Rider's Manual (US Model)

R 1200 RT

BMW Motorrad

Freude am Fahren

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 motorcycle retailer will gladly provide advice and assistance.

We wish you many miles of safe and enjoyable riding

BMW Motorrad.

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General instructions

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Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and repair work carried out on your motorcycle will be documented in Chapter 10. For generous treatment of claims submitted after the warranty period has expired, proof of the maintenance performed is essential.

Should you want to sell your BMW one day, please also remember to turn over the Rider's Manual to the new owner; it is an important part of your motorcycle.

Abbreviations and symbols

 Indicates warnings 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.

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

OA Optional accessories
BMW optional accessories can be purchased and retrofitted at your authorized BMW motorcycle retailer.

EWS Electronic immobilizer.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.

ESA Electronic Suspension Adjustment
Electronic suspension adjustment.

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 performance specifications in the Rider's Manual refer to the standards of the Deutsche Institut für Normung e.V. (DIN) and comply with its tolerance specifications. Versions for individual countries may differ.

Currency

The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your motorcycle may differ from the information supplied in the Rider's Manual. BMW Motorrad is also unable to ensure that no errors occur. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.

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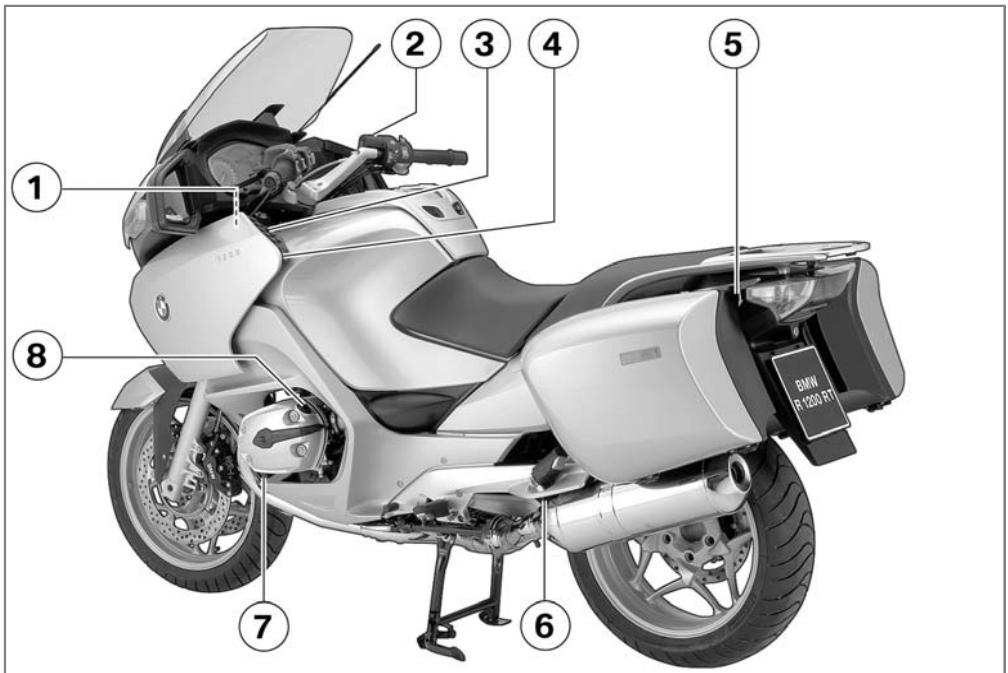
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BMW
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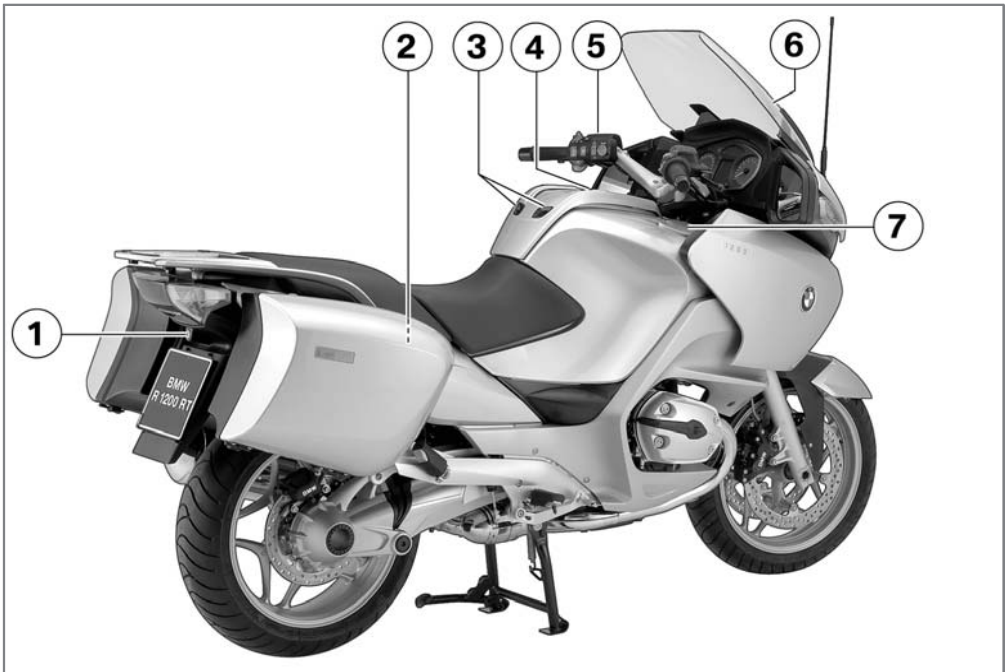
General view, left side

1 Headlight adjustment (vertical) beneath instrument panel (➡ 54)
2 Brake-fluid reservoir (➡ 103)
3 Radio operating unit (OE)
4 Onboard socket (➡ 88)
5 Onboard socket (OE) (➡ 88)
6 Adjuster, rear shock absorber (➡ 62)
7 Oil sight glass (➡ 99)
8 Filler neck, engine oil (➡ 100)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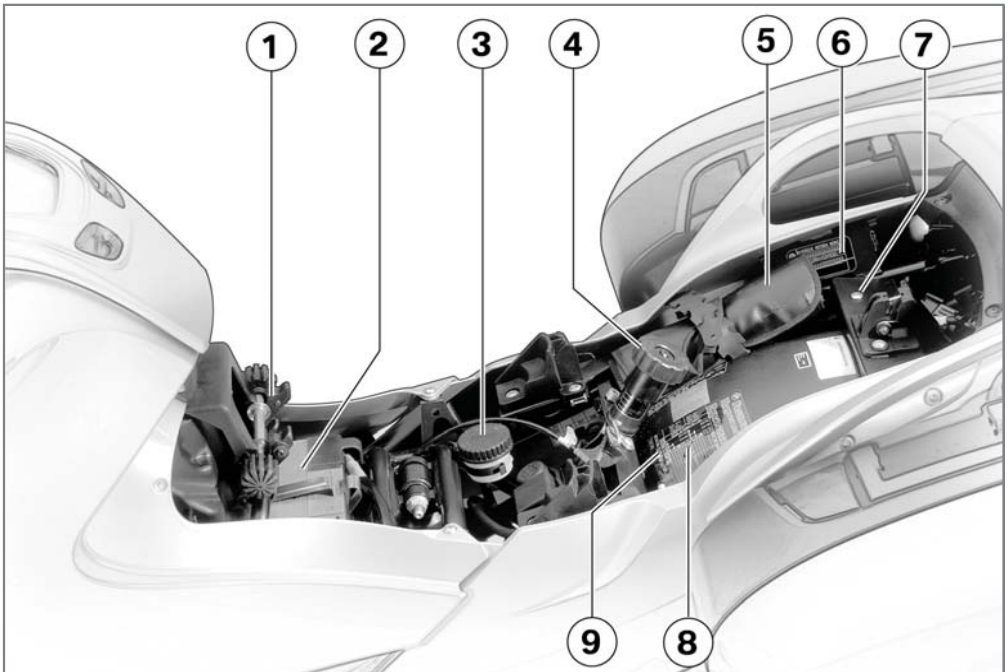
General view, right side

1 Seat lock (➠ 57)
2 Switch for passenger seat heating (OE) under passenger seat (➠ 50)
3 Mounting for tank rucksack (OA)
4 Filler neck, fuel tank (➠ 82)
5 Front clutch fluid reservoir
6 Electrically adjustable windshield (➠ 61)
7 Storage or radio compartment (➠ 56)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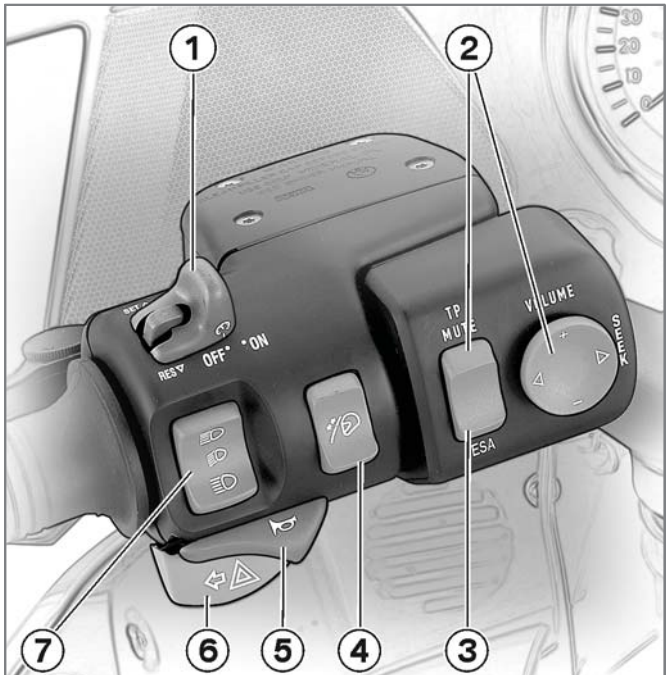
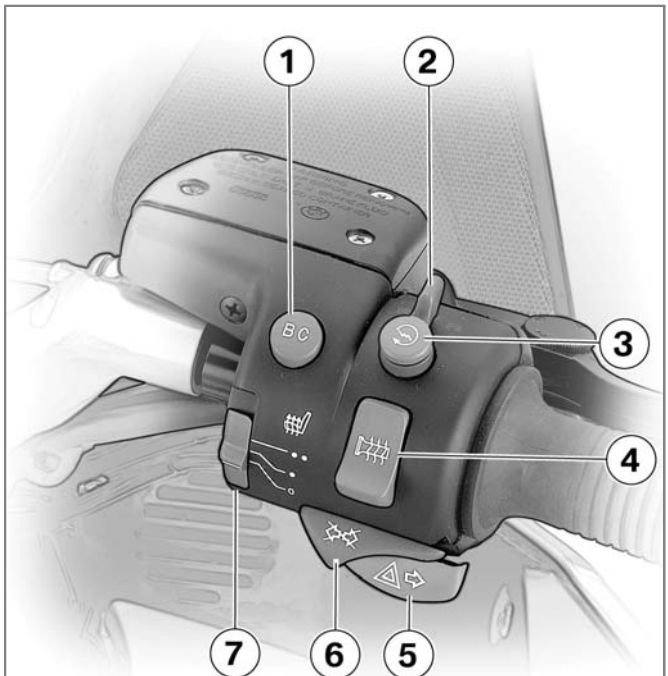
Underneath seat

1 Height adjuster, front seat (➡ 58)
2 Battery (➡ 122)
3 Brake-fluid reservoir, rear (➡ 104)
4 Adjuster, spring preload, rear (➡ 61)
5 Toolkit (➡ 98)
6 Type plate
7 Helmet holder (➡ 60)
8 Table of tire pressures
9 Label, payload

Left handlebar fitting

1 Switch for cruise control (OE) (➡ 46)
2 Radio operating unit (OE)
3 ESA button (OE) (➡ 63)
4 Button for windshield adjustment (➡ 61)
5 Horn button
6 Button for left turn indicator and hazard warning flashers (➡ 55) (➡ 40)
7 Switch, high-beam headlight and headlight flasher (➡ 53)





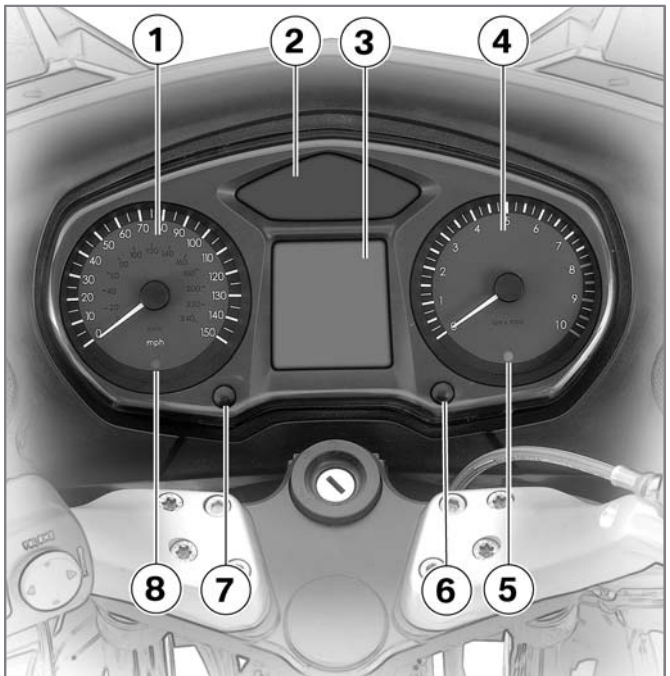
Handlebar fitting, right

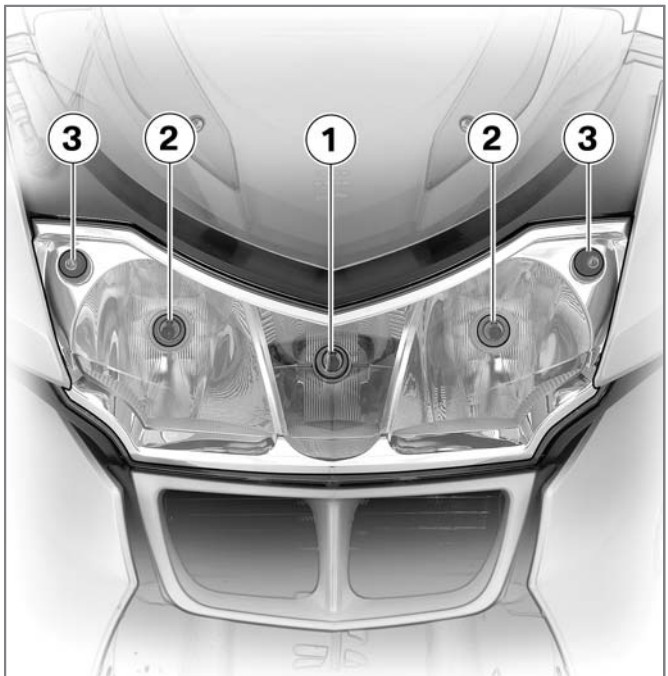
1 Onboard computer button (OE) (➡ 43)
2 Emergency ON/OFF switch (➡ 48)
3 Starter button
4 with OE Heated handlebar grips:
Heated hand grips (➡ 49)
5 Button for right turn indicator and hazard warning flashers (➡ 55) (➡ 40)
6 Turn indicators off button (➡ 56)
7 Switch for driver's seat heating (➡ 50)

