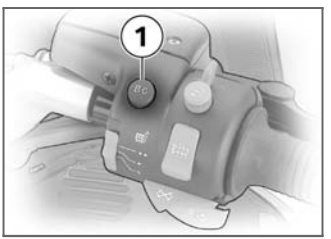


The average consumption **1** is calculated by dividing the distance covered since the last re-

set by the corresponding amount of fuel used.

Resetting average consumption

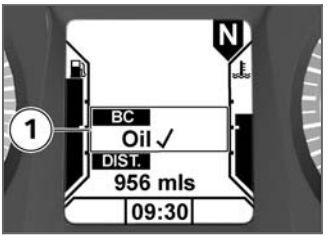
- Switch on ignition.
- Select average consumption.



- Hold down button **1**.

» Average consumption is reset.

Oil level indicator



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 indicator are as follows:

– Engine at operating temperature.
– Engine idling for at least 30 seconds.
– Side-stand retracted.
– Motorcycle is vertical.

The readings mean:

Oil level is correct

Check oil level at next refueling stop. If other information of the onboard computer is displayed, this symbol continues to be shown until the oil level is detected as correct again.

Oil level cannot be measured (conditions as stated above not satisfied).

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

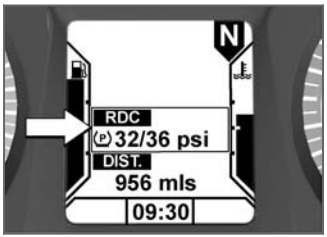
If, despite a correct oil level on the oil sight glass, "Check oil level" appears on the display, the oil level sensor may be defective. In this case, please contact your authorized BMW Motorrad retailer.◀

Tire Pressure Control TPC/RDC OE

Displaying tire inflation pressure

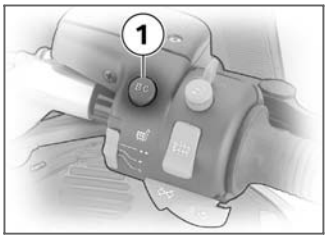
- Switch on ignition.

- Press button **1** repeatedly until tire inflation pressures are shown.



The tire inflation pressures are displayed with the lettering **RDC**. The left-hand value indicates the inflation pressure of the front wheel, and the right-hand value the inflation pressure of the rear wheel. Immediately after switching on the ignition, - - - - is displayed, as the transfer of the inflation pressure values does not begin until a speed over 20 mph (30 km/h) is reached.

Indicates the display of the tire inflation pressures.



- With onboard computer, repeatedly press button **1** until tire inflation pressures appear in display.

Lights

Parking lights

The parking 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.◀

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.◀

High-beam headlight and headlight flasher

- Press top section of full-beam headlight switch **1**.

» High-beam headlight is switched on.

- Move full-beam headlight switch **1** to center position.

» High-beam headlight is switched off.

- Press bottom section of full-beam headlight switch **1**.

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

Switching on parking lights

- Switch off ignition.

- Immediately after switching off ignition, press and hold left-hand turn indicator button **1**.

» Parking light switches on.

Switching off parking lights

- Switch ignition on and then off again.

» Parking light switched off.

Turn indicators

Switching on left-hand turn indicator

- Switch on ignition.

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

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

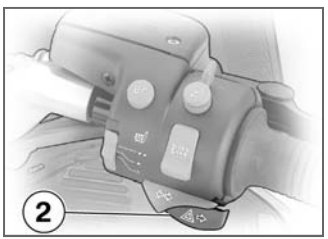
» Left-hand turn indicator is switched on.

» Indicator light for left-hand turn indicator flashes.

Switching on right-hand turn indicator

- Switch on ignition.

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

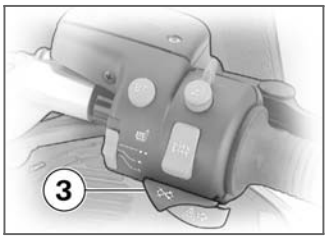


- Press right-hand turn indicator button **2**.

» Right-hand turn indicator is switched on.

» Indicator light for right-hand turn indicator flashes.

Switching off turn indicator



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

» Turn indicator is switched off.

» Turn indicator lights in indicator light panel are off.

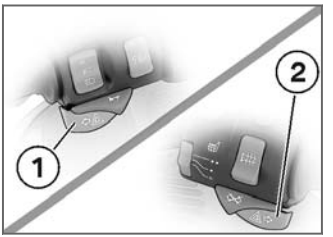
Hazard warning flashers

Switching on hazard warning flashers

- Switch on ignition.

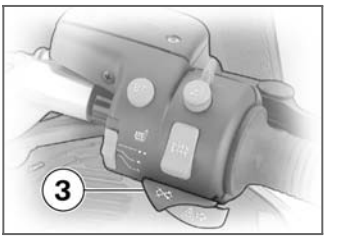
The hazard warning flashers place a strain on the battery. Do not use the hazard warning flashers for longer than absolutely necessary.◀

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.◀



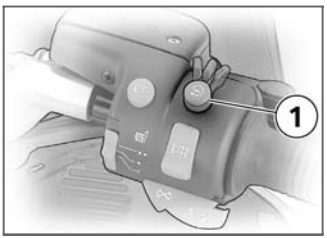
- Press left **1** and right-hand **2** turn indicator buttons simultaneously.
- » Hazard warning flashers are switched on.
- » Left/right turn indicator lights flash.
- Switch off ignition.
- » Hazard warning flashers continue to operate.
- » Left/right turn indicator lights off.

Switching off hazard warning flashers



- Press turn-indicator cancel button **3**.
- » Hazard warning flashers are switched off.

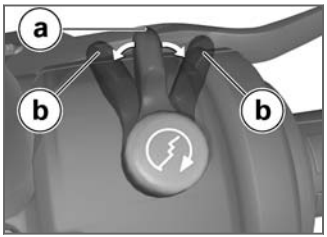
Emergency ON/OFF switch



1 Emergency ON/OFF switch

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

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



a Operating position
b Engine switched off.

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

Automatic Stability Control ASC[OE]

Switching off ASC function

• Switch on ignition.

The ASC function can also be deactivated while driving.◀

• Press and hold ASC button **1** until ASC warning light changes its display behavior.

ASC warning light begins to light up

• Release ASC button within two seconds.

ASC warning lamp continues to light up.

» ASC function is deactivated.

Activating ASC function

- Press and hold ASC button **1** until ASC warning light changes its display behavior.

ASC warning light goes out; if self-diagnosis is not completed, the ASC warning light begins to flash.

- Release ASC button within two seconds.

ASC warning light remains off or continues to flash.

» ASC function is activated.

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

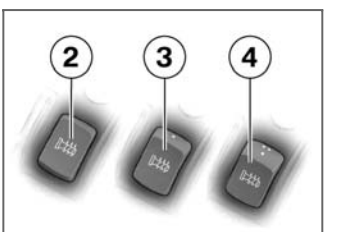
If the ASC warning light lights up after switching the ignition off and on and then continued driving over 5 mph (10 km/h), an ASC error has occurred.◀

Heated hand grips OE

1 Heated hand grip 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.

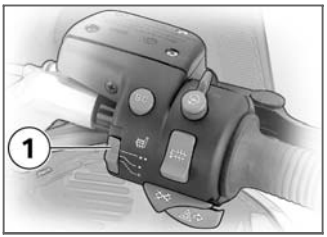
The increase in power consumption caused by the heated hand grips can drain the battery if you are riding at low engine speeds. If the battery is inadequately charged, the heated hand grips are switched off to ensure starting capability.◀



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

Seat heating OE

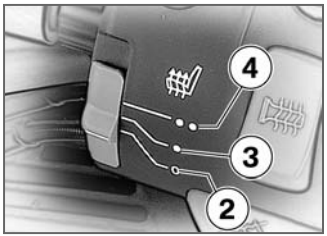
Seat heating, front seat



1 Switch for seat heating, front seat

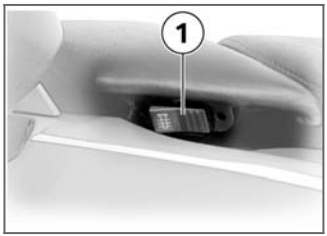
The driver's seat can be heated at two levels. Seat heating can be activated only when the engine is running.

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



2 Heating function off.
3 50 % heating power
4 100 % heating power

Seat heating of passenger seat

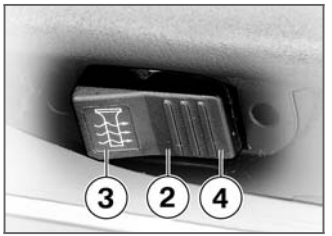


1 Switch for seat heating, rear seat

The passenger seat can be heated at two levels. Seat heating can be activated only when the engine is running.

The increase in power consumption caused by the heated seat can drain the battery if you are riding at low engine speeds. If the battery is inadequately charged, the heated seat

is switched off to ensure starting capability.◄

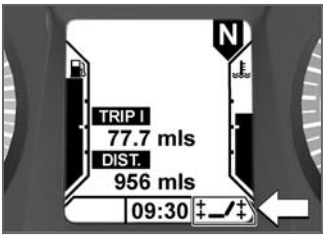


2 Switch in middle position: Heating off.

3 Switch pressed toward rear: 50 % heating capacity.

4 Switch pressed toward front: 100 % heating capacity.

Shown in multifunction display[OE]



The following symbols are shown in dependence on the selected heating level:

Driver's seat 50 % heating capacity

Driver's seat 100 % heating capacity

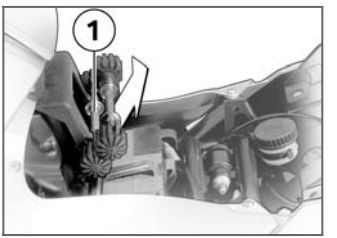
Passenger seat 50 % heating capacity

Passenger seat 100 % heating capacity

Seat height

Adjusting seat height

- Removing driver's seat (➠ 74)



- Remove seat bearing rod **1** and mount at desired height.
- Installing driver's seat (➠ 74)

Windshield

Adjusting windshield

- Switch on ignition.

