

# Rider's Manual (US Model)

R 1200 RT



BMW Motorrad



The Ultimate  
Riding Machine

## Motorcycle/Retailer Data

### Motorcycle data

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Model

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Vehicle Identification Number

---

Color number

---

First registration

---

Registration number

### Retailer Data

---

Contact in Service

---

Ms./Mr.

---

Phone number

---

Retailer's address/phone number (company stamp)

## **Welcome to BMW**

We congratulate you on your choice of a motorcycle from BMW and welcome you to the community of BMW riders.

Familiarize yourself with your new motorcycle so that you can ride it safely and confidently in all traffic situations.

Please read this Rider's Manual carefully before starting to use your new BMW motorcycle. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features.

In addition, it contains information on maintenance and care to help you maintain your motorcycle's reliability and safety, as well as its value.

If you have any questions concerning your motorcycle, your authorized BMW Motorrad retailer

is always happy to provide advice and assistance.

We wish you many miles of safe and enjoyable riding

BMW Motorrad.

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

## Abbreviations and symbols


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

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


◀ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

 Reference to a page with more detailed information.

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

 Tightening torque.

 Technical data.

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

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

EWS Electronic immobilizer.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.

ASC Automatic Stability Control.

ESA Electronic Suspension Adjustment.

TPC/ RDC Tire Pressure Control (TPC).



## Equipment

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

If your BMW is equipped with options or accessories not described in this Rider's Manual, then this equipment is described in separate operating instructions.

## Technical data

All dimensions, weights and outputs in the Rider's Manual refer to the Deutsches Institut für Normung e. V. (DIN) and comply with its tolerance regulations. Versions for individual countries may differ.

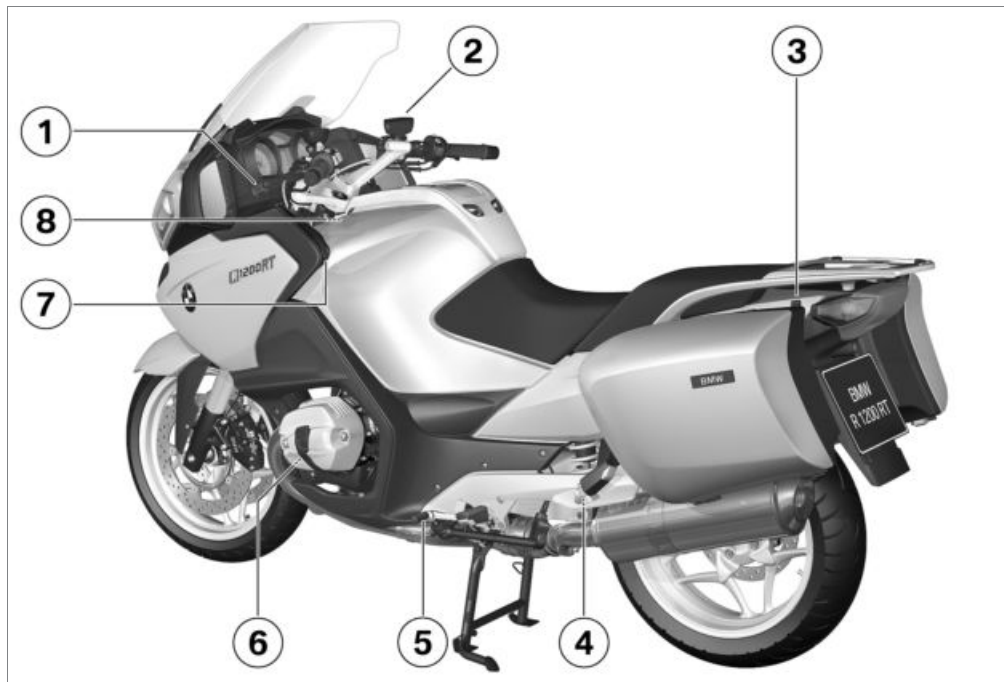
## Currentness of this manual

The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your motorcycle may differ from the information supplied in the Rider's Manual. In addition, BMW Motorrad cannot guarantee the total absence of errors. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.



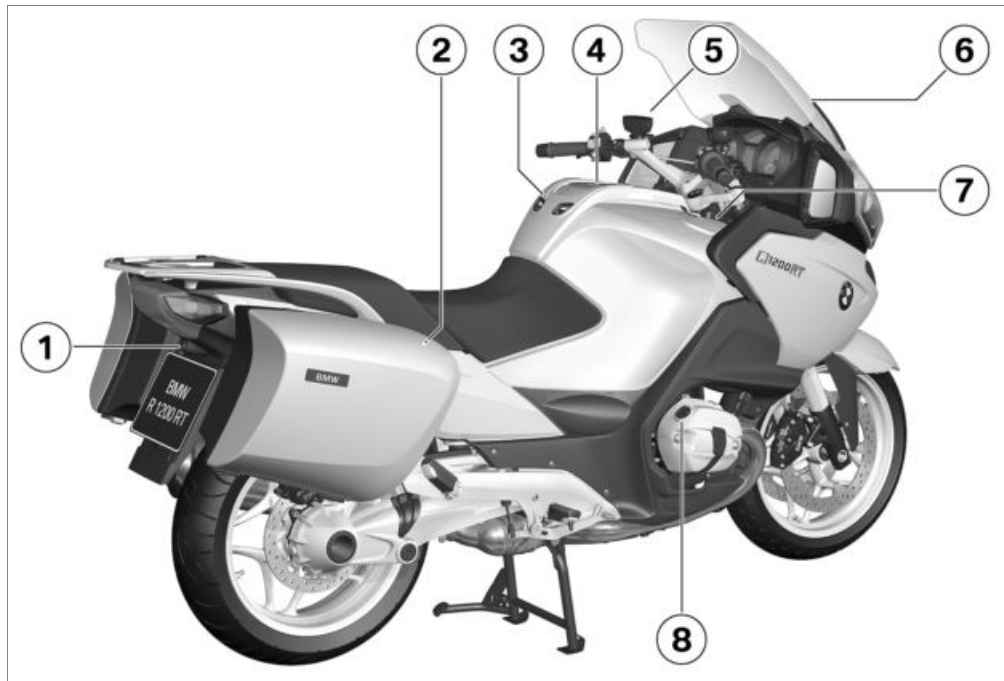
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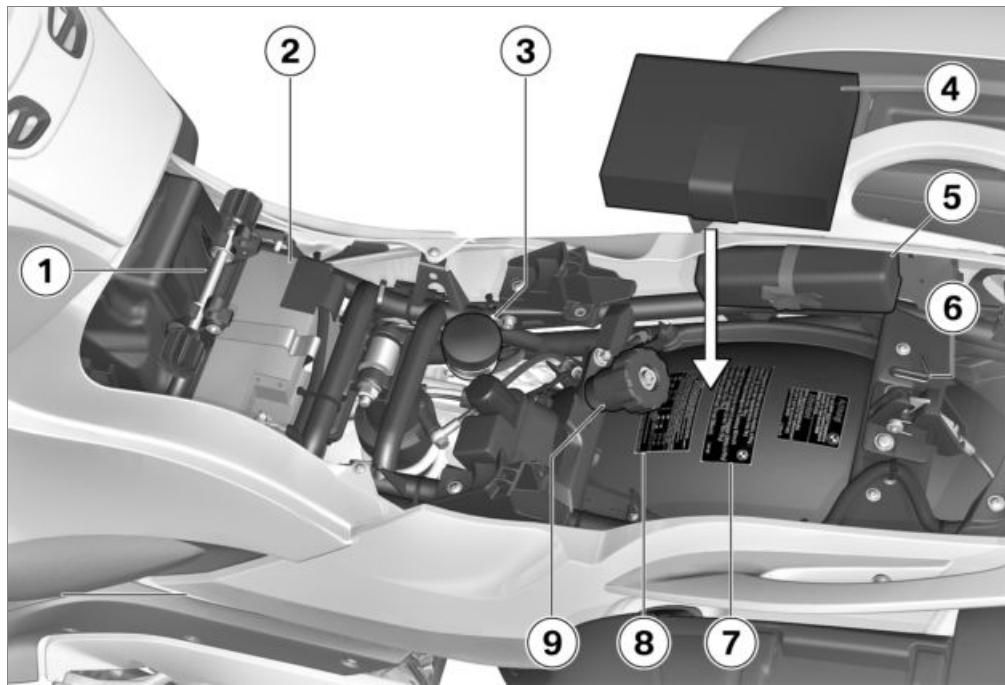
## General view, left side

- 1 Headlight range adjustment (►►► 58)
- 2 Brake-fluid reservoir, front (►►► 96)
- 3 Onboard socket (OE/OA) (►►► 84)
- 4 Adjustment of rear damping rate (►►► 54)
- 5 Adjustable shift lever (►►► 52)
- 6 Engine oil level indicator (►►► 93)
- 7 Onboard socket (►►► 84)
- 8 Vehicle Identification Number (on steering-head bearing)



## General view, right side

- 1 Seat lock (►►► 58)
- 2 – with seat heating <sup>OE</sup>  
Operation of passenger seat heating (under passenger seat) (►►► 47)
- 3 Tank rucksack mount
- 4 Fuel filler opening (►►► 71)
- 5 Clutch fluid reservoir
- 6 Electrically adjustable windshield (►►► 52)
- 7 Storage compartment (►►► 51)
- 8 Engine oil fill location (►►► 94)



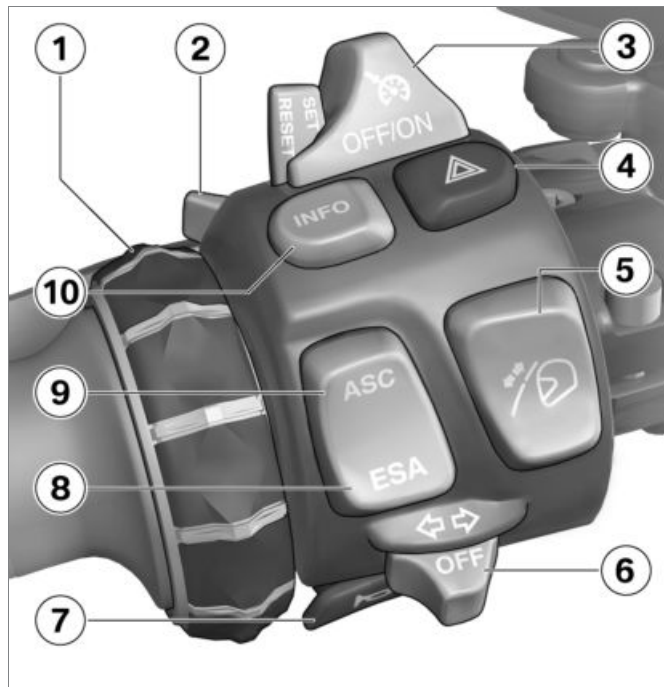


## Underneath seat

- 1 Rider's seat height adjustment (▶▶▶▶ 60)
- 2 Battery (▶▶▶▶ 115)
- 3 Brake-fluid reservoir, rear (▶▶▶▶ 97)
- 4 Rider's Manual (US Model)
- 5 Onboard tool kit
- 6 Helmet holder (▶▶▶▶ 60)
- 7 Payload table
- 8 Tire inflation pressure table
- 9 Adjuster for spring preload, rear (▶▶▶▶ 53)

## Multifunction switch, left

- 1 Operation of audio system (OE, see separate operating instructions)
- 2 Headlight high beam and flasher (➡ 43)
- 3 – with cruise-control system<sup>OE</sup>
- 4 Cruise control (➡ 49)
- 5 Hazard warning flashers (➡ 44)
- 6 Windshield (➡ 52)
- 7 Turn signals (➡ 43)
- 8 Horn
- 9 – with Electronic Suspension Adjustment (ESA II)<sup>OE</sup>
- 10 ESA control (➡ 55)
- 11 – with Automatic Stability Control (ASC)<sup>OE</sup>
- 12 ASC control (➡ 48)
- 13 Selecting display readings (➡ 40)



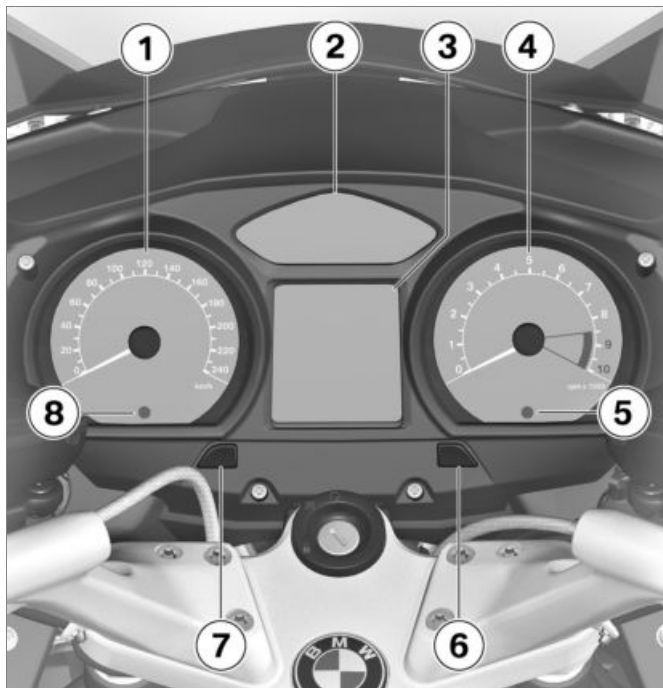


## Multifunction switch, right

- 1 – with heated handlebar grips<sup>OE</sup>  
Heated hand grip (➡ 45)
- 2 – with seat heating<sup>OE</sup>  
Driver's seat heater (➡ 46)
- 3 Emergency ON/OFF switch (➡ 45)
- 4 Starter button (➡ 66)

## Instrument cluster

- 1 Speedometer
- 2 Warning and indicator lamps (☐☐☐☐ 21)
- 3 Multifunction display (☐☐☐☐ 20)
- 4 Tachometer
- 5 Anti-theft alarm indicator lamp (OE, see separate anti-theft alarm operating instructions)
- 6 Operating clock (☐☐☐☐ 40)  
Adjusting dimming (☐☐☐☐ 42).
- 7 Operating odometer (☐☐☐☐ 40)
- 8 Ambient light sensor (for brightness adjustment of instrument lighting)