Instrument cluster

1 Speedometer
2 Warning and indicator lights (➡ 23)
3 Multifunction display
4 Rev. counter
5 Anti-theft alarm indicator light
6 Setting for clock and display dimming (➡ 42) (➡ 42)
7 Control, odometer (➡ 41)
8 Sensor for lighting of instrument panel

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





Headlight

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

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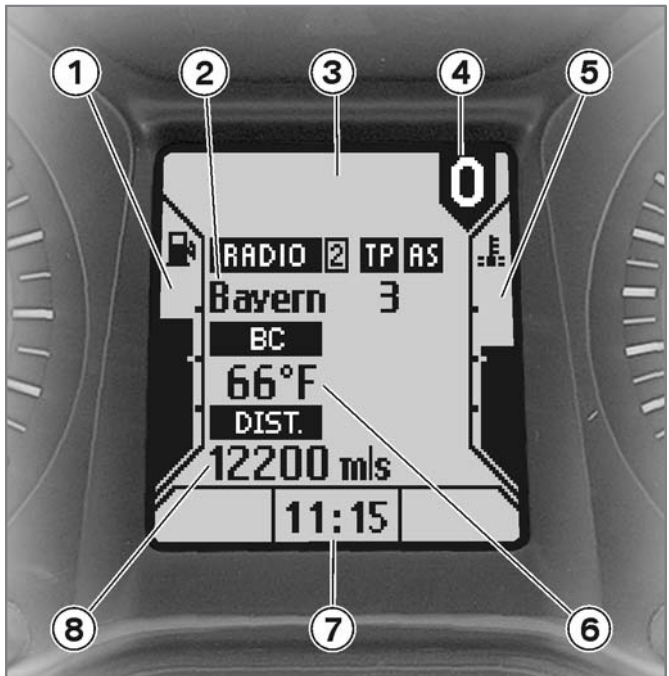
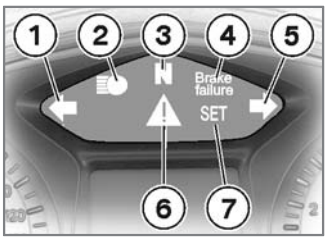
Multifunction display

1 Fuel gauge (➡ 23)
2 Area for radio display (see radio operating manual)
3 Area for warning symbols (➡ 23)
4 Gear indicator (➡ 23)
5 Engine temperature indicator (➡ 23)
6 Tripmeter or area for displays of onboard computer (OE) (➡ 41) (➡ 43)
7 Display area for clock, seat heating (OE), display dimming and ESA (OE) (➡ 42) (➡ 49) (➡ 42) (➡ 63)
8 Odometer and tripmeters (➡ 41)



Warning and indicator lights



1 Indicator light, left turn indicator
2 Indicator light, high-beam headlight
3 Indicator light, neutral
4 ABS warning light
5 Indicator light, right turn indicator
6 Warning light, general
7 Indicator light, cruise control

ABS warning light

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

Alternative display of ABS warning light.

Function indicators

Fuel capacity

The horizontal bars under the gas pump symbol indicated the remaining fuel quantity.

Gear

Engaged gear is indicated.

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

Engine temperature

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

General warning indicators

Display

General warnings are displayed by means of texts and symbols in the multifunction display. In some cases, an additional general warning light lights up red or yellow. A number of warnings may be issued simultaneously.

Overview of warning indicators

Display			Meaning
	lights up yellow	The warning EWS! is indicated	Electronic immobilizer is active (➡ 26)
	lights up yellow	 is indicated	Fuel down to reserve (➡ 26)
	lights up yellow	 is indicated	Engine electronics (➡ 26)
	lights up red	 is indicated	Engine oil pressure insufficient (➡ 27)
	lights up red	 is indicated	Battery charge current insufficient (➡ 27)
	lights up yellow	 is indicated	Rear bulb defective (➡ 28)
	is indicated		Front bulb defective (➡ 28)
	lights up yellow	 is indicated	Bulbs defective (➡ 28)
	is indicated		Ice warning (➡ 29)

Display			Meaning
	is displayed with note DWA		Anti-theft alarm battery weak (➠ 29)
	lights up yellow	 is displayed with note DWA	Anti-theft alarm battery drained (➠ 29)

Electronic immobilizer is active

General warning light lights up yellow.

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

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

Fuel down to reserve

General warning light lights up yellow.


Fuel reserve symbol is displayed and flashes 10 times.


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


The Tripmaster indicates the probable residual operating range.◀

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

– Reserve fuel quantity 1.1 gal
- Refueling (➡ 82)

Engine electronics


General warning light lights up yellow.

Engine electronics symbol is displayed.


The engine is running in emergency operating mode. Engine power may be reduced, and this can cause hazardous situations, particularly if you attempt to overtake other road users.
Adapt your style of riding to the reduced level of engine power.◀

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

- Continued driving is possible, however the accustomed engine performance may not be available.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Engine oil pressure insufficient

 General warning light lights up red.

 Engine oil pressure symbol is displayed.

The oil pressure in the lubricating oil circuit is too low.

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

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

- Checking engine oil level (➡ 99)
- Topping up engine oil (➡ 100)

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

In addition to an insufficient engine oil level, other problems in the engine can lead to the warning on insufficient engine oil pressure. Continuing to ride in these cases can cause engine damage.
If this warning appears despite a correct engine oil level: Do not continue driving.◀

- Do not continue driving.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Battery charge current insufficient

 General warning light lights up red.

 Battery charge current symbol is displayed.

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

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

The battery is not being charged.

- Continued driving is possible until the battery is discharged. However, the en-

gine can die suddenly and the battery can be exhaustively discharged and therefore destroyed.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Rear bulb defective

General warning light lights up yellow.


Defective bulb 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 you and your motorcycle.
Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

Tail light or brake light bulb defective.
- Replacing rear brake, tail light or rear turn indicator bulbs (➡ 120)

Front bulb defective


Defective bulb 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 you and your motorcycle.
Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

Low-beam headlight, high-beam headlight, side light or turn indicator bulb defective.
- Replacing high-beam bulb (➡ 114)
- Replacing left low-beam bulb (➡ 115)
- Replacing right low-beam bulb (➡ 116)
- Replacing side light bulb (➡ 117)
- Replacing front turn indicator bulb (➡ 120)

Bulbs defective

General warning light lights up yellow.


Defective bulb symbol with two arrows is displayed.


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

A combination of several bulb defects is present.

- See the fault descriptions above.

Ice warning

 Ice warning symbol is displayed.

The air temperature measured at the motorcycle is lower than 37 °F (3 °C).

The ice warning does not mean that there is no risk of black ice forming at measured temperatures above 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.

Anti-theft alarm battery weak

 Battery symbol with note DWA is displayed.

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 motorcycle retailer.

Anti-theft alarm battery drained

 General warning light lights up yellow.

 Battery symbol with note DWA is displayed.

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 motorcycle retailer.

ABS warning indicators

Display

ABS warnings are indicated by a combination of the general warning light and the ABS warning light. Both warning lights can light up continuously or flash at a rate of one or four flashes per second.
The ABS warning light is shown in two versions depending on country:

Display 1.

Display 2.

The warning indicators in this chapter are described using display 1.

Overview of warning indicators

Display		Meaning
lights up red		Brake switch defective (➡ 32)
 flashes 1x per second		Pull-away test not completed (➡ 32)
 flashes 4x per second		Self-diagnosis not completed (➡ 32)
 lights up red	 lights up	ABS warning lights defective (➡ 33)
 lights up red	 flashes 1x per second	ABS function not available (➡ 33)
 lights up red	 flashes 4x per second	Residual braking function active (➡ 34)
flashes red 1x per second	 flashes 1x per second	Brake fluid level in wheel brake circuit too low (➡ 34)
 flashes red 4x per second	 flashes 4x per second	ABS error (➡ 35)

Brake switch defective

General warning light lights up red.


There is a defect in the brake system which can lead to delayed braking action, and therefore to accidents.
Brake early, as delayed braking action must be expected.◀

The brake switch is defective or incorrectly adjusted. The BMW Integral ABS detects the braking request of the driver from the pressure buildup through the brake lever. There may be an unusual response from the brakes.

- You can continue to ride. However, bear in mind that the brakes may respond in a manner to which you are not accustomed.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Pull-away test not completed

ABS warning light flashes once per second.


Without the ABS function, the wheels may lock up during very hard braking, resulting in accidents.
Avoid hard braking whenever possible.◀

The ABS function is not available, as the starting-off test has no yet been completed.

- You can continue to ride. However, bear in mind that the ABS function is not available to you until the end of he starting-off test.
- Do not use emergency braking if possible until the starting-off test has been completed.

Self-diagnosis not completed

ABS warning light flashes four times per second.


Without the ABS function, the wheels could lock during very hard braking. without servo-assisted brakes, considerably greater force is required to brake. The altered braking behavior can lead to accidents.
Avoid hard braking whenever possible. Brake early, as increased braking force is required.◀

Only the residual braking function is available in both brake circuits, because

self-diagnosis has not been completed.
- You can continue to ride. However, bear in mind that neither the ABS function nor the power braking assistance is available until the self-diagnosis has been completed.
- As soon as possible, do not operate the brake lever so that the self-diagnosis can be completed.

ABS warning lights defective

General warning light lights up red.

ABS warning light ON.


ABS warnings not available. The failure of functions of the BMW Integral ABS cannot be displayed. Unexpected braking behavior, and therefore accidents may result.
Brake early and avoid hard braking whenever possible, as functions of the BMW Integral ABS may have failed.◀

The controller of the ABS warnings is defective. ABS faults cannot be displayed.
- You can continue to ride. However, please bear in mind that any ABS faults which occur cannot be displayed.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

ABS function not available

General warning light lights up red.

ABS warning light flashes once per second.


Without the ABS function, the wheels may lock up during very hard braking, resulting in accidents. Avoid hard braking whenever possible.◀

The ABS function is unavailable in at least one brake circuit.
- You can continue to ride. However, bear in mind that the ABS function is not available.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Residual braking function active

 General warning light lights up red.

 ABS warning light flashes four times per second.

 Without the ABS function, the wheels could lock during very hard braking. without servo-assisted brakes, considerably greater force is required to brake. The altered braking behavior can lead to accidents. Avoid hard braking whenever possible. Brake early, as increased braking force is required.◀

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

- You can continue to ride. However, bear in mind that neither the ABS function nor the brake booster is available.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Brake fluid level in wheel brake circuit too low

 General warning light flashes red once per second.

 ABS warning light flashes once per second.

 The ABS wheel brake circuit is a closed system; you cannot check the fluid level in this circuit at the brake-fluid reservoirs.◀

Triggers for the warning "Brake fluid level too low" can be extremely worn brake pads etc.

- Checking front brake pad thickness (➡ 101)
- Checking brake pad thickness at rear (➡ 102)

 Worn brake pads can considerably increase the braking distance, and therefore lead to accidents. Brake early.◀

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

- Have worn brake pads replaced as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

If the brake pad thickness is sufficient, the brake system must be checked for proper operation and leaks.

- Switch off Ignition, then operate handbrake lever and footbrake lever consecutively.

» The following functions must be available:

– Brake pressure present at both brake levers.
– Brakes acting on both wheels.
– No escaping brake fluid is visible.

 There is a defect in the brake system that can lead to reduced braking action.
Brake early.◄

- If these criteria are satisfied, you can continue riding. However, bear in mind that a loss of brake fluid that cannot be detected might be the cause of the warning.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

If a fault has been determined during the operating and leak test:

 There is a defect in the brake system that can lead to accidents.
Do not continue driving.◄

- You may not continue driving.
- Inform a specialized workshop, preferably an authorized BMW motorcycle retailer.

ABS error

 General warning light flashes red four times per second.

 ABS warning light flashes four times per second.

At least two faults have occurred in the brake system. In a least one brake circuit only the residual braking function is available and the fluid level in the brake system is too low.

- See the fault descriptions above.

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Ignition switch and steering lock

Keys

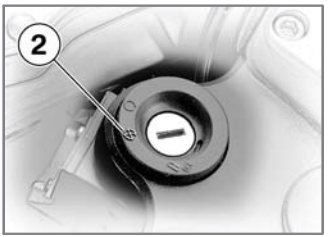
You receive one master key and one spare key. If a key is lost, please note the information on the electronic immobilizer (EWS) (➡ 39).