- Press button **1** at top.

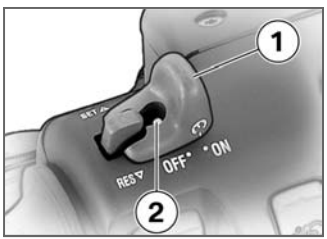
» Windshield is raised.

- Press button **1** at bottom.

» Windshield is lowered.

Cruise control OE

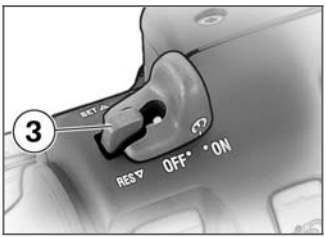
Switching on cruise control



- Move switch **1** to ON.

» Indicator light **2** in switch lights up red.

Setting road speed



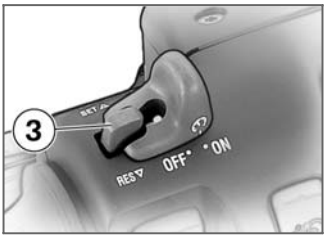
- Briefly push button **3** in SET direction

The cruise-control system can be used within a speed range of 30 mph to 112 mph (50 km/h to 180 km/h).◀

SET Indicator light for cruise-control system lights up.

» The motorcycle maintains your current cruising speed and the setting is saved.

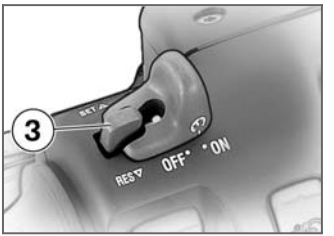
Step-by-step acceleration



- Briefly push button **3** in SET direction

» Speed is increased by 1 mph (2 km/h) each time button is pressed, and new setting is saved.

Stepless acceleration



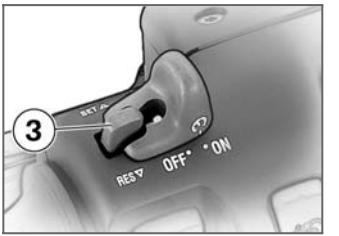
- Briefly press button **3** in SET direction and hold.

» The motorcycle accelerates steplessly.

- Release button **3**.

» The motorcycle maintains your current cruising speed and the setting is saved.

Step-by-step deceleration



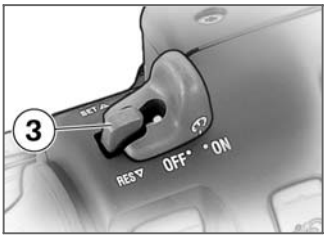
- Briefly push button **3** in RES direction.

» The speed is decreased by approx. 2 km/h each time you push the button, and the new setting is saved.

- Release button **3**.

» The motorcycle maintains your current cruising speed and the setting is saved.

Stepless deceleration



- Briefly press button **3** in RES direction and hold.

» The motorcycle decelerates steplessly.

- Release button **3**.

» The motorcycle maintains your current cruising speed and the setting is saved.

Deactivating cruise control

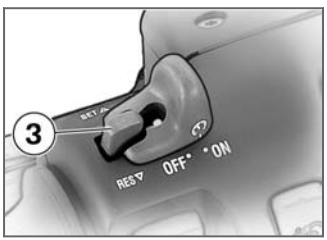
- Operate brakes or clutch or throttle twistgrip (reduce throttle beyond basic position).

» Cruise control is deactivated.

» Cruise-control indicator light goes out.

» Indicator light in switch remains on.

Resuming former cruising speed



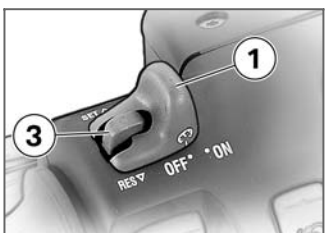
- Push button **3** in RES direction.

Opening the throttle does not deactivate the cruise-control system. If you release the twistgrip the motorcycle will decelerate only to the cruising speed saved in memory, even though you might have intended slowing to a lower speed.◀

SET Indicator light for cruise-control system lights up.

» Stored speed is resumed.

Switching off cruise control



- Move switch **1** to OFF.

» The system is deactivated.

» Button **3** is locked.

Storage compartment

Opening storage compartment

- Turn lock barrel **1** perpendicular to driving direction with ignition key.

» Lock of storage compartment is unlocked.

- Push in lock barrel.

» Lid opens.

Closing storage compartment

- Snap lid of compartment closed and push it down.

» Lock engages with an audible click.

- Turn lock barrel parallel to driving direction with ignition key.

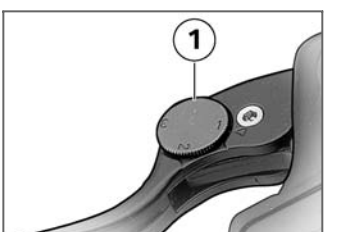
» Lock of storage compartment is locked.

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** into desired position.

The adjusting screw can be turned more easily if you press the clutch lever forward when doing so.◀

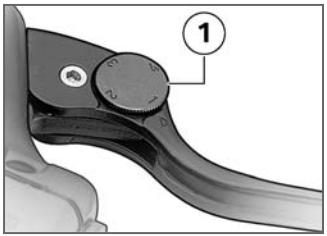
» Adjustment options:
– from Position 1: smallest distance between handlebar grip and clutch lever
– to Position 3: largest distance between handlebar grip and clutch lever

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.◀



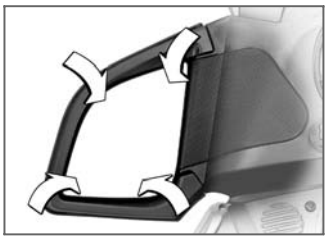
• Turn adjusting screw **1** into desired position.

The adjusting screw can be turned more easily if you press the handbrake lever forward when doing so.◀

» Adjustment options:
– from Position 1: smallest distance between handlebar grip and brake lever
– to Position 4: largest distance between handlebar grip and brake lever

Mirrors

Adjusting mirrors



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

Spring preload

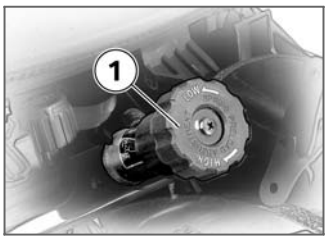
Adjustment on rear wheel

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

preload accordingly when the motorcycle is lightly loaded.

Adjusting spring preload for rear wheel

- Removing passenger seat (➠ 73)



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.◀

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

Basic setting of spring preload, rear

– Adjustment wheel to "STD" marking on side scale (Driver with weight of 187 lbs (85 kg), full tank of gas)

- Installing passenger seat (➠ 75)

Damping

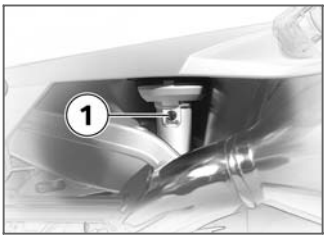
Setting

The damping must be adjusted to the road conditions and the spring preload.

– A rough road surface requires softer damping than a smooth road surface.
– An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting damping on rear wheel

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



⚠ There is a risk of injury by burns if you adjust the damping characteristic while the muffler is hot.
Use screwdriver extension and wear gloves.◀

- Adjust damping with the toolkit using the 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 of rear wheel rear-wheel damping
– Turn adjusting screw in direction of arrow H up to stop, then a 3/4 turn in direction of arrow S. (Full tank of gas, with rider 187 lbs (85 kg))

Electronic suspension adjustment ESA OE

Settings

Using the electronic suspension adjustment ESA you can conveniently adjust your motorcycle to various driving conditions.

The damping setting is displayed in the multifunction display in the area **1**, and the spring preload in the area **2**. The display of the clock is hidden for the duration of the ESA display.
Three spring preload steps can be combined with three damping

settings to optimally adapt the motorcycle to the load and the road surface.

Calling up settings

• Switch on ignition.

• Press button **1**.
» The current setting is displayed.
» Display goes out automatically after a few seconds.

Adjusting damping

• Switch on ignition.

The damping cannot be adjusted while the motorcycle is being ridden.◀

• Press button **1**.
» Current setting is displayed.
• Press button **1** once in each case.

Starting from the current state, the display is in the following order:

– COMF comfortable damping
– NORM normal damping
– SPORT sporty damping

» If button **1** is not pressed for a longer time, damping is set as indicated.

Adjusting spring preload

To ensure fast adjustment at temperatures below 32 °F (0 °C), BMW Motorrad recommends not having a passenger climb onto the motorcycle until after the adjustment to two-up operation is completed.
The ESA display flashes until the adjustment process has been completed. The motorcycle may not be driven during the adjustment process.

Adjusting spring preload

• Starting engine

The spring preload cannot be adjusted while the motorcycle is being ridden.◀

• Wait for the adjustment process to be completed

before continuing driving (display flashes).
- At very low temperatures, unload the motorcycles before increasing the spring preload, and have the passenger dismount if necessary.

- Press button **1**.
» The current setting is displayed.
- Press and hold button **1** until display changes each time.

Starting from the current state, the display is in the following order:

One-up

One-up with luggage

Two-up (with luggage)

- If button **1** is not pressed for a longer time, spring preload and possibly also damping is set as indicated. The display flashes while the spring preload is adjusted.

Tires

Checking tire inflation pressure

Incorrect tire inflation pressure results in poorer handing characteristics of the motorcycle and reduces the life of the tires.

Ensure proper tire inflation pressure.◀

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

Use valve caps with rubber seals and screw them on firmly to prevent sudden tire deflation.◀

- Make sure ground is level and firm and park motorcycle.
- Check tire pressures against data below.

Tire pressure, front
– 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)

Tire pressure, rear
– 36.3 psi (2.5 bar) (Single rider, with cold tire)

Tire pressure, rear
– 42.1 psi (2.9 bar) (Driver with passenger and/or load, with cold tire)

If tire pressure is too low:
- Correct tire pressure.