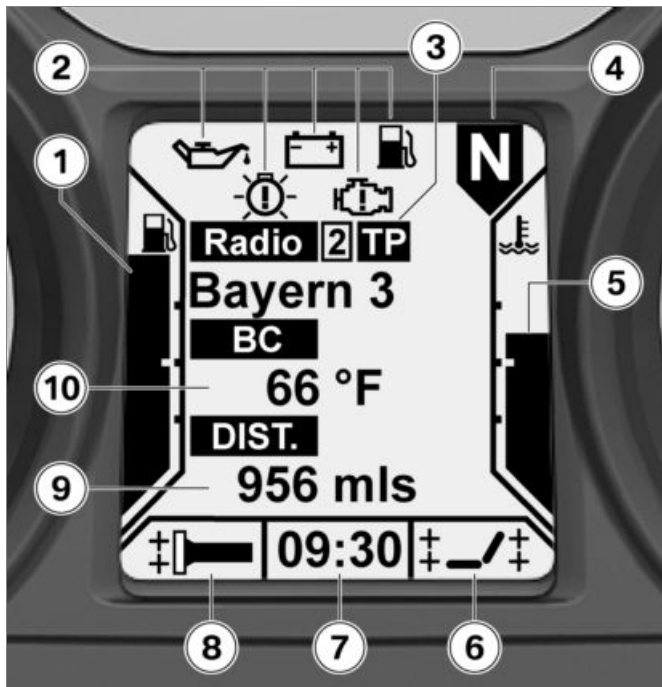


## Status indicators

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## Multifunction display

- 1 The column indicates the level of the fuel remaining in the tank.
- 2 Warning indicators (➔ 24)
- 3 - with audio system (OE)  
Audio system displays
- 4 Gear indicator, "N" appears in the display in neutral.
- 5 The column indicates the engine temperature.
- 6 - with seat heating <sup>OE</sup>  
Seat heater display (➔ 46)
- 7 Clock (➔ 40)
- 8 - with heated handlebar grips <sup>OE</sup>  
Heated grip display (➔ 45)
- 9 Odometer  
- with onboard computer <sup>OE</sup>  
Odometer and trip odometer (➔ 41)



## 10 Trip odometer (▣▣▣ 41)

– with onboard computer<sup>OE</sup>

Onboard computer displays (▣▣▣ 40)

– with Tire Pressure Control (TPC/RDC)<sup>OE</sup>

Tire Pressure Monitor displays (▣▣▣ 23)

## Warning and indicator lamps



- 1 Indicator lamp for left turn signal
- 2 Headlight high beam indicator lamp
- 3 Neutral indicator lamp
- 4 ABS warning lamp (▣▣▣ 31)
- 5 Indicator lamp for right turn signal
- 6 – with Automatic Stability Control (ASC)<sup>OE</sup>  
ASC warning lamp (▣▣▣ 32)

- 7 General warning lamp, appears together with warnings in display panel (▣▣▣ 24)



The ABS symbol can be shown differently depending on the country.◀

## Indicator light of cruise-control system

– with cruise-control system<sup>OE</sup>



- 1 Indicator light of cruise-control system (▣▣▣ 49)

## Service display



If the time remaining until the next service will elapse within one month, the service date **1** appears briefly following the pre-ride check. In this example the display means "March, 2012."



If the motorcycle covers high annual milages then shorter service intervals may be required. When the odometer reading for the recalculated early service falls to within 621 miles (1000 km), the remaining miles (kilometers) **2** are counted down in 62-mile (100 km) increments and briefly displayed following the pre-ride check.



When a service date elapses without service, the universal warning lamp lights up in yellow, appearing together with the date and mileage (kilometer)

display. The "Service" message is displayed continuously.



If the service display appears more than a month before the service date, the stored date must be adjusted in the instrument cluster. This situation can occur if the battery has been disconnected for a longer time.

Consult a certified workshop, preferably an authorized BMW Motorrad retailer, for setting of the date.◀

## Range


### RANGE

The range indicates the travel distance available with the remaining fuel. This distance is calculated based on fuel level and average consumption.

When refueling after running on reserve, make sure that you top up the tank to a level above reserve, as otherwise the sensor



will not be able to register the new level. If the sensor cannot register the new level the range display cannot be updated. If the motorcycle is standing on its side stand, the motorcycle's inclined position will prevent the fuel level from being registered accurately. For this reason travel range is only calculated with the side stand retracted.


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

– without onboard computer <sup>OE</sup>  
The travel-range display does not appear until the remaining fuel falls to the reserve level. ◀

– with onboard computer <sup>OE</sup>  
The average consumption employed to calculate the remaining travel range does not appear in the display and may vary from the indicated average consumption. ◀

## Ambient temperature

– with onboard computer <sup>OE</sup>

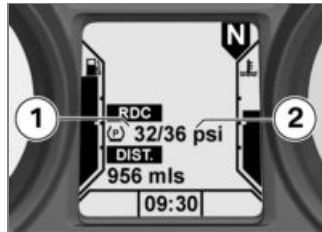
 Engine heat can lead to spurious readings of ambient temperature when the motorcycle is stationary. When the effects of engine heat on the monitored temperature become excessive the display responds by temporarily reverting to -- as the display reading.

When ambient temperatures drop below 37°F (3°C) the temperature display responds by flashing a warning indicating possible ice formation on the road

surface. The display automatically switches from any other mode to the temperature reading when the temperature drops below this threshold for the first time.

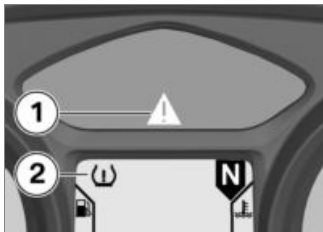
## Tire inflation pressures

– with Tire Pressure Control (TPC/RDC) <sup>OE</sup>



The displayed tire inflation pressures are based on a tire temperature of 68 °F (20 °C) . The figure on the left side **1** indicates the front tire's inflation pressure, while the figure on the right **2**

shows the inflation pressure in the rear tire. When you switch on the ignition, -- -- appears in the display. This is because active transmission of tire-inflation data does not start until the motorcycle exceeds a speed of 19 mph (30 km/h) at least once.



If the **2** warning signal also appears this should be regarded as a warning display. The critical tire-inflation pressure flashes. If this critical figure is at the limit of the tolerance range, the universal warning lamp **1** also lights up in yellow. If the monitored

tire-inflation pressure is outside the approved tolerance range, the universal warning lamp **1** flashes in red.

Additional information on the BMW Motorrad Tire Pressure Monitor is provided starting on page (➡ 79).

## Warning indicators Display

















Warnings are indicated by the universal warning lamp **1** in combination with one of the warning symbols **2**. The universal warn-

ing lamp shows red or yellow, depending on the urgency of the warning.











If several warnings are active, all of the corresponding warning lamps and warning symbols will appear in the display. The universal warning lamp lights up for the most urgent warning.










The following page contains a list of potential warnings.

## Overview of warning indicators

Warning light	Displays	Meaning
 Lights up yellow	EWS ! appears on the display	Electronic immobilizer is active (►► 28)
 Lights up yellow	 Flashes	Fuel down to reserve (►► 28)
 Lights up yellow	 Is indicated	Engine in emergency-operation mode (►► 28)
 Flashes red	 appears in the display	Engine oil pressure low (►► 29)
 Lights up red	 appears in the display	Battery charge current insufficient (►► 29)
 Lights up yellow	 Is indicated	Rear bulb defective (►► 29)
	 Is indicated	Front bulb defective (►► 30)
 Lights up yellow	 Is indicated	Bulbs defective (►► 30)

**Warning light****Displays****Meaning**

		+ "Oil" appears in the display.	Engine oil level too low (►► 30)
		+ Flashing display of ambient temperature	Ice warning (►► 31)
	Flashes		ABS self-diagnosis not completed (►► 31)
	Lights up		ABS error (►► 31)
	Flashes rapidly		ASC intervention (►► 31)
	Flashes slowly		ASC self-diagnosis not completed (►► 32)
	Lights up		ASC deactivated (►► 32)
	Lights up		ASC error (►► 32)
	Lights up yellow	 appears on the display	Tire inflation pressure is at limit of approved range (►► 32)

Warning light	Displays	Meaning
 Flashes red	 appears on the display	Tire inflation pressure is at limit of approved range (→ 32)
	Critical inflation pressure flashes	Tire inflation pressure is outside approved range (→ 33)
	"--" or "--- --" is indicated	Transmission error (→ 33)
 Lights up yellow	 appears on the display	Sensor defective or system error (→ 34)
	"--" or "--- --" is indicated	
 Lights up yellow	 + "TPM" appears in the display	Battery of tire inflation pressure sensor weak (→ 34)
	 + "DWA" appears in the display	Anti-theft alarm battery low charge (→ 35)
 Lights up yellow	 + "DWA" appears in the display	Anti-theft alarm battery discharged (→ 35)

## Electronic immobilizer is active



General warning light shows yellow.

EWS ! appears on the display.  
Possible cause:

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

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

## Fuel down to reserve



General warning light shows yellow.



Fuel reserve symbol flashes.



A fuel shortage can lead to misfiring and to the engine dying unexpectedly. Misfiring can damage the catalytic converter, and the engine dying unexpected can lead to accidents.

Do not drive to the extent that the fuel tank is completely empty. ◀

Possible cause:

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



Reserve fuel quantity

– Approx. 1.1 gal (Approx. 4 l)

- Refueling (☛➔ 71).

## Engine in emergency-operation mode



General warning light shows yellow.



Engine symbol appears on the display.



The engine is in the emergency operating mode. Unusual engine response is a possibility.

Adapt your style of riding accordingly. Avoid accelerating sharply and overtaking. ◀

Possible cause:

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

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

## Engine oil pressure low



General warning light flashes red.



Oil-can symbol appears in the display.

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



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

Possible cause:

The engine oil level is too low.

- Checking engine oil level (▶▶▶ 93).

If oil level is too low:

- Top up engine oil.

Possible cause:

The engine oil pressure is insufficient.



Driving with insufficient engine oil pressure can result in engine damage.

Do not continue driving. ◀

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

## Battery charge current insufficient



General warning light shows red.



Battery symbol appears in the display.



A discharged battery leads to the failure of various motorcycle systems, e.g. lighting, engine or ABS. This can result in dangerous driving situations.

If possible, do not continue driving. ◀

Possible cause:

Alternator or alternator belt defective

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

## Rear bulb defective



General warning light shows yellow.



Lamp symbol with arrow pointing to the rear is displayed.



A defective bulb places your safety at risk because it is easier for other users to not see the motorcycle.

Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible. ◀

Possible cause:

Tail light or brake light bulb defective.

- Replacing brake light bulbs, tail light bulbs and rear turn indicator bulbs (➡ 110).

### Front bulb defective



Lamp symbol with arrow pointing to the front is displayed.



A defective bulb places your safety at risk because it is easier for other users to not see the motorcycle.

Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible. ◀

Possible cause:

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

- Replacing low-beam and high-beam bulb (➡ 107).

- Replacing parking light bulb (➡ 109).
- Replacing front turn indicator bulb (➡ 112).
- Replacing brake light bulbs, tail light bulbs and rear turn indicator bulbs (➡ 110).

### Bulbs defective



General warning light shows yellow.



Lamp symbol with two arrows is displayed.



A defective bulb places your safety at risk because it is easier for other users to not see the motorcycle.

Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible. ◀

Possible cause:

A combination of several bulb defects is present.

- See the fault descriptions above.

### Engine oil level too low

– with onboard computer <sup>OE</sup>



+ "Oil" appears in the display.

Possible cause:

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

- Checking engine oil level (➡ 93).

If oil level is too low:

- Topping up engine oil (➡ 94).



Possible cause:

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

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

## Ice warning

– with onboard computer <sup>OE</sup>



+ Flashing display of ambient temperature.

Possible cause:

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



The ice warning does not mean that there is no risk of black ice forming at measured temperatures above 37 °F (3 °C). At low outside temperatures, black ice must especially be ex-

pected on bridges and in shady road areas. ◀

- Think well ahead when driving.

## ABS self-diagnosis not completed



ABS warning light flashes.

Possible cause:

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

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

## ABS error



ABS warning light lights up.

Possible cause:

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

- Continued driving is possible while taking the failed ABS function into account. Observe additional information on situations which can lead to an ABS error (▶▶ 77).
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

## ASC intervention

– with Automatic Stability Control (ASC) <sup>OE</sup>




ASC warning light flashes rapidly.

The ASC has detected instability at the rear wheel and has reduced the torque. The warning lamp flashes longer than the

duration of the ASC intervention. This feature continues to furnish the rider with optical feedback confirming that the system has initiated active closed-loop intervention even after the critical situation has passed.

### ASC self-diagnosis not completed

– with Automatic Stability Control (ASC)<sup>OE</sup>

 ASC warning light flashes slowly.

Possible cause:


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

- Ride off slowly. It must be noted that the ASC function

is not available until the self-diagnosis has been completed.

### ASC deactivated

– with Automatic Stability Control (ASC)<sup>OE</sup>

 ASC warning light lights up.


Possible cause:

The ASC system has been deactivated by the driver.

- with Automatic Stability Control (ASC)<sup>OE</sup>
- Activating ASC function (►► 48).

### ASC error

– with Automatic Stability Control (ASC)<sup>OE</sup>

 ASC warning light lights up.


Possible cause:


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

- Continue driving is possible. It must be noted that the ASC function is not available. Observe additional information on situations which can lead to an ASC error (►► 79).
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

### Tire inflation pressure is at limit of approved range

– with Tire Pressure Control (TPC/RDC)<sup>OE</sup>


 General warning light shows yellow.

 Tire symbol appears on the display.

Critical inflation pressure flashes.  
Possible cause:


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


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

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

### Tire inflation pressure is outside approved range

– with Tire Pressure Control (TPC/RDC)<sup>OE</sup>

 General warning light flashes red.


 Tire symbol appears on the display.

Critical inflation pressure flashes.  
Possible cause:

The measured tire inflation pressure is outside the permissible tolerance.


