



**BMW  
MOTORRAD**

# **RIDER'S MANUAL**

R 12



**MAKE LIFE A RIDE**

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**Vehicle data**

Model

---

Vehicle Identification Number

---

Colour code

---

Date of first registration

---

Registration number

---

---

**Dealership details**

Person to contact in Service department

---

Ms/Mr

---

Phone number

---

Dealership address/phone number (company stamp)

---

# YOUR BMW.

We congratulate you on your choice of a vehicle from BMW Motorrad and welcome you to the community of BMW riders. Familiarise yourself with your new vehicle so that you can ride it safely and confidently in all traffic situations.

## **About this rider's manual**

Read this rider's manual carefully before starting your new BMW. 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 vehicle's reliability and safety, as well as its value.

If the time comes to sell your BMW, please remember to hand over this rider's manual to the new owner. It is an important part of the vehicle.

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

BMW Motorrad.

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# **GENERAL INSTRUCTIONS**

**01**



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## 4 GENERAL INSTRUCTIONS

### QUICK & EASY REFERENCE

An important aspect of this rider's manual is that it can be used for quick and easy reference. Consulting the extensive index at the end of this rider's manual is the fastest way to find information on a particular topic or item. To first read an overview of your vehicle, please go to Chapter 2. All maintenance and servicing work on the vehicle is documented in the "Service" section. The record of the maintenance work you have had performed on your vehicle is a precondition for generous treatment of goodwill claims.

### ABBREVIATIONS AND SYMBOLS

 **CAUTION** Low-risk hazard. Non-avoidance can lead to slight or moderate injury.

 **WARNING** Medium-risk hazard. Non-avoidance can lead to fatal or severe injury.

 **DANGER** High-risk hazard. Non-avoidance leads to fatal or severe injury.

 **ATTENTION** Special notes and precautionary measures. Non-compliance can lead to damage to the vehicle or accessory and, consequently, to voiding of the warranty.

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

• Instruction.

» Result of an activity.

▮▮▮▮▮▮ Reference to a page with more detailed information.

◁ Indicates the end of a passage relating to specific accessories or items of equipment.

 Tightening torque.

 Technical data.

OE Optional equipment. The vehicles are assembled complete with all the BMW Motorrad optional equipment originally ordered.

|     |                                                                                                                                                                                 |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OA  | Optional accessories. You can obtain BMW Motorrad optional accessories through your authorised BMW Motorrad dealer; optional accessories have to be retrofitted to the vehicle. |
| ABS | Anti-lock brake system.                                                                                                                                                         |
| DTC | Dynamic Traction Control.                                                                                                                                                       |
| DWA | Anti-theft alarm.                                                                                                                                                               |
| EWS | Electronic immobiliser.                                                                                                                                                         |
| HSC | Hill Start Control                                                                                                                                                              |
| MSR | Dynamic engine brake control                                                                                                                                                    |
| RDC | Tyre pressure monitoring.                                                                                                                                                       |

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## EQUIPMENT

When you ordered your BMW Motorrad, you chose various items of custom equipment. This rider's manual describes optional equipment (OE) and selected optional accessories (OA) provided by BMW. This explains why the manual may also contain descriptions of equipment that

you might not have selected. Please note, too, that on account of country-specific differences, your motorcycle might not be exactly as illustrated.

If your motorcycle contains equipment that has not been described, its description can be found in a separate manual.

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## TECHNICAL DATA

All dimensions, weights and power ratings stated in the rider's manual are quoted to the standards and comply with the tolerance requirements of the Deutsches Institut für Normung e. V. (DIN).

Technical data and specifications in this rider's manual are guide values. The vehicle-specific data may deviate from these, for example, as a result of selected optional equipment, the national-market version or country-specific measuring procedures. Detailed values can be taken from the vehicle registration documents, or can be obtained from your authorised BMW Motorrad retailer or another qualified service partner or specialist workshop. The specifications in the vehicle documents always have priority

## 6 GENERAL INSTRUCTIONS

over the information provided in this rider's manual.

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### CURRENCY

The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your vehicle may differ from the information supplied in the rider's manual. At the time of production of the motorcycle, the rider's manual is the most up-to-date source. Owing to updates subsequent to the date of publication, differences between the printed rider's manual and the online version are possible.

Up-to-date information is available at **[bmw-motorrad.com/service](http://bmw-motorrad.com/service)**.

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### ADDITIONAL SOURCES OF INFORMATION

#### Authorised BMW Motorrad retailer

Your authorised BMW Motorrad retailer will be happy to answer any questions you may have.

#### Internet

The rider's manual for your vehicle, operating and installation instructions for accessories and general information about BMW Motorrad, in relation to technology, for example, are available for download from **[bmw-motorrad.com/manuals](http://bmw-motorrad.com/manuals)**.

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### CERTIFICATES AND OPERATING LICENCES

The certificates for the vehicle and the General Operating Permits for accessories can be downloaded from **[bmw-motorrad.com/certification](http://bmw-motorrad.com/certification)**.

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### DATA MEMORY

#### General

Control units are installed in the vehicle. Control units process data that they receive, for example, from vehicle sensors, or that they generate themselves or exchange between each other. Some control units are required for the vehicle to function safely or provide assistance during riding, for example assistance systems. In addition, control units enable comfort or infotainment functions.

Information on data that has been stored or exchanged can be obtained from the manufacturer of the vehicle, for example via a separate booklet.

### **Personal reference**

Each vehicle is identified with a clear vehicle identification number. Depending on the country, the vehicle identification number, the number plate and the corresponding authorities can be referenced to ascertain the registered keeper. There are also other ways to use data obtained from the vehicle to trace the rider or vehicle owner, for example using the Connected-Drive user account.