Headlight

Adjusting headlight for RHD/LHD traffic

If the motorcycle is ridden in a country where the opposite rule of the road applies, its asymmetric low-beam headlight will tend to dazzle oncoming traffic.
Have the headlight adjusted to the relevant conditions by a specialized workshop, preferably an authorized BMW Motorrad retailer.

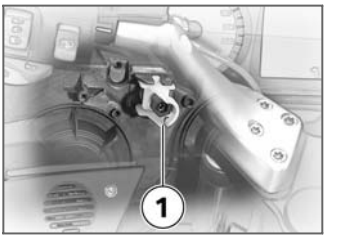
Ordinary adhesive tape damages the plastic lens.
To prevent damage to the plastic lens, consult a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

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.

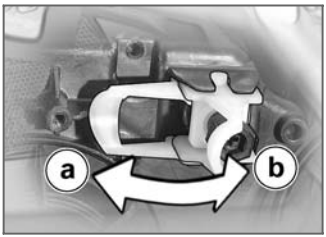
If you are unsure whether the basic headlight setting is correct, consult a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

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.



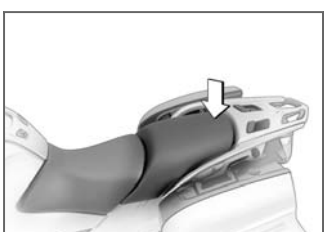
a Normal position
b Position with heavy payload

Front and rear seats

Removing passenger seat

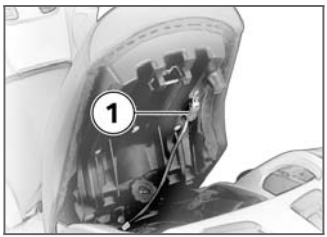
- Make sure ground is level and firm and park motorcycle.

- Turn the key counterclockwise in the seat lock.



- When doing so, press the rear seat down.
- Lift the seat at the rear and release the key.

– with seat heating OE

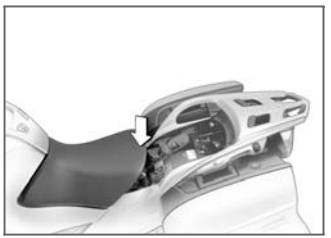


- Disconnect connector **1**.◁

- Pull the seat to the rear to release it from its holders.

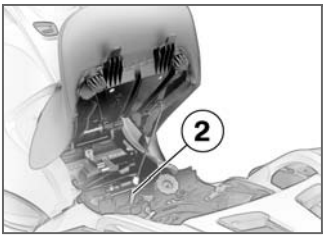
Removing driver's seat

- Removing passenger seat (➠ 73)



- Raise front seat at rear.

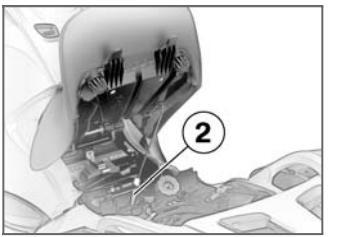
– with seat heating OE



- Disconnect plug **2**.◁
- Lift seat up to remove.

Installing driver's seat

– with seat heating OE

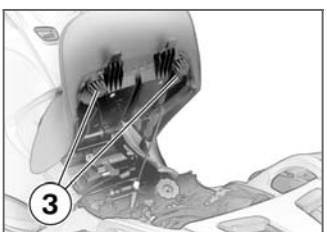


- Close connector **2**.◁

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.◀

- Slide front seat forward onto seat supporting rod **1**. Check that the seat is correctly seated.



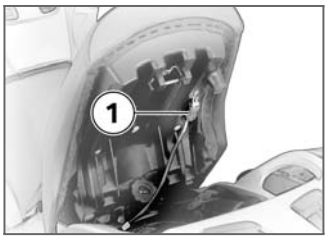
- If the seat is installed in the lower position, make sure that its rubber buffers **3** engage in the lower mount on the frame.

- Firmly push the front seat into the mount.
- Installing passenger seat (➠ 75)

Installing passenger seat

- Installing driver's seat (➠ 74)

– with seat heating OE



- Close connector **1**.◁

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.◀

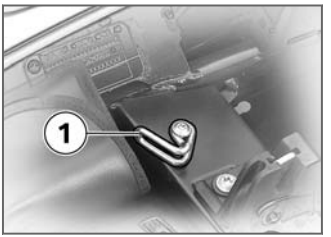
- Slide rear seat into holders in such a way that tongues engage their mounts.
- Firmly press down on passenger seat at rear.

» Passenger seat clicks audibly into place.

Helmet holder

Locking helmet on motorcycle

- Removing passenger seat (➠ 73)



- Secure helmet on helmet holder **1** using steel cable available as an optional accessory.

The helmet catch can scratch the paneling.
When hooking on the helmet, watch the position of the helmet lock.◀

- To do this, guide steel cable through helmet and push cable eyes onto holder.
- Installing passenger seat (➠ 75)

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 happy 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 spring-strut and shock absorber system
– Imbalanced load
– Loose clothing
– Insufficient tire inflation pressure
– Poor tire tread
– Etc.

Correct loading

Overloading and imbalanced loads can adversely affect the motorcycle's handling. 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 engine control unit

Tampering with the engine control unit can damage the motorcycle and cause accidents.
Do not tamper with the engine control unit.◀

Tampering with the engine control unit 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 engine control unit.◀

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
– Damping setting and spring preload
– Tread depth and tire inflation 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.

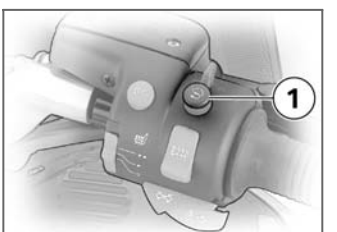
Transmission

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.

Starting engine

- Emergency ON/OFF switch in run position **a**.
- Switch on ignition.

» Pre-ride check is performed. (➠ 81)
» ABS self-diagnosis is performed. (➠ 81)
– with Automatic Stability Control (ASC) OE
» ASC self-diagnosis is performed. (➠ 82)



- Press 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.◀

» Engine starts.
» If the engine fails to start, the troubleshooting table in the chapter "Technical Data" may provide assistance. (➠ 140)

Pre-ride check

The instrument cluster runs a test of the 'General' warning light when the ignition is switched on: this is the "Pre-Ride-Check" The test is aborted if the engine is started before it is completed.

Phase 1

General warning light shows red.

– CHECK ! appears on the display.

Phase 2

General warning light shows yellow.

– CHECK ! appears on the display.

SET with cruise-control system: SET lamp lights up.

If the 'General' warning light does not show:

Some malfunctions cannot be indicated if the 'General' warning light cannot be displayed.
Check that the 'General' warning light comes on, and that it shows red and yellow.◀

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

ABS self-diagnosis

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.

brake failure ABS warning light flashes.

Possible country-specific version of ABS warning light

Phase 2

» Checking 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 warning light flashes slowly.

Phase 2

» Checking the diagnosable system components while driving.


ASC warning light flashes slowly.

ASC self-diagnosis completed

» 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.

Lowered suspension OE

Motorcycles with lowered running gear have less ground clearance in all positions than motorcycles with standard running gear.


Danger of accident due to the motorcycle contacting the ground unexpectedly early. Observe the reduced ground

clearance of lowered motorcycles in all positions.◀

Test the clearance of your motorcycle at an angle in safe situations. Remember to take the limited ground clearance of your motorcycle into account when driving over curbs and similar obstacles.

The lowering of the motorcycle shortens the spring travel (see the chapter "Technical Data"). A possible reduction in the accustomed driving comfort may result. Especially when riding with a passenger, the spring preload should be adjusted accordingly.

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 break-in speed
– <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.◀

Brakes

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.

Descending mountain passes

There is a danger of the brakes fading if you use only the rear brakes when descending mountain passes. Under extreme conditions, the brakes could overheat and suffer severe damage.
Use both front and rear brakes, and make use of the engine's braking effect as well.◀

Wet brakes

After washing the motorcycle, after driving through water or in the rain, braking can be delayed due to damp brake disks and brake pads.
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 disks 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.◀

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 engine.
- Pull handbrake lever.
- Hold 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 motorcycle to side until its weight is taken by stand and dismount to left.

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

- Turn handlebars to 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 left, grip handlebars with both hands.
- Pull handbrake lever.
- Swing your right leg over the seat and lift motorcycle to upright position.
- Hold 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 motorcycle and use your left foot to retract 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 engine.
- Dismount and keep your left hand on left handlebar grip.
- With your right hand, take hold of the rear frame.
- Using your right foot, press center stand toward rear until feet rest on 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 left handlebar grip.
- With your right hand, take hold of 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.◀

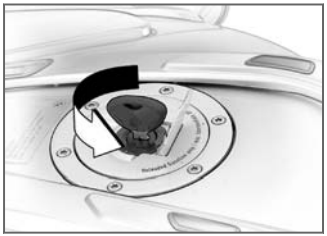
Fuel expands when exposed to heat. When the tank is overfilled, fuel can escape and get onto the rear wheel. This results in a danger of falling.
Do not fill the tank past the bottom edge of the filler neck.◀

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

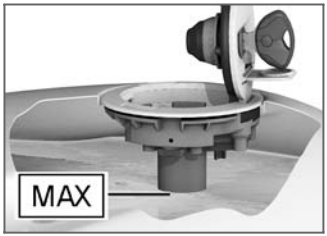
Fuel can attack the material of the windshield and the side wind deflectors, making them cloudy or unattractive.
Wipe off any fuel that gets onto the windshield and wind deflectors immediately.◀

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

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



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



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

Recommended fuel quality
– 98 ROZ/RON (Super Plus unleaded)
– 95 ROZ/RON (Super unleaded (fuel type can be used with reduced performance and consumption))

Usable fuel quantity
– approx. 27 liters

Reserve fuel quantity
– ≥1.1 gal (≥4 l)

- Press fuel tank cap down firmly to close.
- Remove key and close protective cap.

Securing motorcycle for transport

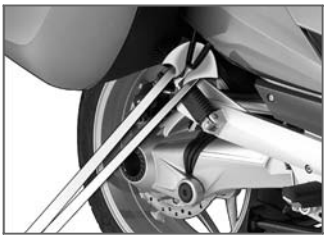
- Protect all components along which straps are routed against scratching. For example, use adhesive tape or soft cloths.