Ignition switch and steering lock, tank filler cap lock and the seat and case locks are all operated with the same key. On request, the Topcase available as and optional accessory (OA) can also be actuated with the same key.◀

Switching on ignition

- Turn the key to position **1**.
» Side lights and all function circuits switched on.
» Engine can be started.
» Pre-ride check is performed. (➡ 71)
» ABS self-diagnosis is performed. (➡ 72)

Switching off ignition

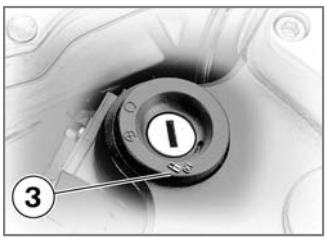


Brake servo assistance is not available when the ignition is off.
Do not switch off the ignition while the motorcycle is being ridden.◀

- Turn the key to position **2**.
» Light switched off.
» Handlebars not locked.
» Key can be removed.
» Electrically powered accessories remain operational for a limited period of time.

» The battery can be recharged via the onboard socket.

Locking handlebars



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

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

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

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

Electronic 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 vehicle. You can also have your authorized BMW motorcycle retailer bar individual keys, for example if a particular key is lost. The engine cannot be started with a key that has been barred.

Electronics in the key

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

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

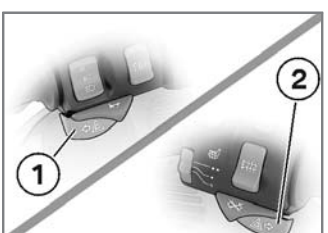
Replacement and extra keys

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

Hazard warning flashers

Switching on hazard warning flashers

- Switch on the ignition.



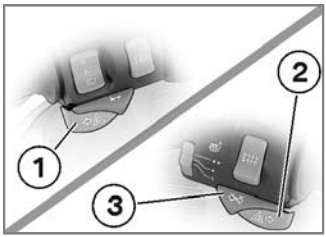
- Press the button for the left turn indicator **1** and right turn indicator **2** simultaneously.

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

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

» Hazard warning flashers in operation.
» Left/right turn indicator lights flash.
- Switch off the ignition.
» The 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.

- Alternative: Press button for left turn indicator **1** and right turn indicator **2** simultaneously.

» Hazard warning flashers are switched off.

Odometer and tripmeters

Odometer

The odometer reading appears in display field **1**.

Selecting tripmeter

- Switch on the ignition.

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

- Press tripmeter button **1** once briefly each time.

The following is displayed alternately in the display field of the tripmeter:

– Tripmeter 1 (Trip I)
– Tripmeter 2 (Trip II)

Tripmeter and onboard computer[OE]

On motorcycles with an onboard computer, the tripmeter reading is displayed alternately with the odometer reading.

Resetting tripmeter

- Switch on the ignition.

- Select desired tripmeter.
- Press tripmeter button **1** and hold it down for longer than 2 seconds.

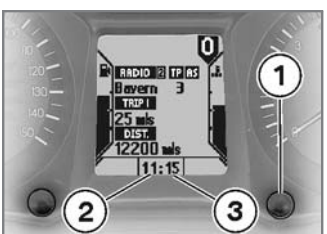
» The tripmeter is reset to zero.

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 the ignition.



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

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

- Briefly press button **1**.

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

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

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

- Briefly press button **1**.

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

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

» Setting confirmed.

Multifunction display

Display dimming

The brightness of the backlit multifunction display is variable.

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 the ignition.
- Press BC button **1** once briefly each time.

The following sequence is shown in the display field of the onboard computer:
– Residual range
– Average speed
– Average consumption
– Oil level
– Ambient temperature

Residual range

Residual range is calculated on the basis of your style of riding and the amount of fuel left in the tank; the reading indicates the estimated distance you can travel before the fuel supply runs out.

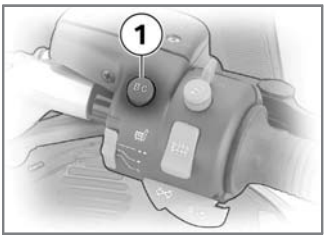
If the motorcycle is resting on its side stand, the level in the tank cannot be measured correctly, so this estimate of residual operating range will be inaccurate.
When refueling, an increase in the fuel level is not registered by the onboard computer until the added quantity is more than a gallon.

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

Calculation of average speed

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

Resetting average speed



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

» Display shows "---.-- km"

Calculation of average consumption

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

Resetting average consumption

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

» Display shows "--.- mpg".

Oil level

The "Oil" display gives you an indication of the engine oil level.

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

The readings mean:

Oil level is correct

Check oil level.

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" continually appear on the display, the oil level sensor may be defective. In this case, please contact your authorized BMW motorcycle retailer.◀

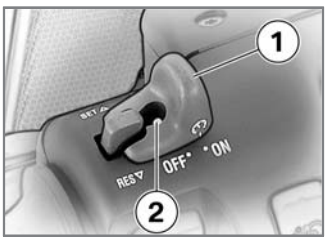
Ambient temperature

The current ambient temperature is displayed.

An ice warning appears if the ambient-temperature reading drops below 37 °F (3 °C). The display automatically switches from any other mode to the temperature reading when the temperature drops below this threshold for the first time. The reading flashes until you select some other display mode.

Cruise control[OE]

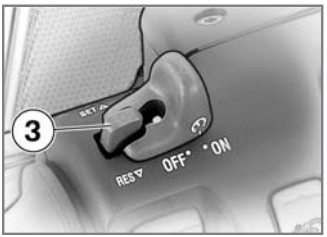
Switching on cruise control



- Move switch **1** to ON.

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

Setting road speed



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

SET Cruise-control indicator light lights up.

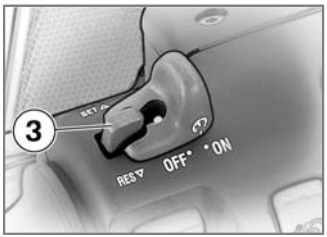
» The motorcycle maintains your current cruising speed and the setting is saved.

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

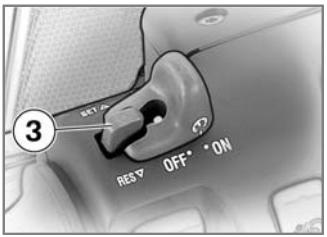


- Briefly press button **3** in SET direction and hold.
» The motorcycle accelerates steplessly.
- Release button **3**.
» The motorcycle maintains your current cruising speed and the setting is saved.

Step-by-step deceleration

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

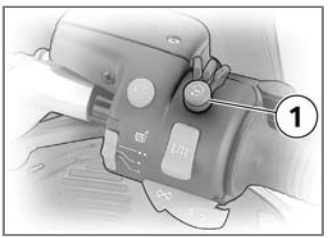
SET Cruise-control indicator light lights up.

» Stored speed is resumed.

Switching off cruise control

• Move switch **1** to OFF.
» The system is deactivated.
» Button **3** is locked.

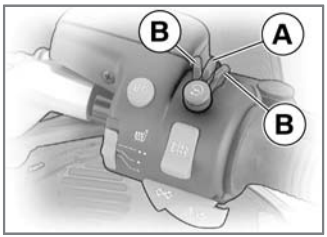
Emergency ON/OFF switch



1 Emergency ON/OFF switch

Actuating the emergency ON/OFF switch while driving can cause the rear wheel to lock up, resulting in a fall.
Do not operate the emergency ON/OFF switch while riding.◄

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

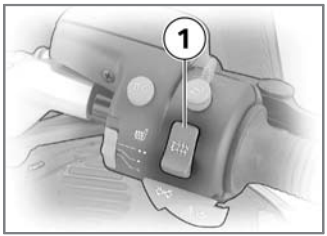


A Operating position.
B Engine switched off.

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

If the emergency ON/OFF switch is operated with the ignition switched on, the BMW Integral ABS continues to function.◀

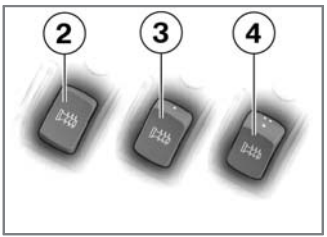
Heated hand grips[OE]



1 Heated hand grips switch

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

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



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

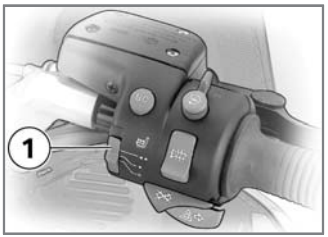
Seat heating[OE]

Dependency on battery charging level

Seat heating can be activated only when the engine is running. If the battery charge level is low, the heating is

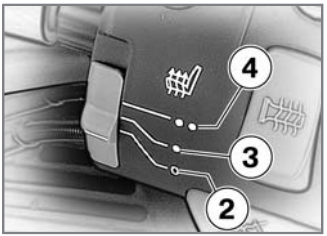
switched off to ensure the battery's starting capability.

Seat heating, front seat



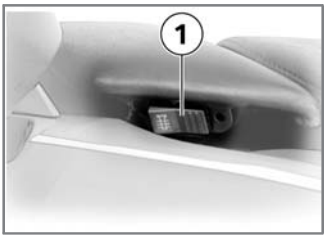
1 Switch for seat heating, front seat

The driver's seat can be heated at two levels.



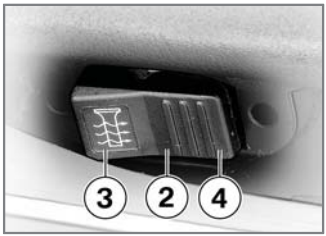
2 Heating function off.
3 50% heating power
4 100% heating power

Seat heating of passenger seat



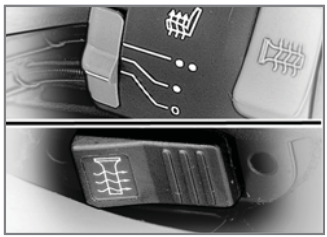
1 Switch for seat heating, rear seat

The passenger seat can be heated at two levels.



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



• Switch on driver's or passenger heating.

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

Clutch

Adjusting clutch lever

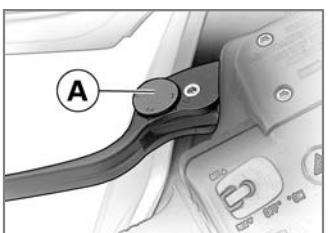
The distance between handlebar grip and clutch lever can be adjusted to any of three positions.

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 handle-

bars or the handlebars in their mounts.◄

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



- Turn adjusting wheel **A** to position **1**:

» minimum span

- Turn adjusting wheel **A** to position **3**:

» maximum span

Brakes

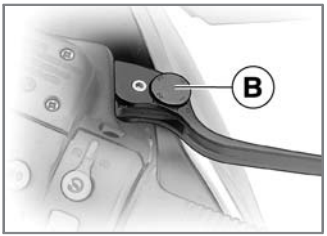
Adjusting handbrake lever

The distance between handlebar grip and handbrake lever can be adjusted to any of four positions.

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.◄

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



- Turn adjusting wheel **B** to position **1**:

» minimum span

- Turn adjusting wheel **B** to position **4**:

» maximum span

Lights

Switching on side lights

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

The side lights are a strain on the battery.
Do not leave the ignition

switched on longer than absolutely necessary.◀

Switching on low-beam headlight

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

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

Switching on high-beam headlight

- Press top part of switch **1** for high-beam headlight.
» High-beam headlight switched on.
- Move switch **1** for high-beam headlight to center position.
» High-beam headlight switched off.
- Press bottom part of switch **1** for the high-beam headlight.
» High-beam headlight is switched on as long as switch is pressed (headlight flasher).

Switching on side lights

- Switch off the ignition.

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

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

Switching off side lights

- Switch on the ignition.
» Side lights switched off.

Headlight

Adjusting headlight for RHD/LHD traffic

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

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

Ordinary adhesive tape damages the plastic lens.

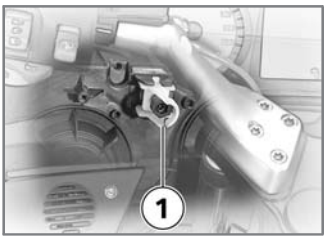
Only use special plastic adhesive film for body applications from specialized retailers.◀

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.

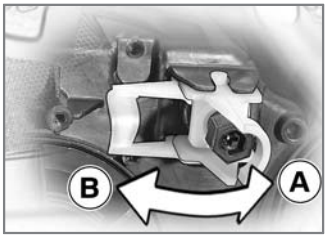
Consult a specialized workshop, preferably an authorized BMW motorcycle retailer, if you are unsure whether the headlight basic setting is correct.◀

Headlight range adjustment



1 Headlight range adjustment

To avoid dazzling oncoming traffic, the headlight adjustment can be corrected by adjusting the swivel lever.

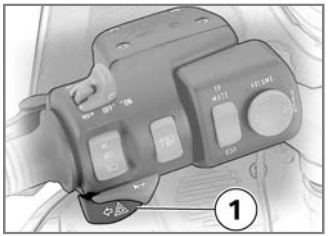


A Position with heavy payload
B Normal position

Turn indicators

Switching on left-hand turn indicator

• Switch on the ignition.



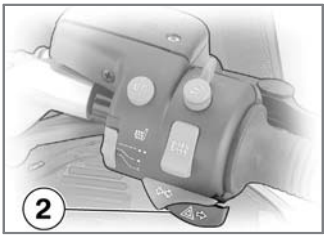
• Press left-hand turn indicator button **1**.

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

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

Switching on right-hand turn indicator

• Switch on the ignition.

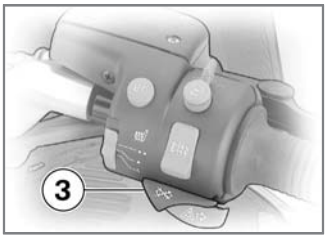


• Press right-hand turn indicator button **2**.

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

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

Switching off turn indicators



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

» Turn indicator switched off.

» Turn indicator lights in indicator light panel are off.