- Check tire for damage and drivability.

If it is still possible to drive with tire:

 Incorrect tire inflation pressure result in poorer handling of the motorcycle.

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

- Correct tire inflation pressure at next opportunity.

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

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

If you are unsure about the drivability of the tire:

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

### Transmission error

– with Tire Pressure Control (TPC/RDC)<sup>OE</sup>

"---" or "-- ---" is indicated.

Possible cause:

The motorcycle's speed has not exceeded the threshold of approx. 19 mph (30 km/h). The TPC/RDC sensors do not send their signal until after this speed has been exceeded for the first time (▶▶▶ 79).

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

Possible cause:

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

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

### Sensor defective or system error

– with Tire Pressure Control (TPC/RDC)<sup>OE</sup>



General warning light shows yellow.



Tire symbol appears on the display.

"--" or "-- --" is indicated.

Possible cause:

Wheels without installed TPC sensors are mounted.

- Retrofit wheel set with TPC sensors.

Possible cause:

One or two TPC sensors have failed.

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

Possible cause:

A system fault has occurred.

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

### Battery of tire inflation pressure sensor weak

– with Tire Pressure Control (TPC/RDC)<sup>OE</sup>



General warning light shows yellow.



+ "TPM" appears in the display.



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

Possible cause:

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

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

### Anti-theft alarm battery low charge

– with anti-theft alarm<sup>OE</sup>



+ "DWA" appears in the display.



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

Possible cause:

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

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

### Anti-theft alarm battery discharged

– with anti-theft alarm<sup>OE</sup>



General warning light shows yellow.



+ "DWA" appears in the display.



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

Possible cause:

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

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



**Operation**

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## Steering and ignition lock

### Keys

Two main keys and one emergency key are provided with the vehicle. The emergency key features a light, compact design, allowing it to be carried in a wallet, etc. This key is intended for use when no main key is immediately available, and is not suitable for continuous use.

Should you lose your keys please refer to the information regarding the electronic immobilizer (EWS) (▮▮▮ 39).

A single key is used for the ignition and steering lock, the fuel filler cap, the seat lock and the luggage case.

– with Topcase<sup>OA</sup>

A Topcase with a lock for the same key can be ordered on request. Please contact a specialist service facility for this purpose, preferably an authorized BMW Motorrad retailer.◀

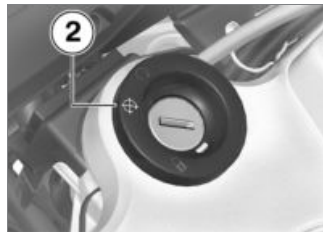
### Switching on ignition



- Turn key to position **1**.
- » Parking lights and all function circuits switched on.
- » Engine can be started.
- » Pre-ride check is performed. (▮▮▮ 67)

- » ABS self-diagnosis in progress. (▮▮▮ 67)
- with Automatic Stability Control (ASC)<sup>OE</sup>
- » ABS self-diagnosis in progress. (▮▮▮ 68)

### Switching off ignition




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



- » Battery can be recharged via onboard socket.

## Locking handlebars

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

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

- Turn handlebars to full left or right lock position.




- Turn key to position **3** while moving handlebars slightly.
  - » Ignition, lights and all electrical circuits switched off.
  - » Handlebars locked.
  - » Key can now be removed.

## EWS Electronic immobilizer

The motorcycle's electronic circuitry monitors the data stored in the key through a ring antenna incorporated in the ignition lock. The engine management system does not enable engine starting until the key has been recog-

nized 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 EWS warning is shown in the multifunction display.

Always store the spare key separately from the ignition key. ◀

If you lose a key, you can have it disabled by your BMW Motorrad partner. When having a key disabled you should also bring all of the motorcycle's remaining keys with you.


The engine can no longer be started using a disabled key; however, a disabled key can be enabled again.

Replacement and spare keys are only available through an authorized BMW Motorrad retailer.

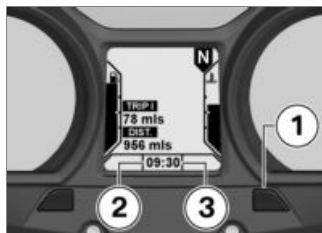
The keys are part of an integrated security system, so the retailer is under an obligation to check the legitimacy of all applications for replacement/extra keys.

## Clock

### Setting clock

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

- Switch on ignition.

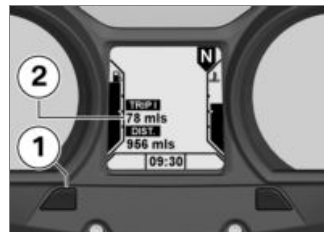


- Press and hold button **1** until hours **2** flash.
- Press button repeatedly until desired hours are shown.
- Press and hold button until minutes **3** flash.
- Press button repeatedly until desired minutes are shown.
- Press and hold button until minutes no longer flash.
- » Setting is completed.

## Display

### Selecting display readings

- Switch on ignition.
- without onboard computer <sup>OE</sup>



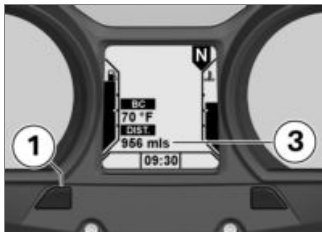
- Press the **1** button to select the display mode for the display sector **2**.

The following data can be displayed:

- Trip odometer 1 (Trip I)
- Trip odometer 2 (Trip II)
- Remaining travel range (RANGE, after reaching reserve level)

- with Tire Pressure Control (TPC/RDC)<sup>OE</sup>
- Tire inflation pressures (option) (TPM/RDC)<

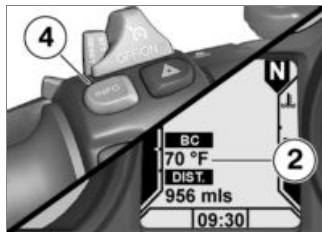
- with onboard computer <sup>OE</sup>



- Press the **1** button to select the display mode for the display sector **3**.

The following data can be displayed:

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



- Press the **4** button to select the display mode for the display sector **2**.

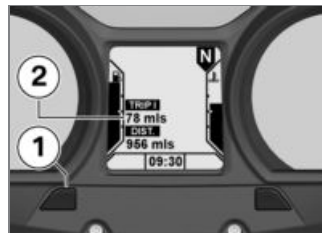
The following data can be displayed:

- Ambient temperature
- Range
- Average speed
- Average fuel consumption
- Oil level indicator (Oil)
- with Tire Pressure Control (TPC/RDC)<sup>OE</sup>

Tire inflation pressures (option) (TPM/RDC)<

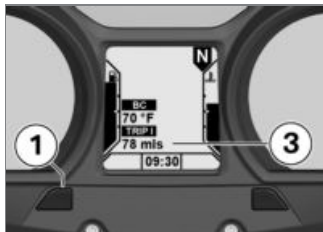
## Resetting trip odometer

- Switch on ignition.
- Select desired trip odometer.
- without onboard computer <sup>OE</sup>



- Press the **1** button and maintain pressure until the trip odometer in the display sector **2** resets to zero.<

– with onboard computer <sup>OE</sup>

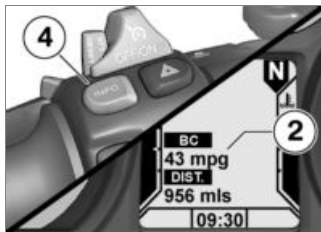


- Press the **1** button and maintain pressure until the trip odometer in the display sector **3** resets to zero.◀

### Reset average data

– with onboard computer <sup>OE</sup>

- Switch on ignition.
- Select average fuel consumption or average speed.



- Press the **4** button and maintain pressure until the figure displayed in the display sector **2** resets.

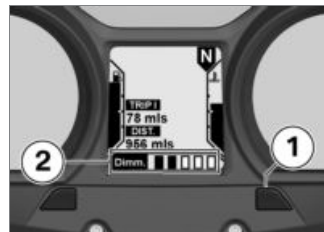
## Multifunction display Adjusting dimming



Adjusting the dimming while driving can lead to accidents.

Only adjust the dimming when the motorcycle is stationary.◀

- Switch on ignition.




- Press button **1**.
  - » The current level of dimming appears in the display field **2**.
- Press button **1** repeatedly until desired level of dimming is indicated.
  - » 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.

## Lights


### Parking lights

The parking lights come on automatically when the ignition is switched on.

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

### Headlight low beam

The headlights automatically come on in their low-beam mode as soon as you start the engine.

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

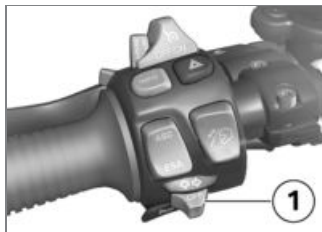
### High-beam headlight and headlight flasher



- Press switch **1** toward front to switch on high beams.
- Pull switch **1** rearward to operate the headlight flasher. ◀

### Parking light

- Switch off ignition.




- Immediately after switching off the ignition push the button **1** to the left and maintain pressure until the parking lights come on.
- Switch ignition on and then off again to switch off parking lights. ◀

## Turn signals

### Operating turn indicator

- Switch on ignition.

 After driving for approx. ten seconds or after covering a distance of approx. 300 m, the

turn indicators are automatically switched off.◀



- Press button **1** toward left to switch on left-hand turn indicator.
- Press button **1** toward right to switch on right-hand turn indicator.
- Press button **1** into center position to switch off turn indicators.◀

## Hazard warning flashers

### Operating hazard warning flashers

- Switch on ignition.

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

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



- Press button **1** to switch on hazard warning flashers.
- » Ignition can be switched off.
- Press button **1** again to switch off hazard warning flashers.◀

## Emergency ON/OFF switch



- 1 Emergency ON/OFF switch

**!** Operating the emergency ON/OFF switch when riding can cause the rear wheel to lock and thus cause a fall.

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

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



- a Engine switched off  
b Operating position

## Heated handlebar grips

– with heated handlebar grips<sup>OE</sup>

### Operating heated handlebar grips

- Start engine.

▶ 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

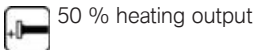
battery if you are riding at low engine speeds. If the battery is inadequately charged, the heated hand grips are switched off to ensure starting capability.◀



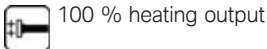
- Press button **1** repeatedly until desired heating level is shown.



The handlebar grips can be heated at two different levels. The second level is used for fast heat-up of the grips; then the switch should be switched back to the first level. The set heating level **2** is shown in the multifunction display.



50 % heating output



100 % heating output


» If no further changes are made, the selected heating level is set.<


## Seat heating

– with seat heating <sup>OE</sup>

### Driver's seat heater

- Start engine.

 Seat heating can be activated only when the engine is running.<

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




- Press button **1** repeatedly until desired heating level is shown.




The driver's seat can be heated at two levels. The second level is used for fast heat-up of the seat; then the switch should be switched back to the first level.




The set heating level **2** is shown in the multifunction display.


 50 % heating output

 100 % heating output◀

## Passenger seat heater

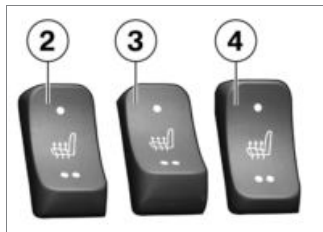
- Start engine.

 Seat heating can be activated only when the engine is running.◀

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



- Select desired heating level with switch **1**.




The passenger seat can be heated at two levels. The second level is used for fast heat-up of the seat; then the switch should


be switched back to the first level.

- **2** Switch in middle position: Heating off.
- **3** Switch pressed toward rear: 50 % heating capacity.
- **4** Switch pressed toward front: 100 % heating capacity.



The set heating level **5** is shown in the multifunction display.

 50 % heating output


 100 % heating output

## ASC Automatic Stability Control

– with Automatic Stability Control (ASC)<sup>OE</sup>

### Deactivating ASC function


- Switch on ignition.

 The ASC function can also be deactivated while driving.◀




- Press the **1** button and continue to hold it down until the

status indicated by the ASC warning lamp changes.

 ASC warning light lights up.◀

- Release button **1** within two seconds.


 ASC warning lamp continues to light up.

» ASC function is deactivated.

### Activating ASC function



- Press the **1** button and continue to hold it down until the status indicated by the ASC warning lamp changes.


 ASC warning lamp goes out; if self-diagnosis has not been completed, it begins to flash.◀

- Release button **1** within two seconds.

 ASC warning light remains off or continues to flash.

» ASC function is activated.

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

 If the ASC warning light lights up after switching the ignition off and on and then continued driving over 3 mph (5 km/h), an ASC error has occurred.◀

### Cruise control

– with cruise-control system<sup>OE</sup>

## Switching on cruise control




- Push switch **1** to right.
- » Button **2** is operational.

## Setting road speed



- Briefly press button **2** forward.

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

**SET** Indicator light for cruise-control system lights up.

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

## Acceleration



- Briefly press button **2** forward.
- » Speed is increased by 1.2 mph (2 km/h) each time button is pressed.

- Press button **2** forward and hold.
- » The motorcycle accelerates steplessly.
- » If the button **2** is no longer pressed, the speed achieved is maintained and saved.

## Decreasing speed



- Briefly press button **2** backward.
- » Speed is decreased by 1.2 mph (2 km/h) each time button is pressed.



- Press button **2** back and hold.
  - » The motorcycle decelerates steplessly.
  - » If the button **2** is no longer pressed, the speed achieved is maintained and saved.


### Deactivating cruise control


- Actuate brakes or clutch or throttle grip (take back throttle beyond back position) to deactivate cruise-control system.
  - » Cruise control indicator light goes out.

### Resuming former cruising speed



- Briefly press button **2** toward rear to resume stored speed.

 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.◀

 Indicator light for cruise-control system lights up.

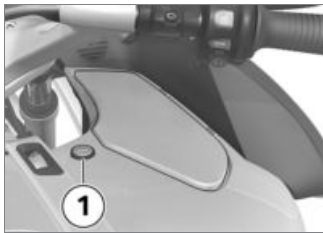
### Switching off cruise control



- Push switch **1** to left.
  - » The system is deactivated.
  - » Button **2** is locked.