The motorcycle can tip away to the side and fall over.
Secure the motorcycle against tipping away to the side.◀

- Push motorcycle onto transport surface; do not place on side stand or center stand.

Components can be damaged.
Do not pinch components, e.g. brake lines or wiring harnesses.◀

- Fasten front straps on both sides on upper fork bridge.
- Guide straps through leading link and tension.



- Fasten straps at rear on both sides on passenger footrests and tension.
- Tension all straps evenly; motorcycle should be compressed as greatly as possible.

Technology in detail

Brake system with BMW Motorrad Integral ABS

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.

Lifting off rear wheel

However, during extremely heavy and rapid decelerations it is possible that the BMW Motorrad Integral ABS cannot prevent the rear wheel from lifting off the ground. In these cases, the motorcycle can also flip end over end.

⚠ Heavy braking can lead to the rear wheel lifting 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 on slippery surfaces.

Should a fault message result due to one of the driving condi-

tions 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 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 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 spinning or slipping away 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 with ASC deactivated.
- 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 5 mph (10 km/h).

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.

Tire Pressure Control TPC/RDC OE

Function

A sensor is located in each tire, which measures the air temperature and the inflation 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 after a speed of approx. 20 mph (30 km/h) is exceeded for the first time. Before initial reception of the tire inflation 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/RDC sensors can be driven. If a TPC/RDC control unit is installed, however the wheels have no sensors, then an error message is output.

Tire inflation pressure ranges

The TPC/RDC control unit distinguishes between three inflation pressure ranges matched to the motorcycle:

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

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

Temperature compensation

The tire inflation pressure is temperature dependent, i.e. it increases or decreases together with the tire temperature. The tire temperature is dependent on the ambient temperature and on the driving style and duration. The tire inflation pressures are shown temperature-compensated in the multifunction display; they refer to a tire temperature of 68 °F (20 °C). No temperature compensation takes place in the air pressure testers at filling stations, i.e. the measured tire inflation pressure is dependent on the tire temperature. As a result, the values displayed there do not match the values shown in the multifunction display in most cases.

Adjusting inflation pressure

Compare the TPC/RDC value in the multifunction display with the value on the back cover of the Rider's Manual. The difference between the two values must be compensated with the air pressure tester at the filling station.

Example: According to the Rider's Manual, the tire inflation pressure is to be 36.3 psi (2.5 bar), however 33.4 psi (2.3 bar) is shown in the multifunction display, i.e. it is low by 2.9 psi (0.2 bar). The tester at the filling station indicates 34.8 psi (2.4 bar). This value must be increased by 2.9 psi (0.2 bar) to 37.7 psi (2.6 bar) to produce the correct tire inflation pressure.

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.
Observe the information on the importance of tire sizes for chassis control systems (➠ 114).

⚠ 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

The supply to the onboard socket is cut off automatically if battery voltage is low or the load exceeds the maximum rating.

Onboard socket, front left

– with (additional) onboard socket OE

Onboard socket, rear left◁

Operating electrical accessories

You can start using electrical accessories only when the ignition is switched on. The accessory remains operational if the ignition is subsequently switched off. Approx. 15 minutes after switching off the ignition and/or during starting, the onboard socket is switched off to take the load off the motorcycle 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 imbalanced loads can adversely affect the motorcycle's handling. Do not exceed the gross weight limit and observe the loading information.◀

- Adjust setting of spring preload, damping characteristic and tire inflation pressures to suit total weight.
- Ensure that case volumes on left and right are equal.
- Make sure that weight is uniformly distributed between right and left.
- Pack heavy items of luggage downwards and inwards.
- Observe maximum payload of case and corresponding top speed.

Payload of case
– ≤22 lbs (≤10 kg)

Speed limit for driving with case
– ≤112 mph (≤180 km/h)

– with Topcase OA

• Observe maximum payload of Topcase and corresponding top speed.

Payload of Topcase
– ≤11 lbs (≤5 kg)

Payload of Topcase
– with large Topcase OA
– ≤22 lbs (≤10 kg)◁

Speed limit for driving with Topcase
– ≤112 mph (≤180 km/h)◁

– with tank rucksack OA

• Observe maximum payload of tank rucksack.

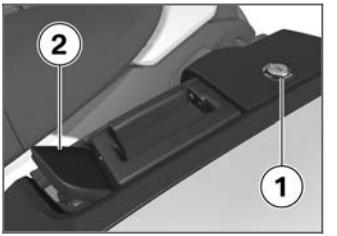
Payload of tank rucksack
– ≤11 lbs (≤5 kg)◁

Case

Opening case

• Turn key in case lock to OPEN position.

» Case is unlocked.



• Press lock barrel **1**.

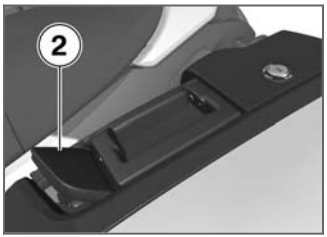
» Unlocking lever **2** pops up.

• Fold release lever toward rear.

• Open case lid.

Closing case

- Pull release lever **2** completely toward rear.
- Close case lid and press down. Check that nothing is trapped between lid and case.



- Press release lever **2** down.

» Release lever engages.

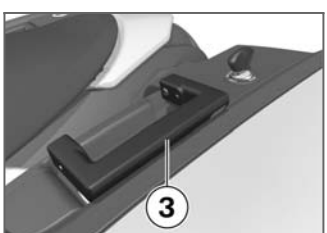
- Turn key in case lock to LOCK position.

» Case is locked.

Removing case

- Turn key in case lock to RELEASE position.

» Handle pops out.

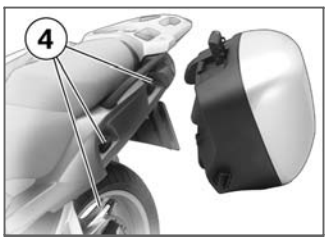


- First pull handle **3** out, then pull upward as far as possible.

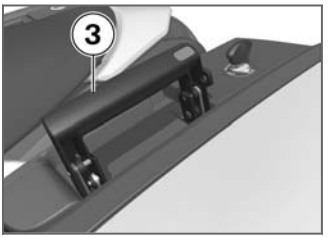
» Case is released and can be removed.

Mounting case

- Fold up case handle as far as possible.



- Insert case in brackets **4**.



- Press case handle **3** down until it engages.

» Case is correctly engaged on its holders.

- Turn key in case lock to LOCK position.

» Case is locked.

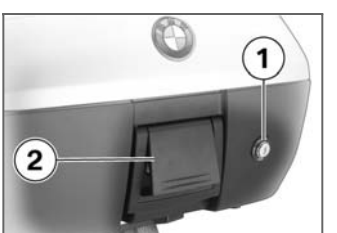
- Check case for firm seating.

Topcase[OA]

Opening Topcase

- Turn key in Topcase lock to OPEN position.

» Topcase is unlocked.



- Press lock barrel **1**.

» Unlocking lever **2** pops up.
• Pull release lever upward.
» Topcase lid opens.

Closing Topcase

• Pull release lever **2** completely toward rear.
• Close Topcase lid and press down. Check that nothing is trapped between lid and case.

• Press release lever **2** down.
» Release lever engages.
• Turn key in Topcase lock to LOCK position.
» Topcase is locked.

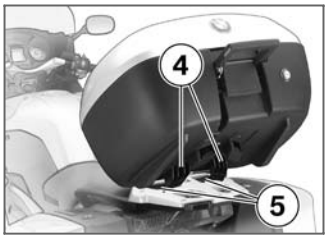
Removing Topcase

• Turn key in Topcase lock to RELEASE position.
» Handle pops out.

• Pull up handle **3** completely.
• Lift Topcase at rear and pull off luggage rack.

Mounting Topcase

• Pull up handle as far as possible.



- Hook Topcase into luggage rack. Make sure that hooks **4** are securely seated in corresponding mounts **5**.

- Press handle **3** down until it engages.

» Topcase is locked.

- Turn key in Topcase lock to LOCK position.

» Topcase is locked.

- Check Topcase for firm seating.

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.

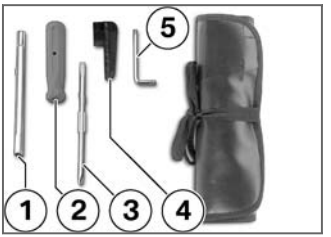
If special tightening torques are to be taken into account for assembly, these are listed. An overview of all required tightening torques is contained in the chapter "Technical Data".

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

Special tools and thorough specialized knowledge 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.

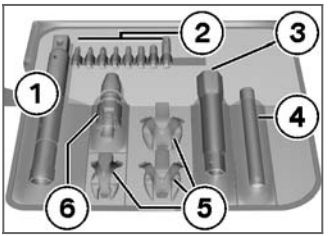
Onboard toolkit

Standard toolkit



1 Extension for screwdriver insert
2 Screwdriver handle
3 Reversible screwdriver with Phillips and straight blade
4 Tool for oil cap
for opening oil fill location
5 TORX wrench, T25

Onboard-toolkit service set OA



1 Pull-out tool holder
for mounting all tools via adapters and for removing spark plug
2 1/4" bits
Bits of various sizes
3 3/8" Allen key, 22 mm
for removing quick-release axle on front wheel
4 Flashlight
5 Socket wrench
Open-ended wrenches of various sizes

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

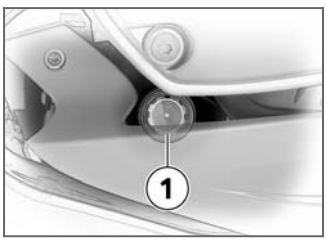
Engine oil

Checking engine oil level

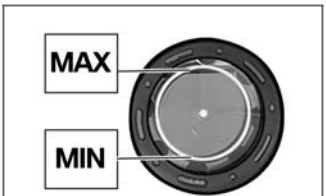
The engine can seize if the oil level is low, and this can lead to accidents.
Always make sure that the oil level is correct.◀

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.◀

- Make sure ground is level and firm and place motorcycle at operating temperature on its center stand.
- Wait five minutes after switching off engine at operating temperature.