Storage compartment

Storage compartment in right fairing

The storage compartment is integrated in right fairing and can be opened with the ignition key.

Opening storage compartment

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

» Lock of storage compartment is unlocked.

- Push the lock barrel in.

» The lid opens.

Closing storage compartment

- Snap lid of compartment closed and push it down.

» The lock engages with an audible click.

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

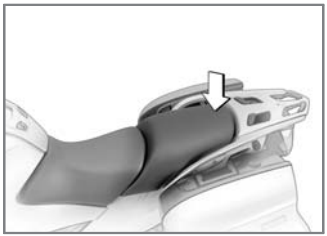
» Lock of storage compartment is locked.

Front and rear seats

Removing passenger seat

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

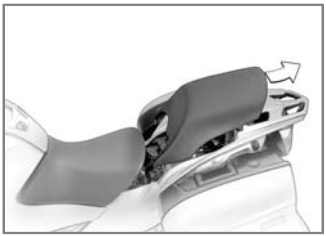
- Turn the key counterclockwise in the seat lock.



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

with OE Seat heating:

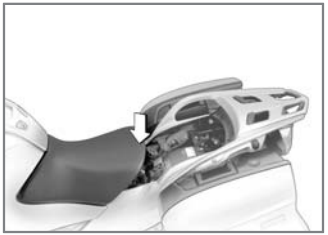
- Disconnect connector **1**.



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

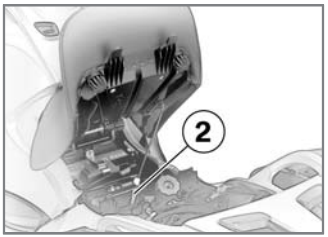
Removing driver's seat

- Make sure the ground is level and firm and park the motorcycle.
- Removing passenger seat (➠ 57)



- Raise the front seat at the rear.

with OE Seat heating:



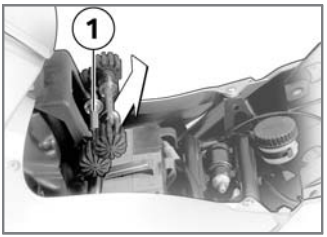
- Disconnect connector **2**.
- Lift the seat up to remove.

Adjusting driver's seat

The front seat can be raised or lowered to either of two positions.

Adjusting driver's seat

- Make sure the ground is level and firm and park the motorcycle.
- Removing passenger seat (➠ 57)
- Removing driver's seat (➠ 57)

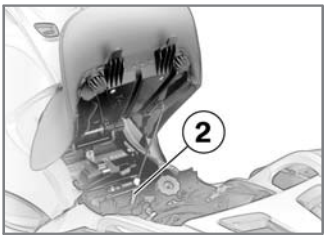


- Take out seat supporting rod **1** and install in respective other holder.
- Installing driver's seat (➠ 58)
- Installing passenger seat (➠ 59)

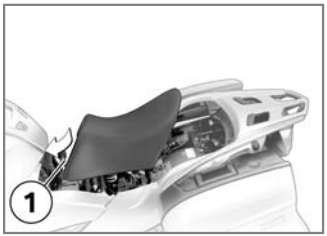
Installing driver's seat

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

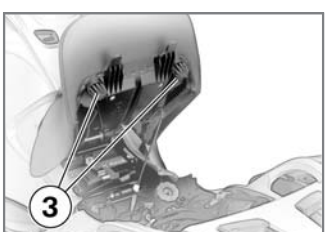
with OE Seat heating:



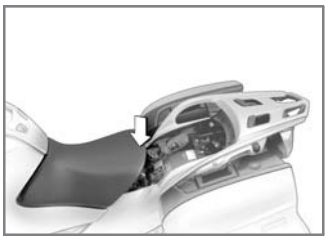
- Close connector **2**.



- 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.

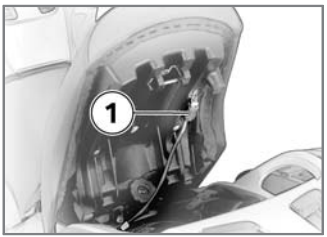


- Firmly push the front seat into the mount.

Installing passenger seat

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.◀

with OE Seat heating:



- Close connector **1**.

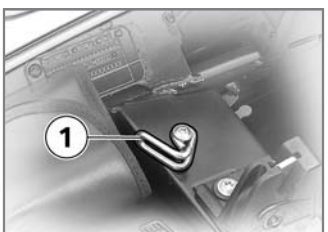
- Slide the rear seat into the holders in such a way that the tongues engage their mounts.

- Firmly press down on the seat at the rear.

» The seat engages with an audible click.

Helmet holder

Helmet holders under passenger seat



Helmet holder **1** is at rear right, underneath rear seat.

Using helmet holder

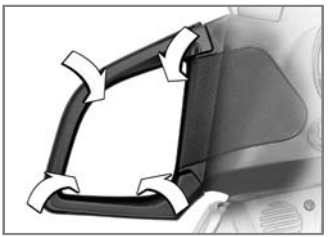
- Make sure the ground is level and firm and park the motorcycle.
- Removing passenger seat (➠ 57)

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

- Secure helmet on helmet holder **1** using steel cable available as an optional accessory.
- Installing passenger seat (➠ 59)

Mirrors

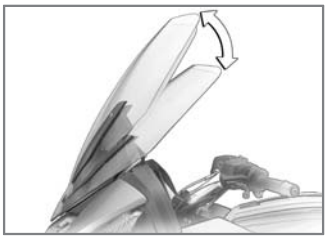
Adjusting mirrors



- Move the mirrors into the desired position by pressing lightly on one of the corners.

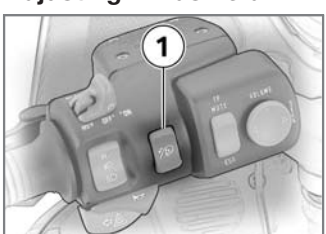
Windshield

Adjustable windshield



The windshield height is steplessly adjustable.

Adjusting windshield



• Switch on the ignition.
• Press button **1** at top.
» Windshield is raised.
• Press button **1** at bottom.
» Windshield is lowered.

Spring preload

Adjusting spring preload

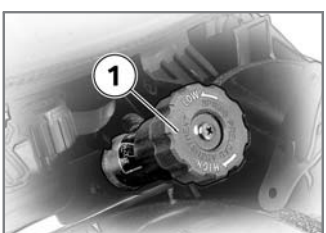
The spring preload must be adapted to the load of the motorcycle. Increase spring preload when the motorcycle is heavily loaded and reduce spring preload accordingly when the motorcycle is lightly loaded.

Adjusting spring preload for rear wheel

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

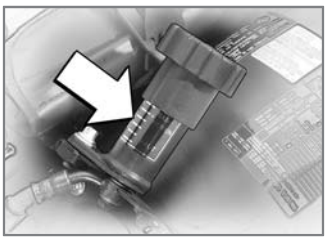
Adjusting the spring preload while the motorcycle is being ridden can lead to accidents.
Adjust the spring preload only when the motorcycle is stationary.◄

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



• To increase spring preload, turn handwheel **1** in direction of arrow **HIGH**.

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



– Basic setting for spring-preload
Handwheel on "STD" marking on side scale (Driver with weight of 187 lbs (85 kg), full tank of gas)

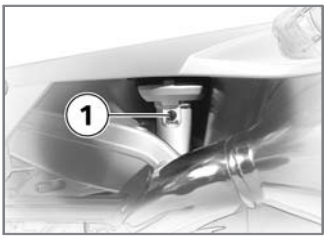
Shock absorbers

Adjusting damping

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

Adjusting rear shock absorber

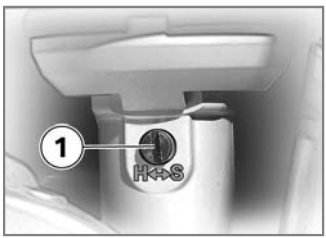
- Make sure the ground is level and firm and park the motorcycle.



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.◄

There is a danger of burns when adjusting the damping while the end muffler is hot.
Use screwdriver extension and wear gloves.◄

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



- To increase damping, turn adjusting screw in direction of arrow **H**.
- To decrease damping, turn adjusting screw in direction of arrow **S**.

– Basic setting for rear-wheel damping
  Single-rider operation with one person with weight of 187 lbs (85 kg), full tank of gas
  Turn adjusting screw in direction of arrow H up to stop, then a three-quarter turn in direction of arrow S

Electronic suspension adjustment ESA[OE]

Settings

Using the electronic suspension adjustment ESA you can conveniently adjust your motorcycle to various driving conditions.
Three spring preloads can be combined with three damping settings to optimally adapt the motorcycle to the load and the road surface. 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 tripmaster is hidden for the duration of the ESA display.

Calling up settings

- Switch on the ignition.

- Briefly press button **1**.

» The current setting is displayed.

» Display goes out again automatically after a few seconds.

Adjusting damping

• Switch on the ignition.

• Briefly press button **1**.
» The current setting is displayed.
• Press button **1** once briefly.

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, shock absorbers are set as indicated. During the setting procedure, the display flashes.

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

Adjusting spring preload

• Starting engine

• Briefly 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 longer than one second, the spring preload is set as displayed. During the setting procedure, the display flashes.

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

Tires

Checking tire pressures

Incorrect tire pressure worsens handling of the motorcycle and can lead to accidents.
Ensure proper tire pressure.◀

At high road speeds, tire valves have a tendency to open as a result of centrifugal force.
To avoid a sudden loss of tire pressure, use a metal valve cap with rubber sealing ring on the rear wheel and tighten it securely.◀

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

- Check tire pressure using following data.

– Tire pressure for front wheel - single rider
31.9 psi (with tire cold)
– Tire pressure for front wheel - passenger or luggage
36.3 psi (with tire cold)
– Tire pressure for front wheel - passenger and luggage
36.3 psi (with tire cold)
– Tire pressure for rear wheel - single rider
36.3 psi (with tire cold)
– Tire pressure for rear wheel - passenger or luggage
42.1 psi (with tire cold)
– Tire pressure for rear wheel - passenger and luggage
42.1 psi (with tire cold)

In case of insufficient tire pressure:

- Correct tire pressure.

Riding

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Starting 70
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General brake system 83
Brake system with BMW Integral ABS 84

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 motorcycle retailer will be glad to advise you on the correct clothing for every purpose.

Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:
– settings of the spring-strut and shock absorber system
– imbalanced load
– loose clothing
– insufficient tire pressure
– poor tire tread
– etc.

Correct loading

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

Alcohol and drugs

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

Risk of poisoning

Exhaust fumes contain carbon monoxide, which is colorless and odorless but highly toxic.

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

High voltage

Touching live parts of the ignition system with the engine running can cause electric shock.
Do not touch parts of the igni-

tion 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 run the engine for unnecessary periods when the motorcycle is stationary. After starting, ride off immediately.◀

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

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

Tampering with control unit of electronic engine-management system can result in mechanical loads that the motorcycle's components are not designed to withstand. Damage caused in this way is not covered by the warranty.
Do not tamper with the control unit of the electronic

engine-management system.◄

Checklist

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

- Brakes
- Front and rear brake fluid levels
- Clutch
- Clutch fluid level
- Shock absorber setting and spring preload
- Tread depth and tire pressure
- Firm seating of cases and luggage

At regular intervals:

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

Starting

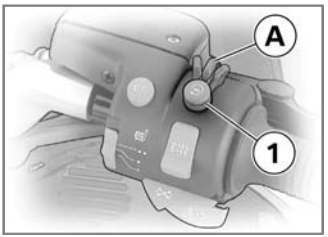
Side stand

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

Transmission

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

Starting engine



If you switch on the ignition while the brakes are applied, then start the engine and ride off immediately, the BMW Integral ABS remains in its residual braking function mode. Self-diagnosis is performed as soon as the brake levers are in their fully released positions for the first time. During this period, neither the ABS function nor the power braking assistance is available.

When you start the engine, wait until the ABS

self-diagnosis has been performed.◀

- Emergency ON/OFF switch **1** in operating position **A**.
- Switch on the ignition.

» Pre-ride check is performed. (➡ 71)
» ABS self-diagnosis is performed. (➡ 72)

- Press the starter button **1**.

At extremely low temperatures it may be necessary to operate the throttle twist grip during starting.

At ambient temperatures below 32 °F (0 °C), actuate the clutch after switching on the ignition.◀

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

» The engine starts.
» If the engine fails to start, the troubleshooting table in the chapter "Technical Data" may provide assistance. (➡ 134)

Pre-ride check

After switching on the ignition, the instrument cluster carries out a general warning light test. In the process the warning light first lights up yellow and then red for checking. This test, called a "Pre-ride check", is indicated by the lettering CHECK! in the display. With the OE cruise control, the SET light is also displayed. If the engine is started during the test, the test is canceled.

Phase 1

General warning light lights up yellow.

– The note CHECK! is indicated.

Phase 2

General warning light lights up red.

– The note CHECK! is indicated.

SET With OE cruise control, cruise-control indicator light lights up.

If the general warning light is not shown:

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

- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

ABS self-diagnosis

The BMW Integral ABS performs self-diagnosis and a pull-away test to ensure its operability. Self-diagnosis is performed automatically when you switch on the ignition. Self-diagnosis is not performed unless both brake levers are in their fully released positions.

Phase 1

Self-diagnosis is performed.

 General warning light lights up red.

 ABS warning light flashes four times per second.

Phase 2

Self-diagnosis is complete.

 ABS warning light flashes once per second.

If it was not possible to end self-diagnosis:

- Release the brake lever as soon as possible.

If an error message is shown after self-diagnosis is completed:

- Read the meaning of this display in the chapter "Displays".

 The ABS warning light does not go out until after completion of the starting-off test.◀

Starting off

Starting on grades

- Engage gear.
- Release clutch lever and brake lever.
- Switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- Operate brake and clutch.
- Starting engine.

ABS pull-away test

After starting off, the BMW Integral ABS checks the ABS sensors.