## Storage compartment


### Opening storage compartment




- Unlock lock barrel **1** with motorcycle key.
- Push unlocked lock barrel downward to open lid.

## Clutch

### Adjusting clutch lever

 If the position of the clutch fluid reservoir is changed, air can enter the clutch system. Do not reposition the handlebar


controls on the handlebars or the handlebars in their mounts.◀

 Adjusting the clutch lever while driving can lead to accidents.

Only adjust the clutch lever when the motorcycle is stationary.◀




- Turn adjusting screw **1** clockwise to increase distance between clutch lever and handlebar grip.
- Turn adjusting screw **1** counterclockwise to decrease distance between clutch lever and handlebar grip.


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

## Brakes

### Adjusting handbrake lever

 Changing the position of the brake-fluid reservoir can allow air to penetrate the brake system.


Do not reposition the handlebar controls on the handlebars or the handlebars in their mounts.◀

 Adjusting the handbrake lever while driving can lead to accidents.

Only adjust the handbrake lever when the motorcycle is stationary.◀

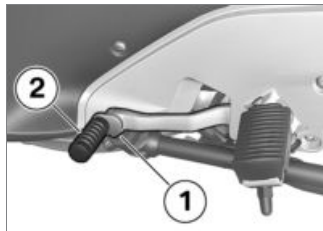


- Turn adjusting screw **1** clockwise to increase distance between brake lever and handlebar grip.
- Turn adjusting screw **1** counterclockwise to decrease distance between brake lever and handlebar grip.

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

## Shifting

### Adjusting shift lever



- Slacken screw **1**.
- Turn foot piece **2** into desired position.
- Tighten screw **1** to appropriate torque.



Gearshift lever on selector shaft

– 6 lb/ft (8 Nm)

## Mirrors

### Adjusting mirrors



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

## Windshield

### Adjusting windshield

- Switch on ignition.



- Press button **1** at top to raise windshield.
- Press button **1** at bottom to lower windshield.<

## Spring preload Setting

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

## Adjusting spring preload for rear wheel



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.<

- Removing passenger seat (➡ 58).



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

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



Basic setting of spring preload, rear

– without Electronic Suspension Adjustment (ESA II)<sup>OE</sup>

– Turn adjustment wheel as far as possible toward LOW, then pretension spring with 10 clicks. (Full tank of gas, with rider 187 lbs (85 kg))<

- Installing passenger seat (→ 60).

## Damping Setting


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

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

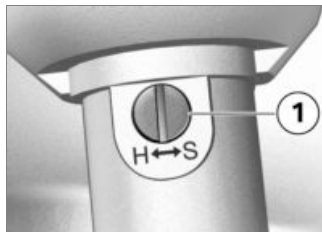
### Adjusting damping on rear wheel

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




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

- Adjust damping with the toolkit using the adjusting screw **1**.

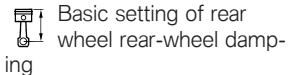


- To increase absorption, turn adjusting screw **1** in arrow direction H.
- To reduce absorption, turn adjusting screw **1** in arrow direction S.

 Basic setting of rear wheel rear-wheel damping

– without Electronic Suspension Adjustment (ESA II)<sup>OE</sup>





Basic setting of rear wheel rear-wheel damping

- Turn adjusting screw up to stop in direction of arrow H, then turn 0.75 turns in direction of arrow S (Full tank of gas, with rider 187 lbs (85 kg))

## ESA Electronic Suspension Adjustment

- with Electronic Suspension Adjustment (ESA II)<sup>OE</sup>

### Settings

You can use the ESA Electronic Suspension Adjustment feature to adapt your motorcycle to its current load as well as the road surface.

You can select from among three load types, for each of which

three suspension damping rates are available.

Additional information on the ESA II Electronic Suspension Adjustment is provided on page (81).

### Calling up settings

- Switch on ignition.



- Press button **1** to display current adjustment.



The selected suspension damping rate appears in the multifunction display's **1** sector, while the load type is shown in the **2** sector. The displays provide the following information:

- COMF: Comfortable damping
- NORM: Normal damping
- SPORT: Sport, performance-oriented damping



One-up



One-up with luggage



Two-up (with luggage)

» The display is automatically hidden again after a short time.


## Adjusting the suspension

- Start engine.




- Press the **1** button one time for a display of the current setting.
- To reset the suspension's compliance rate, press the **1** button briefly, then continue to press it repeatedly until the

desired suspension setting appears in the display.

 The damping can be adjusted while the motorcycle is being ridden.◀


- To set the weight, apply extended pressure on the **1** button, pressing it repeatedly until the desired setting appears in the display.

 The load setting cannot be adjusted while the motorcycle is underway.◀


- » If the **1** button is not pressed for an extended period of time, the current display settings for suspension's damping rate and the load weight will be adopted. The ESA display then goes out automatically.

## Tires

### Checking tire pressure

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



Ensure proper tire inflation pressure.◀

 At high road speeds, tire valves installed perpendicular to the wheel rim have a tendency to open as a result of centrifugal force.

In order to avoid a sudden loss of tire inflation pressure, fit a valve cap with rubber sealing ring to the rear tire and make sure that the cap is screwed on firmly.◀

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

- Check tire pressures against data below.

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

If tire pressure is too low:

- Correct tire pressure.

## Headlight

### Adjusting headlight for RHD/LHD traffic

If the motorcycle is ridden in a country where the opposite rule of the road applies, its asymmetric low-beam headlight will tend to dazzle oncoming traffic.

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



Ordinary adhesive tape damages the plastic lens.

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

### Headlight range and spring preload

The headlight range generally remains constant due to the adjustment of the spring preload to the loading state.

Spring preload adjustment may only be insufficient when the motorcycle is very heavily loaded. In this case, the headlight range must be adjusted to the weight.



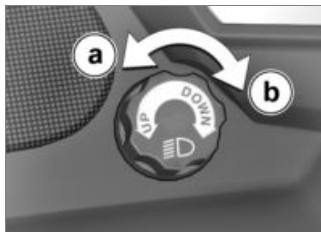
If you are unsure whether the headlight range is correct, consult a specialized workshop, preferably an authorized BMW Motorrad retailer. ◀

## Headlight range adjustment



- 1** Headlight range adjustment

In the case of very high payloads, the available spring preload adjustment might not be adequate. The headlight range can be corrected with the adjustment wheel to avoid blinding oncoming traffic.



- a** Turn adjustment wheel as far as possible in direction UP: neutral position.
- b** Turn adjustment wheel in direction DOWN until oncoming traffic is not blinded.



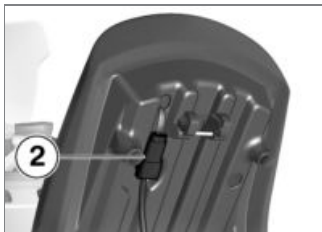
- Unlock seat lock **1** with ignition key while pressing down passenger seat in rear area to support unlocking.
- Lift passenger seat at rear and release key.

## Front and passenger seats

### Removing passenger seat

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

– with seat heating <sup>OE</sup>



- Separate connector **2** by actuating lock.◁
- Take off passenger seat and place on a clean surface with upholstered side facing downward.

### Removing driver's seat

- Removing passenger seat (▶ 58).
- Raise front seat at rear.

– with seat heating <sup>OE</sup>



- Separate connector **3** by actuating lock.◁
- Take off driver's seat and place on a clean surface with upholstered side facing downward.

### Installing driver's seat

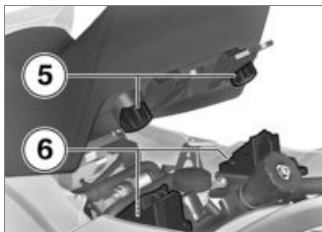
– with seat heating <sup>OE</sup>



- Close connector **3**.◁



- Slide driver's seat onto seat supporting rod **4**. Check that the seat is correctly seated.

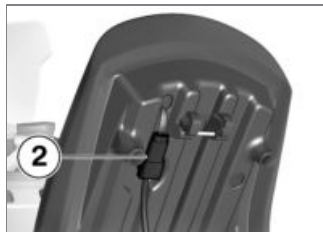


- If the seat is mounted in the lower position, make sure that its rubber buffers **5** are mounted in the lower position of the mounts **6**.
- Firmly push driver's seat into mounts.
- Installing passenger seat (▣▣▣▣▶ 60).

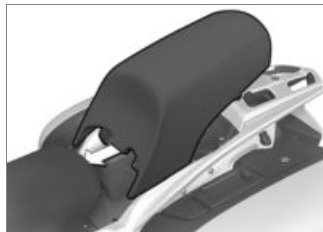
### Installing passenger seat

- Installing driver's seat (▣▣▣▣▶ 59).

– with seat heating <sup>OE</sup>



- Close connector **2**.◀

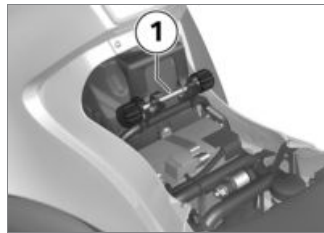


- Push passenger seat under driver's seat and press down firmly at rear.

» Passenger seat clicks audibly into place.

### Adjusting seat height

- Removing driver's seat (▣▣▣▣▶ 59).



- Remove seat bearing rod **1** and remount at desired height.
- Installing driver's seat (▣▣▣▣▶ 59).

### Helmet holder

#### Locking helmet on motorcycle

- Removing passenger seat (▣▣▣▣▶ 58).




watch the position of the helmet lock. ◀

- Guide steel cable through helmet and bracket and position as shown.
- Installing passenger seat (▶▶▶ 60).

- Secure helmet on helmet holder **1** using a steel cable.



 The helmet catch can scratch the paneling.  
When hooking on the helmet,





## **Riding**

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Brakes .....	69
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Securing motorcycle for trans- port .....	72

## Safety information

### Rider's equipment

Do not ride without the correct clothing. Always wear:

- Helmet
- Rider's suit
- Gloves
- Boots

This applies even to short journeys, and to every season of the year. Your authorized BMW Motorrad retailer will be happy to advise you and has the correct clothing for every purpose.

### Reduced clearance in inclined position

- with lowering<sup>OE</sup>

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



Danger of accident due to the motorcycle contacting the ground unexpectedly early. Observe the reduced ground clearance of lowered motorcycles in all positions.◀

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

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


## Correct loading



Overloading and imbalanced loads can adversely affect the motorcycle's handling. Do not exceed the gross weight limit and observe the loading information.◀

- Adjust spring preload, suspension damping rate settings and tire inflation pressures for the current gross vehicle weight.
  - Make sure that weight is uniformly distributed between right and left.
  - Pack heavy luggage and cargo as low and as close to the center of the motorcycle as possible.
  - Observe maximum payload and top speed as indicated on label in case.
- with Topcase<sup>OA</sup>
- Observe maximum payload and top speed as indicated on label in Topcase.<

- with tank rucksack<sup>OA</sup>
- Observe maximum payload of tank rucksack.

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


## Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:

- Settings of spring-strut and shock absorber system
- Imbalanced load
- Loose clothing
- Insufficient tire inflation pressure
- Poor tire tread


## 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.◀

## Burn hazard

 Engine and exhaust system become very hot when the motorcycle is in use. There is a risk of burn injuries by contact with hot surfaces, particularly at the silencer.


When you park the motorcycle make sure that no-one comes into contact with the engine and exhaust system.◀

## 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.◀

## Danger of overheating

 Cooling would be inadequate if the engine were allowed to idle for a lengthy period with the motorcycle at a stand-

still: overheating would result. In extreme cases, the motorcycle could catch fire.

Do not allow the engine to idle unnecessarily. After starting, ride off immediately.◀

## Modifications



Modifications of the motorcycle (e.g. engine management system, throttle valves, clutch) can cause damage to the affected components and failure of safety-related functions. Damage caused in this way is not covered by the warranty. Do not make any modifications.◀

## Checklist

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

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

At regular intervals:

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

## Starting

### Starting the engine

- Switch on ignition.
- » Pre-ride check is performed. (▣▶ 67)
- » ABS self-diagnosis in progress. (▣▶ 67)

- with Automatic Stability Control (ASC)<sup>OE</sup>
- » ABS self-diagnosis in progress. (▣▶ 68)
- Engage neutral, or pull back clutch lever if a gear is engaged.




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

- For cold starts and at low ambient temperatures: pull the lever to disengage the clutch and twist the throttle grip slightly.



- Press starter button **1**.

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

- » Engine starts.
- » If the engine fails to start, the troubleshooting table in the chapter "Technical Data" may provide assistance. (▶▶ 124)

## Pre-ride check


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

### Phase 1

 General warning light shows red.

- CHECK! appears on the display.


### Phase 2

 General warning light shows yellow.

- CHECK! appears on the display.

 with cruise-control system: SET lamp lights up.

If the 'General' warning light does not show:

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

Check that the 'General' warning light comes on, and that it shows red and yellow.◀

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

## ABS self-diagnosis

The self-diagnosis routine is determining whether the BMW Motorrad Integral ABS is ready for operation. The self-diagnosis routine runs automatically when you switch on the ignition.

## Phase 1

- » Check on system components monitored by diagnostic system while vehicle is parked.



ABS warning light flashes.

## Phase 2

- » Diagnostic system evaluates status of monitored system components while vehicle is underway (at least 3.1 mph [5 km/h]).



ABS warning light flashes.

## ABS self-diagnosis completed

- » The ABS warning lamp goes out.

If an ABS error is indicated following completion of the ABS self-diagnosis routine:

- It remains possible to continue riding. Please be aware that

neither the ABS nor the integral function is available.

- Have the malfunction corrected as soon as possible at a specialist service facility, preferably an authorized BMW Motorrad retailer.

## ASC self-diagnosis

– with Automatic Stability Control (ASC)<sup>OE</sup>

The self-diagnosis routine is determining whether the BMW Motorrad Integral ASC is ready for operation. The self-diagnosis routine runs automatically when you switch on the ignition.

## Phase 1

- » Check on system components monitored by diagnostic system while vehicle is parked.



ASC warning light flashes slowly.

## Phase 2

- » Diagnostic system evaluates status of monitored system components while vehicle is underway (at least 3.1 mph [5 km/h]).