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



Engine oil level

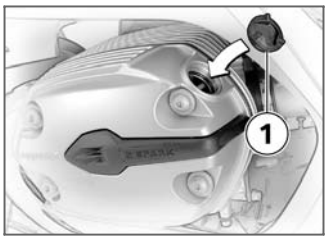
– max 0.5 quarts (max 0.5 l) (Difference between MIN and MAX)

If oil level is below MIN mark:
- Topping up engine oil (➠ 108)

If oil level is above MAX mark:
- Have oil level corrected by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Topping up engine oil

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



- Wipe area around fill location clean.
- Remove cap **1** of engine oil fill location with toolkit.

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

- Add engine oil up to specified level.

Engine oil, quantity for topping up
– max 0.5 quarts (max 0.5 l) (Difference between MIN and MAX)

- Checking engine oil level (107)
- Reinstall engine oil fill location cap.

Brake system

Brake safety

A fully functional brake system is a basic requirement for the road safety of your motorcycle.
Do not ride the motorcycle if you have any doubts about the dependability of the brake system. 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 handbrake lever.
» Pressure point must be clearly perceptible.
- Press footbrake lever.
» 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.

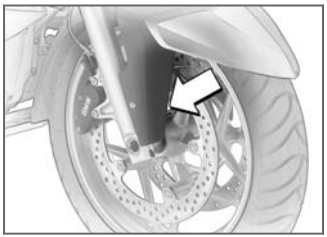
Brake pads

Checking front brake pad thickness

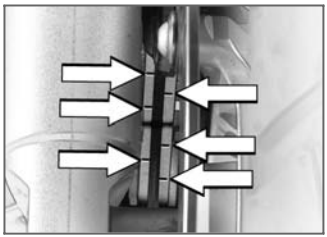
⚠ Dropping below the minimum pad thickness leads to reduced braking performance and may result in damage to the brakes.

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 ground is level and firm and park motorcycle.



- Visually inspect left and right brake pads to ascertain their thickness. Direction of view: between wheel and fork tube at brake caliper.



Front brake-pad wear limit

– min 0.04 in (min 1.0 mm) (Only friction material without carrier plate. Wear marking (grooves) must be clearly visible.)

If the wear indicating marks are no longer clearly visible:

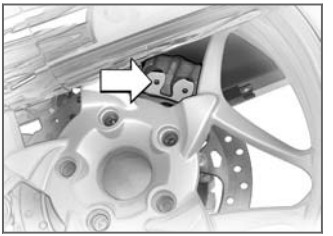
- Have the brake pads replaced by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Checking rear brake pad thickness

Dropping below the minimum pad thickness leads to reduced braking performance and may result in damage to the brakes.

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 ground is level and firm and park motorcycle.



- Check brake pads on rear brake caliper with visual inspection from left.

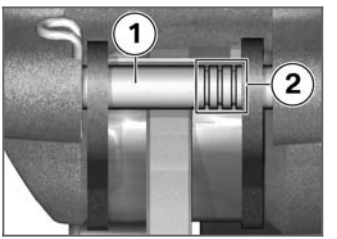
	Rear brake-pad wear limit
–	0.04 in (1.0 mm) (Only friction material without carrier plate. Brake disk must not be visible through bore hole of inner brake pad.)

If brake disk is visible:

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

Brake pad wear

The rear brake has a brake-pad wear indicator.



Shaft **1** with three marker rings **2** is between the brake pads.

How to interpret the marks:

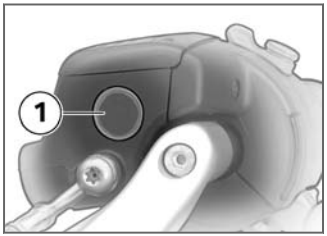
- Three rings visible: brake-pad thickness is at least 75 %
- Two rings visible: brake-pad thickness is at least 50 %
- One ring visible: brake-pad thickness is at least 25 %
- No rings visible: brake pads worn to wear limit; check as described above

Brake fluid

Checking front brake fluid level

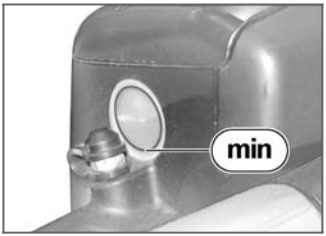
⚠ A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency.
Check brake fluid level regularly.◀

- Make sure ground is level and firm and place motorcycle on its center stand.
- Turn handlebars one time each completely to left and right, then move 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. Turn handlebars once completely to left and right before reading.)

If brake fluid level drops below permissible level:

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

authorized BMW Motorrad retailer.

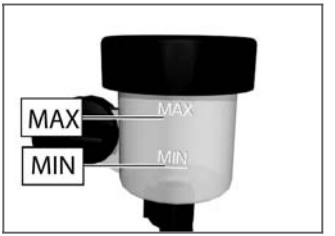
Checking rear brake fluid level

⚠ 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.
- Removing driver's seat (➠ 74)

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

▷ The brake fluid level in the brake-fluid reservoir drops due to brake pad wear.◀



Rear brake fluid level
– Brake fluid DOT4
– The brake fluid level must not fall below the MIN mark. (Brake-fluid reservoir horizontal)

If brake fluid level drops below 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.

» 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.

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 ground is level and firm and park 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.

Rims

Visual inspection

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

Wheels

Tire recommendation

For every size of tire, BMW Motorrad has tested and approved certain makes as roadworthy. BMW Motorrad cannot evaluate the suitability of other tires, and can therefore take no responsibility for their driving safety.

BMW Motorrad recommends only using the tires tested and approved by BMW Motorrad. Extensive information is available at your authorized BMW Motorrad retailer or on the Internet at www.bmw-motorrad.com.

Affect of wheel sizes on chassis control systems

The wheel sizes play a major role in the chassis control systems ABS and ASC. Especially the diameter and width of the wheels are stored in the control unit as the basis for all necessary calculations. A change in these sizes due to conversion to others than the wheels installed as standard equipment can seriously affect the control comfort of these systems.

The sensor wheels required for wheel speed detection must also match the control systems installed and may not be replaced. If you want to equip your motorcycle with different wheels, please speak to a specialized workshop, and preferably a BMW Motorrad retailer. In some cases the data stored in the control units can be adapted to the new wheel sizes.

TPC/RDC sticker[OE]

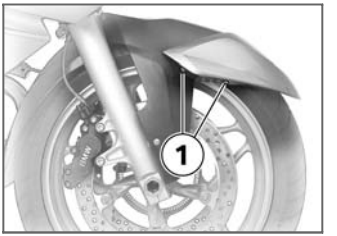
The TPC sensors can be damaged by improper tire mounting.

Inform the BMW Motorrad retailer or the specialized workshop that the wheel is equipped with a TPC sensor.◀

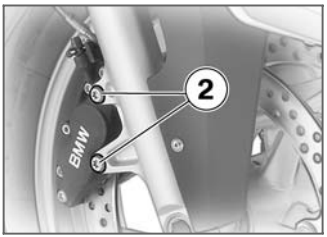
On motorcycles equipped with TPC/RDC, a corresponding sticker is located on the wheel rim at the position of the TPC/RDC sensor. During a tire change it must be ensured that the TPC/RDC sensor is not damaged. Inform the BMW Motorrad retailer or the specialized workshop of the TPC/RDC sensor.

Removing front wheel

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

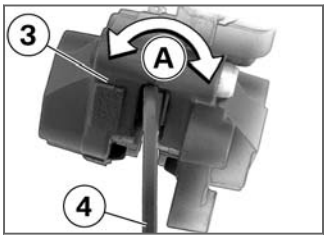


- Remove screws **1** on left and right.
- Take out mudguard toward front while pulling apart somewhat to side.
- Mask off area of wheel rim that could be scratched in process of removing brake calipers.



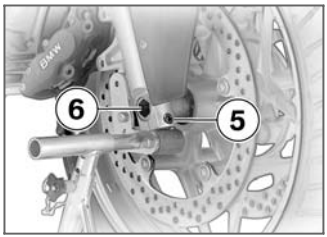
Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disk on reassembly.
Do not operate the handbrake lever when the brake calipers have been removed.◀

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



- Push brake pads in brake caliper **3** apart slightly by rocking back and forth **A** in relation to brake disks **4**.
- Carefully pull brake calipers back and out until clear of brake disks.

- Raise front of motorcycle until the front wheel can turn freely. BMW Motorrad recommends the BMW Motorrad front-wheel stand for lifting the motorcycle.
- Mounting front wheel stand (➠ 120)



- Remove axle clamping screw **5**.
- Remove quick-release axle **6** while supporting wheel.
- When rolling out wheel, watch ABS sensor on left side.

- Roll front wheel forward to remove.
- Remove spacing bushing on left side from front wheel hub.

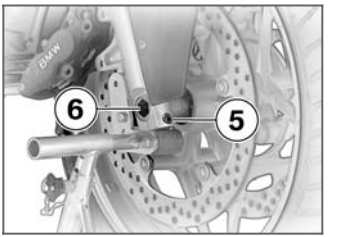
Installing front wheel

Malfunctions may occur during control interventions by ABS and ASC if a wheel other than the standard wheel is installed.
Please see the information on the effect of wheel sizes on the chassis control systems ABS and ASC at the beginning of this chapter.◀

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.◀

- Mount spacing bushing on left side on wheel hub.

- Roll front wheel into front wheel guide.
- When rolling in wheel, watch ABS sensor on left side.



- Lift front wheel and install quick-release axle **6** with appropriate torque.

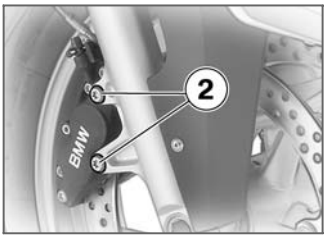
	Quick-release axle in axle mount
– 37 lb/ft (50 Nm)	

- Tighten axle clamping screw **5** with appropriate torque.

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

- Remove front wheel stand.

- Ease brake calipers onto brake disks.