 ABS warning light flashes once per second.

» The ABS warning light goes out after completion of the starting-off test.

If an error message is shown after the starting-off test is completed:

- Read the meaning of this display in the chapter "Displays".

Running in

The first 600 miles (1 000 km)

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

Exceeding the specified engine speeds while running in will lead to increased engine wear.
Adhere to the specified engine run-in speeds.◀

- Do not exceed the engine run-in speeds.

– Engine run-in 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.

Tires do not have their full grip when new and there is a risk of accident at extreme heeling angels.
Avoid extreme heeling angels.◀

Parking your motorcycle

Placing on side stand

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

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

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

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

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

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

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

Remove from side stand

Brake servo assistance is not available when the ignition is off; the motorcycle can start to roll.
Especially on inclines, switch on the ignition and wait for the ABS self-diagnosis.◀

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

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

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

Placing on center stand

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

- Switch off the engine.
- Dismount and keep your left hand on the left handlebar grip.
- With your right hand, grip the rear grab handle or the rear frame.
- Place right foot on extended arm of center stand, and press stand down until its curved feet touch ground.
- Place full weight of body on center stand while pulling motorcycle toward rear (arrow).

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.

Pushing off center stand

Brake servo assistance is not available when the ignition is off; the motorcycle can start to roll.
Especially on inclines, switch on the ignition and wait for the ABS self-diagnosis.◀

- Switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- Place your left hand on the left handlebar grip.
- Grip the rear grab handle with your right hand.
- Push motorcycle forward off center stand.
- Make sure that center stand is fully retracted.

Refueling

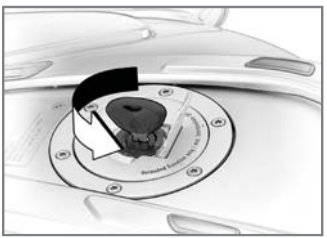
Fuel is highly flammable. Fire at the fuel tank can result in fire and explosion. Do not smoke. Never bring a naked flame near the fuel tank.◀

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 dull or unsightly.
Wipe spilled fuel off plastic parts immediately.◀

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

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



- Open the protective cap.
- Open the fuel tank cap with the ignition key by turning counterclockwise.
- Fill the tank with fuel of the quality listed below.

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

– Recommended fuel type
  – Premium grade unleaded fuel
  – 98 ROZ
– Fuel types can be used with poorer performance and consumption
  – Normal unleaded
  – 91 ROZ
– Usable fuel quantity
  7.1 gal
– Reserve fuel quantity
  1.1 gal

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

General brake system

Descending mountain passes

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

Wet brakes

After the motorcycle has been washed, ridden through water or ridden in the rain, the brake disks and pads might be wet and the brakes might not take effect immediately.
Brake early until the brakes are dry or braked until dry.◀

Salt on brakes

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

Oil or grease on brakes

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

Dirt or mud on brakes

When the motorcycle is ridden on loose surfaces or muddy roads, the brakes may fail to take effect immediately because of dirt or moisture on the disks or brake pads.
Brake early until the brakes are braked clean.◀

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

Brake system with BMW Integral ABS

Sensitive electronic control

It takes skill and sensitive control of the brakes to stop safely on a motorcycle. If the front brakes lock and the wheel skids, the necessary longitudinal and lateral stabilizing forces are lost, and a fall can result. For this reason, the rider seldom makes full use of available braking performance in an emergency.
The BMW Integral ABS provides improved braking deceleration by means of lock up protection for both wheels and braking force distribution by means of the integral braking function. Making full use of the motorcycle's technical braking capacity will minimize braking distances noticeably, even when road conditions are poor. When driving straight ahead, BMW Integral ABS enables safe, reliable braking optimized for the respective conditions.

Reserves for safety

But remember: the potentially shorter braking distances which BMW Integral ABS permits must not be used as an excuse for careless riding. ABS is primarily a means of ensuring a safety margin in genuine emergencies.
Take care when cornering. When you apply the brakes on a corner, the motorcycle's weight and momentum take over and even BMW Integral ABS is unable to counteract their effects.

Partially integral 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 electronic controller in the BMW Integral ABS regulates braking-force distribution between front and rear wheels. Braking-force distribution depends on load and is recalculated every time the ABS controller comes into action.

Brake booster

On braking, BMW Integral ABS boosts the brake force on the wheel by means of a hydraulic pump. By boosting the braking force in this way, BMW Integral ABS achieves

higher braking efficiency than standard brake systems.

ABS anti-lock braking system

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

Rear wheel lift

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

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

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

Residual braking function

With the ignition switched off, during the self-diagnosis and in the event of a fault in the BMW Integral ABS, the brake circuits concerned only have the residual braking function. The residual braking function is the braking power without the hydraulic servo assistance of the BMW Integral ABS. Under these circumstances, therefore, you must apply considerably higher pressure to the brake levers in question in order to apply the brakes, and lever travel is longer. When the residual braking function is active, the ABS function is unavailable in the brake system in question. When the residual braking function is active, the integral braking function is partially or entirely unavailable.

Without the ABS function, the wheels could lock during very hard braking. without servo-assisted brakes, considerably greater force is required to brake. The altered braking behavior can lead to accidents.
Avoid hard braking whenever possible. Brake early, as increased braking force is required.
Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.◀

As the residual braking function means that the lever path before the brake pressure is built up can be longer, BMW Motorrad recommends that a larger lever path be set at the handbrake lever.◀

In the case of residual braking function in both brake circuits, no pump noise can be heard when the brake lever is operated.◀

Accessories

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General instructions

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

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

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

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

⚠ BMW cannot evaluate whether every product of other manufacturers is suitable for use on BMW motorcycles without presenting a safety risk. 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 socket is cut off automatically if battery voltage is low or the load exceeds the maximum rating of 5 A.

Onboard socket, front left

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 the restart operation, 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.◀


BMW
R 1200 RT

Luggage

Correct loading

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

Fitting a luggage system will affect the handling of your motorcycle. When driving with loaded cases, a top speed of 112 mph (180 km/h) is recommended. Never drive faster than 112 mph (180 km/h) when the large or small Topcase is mounted.

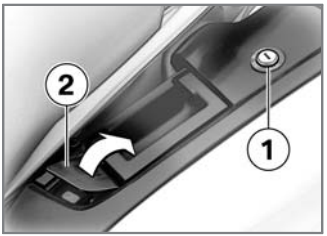
– Adjust setting of spring preload, damping characteristic and tire pressures to suit total weight.
– Make sure that the weight is uniformly distributed between right and left.
– Pack heavy items at bottom and toward inboard side.
– Max. load in each case (left and right): 22 lbs (10 kg).
– Max. load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

Case

Opening case

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

» Case is unlocked.

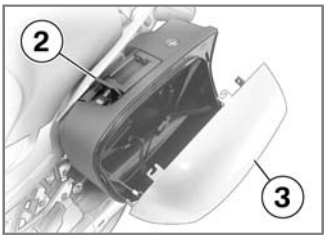


- Press lock barrel **1**.

» Unlocking lever **2** pops up.

- Fold lever **2** toward rear.
- Open case lid.

Closing case



- Pull lever **2** back as far as it will go.
- Close case lid **3** and press down. Check that nothing is trapped between lid and case.

- Push lever down.

» The lever engages.

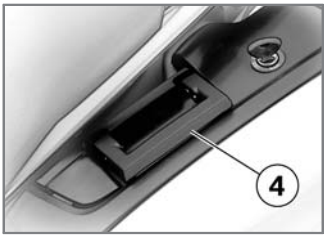
- Turn key in case lock parallel to direction of travel.

» Case is locked.

Removing case

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

» Case is unlocked.



- Turn the key clockwise (left case) or counterclockwise (right case).

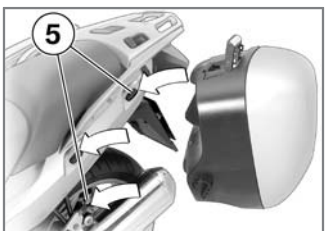
» Handle **4** pops out.

- Pull the handle out and then pull it up as far as it will go.

» The case is released and can be removed.

Mounting case

- Unlatch the handle and pull it up as far as it will go.



- Locate case in holders **5** and check that it is securely seated.

- Push the handle of the case down until it engages (the colored indicator on the handle must disappear).

» The case is correctly engaged on its holders.

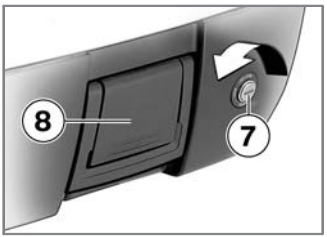
- Turn key in case lock parallel to direction of travel.

» Case is locked.

- Check case for firm seating.

Topcase[OA]

Opening Topcase



- Position lock barrel vertically in Topcase.

» Topcase is unlocked.

- Press lock barrel **7**.

» Locking lever **8** pops out.

- Fully open locking lever.
- Open lid.

Closing Topcase

- Fully open locking lever **8**.
- Unlock lid and press down. Check that nothing is trapped between the lid and the case.
- Push locking lever down until it engages.
- Position lock barrel horizontally in Topcase.

» Topcase is locked.

Removing Topcase

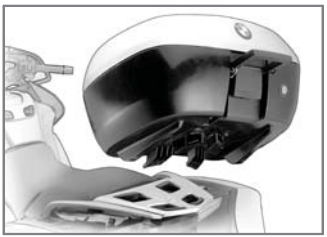
- Position lock barrel horizontally in Topcase.

» Topcase is locked.

- Turn the key clockwise.

» Handle **6** pops out.

- Pull up handle **6** completely.



- Lift the Topcase at the rear and pull it off the carrier.

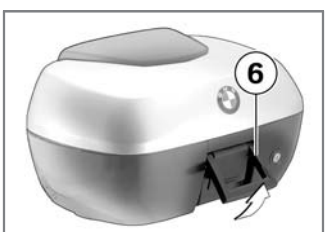
Mounting Topcase

- Position lock barrel horizontally in Topcase.

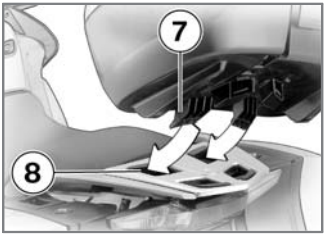
» Topcase is locked.

- Turn the key clockwise.

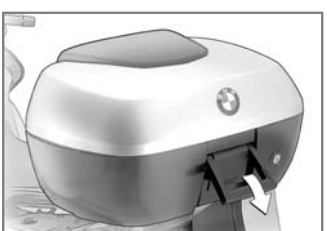
» Handle **6** pops out.



- Pull handle **6** up as far as it will go.



- Hook the Topcase into position on the carrier. Make sure that hooks **7** are securely seated in corresponding mounts **8**.



- Push the handle down until it engages (the colored indicator on the handle must disappear).

» Topcase is locked.

Maintenance

General instructions 98
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General instructions

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

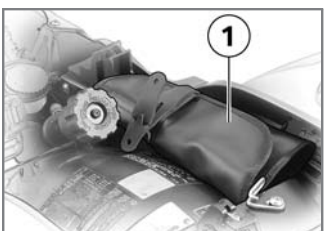
If special tightening torques are to be taken into account for assembly, these are listed. An overview of all required tightening torques is contained in the chapter "Technical Data".

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

Toolkit

Removing toolkit

- Make sure the ground is level and firm and park the motorcycle.
- Removing passenger seat (➡ 57)



- Open rubber band and remove tool bag **1**.

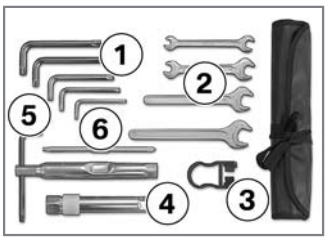
Overview of toolkit

1 Screwdriver, reversible blade, with extension
2 Tool for oil cap
3 TORX wrench, T25

Supplemental set[OA]

The supplemental set is available as an optional accessory. Please contact your authorized BMW motorcycle retailer.

Overview of supplemental set



1 TORX wrenches T25, T30, T40, T45, T50
2 Open-ended wrenches, 8 mm/10 mm, 10 mm/13 mm, 15 mm, 17 mm dia
3 Puller tool, direct ignition coil
4 Socket wrench, 17
5 Spark plug socket wrench with TORX wrench as lever
6 Screwdriver blade

Engine oil

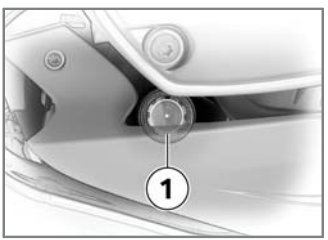
Checking engine oil level

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

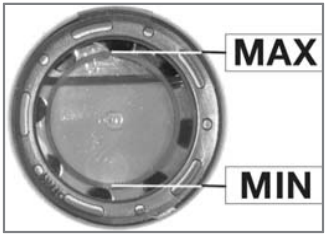
The oil level varies with the temperature of the oil. The higher the temperature, the higher the level of oil in the sump. Checking the oil level with the engine cold or after a short trip leads to misinterpretations and therefore to incorrect oil fill quantities. To ensure that the display of the engine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

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

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



- Check oil level in sight glass **1**.



– Specified level of engine oil
Oil level visible in sight glass

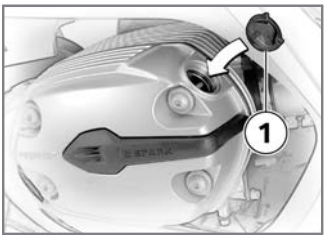
If the oil level is below the MIN mark:

- Topping up engine oil (➠ 100)

If the oil level is above the MAX mark:

- Have the oil level corrected by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Topping up engine oil



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

- Wipe the area around the filler neck clean.
- Remove cap of fill location for engine oil **1** with toolkit.
- Add engine oil up to specified level.
- Install cap of fill location for engine oil **1** with toolkit.