ASC warning light flashes slowly.

## ASC self-diagnosis completed

- » ASC warning lamp goes out.

If an ABS error is indicated following completion of the ABS self-diagnosis routine:

- It remains possible to continue riding. Please be aware that ASC functionality is no longer available.
- Have the malfunction corrected as soon as possible at a specialist service facility, preferably an authorized BMW Motorrad retailer.

## Breaking in

### The first 620 mls (1000 km)

- While running in the motorcycle, vary the throttle opening and engine-speed range frequently; avoid driving for long periods at a constant speed.
- Choose curvy, slightly hilly sections of road if possible.
- Observe the engine run-in speeds.



#### Engine break-in speeds

– <5500 min<sup>-1</sup> (Odometer reading 0...124 miles (0...200 km))

– <6500 min<sup>-1</sup> (Odometer reading 124...249 miles (200...400 km))

– <7500 min<sup>-1</sup> (Odometer reading 249...373 miles (400...600 km))



#### Engine break-in speeds

– briefly maximum engine speed (Odometer reading 373...559 miles (600...900 km))

- Have the first inspection carried out after 300 - 750 mls (500 - 1200 km).

### Brake pads

New brake pads must be run in before they achieve their optimum friction force. This initial reduction in braking efficiency can be compensated for by exerting greater pressure on the brake levers.



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

Brake early. ◀

### Tires

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



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

Avoid extreme angles. ◀

### Brakes

#### How do you achieve the shortest stopping distances?

The dynamic load distribution between the front and rear wheel changes during braking. The heavier you brake, the greater the weight transfer to the front wheel. Increases in the load at

an individual wheel are accompanied by a rise in the effective braking force that the wheel can provide.

To achieve the shortest possible braking distance, the front brake must be applied quickly and with increasing force. This procedure provides ideal exploitation of the extra weight transfer to the front wheel. The clutch should also be disengaged at the same time. The frequently-practiced procedure for panic braking, in which maximum braking force is applied as rapidly as possible, produces deceleration rates that rise more quickly than the dynamic weight transfer occurs. As a result, a complete transfer of braking force to road surface is not possible.

BMW Motorrad Integral ABS prevents the front wheel from locking.

## 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, soiled brakes

Moisture and dirt on the brake disks and the brake pads result in a decrease in the braking action. Delayed or poorer braking action must be expected in the following situations:

- When driving in the rain and through puddles.
- After washing the motorcycle.
- When driving on roads spread with salt.

- After working on the brakes due to oil or grease residues.
- When driving on soiled roads or offroad.



Poor braking action due to moisture and dirt. Brake until brakes are dry or clean; clean if necessary. Brake early until the full braking action is available again.◀

## Parking your motorcycle

### Side stand

- Switch off engine.



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.◀



- Fold out side stand and park motorcycle.

**!** 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.◀

- If the slope of the road permits, turn the handlebars to the left.
- On a grade, the motorcycle should always face uphill; select 1st gear.

## Center stand

- Switch off engine.

**!** 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.◀

**!** 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.◀

- Fold out center stand and jack up motorcycle.

## Refueling

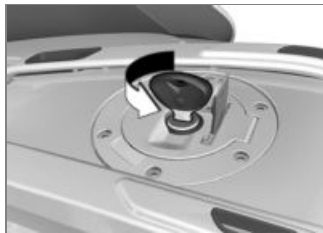
**!** Fuel is highly flammable. Fire at the fuel tank can result in fire and explosion. Do not smoke. Never bring a naked flame near the fuel tank.◀

**!** Fuel attacks plastic surfaces, making them cloudy or unattractive.

Wipe off any fuel that gets onto plastic parts immediately.◀

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

- Open protective cap.



- Unlock cap of fuel tank with ignition key and fold up.



**!** Fuel expands when exposed to heat. When the tank is overfilled, fuel can escape and get onto the road. This results in a danger of falling. Do not overfill the fuel tank.◀

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

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

**▶** When refueling after running on reserve, make sure that you top up the tank to a level above reserve, as other-

wise the sensor will not be able to register the new level. Otherwise neither the fill level nor the range display can be updated.◀



Recommended fuel quality

- Super Plus unleaded
- 91 AKI (98 ROZ/RON)
- 91 AKI



alternative fuel quality

- Super unleaded (minor restrictions with regard to power and fuel consumption)
- 89 AKI (95 ROZ/RON)
- 89 AKI



Usable fuel quantity

- Approx. 6.6 gal (Approx. 25 l)



Reserve fuel quantity


- Approx. 1.1 gal (Approx. 4 l)

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

## Securing motorcycle for transport

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




 The motorcycle can tip away to the side and fall over.

Secure the motorcycle against tipping away to the side.◀

- Push motorcycle onto transport surface, and do not place on side stand or center stand.◀



 Components can be damaged.

Do not pinch components, e.g. brake lines or wiring harnesses.◀

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



- Fasten straps at rear on both sides on passenger footrests and then tighten them.◀
- Tension all straps evenly; the motorcycle should be pulled down against its springs with the suspension compressed as much as possible.



## Technology in detail

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## Brake system with BMW Motorrad Integral ABS

### Partially integral brake

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

The footbrake lever acts only on the rear brake.

The BMW Motorrad Integral ABS adapts the braking force distribution between the front and rear wheel brake to the loading of the motorcycle during braking.



Spinning of the rear wheel with the front brake pulled (burn out) is made considerably more difficult by the integral function. The result may be damage to the rear wheel brake and the clutch.

Avoid burn-outs.◀

### How does ABS work?

The maximum braking force that can be transferred to the road surface is partially dependent on the friction coefficient of the road surface. Gravel, ice, snow and wet roads offer a considerably poorer friction coefficient than a dry, clean asphalt surface. The poorer the friction coefficient of the road surface is, the longer the braking distance will be.

If the maximum transferrable braking force is exceeded when the driver increases the brake pressure, the wheels begin to block and driving stability is lost, and a fall can result. Before this situation occurs, ABS intervenes and adjusts the brake pressure to the maximum transferrable braking force. This enables the wheels to continue to turn and maintains driving stability regardless of the road surface condition.

### What happens when rough roads are encountered?

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

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

If the ABS system must reduce the braking forces due to the conditions described above, then vibrations can be felt at the handbrake lever.

If the handbrake lever is pulled, then braking pressure is built up at the rear wheel with the integral function. If the footbrake pedal is first actuated after this, the brake pressure already built up can be felt earlier than the counter-pressure, than when the footbrake pedal is actuated before or together with the handbrake lever.

## Lifting off rear wheel

However, during extremely heavy and rapid decelerations it is possible that the BMW Motorrad Integral ABS cannot prevent the rear wheel from lifting off the ground. In these cases, the mo-

torcycle can also flip end over end.



Heavy braking can lead to the rear wheel lifting off the ground.

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

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

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

## Special situations

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

### Unusual driving conditions:

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

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

tions described above, the ABS function can be reactivated by switching the ignition off and then on again.

## How important is regular maintenance?



Any technical system is always only as good as its maintenance condition.

To ensure that the BMW Motorrad Integral ABS is in an optimally maintained condition, it is vital that the specified inspection intervals be complied with. ◀

## Reserves for safety

But remember: the potentially shorter braking distances which BMW Motorrad Integral ABS permits must not be used as an excuse for careless riding. ABS is primarily a means of ensuring a safety margin in genuine emergencies.

Take care when cornering. When you apply the brakes on a corner, the motorcycle's weight and momentum take over and even BMW Motorrad Integral ABS is unable to counteract their effects.

## Engine management with BMW Motorrad ASC

– with Automatic Stability Control (ASC)<sup>OE</sup>

### How does ASC work?

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

## What are the design characteristics of the BMW Motorrad ASC?

The BMW Motorrad ASC is an assistance system for the driver and is designed for driving on public roads. Especially in at the limits of driving physics, the driver has a considerable influence on the control options of the ASC (shifting weight in curves, loose loads).

The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack. The BMW Motorrad ASC can be deactivated for these cases.



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



## Special situations

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

To detect spinning or slipping away of the rear wheel, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ASC function is deactivated for safety reasons and an ASC fault is indicated. The condition for a fault message is the completed self-diagnosis.

In the following unusual driving states, the BMW Motorrad ASC can be automatically deactivated.

### Unusual driving conditions:

- Driving on the rear wheel (wheely) for a longer period with ASC deactivated.

- Rear wheel spinning in place with front brake pulled (burn out).
- Heating up on the main or auxiliary stand at idle or with gear engaged.

The ASC is reactivated by switching the ignition on and off and then driving at a speed above 3 mph (5 km/h).

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

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

## TPM Tire Pressure Monitor

- with Tire Pressure Control (TPC/RDC)<sup>OE</sup>

### Function

A sensor is located in each tire, which measures the air temperature and the inflation pressure inside the tire and sends these values to the control unit.

The sensors are equipped with a centrifugal controller, which does not enable the transmission of the measured values until a speed of approx. 18.5 mph (30 km/h) is reached. Before initial reception of the tire inflation pressure, -- is shown in the display for each tire. The sensors continue to transmit the measured values for approx. 15 minutes after the motorcycle comes to a stop.

The control unit can manage four sensors, and as a result two sets of wheels with TPC/RDC sensors can be driven. If a TPC/RDC control unit is installed without the wheels being equipped with sensors, an error message is output.

## **Tire inflation pressure ranges**

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

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

## **Temperature compensation**

The tire inflation pressure is temperature dependent, i.e. it increases or decreases together with the tire temperature. The tire temperature is dependent on the ambient temperature and on the driving style and duration.

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

## **Adjusting inflation pressure**

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

Example: According to the Rider's Manual, the tire inflation pressure is to be 36 psi (2.5 bar), however 33 psi (2.3 bar) is shown in the multifunction display. The tester at the filling station indicates 34.8 psi (2.4 bar). This value must be increased by 3 psi (0.2 bar) to 37.8 psi (2.6 bar) in order to produce the correct tire inflation pressure.

## **ESA II Electronic Suspension Adjustment**

– with Electronic Suspension Adjustment (ESA II)<sup>OE</sup>

### **Chassis adjustments**

The proper loading state must first be selected when the motorcycle is stationary according to the motorcycle's load. Depending on the riding mode selected,

the damping levels are set on both spring struts and the spring base and spring rate are set on the rear spring strut. If the selected riding mode is changed, the spring rate on the rear spring strut is also adjusted in addition to the damping of both spring struts. This enables very precise adjustment of the chassis to all riding conditions, including while riding.

- The combination of spring base, damping and spring rate ensures the chassis geometry is always appropriate.
- The static normal position is virtually maintained while riding.
- The different riding and loading conditions are offset so that the handling of the motorcycle remains constant.

It is possible to electrically change the spring rate through the combination of a conventional coil spring with a plastic element (Elastogran), the lateral expansion of which can be electrohydraulically limited using a displaceable sleeve. The more the sleeve surrounds the plastic element, the more its expansion is limited and the spring rate increases. The highest spring rate is achieved when the sleeve completely encloses the plastic element and sits on the steel spring. Accordingly, the spring rate is lower, the less the sleeve limits the expansion of the plastic element.



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

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

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

Observe the information on the importance of tire sizes for chassis control systems (►► 100).



BMW Motorrad cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW motorcycles without constituting a safety hazard. Nor is this guarantee provided when the official approval of a specific country has been granted. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances.

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

Whenever you are planning modifications, comply with all the legal requirements. The motorcycle must not infringe on national road-vehicle construction and use regulations of your country.

## Onboard sockets

Information on using onboard sockets:

### automatic switch-off

Onboard sockets are switched off automatically under the following conditions:

- In case of insufficient battery voltage to maintain the ability to start the motorcycle
- If the maximum loadability specified in the technical data is exceeded
- During starting
- with (additional) onboard socket<sup>OE</sup>

If several onboard sockets are being operated, the total current may not exceed the maximum loadability. ◀

## 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. Onboard sockets are switched off approx. 15 minutes after switching off the ignition to reduce the strain on the onboard electrical system.

## Cable routing

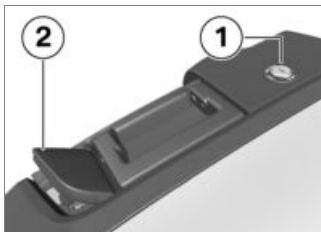
The cables from the onboard sockets to the auxiliary devices must be routed in such a way that they:

- Do not impede the rider
- Do not restrict the steering angle and the driving characteristics
- Cannot be trapped

## Case Opening case



- Turn key in case lock to OPEN position.



- Press lock barrel **1** downward.

- » Unlocking lever **2** pops up.
- Pull up release lever completely.
- Case lid opens.

## Closing case



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

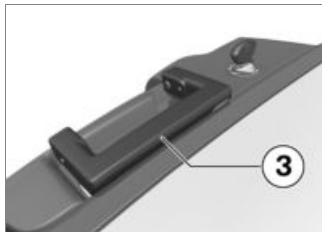


- Press release lever **2** down until it engages.
- Turn key in case lock into LOCK position and remove.

## Removing case



- Turn key in case lock to RE-LEASE position.
- » Handle pops out.



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

» Case is released and can be removed.

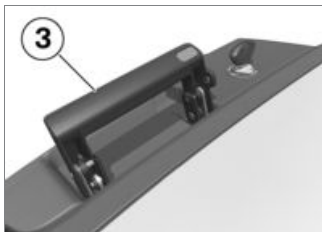
## Mounting case

- Fold up case handle as far as possible.



- Insert case in brackets **4**.





- Press case handle **3** down until it engages.
- Turn key in case lock into LOCK position and remove.

## Topcase

– with Topcase<sup>OA</sup>

## Opening the Topcase



- Turn key in Topcase lock to OPEN position.



- Press lock barrel **1** forward.  
» The release lever **2** springs up.

- Pull release lever all the way up.  
» Topcase lid opens.

## Closing the Topcase



- Pull release lever **2** all the way up.
- Close Topcase lid and hold it down. Ensure that no luggage is trapped between lid and case.



- Push release lever **2** down, continuing until it engages.
- Turn key in Topcase lock into LOCK position and remove.

## Removing Topcase



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



- Fold handle **3** all the way up.