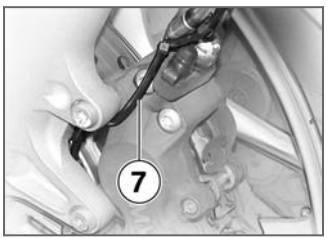
- Install securing screws **2** on left and right with specified torque.

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

- Remove adhesive tape from wheel rim.

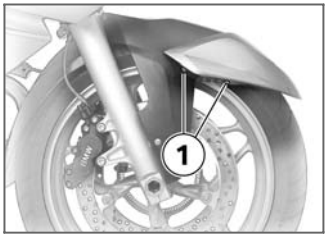
Braking efficiency is impaired if the brake pads are not correctly bedded against the disks.
Before driving off, check that the braking effect kicks in without any delay.◀

- Operate brakes several times until brake pads contact brake disk.



The cable of the ABS sensor could chafe through if it comes into contact with the brake disk.
Ensure installation of the ABS sensor cable close to the front suspension.◀

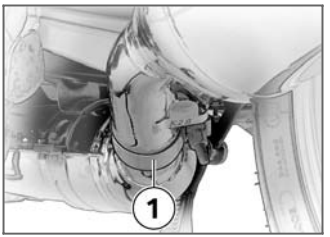
- Route ABS sensor cable **7** as shown in picture.



- Install screws **1** on left and right.

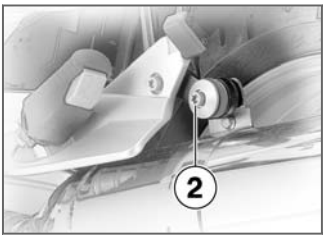
Removing rear wheel

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



Components of the exhaust system can be hot.
Do not touch hot parts of the exhaust system.◀

- Unscrew clamping screw **1** on muffler.
- Do not remove sealing grease from clamp.



- Remove screw **2** for bracket of muffler from passenger footrest.

- Turn muffler outward.
- Shift into first gear.

- Remove bolts **3** of rear wheel, holding wheel as you do so.
- Roll rear wheel out toward rear.

Installing rear wheel

Malfunctions may occur during control interventions by ABS and ASC if a wheel other than the standard wheel is installed.
Please see the information on the effect of wheel sizes on the chassis control systems ABS and ASC at the beginning of this chapter.◀

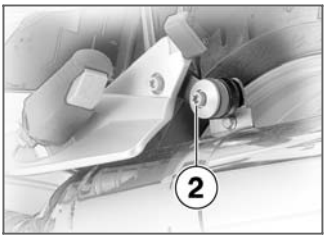
Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage. Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

- Place rear wheel on rear wheel support.

- Install screws **3** with specified torque.

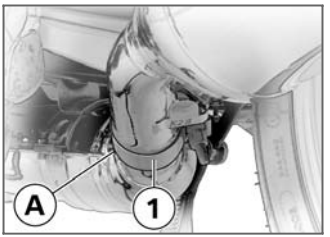
Rear wheel on wheel carrier
– Tightening sequence: Tighten diagonally
– 44 lb/ft (60 Nm)

- Turn muffler to its initial position.



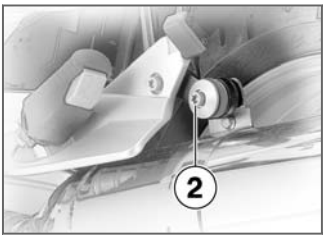
If the gap between the rear wheel and the muffler is too small, the rear wheel can overheat.
The gap between the rear wheel and the muffler must be at least 20 mm.◀

- Install screw **2** for muffler bracket in rear footrest, but do not tighten it yet.



- Align clamp **1** with marking **A** on marking on muffler and tighten screw to specified torque.

	Clamp on muffler and manifold
– 41 lb/ft (55 Nm)	



- Tighten screw **2** for bracket of muffler on passenger footrest with appropriate torque.

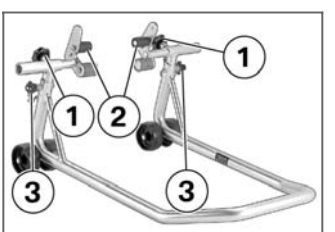
	Muffler on footrest system
– 14 lb/ft (19 Nm)	

Front wheel stand

Mounting front wheel stand

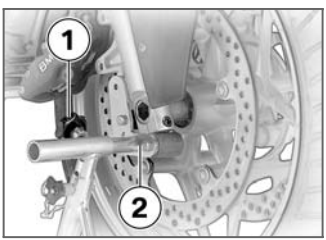
The BMW Motorrad front wheel stand is not designed for holding motorcycles without a center or other auxiliary stands. A motorcycle standing on the front wheel stand and the rear wheel alone can fall over.
Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad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

- Make sure ground is level and firm and place motorcycle on center stand.
- Use basic stand with tool number (0 402 241) in combination with front-wheel adapter (0 402 242).



- Loosen adjusting screws **1**.

- Push two mounts **2** far enough apart that front suspension fits between them.
- Use locating pins **3** to set front wheel stand to desired height.
- Center front wheel stand relative to front wheel and push it against front axle.



- Align two mounts **2** so that front suspension rests 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 front wheel stand down and raise motorcycle.

Lamps

General instructions

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

A defective bulb places your safety at risk because it is easier for other users to oversee the 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".◀

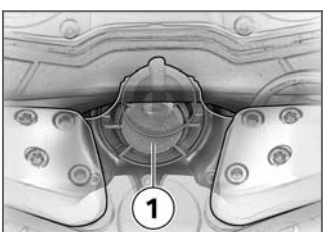
Do not touch the glass of new bulbs with your fingers. For installation, use a clean, dry cloth. Dirt deposits, in particular oil and grease, interfere with heat radiation from the bulb. Overheating and therefore short service life of the bulbs are the consequence.◀

Replacing high-beam bulb

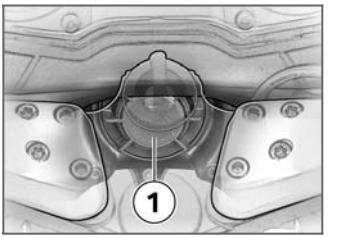
If it is not standing firmly, the motorcycle could topple in the course of the operations described below.
Make sure that the motorcycle is steady on its stand.◀

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

To achieve better accessibility, turn the handlebars to the left.◀



- Turn cover **1** counterclockwise and remove it.
- Removing low-beam/high-beam bulb (➠ 124)
- Installing low-beam/high-beam bulb (➠ 124)



- Install cover **1**.
- Check that bulb is corrected seated (by looking in through headlight lens).

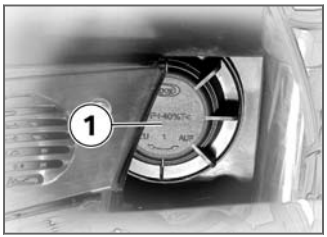
Replacing left low-beam bulb

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

▷ To achieve better accessibility, turn the handlebars to the left.◀

- Turn cover **1** counterclockwise and remove it.
- Removing low-beam/high-beam bulb (➠ 124)
- Installing low-beam/high-beam bulb (➠ 124)



- Install cover **1**.
- Check that bulb is corrected seated (by looking in through headlight lens).

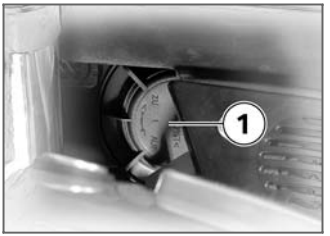
Replacing right low-beam bulb

⚠ 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 ground is level and firm and park motorcycle.
- Switch off ignition.

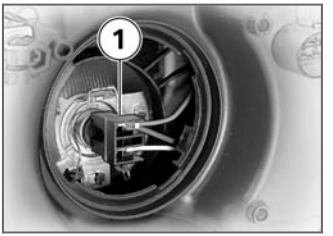
▷ To achieve better accessibility, turn the handlebars to the left.◀

- Turn cover **1** counterclockwise and remove it.
- Removing low-beam/high-beam bulb (➠ 124)
- Installing low-beam/high-beam bulb (➠ 124)

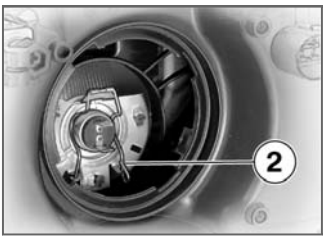


- Install cover **1**.
- Check that bulb is corrected seated (by looking in through headlight lens).

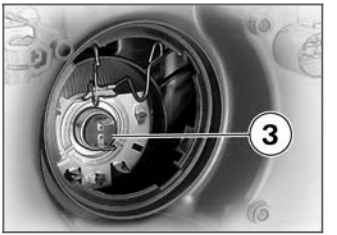
Removing low-beam/high-beam bulb



- Disconnect plug **1**.



- Disengage spring clip **2** at left and right and secure it (preferably by hooking it into the headlight housing).



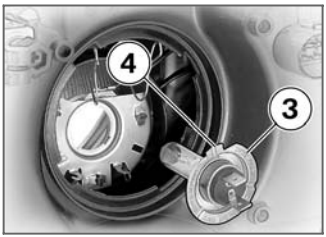
- Remove bulb **3**.

Installing low-beam/high-beam bulb

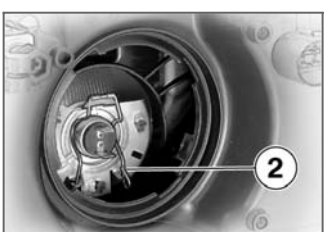
- Replace defective bulb.

Bulb for low-beam headlight
– H7 / 12 V / 55 W

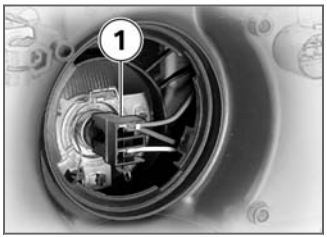
Bulb for high-beam headlight
– H7 / 12 V / 55 W



- Install bulb **3**, making sure that the lug **4** faces upward and the bulb is securely engaged.



- Mount spring strap **2** on left and right in catch.



- Install connector **1**.