General brake system

Functioning brakes

A properly functioning brake system is a basic requirement for the road safety of your motorcycle.
Do not ride the motorcycle if you have any doubts about the dependability of the brake system.
In this case, have the brake system checked by a certified workshop, preferably by an authorized BMW motorcycle retailer.

⚠ Incorrect working practices endanger the reliability of the brakes.
Have all work on the brake system performed by a certified workshop, preferably by an authorized BMW motorcycle retailer.◄

Checking brake operation

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

» The pressure point must be clearly perceptible.

» The noise of the hydraulic pump of the BMW Integral ABS must be clearly audible.

- Press the footbrake lever.

» The pressure point must be clearly perceptible.

» The noise of the hydraulic pump of the BMW Integral ABS must be clearly audible.

If the hydraulic pump does not run or no clear pressure points can be felt:

- Have the brakes checked by a specialized workshop, preferably an authorized BMW motorcycle retailer.

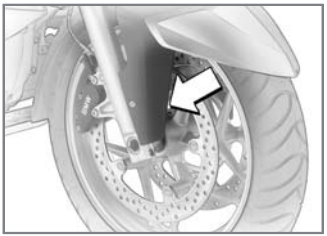
Brake pads

Checking front brake pad thickness

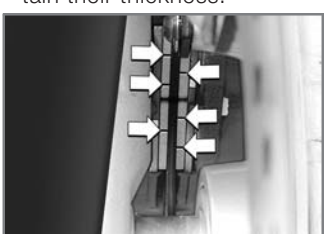
Continuing to use brake pads beyond the minimum pad thickness leads to reduced braking power and under certain circumstances to brake damage.

In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀

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



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



– Front brake pads - wear marking

The wear markings must be clearly visible on the brake pads must.

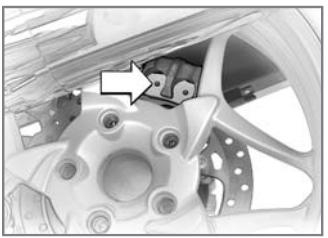
If the wear indicating marks are no longer clearly visible:

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

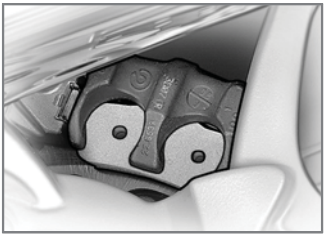
Checking brake pad thickness at rear

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

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



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

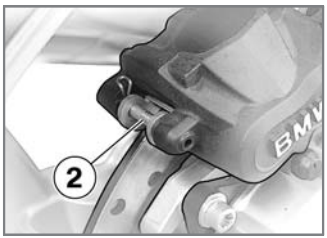


The brake disk must not be visible through the bore hole of the inner brake pad.

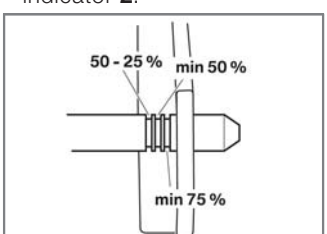
Continuing to use brake pads beyond the minimum pad thickness can lead to reduced braking power and brake damage.
Replace brake pads in due time.
Do not allow them to drop below the minimum thickness.◀

- Have the brake pads replaced immediately by a specialized workshop,

preferably an authorized BMW motorcycle retailer.



- Check brake pad at wear indicator **2**.



– Rear brake-pad wear indicator

Residual brake pad thickness
at least 75% (3 rings visible)
at least 50% (2 rings visible)
50-25% (1 ring visible)
Replace brake pad (No rings visible)

If brake pad thickness is not sufficient:

Continuing to use brake pads beyond the minimum pad thickness can lead to reduced braking power and brake damage.
Replace brake pads in due time.
Do not allow them to drop below the minimum thickness.◄

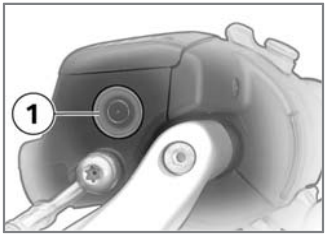
- Have the brake pads replaced by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Brake fluid

Checking front brake fluid level

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency. Brake early.◄

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



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

The brake fluid level in the brake-fluid reservoir does not drop due to brake pad wear.◀

– Front brake fluid level
  Brake fluid DOT4
  The brake fluid level must not drop.

If the brake fluid level drops below the permissible level:

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

- Have the fault remedied as quickly as possible by a certified workshop, preferably an authorized BMW motorcycle 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. Brake early.◀

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

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

The brake fluid level in the brake-fluid reservoir does not drop due to brake pad wear.◀

– Rear brake fluid level

Brake fluid DOT4
The brake fluid level must not drop.

If the brake fluid level drops below the permissible level:

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

- Have the fault remedied as quickly as possible by a certified workshop, preferably an authorized BMW motorcycle retailer.

Clutch

Checking clutch operation

- Pull the clutch lever.

» The pressure point must be clearly perceptible.

If no clear pressure point can be felt:

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

Tires

Checking tire tread depth

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

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

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

If tire tread depth no longer complies with legally required minimum tread depth:

- Replace tire.

Rims

Checking rims

- Make sure the ground is level and firm and park the motorcycle.
- Visually inspect rims for defects.
- Have damaged rims checked and, if necessary, replaced by a specialized

workshop, preferably an authorized BMW motorcycle retailer.

Wheels

Approved wheels and tires

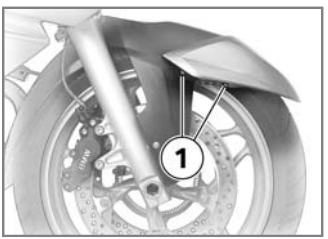
For each size of tire BMW Motorrad tests certain makes, and approves those that it certifies as roadworthy. If BMW Motorrad has not approved the wheels and tires, it cannot assess their suitability or provide any guarantee of road safety.

Use only wheels and tires approved by BMW Motorrad for your type of motorcycle.

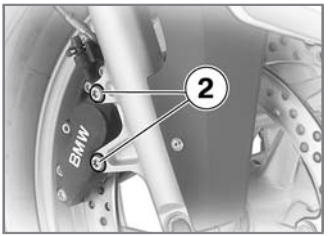
You can obtain detailed information from your authorized BMW motorcycle retailer or on the Internet at www.bmw-motorrad.com.

Removing front wheel

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



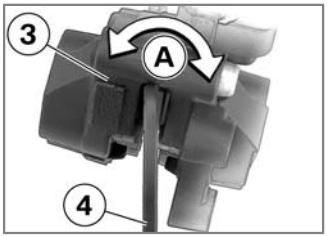
- Remove screws **1** on left and right.
- Take out mudguard toward front while pulling apart somewhat to side.



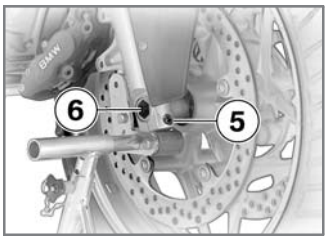
Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disk on reassembly.

Do not operate the handbrake lever when the brake calipers have been removed.◀

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



- Press brake pads in brake caliper **3** somewhat apart with rotary movements **A** against brake disks **4**.
- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.
- Carefully pull brake calipers back and out until clear of brake disks.
- Raise front of motorcycle until front wheel can rotate freely. To raise motorcycle, it is advisable to use BMW Motorrad BMW Motorrad front wheel stand.
- Fitting front wheel stand (➡ 112)



- Remove axle clamping screw **5**.
- Remove quick-release axle **6** while supporting wheel.

▷ BMW Motorrad offers an adapter piece for removing the quick-release axle. This adapter can be combined with any commercially available 22 open-end or ring wrench. The adapter with BMW special tool number 363691 can be obtained from your authorized BMW motorcycle retailer. ◄

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

Installing front wheel

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

Always have the security of the fasteners checked by a specialized workshop, prefer-

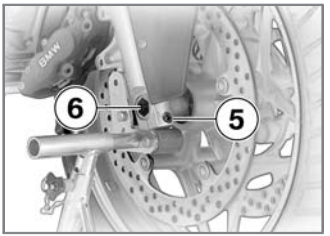
ably an authorized BMW motorcycle retailer.◄

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

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

- Mount spacing bushing on left side on wheel hub.

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



- Install quick-release axle **6** with torque.

– Quick-release axle in axle mount
37 lb/ft

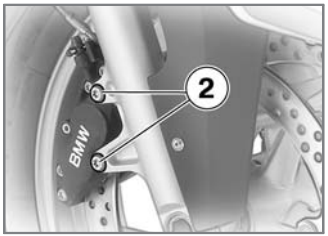
- Install axle clamping screw **5** with torque.

– Clamping screw for quick-release axle
14 lb/ft

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

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

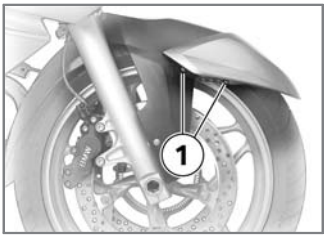
- Check ABS sensor cable **7** for correct routing.



- Install mounting screws **2** with torque.

– Brake caliper on slider tube 22 lb/ft

- Remove the adhesive tape from the wheel rim.

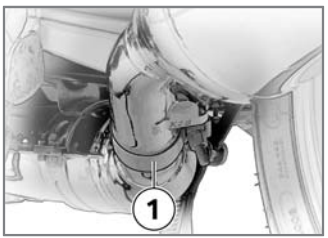


- Install screws **1** on left and right.
- Switch on the ignition.
- Wait for self-diagnosis to complete.
- Operate brake until pressure point can be felt.

Removing rear wheel

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

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



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

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

- Turn the end silencer out.
- Engage first gear.

- Remove screws **3** from rear wheel while supporting wheel.
- Roll the rear wheel out toward the rear.

Installing rear wheel

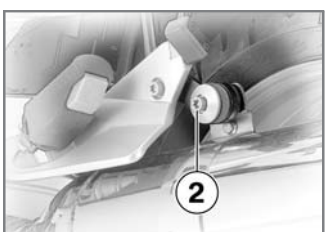
Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.
Always have the security of the fasteners checked by a specialized workshop, preferably an authorized BMW motorcycle retailer.◀

• Insert rear wheel in hole for wheel centering device.

• Screw in screws **3** hand-tight and tighten diagonally with torque.

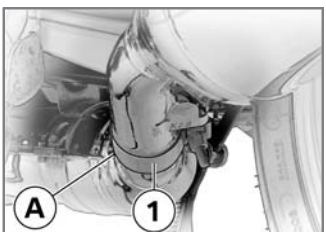
– Rear wheel on wheel carrier
Tightening sequence: diagonally
44 lb/ft

• Turn the end silencer to its initial position.



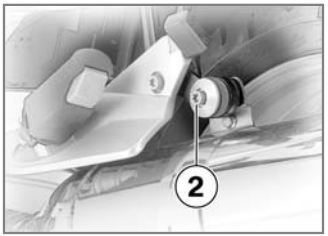
⚠ If the gap between the rear wheel and the end muffler is too small, the rear wheel can overheat.
The gap between the rear wheel and the end muffler must be at least 0,79 in.◄

• Install screw **2** for bracket of end muffler on rear footrest, but do not tighten it.



• Align clamp **1** on end muffler with marking **A** and install with torque.

– Torca clamp on muffler and manifold
Thread-locking compound: Optimoly TA
41 lb/ft



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

– End muffler on footrest system
14 lb/ft

Front wheel stand

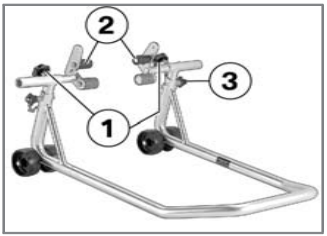
Front wheel stand

A front wheel stand for simple, safe changing of the front wheel is available from BMW Motorrad. The BMW special tool number is 36 3 971 and the front wheel stand is available from your authorized BMW motorcycle retailer. You also need the adapters with the BMW special tool number 36 3 973.

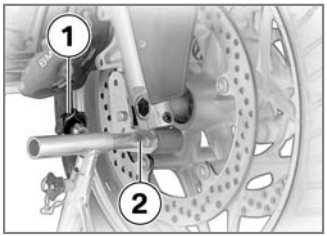
The BMW Motorrad front wheel stand is not designed for holding motorcycles without a center or other auxiliary stands. A motorcycle standing on the front wheel stand and the rear wheel alone can fall over. Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad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

Fitting front wheel stand

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



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



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

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

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

Lamps

General instructions

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

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

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

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

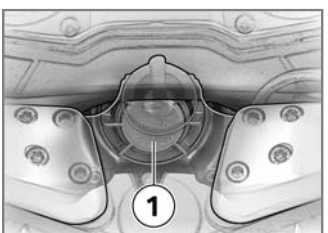
Do not touch the glass of new bulbs with your fingers. For installation, use a clean, dry cloth. Dirt deposits, in particular oil and grease, interfere with heat radiation from the bulb. Overheating and therefore short service life of the bulbs are the consequence.◄

Replacing high-beam bulb

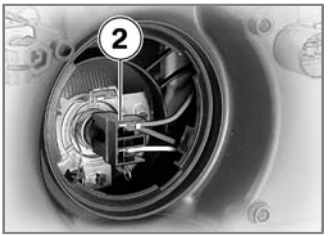
If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◄

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

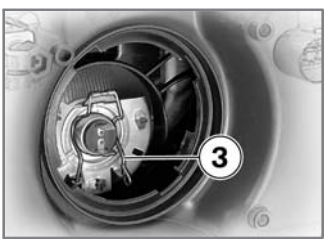
To achieve better accessibility, turn the handlebars to the left.◄



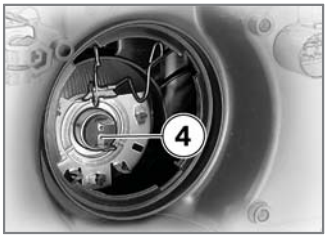
- Turn cover **1** counterclockwise and remove it.