- Raise the rear of the Topcase and pull it off luggage rack.

## Mounting the Topcase

- Fold up handle as far as possible.



- Hook Topcase into luggage rack. Make sure that hooks **4** engage securely in their mounts **5**.



- Press handle **3** down until it engages.
- Turn key in Topcase lock into LOCK position then extract it.



## Maintenance

General instructions.....	92
Onboard toolkit .....	92
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Brake system .....	94
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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.

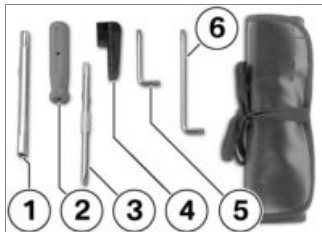
If special tightening torques are to be taken into account for assembly, these are listed. An overview of all required tightening torques is contained in the chapter "Technical Data".

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

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

## Onboard toolkit

### Standard tool kit

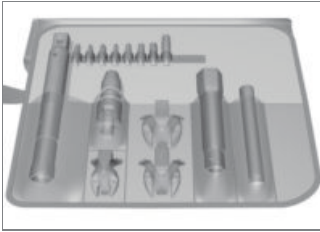


- 1** Extension for screwdriver insert
  - Adjusting damping on rear wheel (▣▣▣ 54).
- 2** Screwdriver handle

- 3** Reversible screwdriver with Phillips and straight blade
  - Adjusting damping on rear wheel (▣▣▣ 54).
  - Replacing brake light bulbs, tail light bulbs and rear turn indicator bulbs (▣▣▣ 110).
  - Removing battery (▣▣▣ 117).
- 4** Tool for oil cap
  - Topping up engine oil (▣▣▣ 94).
- 5** TORX wrench, T25
- 6** Torx wrench T30
  - Removing turn indicator with fairing piece (▣▣▣ 113).

### Service tool kit

- with auxiliary tool kit<sup>OA</sup>



For expanded service work (e.g., removing and installing wheels), BMW Motorrad has put together a service tool kit matched to your motorcycle. You can purchase this tool kit from your authorized BMW Motorrad retailer.

## Engine oil

### Checking engine oil level



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

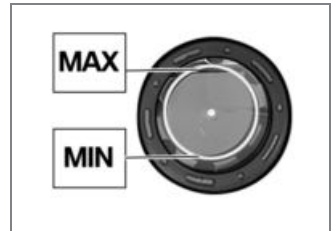
trip leads to misinterpretations and therefore to incorrect oil fill quantities.


To ensure that the display of the engine oil level is correct, only check the oil level after a longer trip. ◀

- Switch off engine at operating temperature.
- Make sure ground is level and firm and place motorcycle on center stand.
- Wait five minutes to allow oil to collect in oil pan.



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



 Specified level of engine oil

– between MIN and MAX marking

If oil level is below MIN mark:

- Topping up engine oil (▶▶▶ 94).

If oil level is above MAX mark:

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

### Topping up engine oil

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



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



Both too little and too much engine oil can lead to engine damage.

Always make sure that the oil level is correct.◀

- Add engine oil up to specified level.
- Checking engine oil level (▶▶▶ 93).
- Install cap of engine oil fill location with toolkit.

### Brake system

#### Checking brake operation

- Squeeze the brake lever.
  - » Pressure point must be clearly perceptible.
- Press footbrake lever.
  - » Pressure point must be clearly perceptible.

If no clear pressure points are perceptible:

- Have the brakes checked at a specialist service facility,

preferably an authorized BMW Motorrad retailer.

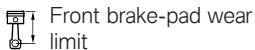
### Checking front brake pad thickness

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



- Visually inspect left and right brake pads to determine their thickness. Direction of view: through wheel and front suspension to brake calipers.





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

If the wear indicators are no longer clearly visible:



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

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

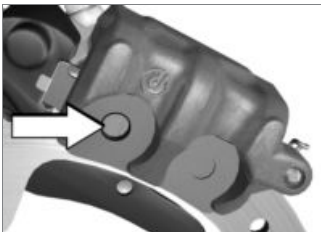
- Have the brake pads replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

### Checking rear brake pad thickness

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



- Check the brake pad thickness with visual inspection. Direction of view: Inspect the brake caliper from the left **1**.



Rear brake-pad wear limit

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

If the brake rotor is visible:



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

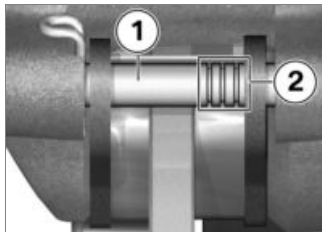
In order to ensure the operating reliability of the brake system,

make sure that the brake pads are not worn beyond their minimum thickness. ◀

- Have the brake pads replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

### Brake pad wear

The rear brake has a brake-pad wear indicator.



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

### How to interpret the marks:

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

### Checking front brake fluid level



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


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



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

▶ The brake fluid level in the brake-fluid reservoir drops due to brake pad wear. The decreasing fluid level is compensated with an easy-to-see black rubber bellows.◀



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

If brake fluid level drops below the specified minimum level:

- Have the defect corrected as soon as possible by a specialist service facility, preferably an authorized BMW Motorrad retailer.

If the lower edge of the black bellows in the brake-fluid reservoir is below the MAX graduation:

- Checking front brake pad thickness (►► 94).

## Checking rear brake fluid level



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

Check brake fluid level regularly.◀

- Make sure ground is level and firm and place motorcycle on its center stand.
- Removing driver's seat (►► 59).



- Check level of brake fluid in rear brake-fluid reservoir **1**.

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



Rear brake fluid level

– Brake fluid (DOT4)

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

If brake fluid level falls below the approved level:

- Have the defect corrected as soon as possible by a specialist service facility, preferably an authorized BMW Motorrad retailer.

- Installing driver's seat (▶▶▶ 59).

## Clutch

### Checking clutch operation

- Pull back the clutch lever.
  - » Pressure point must be clearly perceptible.

If no clear pressure point can be felt:

- Have the clutch checked by a specialist service facility, preferably an authorized BMW Motorrad retailer.


### Checking clutch fluid level

- Make sure ground is level and firm and place motorcycle on its center stand.
- Move handlebars into straight-ahead position.




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

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

 Clutch fluid level (visual check)

– Clutch fluid level must not drop.

If clutch fluid level drops:

 Unsuitable hydraulic fluids could cause damage to the clutch system.

No fluids may be poured in.◀


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

## Rims and Tires

### Checking rims

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


### Checking tire tread depth

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

Have tires replaced even be-

fore the minimum tread depth is reached.◀

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

 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 T1, TW1 or by an arrow.◀

When the minimum tread depth is reached:

- Replace the worn tires.

## Wheels

### Tire recommendation

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

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

### Affect of wheel sizes on chassis control systems

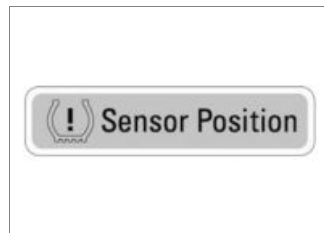
The wheel sizes play a major role in the chassis control systems ABS and ASC. Especially the diameter and width of the wheels are stored in the control unit as

the basis for all necessary calculations. A change in these sizes due to conversion to others than the wheels installed as standard equipment can seriously affect the control comfort of these systems.

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

### TPC/RDC sticker

– with Tire Pressure Control (TPC/RDC)<sup>OE</sup>



 The TPC/RDC sensors can be damaged in case of improper tire mounting. Inform the authorized BMW Motorrad retailer or the specialized workshop on the fact that the wheel is equipped with a TPC/RDC sensor. ◀

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

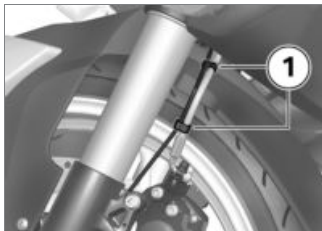
BMW Motorrad retailer or the specialized workshop of the TPC/RDC sensor.

## Removing front wheel

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



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



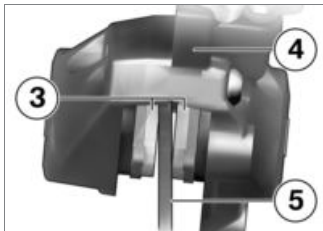
- Release the two clips **1** retaining the sensor cable on the brake line.
- Mask off area of wheel rim that could be scratched in process of removing brake calipers.



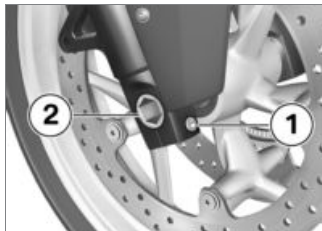
**⚠** Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disk on reassembly.

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

- Remove bolts **2** of brake calipers on left and right.



- Push brake pads **3** apart slightly by turning the brake caliper **4** back and forth against the brake rotor **5**.
- Carefully pull brake calipers back to remove them from the brake rotors.
- Raise front of motorcycle until the front wheel can turn freely. BMW Motorrad recommends the BMW Motorrad front-wheel stand for lifting the motorcycle.
- Mounting front wheel stand (→ 106).



- Remove axle clamping screw **1**.
- Remove quick-release axle **2** while supporting wheel.
- Do not remove grease on quick-release axle.
- When rolling out front wheel forward, watch ABS sensor on left side.
- Remove spacing bushing on left side from front wheel hub.

### Installing front wheel

- ⚠ Malfunctions may occur during control interventions by ABS and ASC if a wheel other

than the standard wheel is installed.

Please see the information on the effect of wheel sizes on the chassis control systems ABS and ASC at the beginning of this chapter. ◀

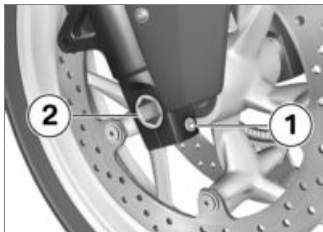
⚠ Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage. Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer. ◀

- Mount spacing bushing on left side on wheel hub.


⚠ 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. ◀



- When rolling front wheel into front suspension, watch ABS sensor on left side.




- Lift front wheel and install quick-release axle **2** with appropriate torque.

 Quick-release axle in axle mount

– 37 lb/ft (50 Nm)

- Tighten axle clamping screw **1** with appropriate torque.


 Clamp bolt for quick-release axle

– 14 lb/ft (19 Nm)

- Remove front wheel stand.
- Slide the brake calipers onto the rotors.



- Install bolts **2** on left and right sides, tightening them to the specified torque.

 Brake caliper on slider tube

– 22 lb/ft (30 Nm)




- Engage the two clips **1** to mount the sensor cable on the brake line.



- Make sure that sensor cable is inserted in holders **3** and **4**.

- Remove adhesive tape from wheel rim.

 Braking efficiency is impaired if the brake pads are not correctly bedded against the disks.

Before driving off, check that the braking effect kicks in without any delay.◀

- Engage the brakes repeatedly, continuing until the brake pads seat against the rotors.




- Install front wheel cover and fit screws **1** on right and left.

## Removing rear wheel

- Make sure ground is level and firm and place motorcycle on center stand.
- Remove case if necessary.

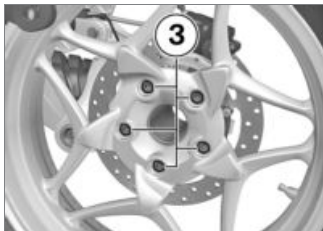


 Components of the exhaust system can be hot. Do not touch hot parts of the exhaust system.◀

- Loosen screw **1** of clip and slide clip toward rear.
- Do not remove sealing grease from clip.




- Remove screw **2** for bracket of end muffler from passenger footrest.
- Pull off end muffler toward rear and lay on a soft surface.
- Shift into first gear.




- Remove bolts **3** of rear wheel, holding wheel as you do so.
- Lower rear wheel to the ground and roll out toward rear.

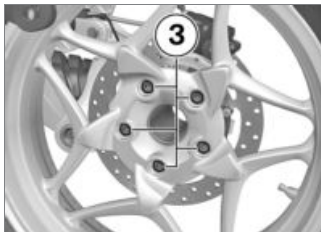
## Installing rear wheel

 Malfunctions may occur during control interventions by ABS and ASC if a wheel other than the standard wheel is installed.

Please see the information on the effect of wheel sizes on the chassis control systems ABS and ASC at the beginning of this chapter. ◀

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

- Place rear wheel on rear wheel support.



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




Rear wheel on wheel carrier

– Tightening sequence: diagonally

– 44 lb/ft (60 Nm)

- Mount end muffler on tube at exhaust valve and turn into starting position.



 If the gap between the rear wheel and the muffler is too small, the rear wheel can over-heat.

The gap between the rear wheel

and the muffler must be at least 20 mm. ◀

- Align muffler and tighten screw **2** with appropriate torque.

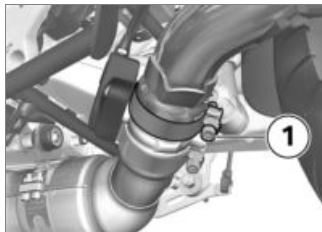


Muffler on rear frame

– 14 lb/ft (19 Nm)



- Slide clip as far forward as possible and align so that clamp marking R/RT **4** faces marking **5**.



- Tighten screw **1** to appropriate torque.



Clamp on muffler and manifold

– 21 lb/ft (28 Nm)

- Mount case if necessary.

## Front wheel stand Mounting front wheel stand

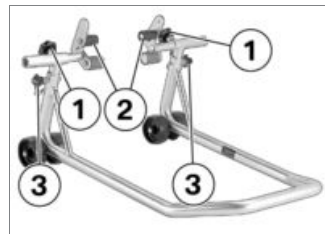


The BMW Motorrad front wheel stand is not designed for holding motorcycles without a center or other auxiliary stands. A

motorcycle standing on the front wheel stand and the rear wheel alone can fall over.

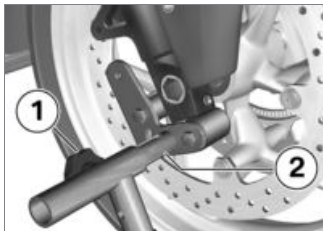
Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad front wheel stand. ◀

- Make sure ground is level and firm and place motorcycle on center stand.
- Use basic stand with tool number (83 30 0 402 241) in combination with front-wheel adapter (83 30 0 402 242).