Left and right parking light bulb

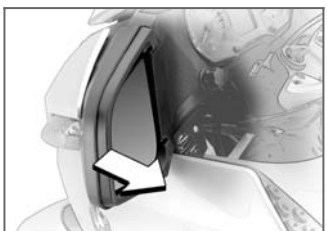
The procedure for replacing the left parking light bulb is described below. The procedure for replacing the right parking light bulb is analogous.

Replacing parking light bulb

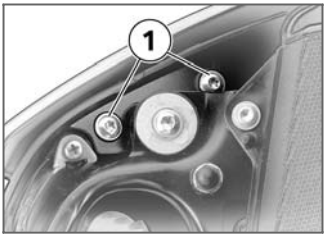
⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below.

Make sure that the motorcycle is steady on its stand.◀

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

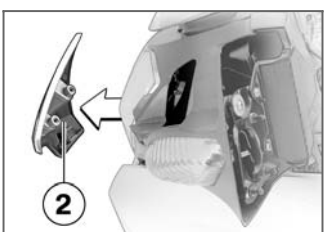


- Apply firm forward pressure with the flat of your hand to push the mirror back out of the anchorage.

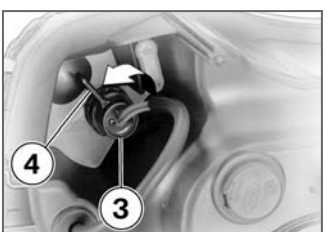


• Remove screw **1** while holding fairing side panel in place.

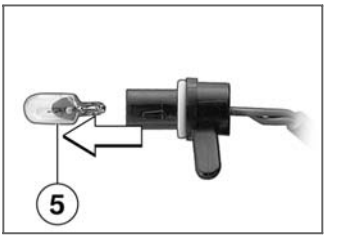
• Parking-light bulb is accessible through opening.



• Take off fairing side panel **2**.



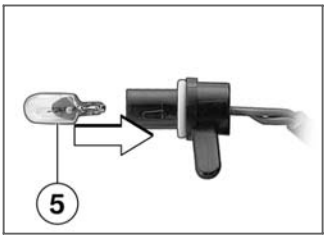
• Remove bulb holder **3** from headlight housing by turning counterclockwise. To do this, swivel lever **4** on holder downward (right side of motorcycle: swivel lever upward).



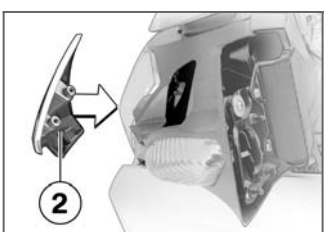
• Pull bulb **5** out of bulb holder.

• Replace defective bulb.

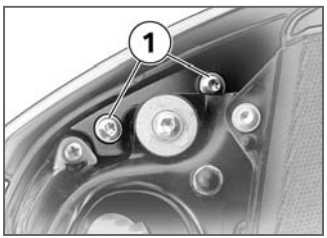
Bulb for parking light
– W5W / 12 V / 5 W



- Insert bulb **5** into bulb socket.
- Install bulb socket in headlight housing by turning clockwise.



- Install trim piece **2**, making sure that lug of trim piece is properly seated in mount provided.



- Install screw **1**.

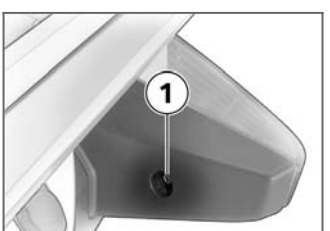
If rubber mounts or retaining pins of the mirrors are greased, the mirrors can easily become detached from their anchoring.
Do not grease rubber mounting and retaining pin.◀

- Install mirror in mirror housing, making sure that three connectors completely engage in respective mounts.
- Check that bulb is corrected seated (by looking in through headlight lens).

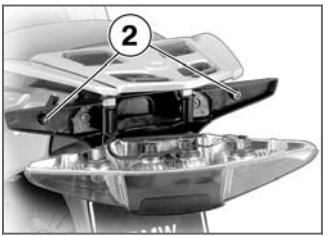
Replacing rear brake, tail light or rear turn indicator bulbs

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.◀

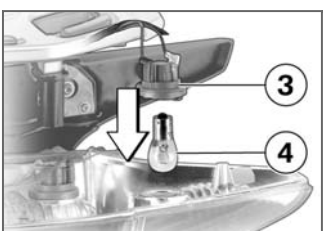
- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.



- Remove screws **1** on left and right.



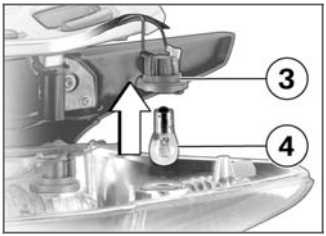
- Pull bulb housing toward rear until it is clear of holders **2**.



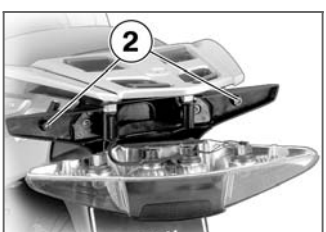
- Turn bulb holder **3** counterclockwise to remove it from bulb housing.
- Press bulb **4** into socket and turn counterclockwise to remove.
- Replace defective bulb.

Bulb for taillight/brake light
– P21W / 12 V / 21 W

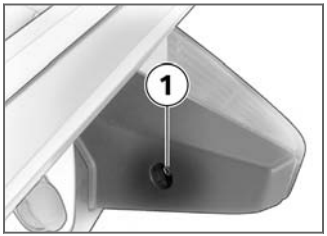
Bulbs for flashing turn indicators, rear
– P21W / 12 V / 21 W
– with white turn indicators OE
– PY21W / 12 V / 21 W◁



- Install bulb **4** in bulb socket **3**.
- Install bulb socket in lamp housing.



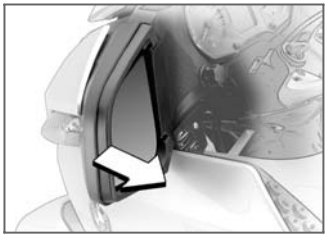
- Insert lamp housing **2** into holders.



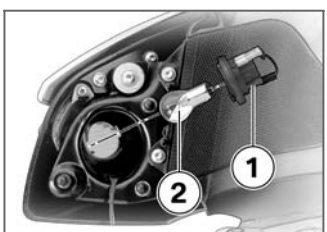
- Install screws **1** on left and right.

Replacing front turn indicator bulb

- Switch off ignition.



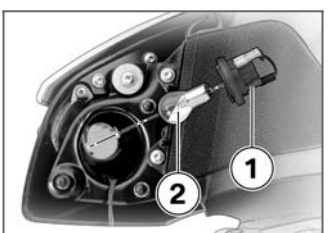
- Apply firm forward pressure with flat of hand to push mirror out of anchorage.



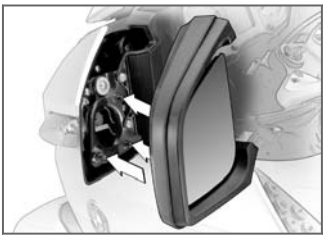
- Turn bulb holder **1** counter-clockwise to remove it from bulb housing.

- Press bulb **2** into socket and turn counterclockwise to remove.
- Replace defective bulb.

Bulbs for flashing turn indicators, front
– P21W / 12 V / 21 W
– with white turn indicators OE
– PY21W / 12 V / 21 W◁



- Install bulb **2** in bulb socket **1**.
- Install bulb socket in lamp housing.



If rubber mounts or retaining pins of the mirrors are greased, the mirrors can easily become detached from their anchoring.
Do not grease rubber mounting and retaining pin.◀

- Install mirror in mirror housing, making sure that three connectors completely engage in respective mounts.

Jump-starting

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

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

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

Jump-starting with a donor-battery voltage higher than

12 V can damage the motorcycle electronics.
The battery of the donor vehicle must have a voltage of 12 V.◀

- Make sure ground is level and firm and park motorcycle.
- Removing driver's seat (➠ 74)
- When jump-starting the engine, do not disconnect the battery from the onboard electrical system.
- Remove protective cap from positive battery terminal.
- Begin by connecting one end of red jump lead to positive terminal of discharged battery and other end to positive terminal of 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.
- Run engine of donor vehicle during jump-starting.
- Start engine of the vehicle with discharged battery in usual way; if engine does not start, wait a few minutes before repeating attempt in order to protect starter motor and donor battery.
- Allow both engines to idle for a few minutes before disconnecting jump leads.
- Disconnect jumper lead from negative terminal first, then from positive cable.
- Mount protective cap on positive battery terminal.

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

- Installing driver's seat (➠ 74)

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, as applicable, 71 60 7 688 865 (110 V). If in doubt, charge the disconnected battery directly at the terminals.◀

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

▷ 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.◀

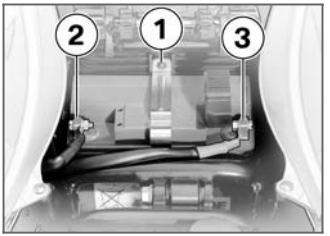
- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.
- Removing driver's seat (➠ 74)

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

- Remove battery ground wire **2** first.
- Then pull off protective cap and remove positive battery cable **3**.
- Remove screw **1**, unhook retaining strap at bottom and remove.
- Lift out battery upward; if it is difficult to move, moving it back and forth will help.

Installing battery

- Place battery in battery compartment, positive terminal on right in direction of travel.



- Hook in retaining hoop at bottom, push over battery and install screw **1**.

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 positive battery cable **3**.
- Place protective cap on battery positive terminal.
- Then install the negative battery cable **2**.

If the motorcycle was disconnected from the battery for a longer time, the current date must be entered in the instrument cluster to ensure the proper operation of the service display.
Consult a certified workshop, preferably an authorized BMW Motorrad retailer, for setting of the date.◀

- Installing driver's seat (➠ 74)
- Setting clock (➠ 49)

Care

Care products

BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. BMW CareProducts have been materials tested, laboratory tested, and field tested and provide optimum 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 bright 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 washing the motorcycle, after driving through water or in the rain, braking can be delayed due to damp brake disks and brake pads.
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 plenty 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 Car Polish or BMW Paint Cleaner are recommended for this.
Contamination of 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.
A sure sign that the paint must be protected, is the fact that water no longer pearls up on it.