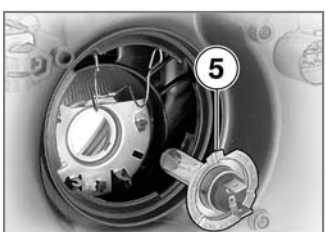
- Disconnect plug **2**.



- Disengage spring clip **3** at left and right and secure it (preferably by hooking it into the headlight housing).



- Remove bulb **4**.
- Install bulbs in reverse order.



- When installing, make sure that lug **5** is pointing up and that bulb is securely seated.
- Check that the bulb is correctly seated (by looking in through the headlight lens).

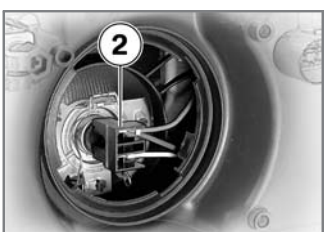
Replacing left low-beam bulb

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.◀

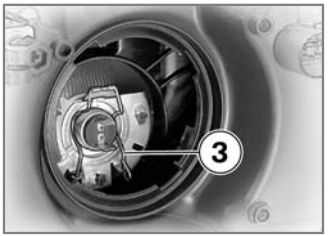
- Make sure the ground is level and firm and park the motorcycle.
- Switch off the ignition.

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

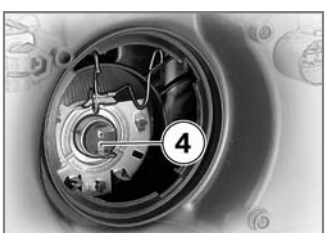
- Turn cover **1** counterclockwise and remove it.



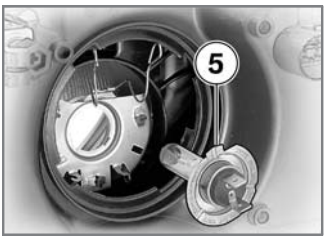
- Disconnect plug **2**.



- Disengage spring clip **3** at left and right and secure it (preferably by hooking it into the headlight housing).



- Remove bulb **4**.
- Install bulbs in reverse order.



- When installing, make sure that lug **5** is pointing up and that bulb is securely seated.
- Check that the bulb is corrected seated (by looking in through the headlight lens).

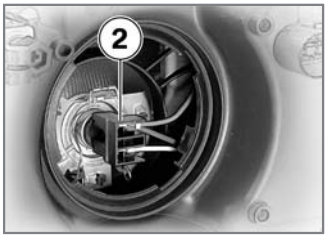
Replacing right low-beam bulb

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.◀

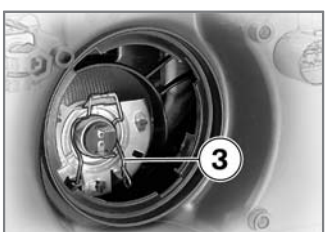
- Make sure the ground is level and firm and park the motorcycle.
- Switch off the ignition.

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

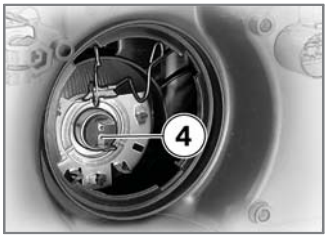
- Turn cover **1** counterclockwise and remove it.



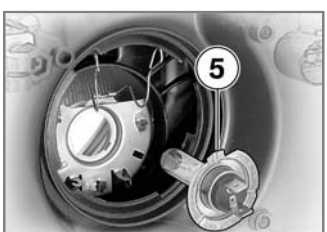
- Disconnect plug **2**.



- Disengage spring clip **3** at left and right and secure it (preferably by hooking it into the headlight housing).



- Remove bulb **4**.
- Install bulbs in reverse order.



- When installing, make sure that lug **5** is pointing up and that bulb is securely seated.
- Check that the bulb is corrected seated (by looking in through the headlight lens).

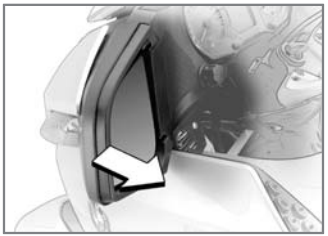
Left and right side-light bulb

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

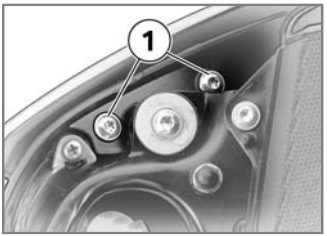
Replacing side light bulb

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

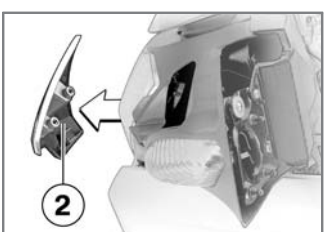
- Make sure the ground is level and firm and park the motorcycle.
- Switch off the ignition.



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

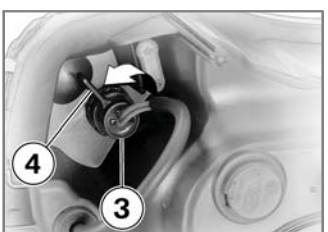


• Remove screw **1** while holding fairing side panel in place.



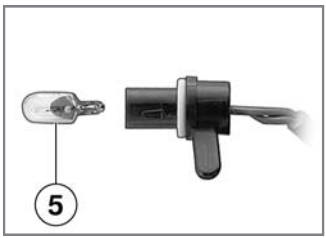
• Take off fairing side panel **2**.

• Side-light bulb is accessible through opening.

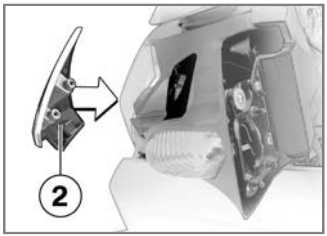


• Remove bulb holder **3** from headlight housing by turning counterclockwise. To do this, swivel lever **4** on holder downward (right side

of motorcycle: swivel lever upward).



- Pull bulb **5** out of bulb holder.
- Install bulb in reverse order.
- Check that bulb is correctly seated (by looking in through headlight lens).



- When installing fairing panel **2**, make sure that lug of panel is correctly seated in corresponding recess.

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.◀

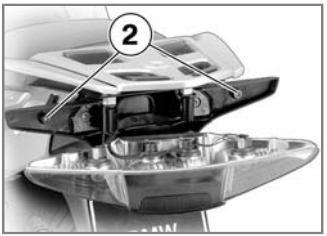
- When installing mirror housing, make sure that three plugs all engage completely in their corresponding mounts.

Replacing rear brake, tail light or rear turn indicator bulbs

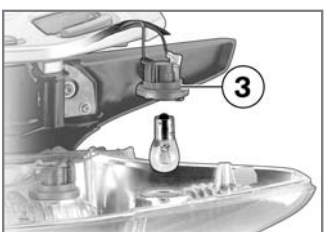
If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

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

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



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

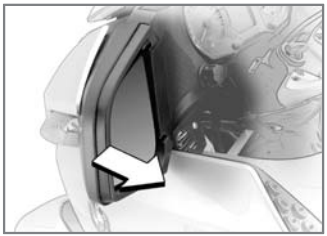


- Turn bulb holder **3** counterclockwise to remove it from bulb housing.
- Press the bulb into its socket and turn it counterclockwise to remove.
- Install new bulb in reverse order.

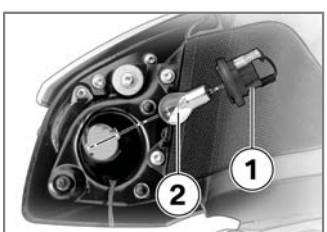
Replacing front turn indicator bulb

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

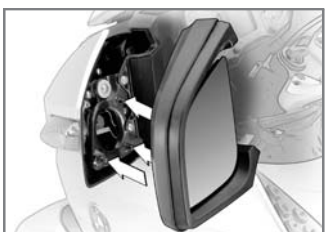
- Make sure the ground is level and firm and park the motorcycle.
- Switch off the ignition.



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



- Turn bulb holder **1** counterclockwise to remove it from bulb housing.
- Press bulb **2** into its socket and turn it counterclockwise to remove.
- Install new bulb in reverse order.



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.◄

- When installing mirror housing, make sure that three plugs all engage completely in their corresponding mounts.

Jump starting

Jump starting

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

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

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

Jump-starting with a donor-battery voltage higher than 12 V can damage the motorcycle electronics. The battery of the donor vehicle must have a voltage of 12 V.◀

- Make sure the ground is level and firm and park the motorcycle.
- Removing passenger seat (➠ 57)
- Removing driver's seat (➠ 57)
- When jump-starting the engine, do not disconnect the battery from the onboard electrical system.
- Remove the protective cap from the positive battery terminal.
- Run the engine of the donor vehicle during jump-starting.
- Begin by connecting one end of the red jump lead to the positive terminal of the discharged battery and the other end to the positive terminal of the donor battery.
- Then connect one end of black jumper lead to negative terminal of donor battery, and other end to negative terminal of discharged battery.
- Start engine of motorcycle with discharged battery in usual way; if engine refuses to start, wait a few minutes before repeating attempt to protect starter and donor battery.
- Allow both engines to idle for a few minutes before disconnecting the jump leads.
- Disconnect jumper lead from negative terminal first, then from positive cable.

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

- Installing driver's seat (➠ 58)
- Installing passenger seat (➠ 59)

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. You can obtain additional information from your authorized BMW motorcycle 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.◀

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

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.◀

- Charge the disconnected battery via the onboard socket.

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

- Comply with the operating instructions of the charger.

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

Charging disconnected battery

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

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

Removing battery

- Make sure the ground is level and firm and park the motorcycle.
- Removing passenger seat (➠ 57)
- Removing driver's seat (➠ 57)
- Switch off the ignition.

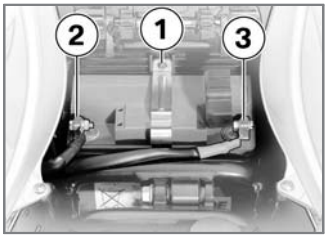
⚠ An incorrect disconnection sequence increase the risk of short-circuiting. Always observe the proper sequence.◀

- Remove the screw **1**.
- Remove battery negative cable **2** first.

- Then pull off protective cap and remove battery positive cable **3**.
- Lift out battery upward; if it is difficult to move, moving it back and forth will help.

Installing battery

- Make sure the ground is level and firm and park the motorcycle.
- Switch off the ignition.
- Insert the battery into the battery compartment, with the positive terminal on the right in the direction of travel.



- Hook in battery retaining strap at bottom, push over battery and tighten screw **1** with torque.

⚠ An incorrect connection sequence increases the risk of short-circuiting.
Always observe the proper sequence.
Never install the battery without the protective cap.◀

- Install positive cable **3** first and hand-tighten screw.
- Push protective cap onto battery positive terminal.
- Then install negative cable **2** and hand-tighten screw.
- Switch on the ignition.
- Without starting engine, hold throttle twistgrip in fully open position for at least one second so that electronic engine management system can register throttle-valve settings.
- Switch off the ignition.
- Installing driver's seat (➠ 58)
- Installing passenger seat (➠ 59)
- Setting clock (➠ 42)

Care

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Cleaning sensitive motorcycle parts 129
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Protective wax coating 130
Storing motorcycle 130
Returning motorcycle to use 131

Care products

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

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

Washing your motorcycle

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

After the motorcycle has been washed, ridden through water or ridden in the rain, the brake disks and pads might be wet and the brakes might not take effect immediately.
Brake early until the brakes are dry or braked until dry.◀

Warm water intensifies the effect of salt.
Only use cold water to remove road salt.◀

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

Cleaning sensitive motorcycle parts

Plastics

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

– Windshields
– Headlight lens made of plastic
– Covering glass of instrument cluster
– Black, unpainted parts

If plastic parts are cleaned using unsuitable cleaning agents, the surfaces can be damaged.
Do not use cleaning agents that contain alcohol, solvents or abrasives to clean plastic parts.
'Fly sponges' or sponges with hard surfaces can also lead to scratches.◀

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

Windshield

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

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

Chrome

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

Radiator

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

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

Rubber

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

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

Paint care

Washing the motorcycle regularly will help counteract the long-term effects of substances that damage the paint, especially if your motorcycle is ridden in areas with high air pollution or natural sources of dirt, e.g. tree resin or pollen.
However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilled fuel, oil, grease, brake fluid as well as bird droppings. BMW vehicle polish or BMW paint cleaner are recommended here.
Contamination on the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar spots with BMW Tar Remover. Then add a protective wax coating to the paint at these locations.

Protective wax coating

For the protective wax coating of paint, BMW Motorrad recommends using only BMW auto wax or agents that contain carnauba or synthetic waxes.
The best way to see whether the paint has to be protected is that water no longer forms pearls.

Storing motorcycle

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

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

Returning motorcycle to use

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

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Riding specifications 138
Clutch 139
Transmission 139
Rear-wheel drive 140
Running gear 140
Brakes 141
Wheels and tires 142
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Troubleshooting chart

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

Possible cause	Remedy
Emergency ON/OFF switch activated.	Emergency ON/OFF switch in operating position.
Side stand extended and gear engaged.	Retract side stand (➡ 70).
Gear engaged and clutch not operated.	Place transmission in neutral or disengage clutch(➡ 70).
Clutch disengaged with ignition switched off.	Switch on ignition first, then disengage clutch.
No fuel in tank.	Refueling (➡ 82)
Battery not adequately charged.	Charging connected battery (➡ 123)

Threaded fasteners

Activity	Type of threaded fastener	Tightening torques
Front wheel		
Clamping screw for quick-release axle	M8 x 35	14 lb/ft
Quick-release axle in axle mount	M24 x 1.5	37 lb/ft
Brake caliper on slider tube	M8 x 32 - 10.9	22 lb/ft
Rear wheel		
Rear wheel on wheel carrier		44 lb/ft
End muffler on footrest system	M8	14 lb/ft
Torca clamp on muffler and manifold	M8, Optimoly TA	41 lb/ft

Engine

Engine design	longitudinally mounted twelve-cylinder, four-cycle opposed-twin engine with one overhead cam each, air cooling, oil-cooled exhaust system and electronic fuel injection
Effective displacement	1170 cc
Cylinder bore	4 in
Piston stroke	2.9 in
Compression ratio	12.0:1
Rated output	110 hp, - at engine speed: 7500 min^{-1}
with OE Power reduction:	101 hp, - at engine speed: 7500 min^{-1}
Maximum torque	85 lb/ft, at: 6000 min^{-1}
permissible maximum engine speed	8000 min^{-1}
Idle speed	1150^{+150}_{+50} min^{-1}, With increased energy requirement, partial increase of idle speed is possible.