- Loosen adjusting screws **1**.

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



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




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

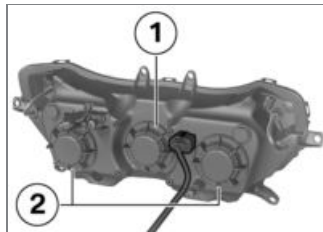
- Apply uniform pressure to push front wheel stand down and raise motorcycle.

## Lamps

### Replacing low-beam and high-beam bulb

 The alignment of the connector, the spring strap and the bulb may differ from that shown in the following illustrations.◀

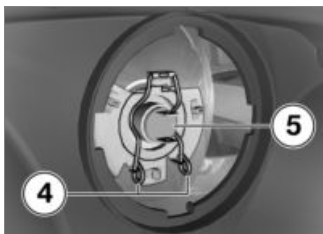
- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.



- Remove cover **1** for high-beam headlight or covers **2** for low-beam headlight.




- Disconnect plug **3**.



- Remove spring wire brackets **4** from their detents on left and right and fold them up.
- Remove bulb **5**.

- Replace defective bulb.

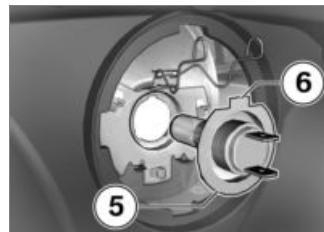
	Bulbs for low-beam headlight
---	---------------------------------

– H7 / 12 V / 55 W	
--------------------	--

	Bulb for high-beam headlight
---	---------------------------------

– H7 / 12 V / 55 W	
--------------------	--

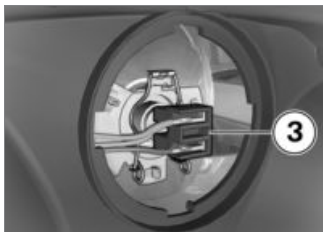
- To avoid contamination on the bulb's glass surface, never touch or hold the bulb anywhere other than on its metal socket base.



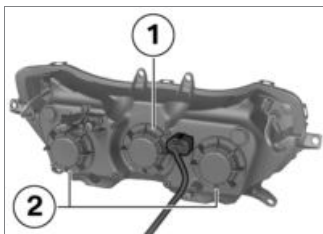
- Insert bulb **5** while ensuring that the lug **6** is in the correct position.



- Engage both sides of wire spring **4** in the retaining lugs.



- Attach the plug **3**.



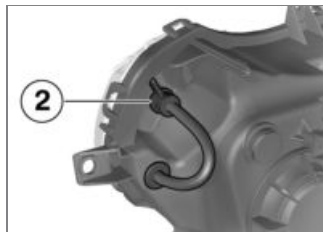
- Install cover **1** for high-beam headlight or cover **2** for low-beam headlight.

## Replacing parking light bulb

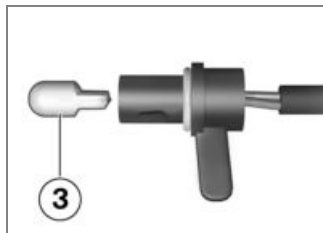
- Removing turn indicator with fairing piece (→ 113).



- Remove parking-light bulb through opening **1**.



- Remove bulb socket from headlight housing by turning lever **2** counterclockwise.



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

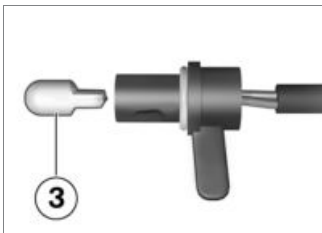
- Replace defective bulb.



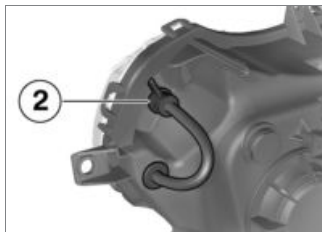
Bulb for parking light

– W5W / 12 V / 5 W

- To avoid leaving contaminant deposits on the bulb's glass surface, use a clean, dry cloth to hold it.



- Insert bulb **3** in bulb socket.



- Mount bulb socket in headlight housing and lock by turning lever **2** clockwise.
- Installing turn indicator with fairing piece (→ 114).

### Replacing brake light bulbs, tail light bulbs and rear turn indicator bulbs



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

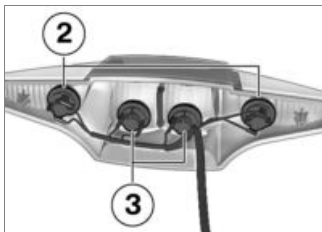
Make sure that the motorcycle is steady on its stand. ◀

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.
- Remove case if necessary.

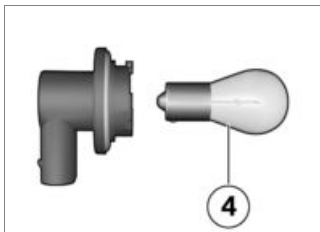


- Remove screws **1** on left and right and take off lamp housing toward rear.







- Remove bulb sockets **2** for turn indicators or bulb sockets **3** for tail light and brake light bulbs from lamp housing by turning counterclockwise.



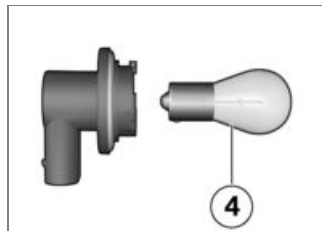
- Press bulb **4** into socket and turn counterclockwise to remove.
- Replace defective bulb.

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

	Bulbs for flashing turn indicators, rear
– PY21W / 12 V / 21 W	

- To prevent contaminants from being deposited on the new

bulb's glass surface, always use a clean, dry cloth to hold it.



- Press bulb **4** into socket and install by turning clockwise.
- Mount removed bulb socket in lamp housing and lock by turning clockwise.



- Mount lamp housing at position **5**.



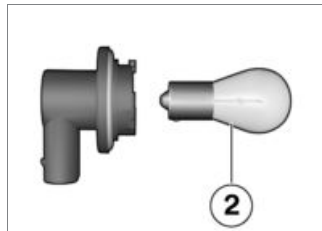
- Install screws **1** on left and right.

## Replacing front turn indicator bulb


- Removing turn indicator with fairing piece (→ 113).



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

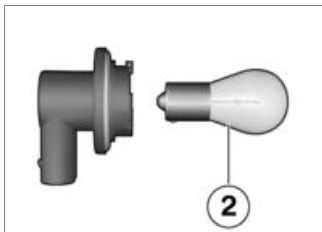


- Press bulb **2** into socket and turn counterclockwise to remove.
- Replace defective bulb.

 Bulbs for flashing turn indicators, front

– PY21W / 12 V / 21 W

- To prevent contaminants from being deposited on the new bulb's glass surface, always use a clean, dry cloth to hold it.



- Press bulb **2** into socket and install by turning clockwise.



- Mount bulb socket **1** in lamp housing and lock by turning clockwise.

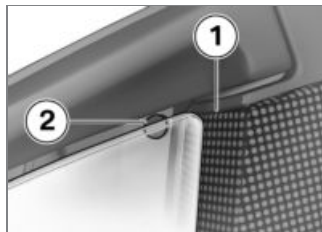
- Installing turn indicator with fairing piece (→ 114).

## Fairings

### Removing turn indicator with fairing piece



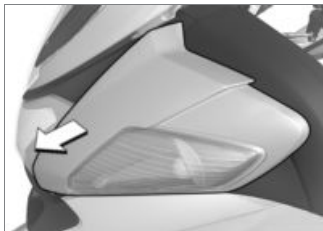
- Press mirror downward and outward.



- Guide tool from toolkit parallel to edge **1** of loudspeaker grill through opening **2**.



- Remove screw **3** located in extension of opening while holding fairing piece in place.



- Remove turn indicator with fairing piece toward front.

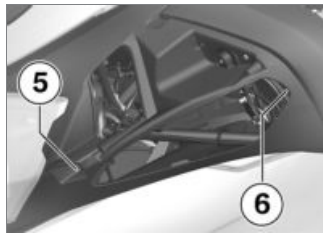


- Disconnect connector **4**.
- Lay fairing piece on a soft surface.

## Installing turn indicator with fairing piece



- Close connector **4**.



- Mount turn indicator with fairing piece at positions **5** and **6**.



- Install screw **3** while holding fairing piece in place.
- Adjust mirror.

## Jump-starting

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



A short-circuit can result if the crocodile clips of the jump leads are accidentally brought into contact with the motorcycle.

Use only jump leads fitted with fully insulated crocodile clips at both ends.◀



Jump-starting with a donor-battery voltage higher than 12 V can damage the motorcycle electronics.

The battery of the donor vehicle must have a voltage of 12 V.◀

- Make sure ground is level and firm and park motorcycle.
- Removing driver's seat (▶▶▶ 59).
- When jump-starting the engine, do not disconnect the battery from the onboard electrical system.
- Remove protective cap from battery's positive terminal.
- Begin by clamping one end of the red jumper cable to the

positive terminal of the discharged battery and clamping the other end to the positive terminal of the donor battery.

- Then clamp one end of the black jumper cable to the donor battery's negative terminal while connecting the other end to discharged battery's negative terminal.
- Allow the engine on the support vehicle to run while jump-starting.
- Start engine of the vehicle with discharged battery in usual way; if engine does not start, wait a few minutes before repeating attempt; this precaution protects the starter motor and donor battery against overload.
- Allow both engines to idle for a few minutes before disconnecting jumper cables.
- Disconnect jumper cable from negative terminals first, then from positive terminals.

- Reconnect protective cap above the battery's positive terminal.



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

- Installing driver's 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

- ing 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 driving breaks of more than four weeks, a trickle-charger should be connected to the battery.◀



BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, you can keep the battery charged during long periods when the motorcycle is not being used without having to disconnect the battery from the motorcycle's

onboard systems. Additional information is available at your authorized BMW Motorrad retailer.◀

## Charging connected battery



Charging the connected battery directly at the battery terminals can damage the motorcycle electronics.

To charge the battery via the battery terminals, disconnect the battery first.◀



If you switch on the ignition and the multifunction display and indicator lights fail to light up, the battery is completely flat (battery voltage below 9 V). Attempting to charge a completely flat battery via the onboard socket can cause damage to the motorcycle's electronics. Always charge a completely drained battery directly at the

terminals of the disconnected battery.◀



Charging the battery via the onboard socket is only possible with suitable chargers. Unsuitable chargers can result in damage to the motorcycle electronics.

Use BMW chargers with the part numbers 71 60 7 688 864 (220 V) or, as applicable, 71 60 7 688 865 (110 V). If in doubt, charge the disconnected battery directly at the terminals.◀

- Charge disconnected battery via onboard socket.



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

- Comply with operating instructions of charger.

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

## Charging disconnected battery

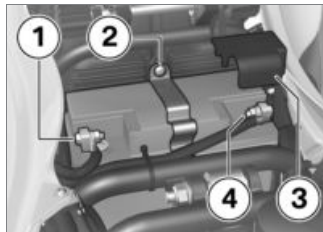
- Charge battery using a suitable charger.
- Comply with the operating instructions of the charger.
- Once the battery is fully charged, disconnect the charger's terminal clips from the battery terminals.

▶ In the case of longer periods when the motorcycle is not being used, the battery must be recharged regularly. See the instructions for caring for your battery. Always fully recharge

the battery before returning it to use.◀

## Removing battery

- Make sure ground is level and firm and park motorcycle.
  - with anti-theft alarm<sup>OE</sup>
- Switch off anti-theft alarm if necessary.◀
- Switch off ignition.
- Removing driver's seat (▶▶ 59).



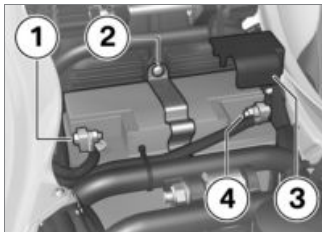
⚠ An incorrect disconnection sequence increase the risk of short-circuiting.

Always observe the proper sequence.◀

- Remove battery ground wire **1** first.
- Then pull off protective cap **3** and remove positive battery cable **4**.
- Remove screw **2**, unhook retaining strap at bottom and remove.
- Lift out battery upward; if it is difficult to move, moving it back and forth will help.

## Installing battery

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



- Hook in retaining hoop at bottom, push over battery and install screw **2**.



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

Always observe the proper sequence.

Never install the battery without the protective cap.◀

- First attach positive battery cable **4**.
- Place protective cap **3** on battery positive terminal.
- Then install negative battery cable **1**.



If the motorcycle was disconnected from the battery for a longer time, the current date must be entered in the instrument cluster to ensure the proper operation of the service display.

Consult a certified workshop, preferably an authorized BMW Motorrad retailer, for setting of the date.◀

- Installing driver's seat (▮▮▮ 59).
- Setting clock (▮▮▮ 40).




## Care

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## Care products

BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. BMW CareProducts have been materials tested, laboratory tested, and field tested and provide optimum care and protection for the materials used in your motorcycle.

 The use of unsuitable cleaning and care products can damage motorcycle components.

For cleaning, do not use any solvents such as nitro-thinners, cold cleaning agents, fuel or similar, and do not use cleaning agents that contain alcohol.◀


## Washing your motorcycle

BMW Motorrad recommends that you use BMW Insect Remover to soften and wash off insects and stubborn dirt from painted parts before washing the motorcycle.


To prevent stains, do not wash the motorcycle immediately after it has been exposed to bright sunlight and do not wash it in the sun.

Make sure that the motorcycle is washed frequently, especially during the winter months.


To remove road salt, clean the motorcycle with cold water immediately after every trip.

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

Brake early until the brake disks and pads are dry.◀

 Warm water intensifies the effect of salt.


Only use cold water to remove road salt.◀

 The high water pressure of high-pressure cleaners (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

 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. ◀

### Fairings

Clean body panels with water and BMW plastic cleaner.

### Windshields and headlight lenses are manufactured in plastic

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

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

### Chrome

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

### Radiator

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



Cooling fins can be bent easily.