Storing motorcycle

- Clean the motorcycle.
- Remove 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 motorcycle in a dry room so that both wheels are unloaded. Appropriate auxiliary stands are available at your authorized BMW Motorrad retailer.

Before putting the motorcycle into storage, have the engine oil and the oil filter element changed by a specialist 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 the protective wax coating.
- Clean the motorcycle.
- Install a charged battery.
- Before starting: Observe checklist.

Technical data

Troubleshooting chart

Possible cause	Remedy
Emergency ON/OFF switch	Emergency ON/OFF switch in operating position
Side stand	Retract the side stand. (➠ 80)
Gear engaged and clutch not operated	Select neutral or pull clutch lever (➠ 80)
Clutch disengaged before ignition on	Switch on the ignition, then pull the clutch lever
No fuel in tank	Refueling (➠ 86)
Battery drained	Charging connected battery (➠ 132)

Threaded fasteners

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
Clamp on muffler and manifold		
M8	41 lb/ft (55 Nm)	
Muffler on footrest system		
M8 x 35	14 lb/ft (19 Nm)	
Rear wheel on wheel carrier		
M10 x 1.25 x 40	**Tighten diagonally**	
	44 lb/ft (60 Nm)	

Engine

Engine design	Longitudinally oriented two-cylinder, four-stroke boxer motor with overhead camshaft, air cooling, oil-cooled exhaust ports, and electronic fuel injection
Displacement	1170 cc (1170 cm^3)
Cylinder bore	4 in (101 mm)
Piston stroke	2.9 in (73 mm)
Compression ratio	12.0:1
Rated output	110 hp (81 kW), At: 7500 min^{-1}
– with power reduction OE	101 hp (74 kW), At: 7500 min^{-1}
Torque	85 lb/ft (115 Nm), At: 6000 min^{-1}
Maximum engine speed	max 8000 min^{-1}
Idle speed	1150^{+150}_{+-50} min^{-1}, With increased energy requirement, partial increase of idle speed is possible.

Fuel

Recommended fuel quality	98 ROZ/RON, Super Plus unleaded 95 ROZ/RON, Super unleaded (fuel type can be used with reduced performance and consumption)
Usable fuel quantity	approx. 27 liters
Reserve fuel quantity	≥1.1 gal (≥4 l)

Engine oil

Engine oil, capacity	max 1.1 gal (max 4.0 l), with filter change
Lubricant	Engine oil 20W-50
Engine oil, quantity for topping up	max 0.5 quarts (max 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

Clutch

Clutch design	Single-plate dry clutch

Transmission

Transmission design	Helical 6-speed transmission with integrated torsional vibration damper, claw shifting via sliding sleeves
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

Type of final drive	Shaft drive with bevel gears
Type of rear suspension	BMW EVO lever
Gear ratio of rear-wheel drive	2.62:1

Running gear

Front wheel	
Type of front suspension	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
Design of front suspension strut	Central spring strut with coil pressure spring and twin-tube gas-pressure shock absorber
– with Electronic Suspension Adjustment (ESA) OE	Central spring strut with coil pressure spring and electric 3x adjustable damper setting (rebound and compression)
Spring travel, front	4.7 in (120 mm), On wheel
– with lowering OE	3.7 in (94 mm), On wheel

Rear wheel	
Type of rear suspension	BMW EVO lever
Type of rear suspension	Central spring strut with single-tube gas-filled shock absorber, steplessly adjustable rebound-stage damping and hydraulically adjustable spring preload
– with Electronic Suspension Adjustment (ESA) OE	Central spring strut with single-tube gas-filled shock absorber, electric 3x adjustable rebound-stage damping and electrohydraulic 3x adjustable spring preload
Spring travel, rear	5.3 in (135 mm), On wheel
– with lowering OE	4.3 in (109 mm), On wheel

Brakes

Type of front brake	Hydraulically operated twin disk brake with 4-piston fixed calipers and floating brake disks
Brake-pad material, front	Sintered metal
Type of rear brake	Hydraulic disk brake with 2-piston floating caliper and fixed brake disk
Brake-pad material, rear	Organic

Wheels and tires

Recommended tire combinations	You can obtain an overview of the current tire approvals from your authorized BMW Motorrad retailer or on the Internet at www.bmw-motorrad.com.
Front wheel	
Front wheel design	Cast wheel with 5 double spokes, MT H2
Front-wheel rim size	3.50" x 17"
Front tire designation	120/70 ZR17

Rear wheel	
Rear wheel design	Cast wheel with 5 double spokes, MT H2
Rear-wheel rim size	5.50" x 17"
Rear tire designation	180/55 ZR17
Tire inflation pressures	
Tire pressure, front	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
Tire pressure, rear	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

Electrical rating of onboard socket	max 10 A
Fuses	All electrical circuits are electronically protected. 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 voltage	12 V
Battery capacity	19 Ah
Spark plugs	
Spark plugs, manufacturer and designation	Bosch YR5LDE NGK DCPR 8 EKC
Electrode gap of spark plug	$0.03^{\pm 0.01}$ in ($0.8^{\pm 0.1}$ mm), New max 0.04 in (max 1.0 mm), Wear limit
Secondary spark plugs, manufacturer and designation	Bosch YR5LDE NGK DCPR 8 EKC
Electrode gap of secondary spark plug	$0.03^{\pm 0.01}$ in ($0.8^{\pm 0.1}$ mm), New max 0.04 in (max 1.0 mm), Wear limit

Bulbs	
Bulb for high-beam headlight	H7 / 12 V / 55 W
Bulb for low-beam headlight	H7 / 12 V / 55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for taillight/brake light	P21W / 12 V / 21 W
Bulbs for flashing turn indicators, front	P21W / 12 V / 21 W
– with white turn indicators OE	PY21W / 12 V / 21 W
Bulbs for flashing turn indicators, rear	P21W / 12 V / 21 W
– with white turn indicators OE	PY21W / 12 V / 21 W

Frame

Frame design	Steel-tube front frame with steel-tube rear frame and carrying drive unit
Location of type plate	under seat
Location of vehicle identification number	Front frame, upper center

Dimensions

Motorcycle length	87.8 in (2230 mm)
Motorcycle height	56.3 in (1430 mm), above windshield, lower position, at DIN unladen weight
– with lowering OE	55.5 in (1410 mm), above windshield, lower position, at DIN unladen weight
Motorcycle width	31.5 in (800 mm), Over handlebars without mirrors
Motorcycle width	35.6 in (905 mm), Over handlebars with mirrors
Driver's seat height	32.3...33.1 in (820...840 mm), at unladen weight
– with low driver's seat OE	30.7...31.5 in (780...800 mm), at unladen weight
– with lowering OE	29.5 in (750 mm), at unladen weight
Rider's inside-leg arc, heel to heel	74...75.6 in (1880...1920 mm)
– with low driver's seat OE	70.9...72.4 in (1800...1840 mm)
– with lowering OE	68.9 in (1750 mm)

Weights

Unladen weight	571 lbs (259 kg), DIN unladen weight, ready for road, 90 % full tank of gas, without OE
Permissible gross weight	1091 lbs (495 kg)
Maximum payload	520 lbs (236 kg)

Riding specifications

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

Service

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 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 obtain information on the contents of the BMW Services from your BMW Motorrad retailer.
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 retail 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 concerning the international dealership network can be found in the brochure "Service Contact Europe" or "Service Contact Africa, America, Asia, Australia, Oceania".

Maintenance work

BMW Pre-Delivery Check

The BMW pre-delivery check is carried out by your authorized BMW Motorrad retailer before it turns over the motorcycle to you.

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 Service

BMW Service is carried out once a year. The scope of the services performed may be dependent on the vehicle owner and the mileage driven. Your BMW Motorrad retailer confirms that the service has been performed and enters the date for the next service.
For drivers who drive long distances annually, it may be necessary to come in for service before the entered date. In this case a corresponding maximum odometer reading will also be entered in the confirmation of service. If this odometer reading is reached before the next service date, service must be performed sooner.
The service display in the multifunction display reminds you of the next service date approx. one month or 600 miles (1,000 km) before the entered values.

Confirmation of maintenance work

BMW Pre-Delivery Check

Conducted

on_____

_____

Stamp, Signature

BMW Running-in Check

Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
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or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

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Odometer reading_____

Next service
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or, if reached sooner,

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Stamp, Signature

BMW Service
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Odometer reading_____

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or, if reached sooner,

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or, if reached sooner,

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Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

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.

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

Fuel	
Recommended fuel quality	98 ROZ/RON, Super Plus unleaded 95 ROZ/RON, Super unleaded (fuel type can be used with reduced performance and consumption)
Usable fuel quantity	approx. 27 liters
Reserve fuel quantity	≥1.1 gal (≥4 l)
Tire inflation pressures	
Tire pressure, front	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
Tire pressure, rear	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

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Corrections to Rider's Manual (US Model)

Usable fuel quantity

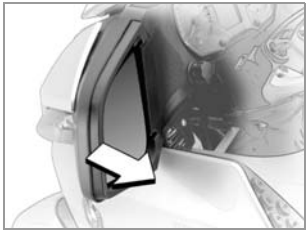
⇨ Page 27 and back page

The usable fuel quantity is – approx. 25 liters

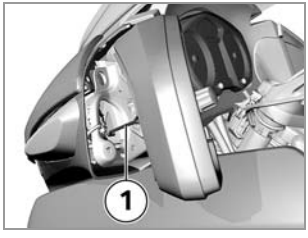
Re: "Replacing parking light bulb" and "Replacing front turn indicator bulb"

⇨ Pages 125 and 129

Both these procedures require the mirror to be removed.



Press hard on the front of the rear-view mirror to release it from the catch mechanism.



The mirror is held in place by the retaining band **1**. Either pull the mirror to one side and fix it in place there or detach the retaining band and remove the mirror. Reattach the retaining band to the mirror before fitting the mirror back into place.