Fuel	
Recommended fuel type	Premium grade unleaded fuel 98 ROZ
Fuel types can be used with poorer performance and consumption	Normal unleaded 91 ROZ
Usable fuel quantity	7.1 gal
Reserve fuel quantity	1.1 gal
Engine oil	
Engine oil capacity	1.1 gal, with filter change
Lubricant	Engine oil 20W-50
Engine oil top-up quantity	0.5 quarts, 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 motorcycle retailer for engine oils suitable for your motorcycle.

Permissible viscosity classes	
SAE 5 W-30	-4...68 °F, Operation at low temperatures
SAE 10 W-40	14...86 °F, Operation at moderate temperatures
SAE 15 W-40 or SAE 20 W-40	>32 °F, Operation at high temperatures
SAE 5 W-50 or SAE 10 W-50	>-4 °F, Use high-quality and synthetic oils. Suitable for all temperature ranges, Operation at low and high temperatures.

Riding specifications

Top speed	>124 mph
Acceleration 0-62 mph (0-100 km/h)	3.6 s

Clutch

Clutch design	single dry plate with high-leverage pressure plate

Transmission

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

Rear-wheel drive

Rear-wheel drive design	shaft drive with bevel gears
Gear ratio of rear-wheel drive	2.62:1

Running gear

Front-suspension design	BMW Telelever, tilt decoupled, leading link centrally mounted in main frame/on engine, with externally seated suspension strut
Total suspension travel of front suspension	4.7 in, on wheel
Rear suspension strut design	Central spring strut with single-tube gas-filled shock absorber, steplessly adjustable rebound-stage damping and hydraulic steplessly adjustable spring preload
with OE Electronic Suspension Adjustment (ESA):	Central spring strut with single-tube gas-filled shock absorber, electric 3x adjustable rebound-stage damping and electrohydraulic 3x adjustable spring preload
Total spring travel at rear wheel	5.3 in

Brakes

Front brake design	Hydraulic two-disk brake with 4-piston fixed calipers and floating brake disks
Front brake pad	Sintered metal
Front brake pads - wear marking	The wear markings must be clearly visible on the brake pads must.
Rear brake design	Hydraulic disk brake with 2-piston floating caliper and fixed brake disk
Rear brake pad	organic
Rear brake-pad wear indicator Residual brake pad thickness	at least 75%, 3 rings visible at least 50%, 2 rings visible 50-25%, 1 ring visible Replace brake pad, No rings visible

Wheels and tires

Front wheel design	Cast wheel with 5 double spokes, MT H2
Front-wheel rim size	3.50" x 17"
Front-wheel tire designation	120/70 ZR 17
Rear wheel design	Cast wheel with 5 double spokes, MT H2
Rear-wheel rim size	5.50" x 17"
Rear-wheel tire designation	180/55 ZR17
Tire pressures	
Tire pressure for front wheel - single rider	31.9 psi, with tire cold
Tire pressure for rear wheel - single rider	36.3 psi, with tire cold
Tire pressure for front wheel - passenger or luggage	36.3 psi, with tire cold
Tire pressure for rear wheel - passenger or luggage	42.1 psi, with tire cold
Tire pressure for front wheel - passenger and luggage	36.3 psi, with tire cold
Tire pressure for rear wheel - passenger and luggage	42.1 psi, with tire cold

Electrical system

Current limit values for onboard sockets	10 A
Fuses	All circuits are electronically protected, so plug-in fuses are no longer necessary. If an electronic fuse trips and de-energizes a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.
Battery	
Battery design	Gel battery
Battery nominal voltage	12 V
Battery nominal capacity	19 Ah
Spark plugs	
Spark plug manufacturer and designation	Bosch YR5LDE
Spark plug electrode gap New	$0.03^{\pm 0.01}$ in
Spark plug electrode gap Wear limit	0.04 in

Bulbs	
High-beam headlight bulb - standard designation	Halogen bulb H7
High-beam headlight bulb - voltage	12 V
High-beam headlight bulb - wattage	55 W
Low-beam headlight bulb- standard designation	Halogen bulb H7
Low-beam headlight bulb - voltage	12 V
Low-beam headlight bulb - wattage	55 W
Side-light bulb standard designation	T8/4 bulb
Side-light bulb voltage	12 V
Side-light bulb wattage	5 W
Tail light/brake light bulb standard designation	Bulb P25-1 (tail light dimmed)
Tail light/brake light bulb voltage	12 V
Tail light/brake light bulb standard designation	21 W
Turn indicator bulb - standard designation	Bulb P21W
with OE White turn indicators:	Bulb PY21W
Turn indicator bulb - voltage	12 V
Turn indicator bulb - wattage	21 W
License-plate light bulb	integrated in tail light

Frame

Frame design	Steel-tube front frame with steel-tube rear frame and carrying drive unit
Location of type plate	Rear frame lug on right under passenger seat
Location of vehicle identification number (VIN)	Front frame, upper center

Dimensions

Overall length	87.8 in
Maximum height	56.3 in, in DIN normal-load position; without mirrors, windshield down
Maximum width across cases	38.6 in
Maximum width across mirrors	35.6 in
Seat height without rider	32.3...33.1 in, at unladen weight
with OE Low driver's seat:	30.7...31.5 in

Weights

Unladen weight	571 lbs, DIN unladen weight, ready for road, 90% full tank of gas, without OE
Permitted total weight	1091 lbs
Max. payload	520 lbs

Service

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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 recommends only having work carried out on your motorcycle by an authorized BMW motorcycle retailer or a workshop which works with personnel trained in accordance with BMW specifications.◀

You can contact your BMW motorcycle retailer for information on the contents of BMW Service, inspections and the Annual Inspection.

Have all maintenance and repair work carried out confirmed in the "Service" chapter in this manual.
Your authorized BMW motorcycle retailer is supplied with all the latest technical information and therefore possesses the necessary technical know-how. BMW Motorrad therefore recommends that you consult your authorized BMW motorcycle retailer on all questions concerning your motorcycle.

BMW Motorrad service quality

BMW Motorrad stands not only for good handling and a high degree of reliability, but also for an excellent quality of service.
To ensure that your BMW is always in optimum condition, BMW Motorrad recommends that you comply with the maintenance work planned for your motorcycle - preferably at your BMW motorcycle 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 motorcycle retailers are familiar with your motorcycle and can take action before minor problems can turn into major trouble. By having the necessary repairs done properly and in good time, you save time and money in the long run.

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

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

BMW Motorrad service network

With its worldwide service network BMW Motorrad supports you and your motorcycle in over 100 countries around the globe. In Germany alone, you have the best possible access to approximately 200 authorized BMW motorcycle retailers.
All information on the international dealership network is contained in the "Service Contact Europe" brochure and "Service Contact Africa, America, Asia, Australia and Oceania".

Maintenance work

Intervals

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

BMW Running-in Check

The BMW running-in check has to be performed when the motorcycle has covered between 300 miles (500 km) and 750 miles (1,200 km).

BMW Annual Inspection

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

BMW Service

After the first 6,000 miles (10,000 km) and every additional 12,000 miles (20,000 km) (18,000 miles, 30,000 miles, 40,000 miles etc. (30 000 km, 50,000 km, 70,000 km etc.) if this distance is covered within a year.

BMW Inspection

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

Maintenance schedules

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

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

Confirmation of maintenance work

BMW Pre-delivery Check

Carried out properly in accordance with workshop specifications.

Date, stamp, signature

BMW Running-in Check

Carried out properly in accordance with workshop specifications.

at miles:

Brake fluid changed

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

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

BMW Service

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

Carried out properly in accordance with workshop specifications.

at miles:_____

Brake fluid changed

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

_____

Date, stamp, signature

Confirmation of service

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

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Work carried out	at miles:	Date

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

Printed in Germany.

Important data for refueling.

Fuel	
Recommended fuel type	Premium grade unleaded fuel 98 ROZ
Fuel types can be used with poorer performance and consumption	Normal unleaded 91 ROZ
Usable fuel quantity	7.1 gal
Reserve fuel quantity	1.1 gal
Tire pressures	
Tire pressure for front wheel - single rider	31.9 psi, with tire cold
Tire pressure for rear wheel - single rider	36.3 psi, with tire cold
Tire pressure for front wheel - passenger or luggage	36.3 psi, with tire cold
Tire pressure for rear wheel - passenger or luggage	42.1 psi, with tire cold
Tire pressure for front wheel - passenger and luggage	36.3 psi, with tire cold
Tire pressure for rear wheel - passenger and luggage	42.1 psi, with tire cold

BMW recommends Castrol

BMW Motorrad

Order No.:
01 47 7 698 857
08.2005
2. Edition

The Ultimate Riding Machine

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

Reporting Safety Defects

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

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

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

BMW Motorrad
Order No: 01 47 7 706 697 08.2006

How does ABS work?
The maximum braking force which can be transferred to the road surface is partially dependent on the coefficient of friction of the road surface. Gravel, ice, snow and wet road surfaces offer a considerably poorer coefficient of friction than a dry, clean layer of asphalt. The lower the coefficient of friction 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 applied, the wheels begin to lock and the driving stability is lost, resulting in a danger of falling. Before this situation occurs, the ABS intervenes and adjusts the brake pressure to the maximum transferrable braking force. As a result, the wheels continue to turn and the driving stability is maintained regardless of the road surface condition.

What happens on uneven road surfaces?
Wavy ground or uneven road surfaces can briefly result in a loss of contact between the tire and the road surface, and the transferrable braking force decreases to zero. If the brakes are applied in this situation, the ABS must reduce the brake pressure to ensure driving stability when contact with the road surface is restored. At this point in time the BMW Motorrad Integral ABS must assume extremely low coefficients of friction (gravel, ice or snow) so that the wheels turn in every imaginable case and the driving stability is ensured. After the actual conditions are detected, the system adjusts the brake pressure to the optimum value.

What must be observed during driving safety training?
Compared to normal braking, braking during which the ABS must intervene in a regulating manner requires a consider-

ably increased amount of current, which places a heavy load on the battery.
During normal driving the battery is constantly charged, and therefore has a sufficient capacity.
During driving breaks of several weeks, a trickle-charger available from an authorized BMW Motorrad retailer should be connected or the battery should be disconnected and recharged before the next time the motorcycle is driven.
During driving-safety training courses an unusually high number of ABS-controlled braking actions take place within a short time. Between those actions there are waiting and evaluation phases during which the motorcycle is not driven. The battery is heavily loaded by the ABS control actions, however at the same time it is not recharged, as virtually no driving takes place.
In isolated cases, braking actions of this kind in this artificially produced situation during which the brake lever is pulled with maximum force and extremely quickly, in combination with a decreasing electrical system voltage, push the ABS to technical limits at which the control function is no longer fulfilled.
Field observations by BMW Motorrad show that no comparable situations occur in road traffic or during circuit training.
During safety training the following instructions must be followed:

- Observe the warning and control lights before each braking exercise
- Drive a longer distance after a maximum of five braking exercises to charge the battery
- Switch off consumers like seat and hand grip heaters, radio, navigation system and accessories connected to the sockets
- Switch off the ignition during breaks and conversations. If the engine is switched off with the emergency ON/OFF switch, the light and all electronic systems remain switched on and load the battery

How can the shortest braking distance be achieved?

During braking the dynamic load distribution between the front and rear wheel changes. The heavier braking is, the higher the load on the front wheel. The greater the wheel load, the more braking force can be transferred.

To achieve the shortest possible braking distance, the front brake must be operated 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 disengaged.

With the "forced braking" often practiced, during which the brake pressure is generated as quickly as possible and with maximum force, the dynamic load distribution is unable to follow the increase in deceleration and the brake force cannot be completely transferred to the road surface. To prevent locking of the front wheel, the ABS must intervene and reduce the brake pressure, which increases the braking distance.

What happens when the ABS control function fails?

A fault in the BMW Motorrad Integral ABS is indicated by a corresponding warning in the instrument cluster.

If only the ABS control function fails, the integral system and the brake booster continue to operate. If these systems also fail, the residual braking function is activated. In this case, the forces to be applied to the brake levers are considerably higher and the required lever travel increases.

The residual braking function is a mechanical function and is always available when the BMW Motorrad Integral ABS fails, regardless of the battery charging level. It meets all requirements of the worldwide legislation on the brake design of motor vehicles and enables the rider to brake the motorcycle.

When driving with the residual braking function, the following instructions must be followed:

- Adjust the brake levers to the maximum travel

- Always brake with the front and rear brakes
- In clear situations, carry out test braking to learn the response behavior of the brakes
- Observe the condition of the road surface and adapt the braking force applied accordingly
- As it is an emergency running function, you should drive to a specialized workshop, preferably an authorized BMW Motorrad retailer, as quickly as possible

How important is regular maintenance?

Any technical system is always only as good as its maintenance status.
To ensure that the BMW Motorrad Integral ABS is in optimum condition with regard to maintenance, the specified inspection intervals must always be complied with.◀

How is the BMW Motorrad Integral ABS designed?

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

BMW Motorrad

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