When cleaning the radiator, ensure that the fins are not bent. ◀

### Rubber

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



Using silicone sprays for the care of rubber seals can cause damage.

Do not use silicon sprays or other care products that contain silicon. ◀

### Paint care

Washing the motorcycle regularly will help counteract the long-term effects of substances that damage the paint, especially if your motorcycle is ridden in areas with high air pollution or natural sources of dirt, e.g. tree resin or pollen.

However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilled fuel, oil, grease, brake fluid as well as bird droppings. BMW Car Polish or BMW Paint Cleaner are recommended for this.

Contamination of the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar spots with BMW Tar Re-

mover. Then add a protective wax coating to the paint at these locations.

## Protective wax coating

To preserve the finish of your motorcycle, BMW Motorrad recommends using BMW Car Wax or agents that contain carnauba or synthetic waxes.

A sure sign that the paint must be protected, is the fact that water no longer pearls up on it.

## Storing motorcycle

- Clean the motorcycle.
- Removing battery (▶▶▶ 117).
- Spray the brake and clutch lever, and the main and side stand pivots with a suitable lubricant.
- Coat bare metal and chrome-plated parts with an acid-free grease (e.g., Vaseline).

- Park motorcycle in a dry room, raising it to remove weight from both wheels. Appropriate auxiliary jackstands are available at your authorized BMW Motorrad retailer.

## Returning motorcycle to use

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

## Technical data

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## Troubleshooting chart

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

<b>Possible cause</b>	<b>Remedy</b>
Emergency ON/OFF switch activated	Emergency off switch in normal operating position
Side stand extended and gear engaged	Retract side stand.
Gear engaged and clutch not disengaged	Place transmission in neutral or disengage clutch.
No fuel in tank	Refueling (▮▮▮▶ 71).
Battery drained	Charging connected battery (▮▮▮▶ 116).

## Threaded fasteners

Front wheel	Value	Valid
<b>Brake caliper on slider tube</b>		
M8 x 32 - 10.9	22 lb/ft (30 Nm)	
<b>Clamp bolt for quick-release axle</b>		
M8 x 35	14 lb/ft (19 Nm)	
<b>Quick-release axle in axle mount</b>		
M24 x 1.5	37 lb/ft (50 Nm)	
Rear wheel	Value	Valid
<b>Clamp on muffler and manifold</b>		
M8 x 40 - 10.9	21 lb/ft (28 Nm)	
<b>Muffler on rear frame</b>		
M8 x 35	14 lb/ft (19 Nm)	
<b>Rear wheel on wheel carrier</b>		
M10 x 1.25 x 40	<b>diagonally</b>	
	44 lb/ft (60 Nm)	

<b>Shift lever</b>	<b>Value</b>	<b>Valid</b>
<b>Gearshift lever on selector shaft</b>		
M6 x 25	6 lb/ft (8 Nm)	



## Engine

Engine design	Longitudinally mounted two-cylinder opposed-twin engine with two overhead camshafts each, four radially arranged valves per cylinder, air cooling, oil-cooled outlet area and electronic engine management
Displacement	1170 cc (1170 cm <sup>3</sup> )
Cylinder bore	4 in (101 mm)
Piston stroke	2.9 in (73 mm)
Compression ratio	12.0:1
Rated output	110 hp (81 kW), at engine speed: 7750 min <sup>-1</sup>
– with power reduction <sup>OE</sup>	107 hp (79 kW), at engine speed: 7750 min <sup>-1</sup>
– with power reduction <sup>OE</sup>	98 hp (72 kW), at engine speed: 7750 min <sup>-1</sup>
Torque	89 lb/ft (120 Nm), at engine speed: 6000 min <sup>-1</sup>
Maximum engine speed	max 8500 min <sup>-1</sup>
Idle speed	1150 <sup>±50</sup> min <sup>-1</sup> , Engine at operating temperature

## Fuel

Recommended fuel quality	Super Plus unleaded 91 AKI (98 ROZ/RON) 91 AKI
alternative fuel quality	Super unleaded (minor restrictions with regard to power and fuel consumption) 89 AKI (95 ROZ/RON) 89 AKI
Usable fuel quantity	Approx. 6.6 gal (Approx. 25 l)
Reserve fuel quantity	Approx. 1.1 gal (Approx. 4 l)

**BMW recommends the use of BP fuel**



## Engine oil

Engine oil, capacity	max 1.1 gal (max 4.0 l), with filter change
products recommended by BMW Motorrad and generally permissible viscosity classes	
SAE 5W-40, API SF/ACEA A2, or better	$\geq -4$ °F ( $\geq -20$ °C)
SAE 5W- $\geq 50$ , API SF/ACEA A2, or better	$\geq -4$ °F ( $\geq -20$ °C)
SAE 10W-40, API SF/ACEA A2, or better	$\geq 14$ °F ( $\geq -10$ °C)
SAE 10W- $\geq 50$ , API SF/ACEA A2, or better	$\geq -4$ °F ( $\geq -20$ °C)
SAE 15W- $\geq 40$ , API SF/ACEA A2, or better	$\geq 32$ °F ( $\geq 0$ °C)
Engine oil, quantity for topping up	max 0.5 quarts (max 0.5 l), Difference between MIN and MAX

BMW recommends 

## Clutch

Clutch design	Single-plate dry clutch
---------------	-------------------------

## Transmission

Transmission design	Helical 6-speed transmission with integrated torsional vibration damper, claw shifting via sliding sleeves
Transmission gear ratios	1.737 (19:33 teeth), Primary gear ratio 2.375 (38:16 teeth), 1st gear 1.696 (39:23 teeth), 2nd gear 1.296 (35:27 teeth), 3rd gear 1.065 (33:31 teeth), 4th gear 0.939 (31:33 teeth), 5th gear 0.848 (28:33 teeth), 6th gear

## Rear-wheel drive

Type of final drive	Shaft drive with bevel gears
Type of rear suspension	Cast-aluminum single swing arm with BMW Motorrad Paralever
Gear ratio of final drive	2.620 (34:13 teeth)

## Chassis and suspension

### Front wheel

Type of front suspension	BMW Telelever, upper fork bridge tilt decoupled, leading link mounted in engine and on telescopic fork, centrally positioned spring strut supported on leading link and front frame
Design of front suspension strut	Central spring strut with coil pressure spring
– with Electronic Suspension Adjustment (ESA II) <sup>OE</sup>	Central spring strut with electrically adjustable rebound-stage damping.
Spring travel, front	4.7 in (120 mm), On wheel
– with lowering <sup>OE</sup>	3.7 in (94 mm), On wheel

**Rear wheel**

Type of rear suspension	Cast-aluminum single swing arm with BMW Motorrad Paralever
Type of rear suspension	Central strut with coil spring and single-tube gas-filled shock absorber controlled by linkage system. Infinitely-variable adjustment of spring preload and rebound rate
– with Electronic Suspension Adjustment (ESA II) <sup>OE</sup>	Central strut with coil and elastomer spring assembly with single-tube, gas-filled shock absorber. Electrically adjustable control of suspension damping and spring preload/spring rate
Spring travel at rear wheel	5.3 in (135 mm), On wheel
– with lowering <sup>OE</sup>	4.3 in (109 mm), On wheel

## Brakes

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

## Wheels and tires

Recommended tire combinations	You can obtain an overview of the current tire approvals from your authorized BMW Motorrad retailer or on the Internet at <a href="http://www.bmw-motorrad.com">www.bmw-motorrad.com</a> .
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### Front wheel

Front wheel design	Cast aluminum, MT H2
Front-wheel rim size	3.50" x 17"
Front tire designation	120 / 70 ZR 17

**Rear wheel**

Rear wheel design	Cast aluminum, MT H2
Rear-wheel rim size	5.50" x 17"
Rear tire designation	180 / 55 ZR 17

**Tire inflation pressures**

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



## Electrical system

Electrical rating of onboard sockets	max 10 A, all onboard sockets
electronic fuse	All electrical circuits are electronically protected. If an electronic fuse trips and de-energizes a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.

### Battery

Battery design	Gel battery
Battery voltage	12 V
Battery capacity	19 Ah

### Spark plugs

Spark plugs, manufacturer and designation	NGK MAR8B-JDS
Electrode gap of spark plug	0.03±0.01 in (0.8±0.1 mm)

### Bulbs

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

## Frame

Frame design	Steel-tube front and rear frame with structurally-integrated power unit
Location of type plate	under passenger seat
Location of vehicle identification number	Front frame, upper center

## Dimensions

Motorcycle length	87.8 in (2230 mm)
Motorcycle height	56.3 in (1430 mm), above windshield, lower position, at DIN unladen weight
– with lowering <sup>OE</sup>	55.5 in (1410 mm), above windshield, lower position, at DIN unladen weight
Motorcycle width	35.6 in (905 mm), With mirrors
Driver's seat height	32.3...33.1 in (820...840 mm), at unladen weight
– with low front seat <sup>OE</sup>	30.7...31.5 in (780...800 mm), at unladen weight
– with lowering <sup>OE</sup>	29.5 in (750 mm), at unladen weight
Rider's inside-leg arc, heel to heel	74...75.6 in (1880...1920 mm)
– with low front seat <sup>OE</sup>	70.9...72.4 in (1800...1840 mm)
– with lowering <sup>OE</sup>	68.9 in (1750 mm)

## Weights

Unladen weight	580 lbs (263 kg), DIN unladen weight, ready for road, fuel tank 90 % full, without OE
Permissible gross weight	1091 lbs (495 kg)
Maximum payload	511 lbs (232 kg)

## Riding specifications

Top speed	>124 mph (>200 km/h)
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## **Service**

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## 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, LLC.

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

## BMW Motorrad Service

With its worldwide service network, BMW Motorrad can attend to you and your motorcycle in over 100 countries around the globe. BMW Motorrad retailers have the technical information and expertise needed to conduct reliable service and repairs covering every aspect of your BMW. You can find the nearest BMW Motorrad retailer by visiting our Internet site at "[www.bmw-motorrad.com](http://www.bmw-motorrad.com)".



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

To ensure that your BMW consistently remains in optimal condition BMW Motorrad urges you to observe the recommended service intervals.

Have all maintenance and repair work confirmed in the "Service" chapter in this manual. For generous treatment of claims submitted after the warranty period has expired, evidence of regular maintenance is essential.

You can obtain information on the contents of the BMW Services from your BMW Motorrad retailer.

## BMW Motorrad Mobility Services

The BMW Motorrad Mobility Services furnish you and your new BMW motorcycle with extra security by offering a wide array of assistance services in the event of a breakdown (Mobile Service,

breakdown assistance, vehicle recovery and retrieval, etc.).

Contact your authorized BMW Motorrad retailer for additional information on available mobility-maintenance services.

## Maintenance operations

### BMW Pre-Delivery Check

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

### BMW Running-in Check

The BMW running-in check must be carried out between 300 mls and 750 mls (500 km and 1200 km).

## BMW Service

BMW Service is carried out once a year. The scope of the services performed may be dependent on the vehicle owner and the mileage driven. Your BMW Motorrad retailer confirms that the service has been performed and enters the date for the next service.

For drivers who drive long distances annually, it may be necessary to come in for service before the entered date. In this case a corresponding maximum odometer reading will also be entered in the confirmation of service. If this odometer reading is reached before the next service date, service must be performed sooner.

The service display in the multi-function display reminds you of the next service date approx. one month or 620 miles (1000 km) before the entered values.



## Confirmation of maintenance work

### BMW Pre-Delivery Check

Conducted

on \_\_\_\_\_

\_\_\_\_\_  
Stamp, Signature

### BMW Running-in Check

Conducted

on \_\_\_\_\_

Odometer reading \_\_\_\_\_

Next service  
at the latest

on \_\_\_\_\_

or, if reached sooner,

Odometer reading \_\_\_\_\_

\_\_\_\_\_  
Stamp, Signature

**BMW Service**

Conducted

on \_\_\_\_\_

Odometer reading \_\_\_\_\_

Next service  
at the latest

on \_\_\_\_\_

or, if reached sooner,

Odometer reading \_\_\_\_\_

\_\_\_\_\_  
Stamp, Signature**BMW Service**

Conducted

on \_\_\_\_\_

Odometer reading \_\_\_\_\_

Next service  
at the latest

on \_\_\_\_\_

or, if reached sooner,

Odometer reading \_\_\_\_\_

\_\_\_\_\_  
Stamp, Signature**BMW Service**

Conducted

on \_\_\_\_\_

Odometer reading \_\_\_\_\_

Next service  
at the latest

on \_\_\_\_\_

or, if reached sooner,

Odometer reading \_\_\_\_\_

\_\_\_\_\_  
Stamp, Signature

**BMW Service**

Conducted

on \_\_\_\_\_

Odometer reading \_\_\_\_\_

Next service  
at the latest

on \_\_\_\_\_

or, if reached sooner,

Odometer reading \_\_\_\_\_

\_\_\_\_\_  
Stamp, Signature**BMW Service**

Conducted

on \_\_\_\_\_

Odometer reading \_\_\_\_\_

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Next service  
at the latest

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or, if reached sooner,

Odometer reading \_\_\_\_\_

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Stamp, Signature

## Confirmation of service

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

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Work carried out	Odometer reading	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.

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

<b>Fuel</b>	
Recommended fuel quality	Super Plus unleaded 91 AKI (98 ROZ/RON) 91 AKI
alternative fuel quality	Super unleaded (minor restrictions with regard to power and fuel consumption) 89 AKI (95 ROZ/RON) 89 AKI
Usable fuel quantity	Approx. 6.6 gal (Approx. 25 l)
Reserve fuel quantity	Approx. 1.1 gal (Approx. 4 l)
<b>Tire inflation pressures</b>	
Tire pressure, front	31.9 psi (2.2 bar), Single rider, with cold tire 36.3 psi (2.5 bar), Driver with passenger and/or load, with cold tire
Tire pressure, rear	36.3 psi (2.5 bar), Single rider, with cold tire 42.1 psi (2.9 bar), Driver with passenger and/or load, with cold tire

**BMW recommends** 

Order No.: 01 41 8 524 307

08.2011, 3rd Edition