### **Data protection rights**

In accordance with applicable data protection laws, vehicle users have certain rights in relation to the manufacturer of the vehicle or in relation to companies which collect or process personal data.

Vehicle users have the right to obtain full information at no cost from persons or entities storing personal data of the vehicle user.

These entities may include:

- Manufacturer of the vehicle
- Authorised BMW Motorrad Retailers
- Specialist workshops
- Service providers

Vehicle users have the right to request information on what personal data has been stored, for what purpose the data is used, and where the data comes from. To obtain this information, proof of ownership or use is required.

The right to information also includes information about data that has been shared with other companies or entities. The website of the vehicle manufacturer contains the applicable data protection information. This data protection information includes information on the right to have data deleted or corrected. The manufacturer of the vehicle also provides their contact details and those of the data protection officer on their website.

The registered keeper can also request an authorised BMW Motorrad Retailer or a specialist workshop to read out the data that is stored in the vehicle for a charge.

## 8 GENERAL INSTRUCTIONS

The vehicle data is read out using the legally prescribed 12 V socket for on-board diagnosis (OBD) in the vehicle.

### **Legal requirements for the disclosure of data**

As part of its legal responsibilities, the manufacturer of the vehicle is obligated to make its stored data available to the relevant authorities. This data is provided in the required scope in individual cases, for example to clarify a criminal offence. In the context of applicable laws, public agencies are entitled in individual cases to read out data from the vehicle themselves.

### **Operating data in the vehicle**

Control units process data to operate the vehicle.

This includes, for example:

- Status reports of the vehicle and its individual components, for example wheel speed, wheel circumferential velocity, deceleration
- Environmental factors, for example, temperature

The data is only processed in the vehicle itself and is generally non-permanent. The data is

not stored beyond the operating period.

Electronic components, for example control units, contain components for storing technical information. Information can be temporarily or permanently stored on the vehicle condition, component loads, incidents or errors.

This information is generally used to document the condition of a component, a module, a system or the surrounding area, for example:

- Operating conditions of system components, for example filling levels, tyre pressure
- Malfunctions and faults in important system components, for example, light and brakes
- Response of the vehicle in special riding situations, for example engagement of the driving dynamics systems
- Information on incidents resulting in damage to the vehicle

The data is necessary for the provision of control unit functions. Furthermore, the data is used to detect and rectify malfunctions and to enable the vehicle manufacturer to optimise vehicle functions.

The vast majority of this data is non-permanent and is only processed in the vehicle itself. Only a small amount of the data is stored in incident or fault memories as required by events.

If services are accessed, for example repairs, service processes, warranty cases and quality assurance measures, this technical information can be read out of the vehicle together with the vehicle identification number.

The information can be read out by an authorised BMW Motorrad Retailer or a specialist workshop. The legally stipulated 12 V socket for on-board diagnosis (OBD) in the vehicle is used to read out the data.

The data is obtained, processed and used by the relevant parts of the retailer network. The data is used to document the technical conditions of the vehicle, to help with error localization, to comply with warranty obligations and to improve quality.

In addition, the manufacturer has various product monitoring obligations arising from

product liability legislation. To meet these obligations, the vehicle manufacturer requires technical data from the vehicle. The data from the vehicle can also be used to check warranty claims from the customer. Fault and event memories in the vehicle can be reset during servicing or repair work by an authorised BMW Motorrad Retailer or a specialist workshop.

## **Data input and data transfer in the vehicle**

### **General**

Depending on the equipment, comfort and customised settings can be stored in the vehicle and can be changed or reset at any time.

If required, data can be entered in the entertainment and communication system of the vehicle, for example using a smartphone.

Depending on the individual equipment, this includes:

- Multimedia data, such as music for playback
- Contacts data for use in connection with a communication system or an integrated navigation system
- Entered destinations
- Data on the use of internet services. This data can be

## 10 GENERAL INSTRUCTIONS

stored locally in the vehicle or is located on a device that is connected to the vehicle, for example smartphone, USB stick, MP3 player. If this data is stored in the vehicle, the data can be deleted at any time.

This data is transferred to third parties only if personally requested within the context of using online services. This depends on the selected settings when using the services.

### **Incorporation of mobile devices**

Depending on the equipment, mobile devices connected to the vehicle, for example smartphones, can be controlled using the operating elements of the vehicle.

The image and sound of the mobile device can then be output via the multimedia system. At the same time, specific information is transferred to the mobile device. Depending on the type of integration, this includes, for example, position data and additional general vehicle information. This enables optimal use of the selected apps, for example navigation or music playback.

The type of additional data processing is determined by the provider of the respective app. The scope of the possible settings depends on the corresponding app and the operating system of the mobile device.

### **Services**

#### **General**

If the vehicle has a wireless connection, this enables the exchange of data between the vehicle and other systems. The wireless connection is enabled by the vehicle's own transceiver unit or using personally integrated mobile devices, for example smartphones. Online functions can be accessed through this wireless connection. These include online services and apps that are provided by the vehicle manufacturer or by other providers.

#### **Services of the vehicle manufacturer**

For online services of the vehicle manufacturer, the individual functions are described at suitable points, for example, rider's manual, manufacturer's website. At the same time, information is also provided on the relevant data protection



law. Personal data may be used to provide online services. Data is exchanged using a secure connection, for example with the IT systems provided by the vehicle manufacturer. Obtaining, processing and using personal data outside of the normal provision of services requires legal permission, contractual agreement or consent. It is also possible to have the entire data connection activated or deactivated. Statutory functions are excluded from this.

### **Services from other providers**

When using online services from other providers, these services are subject to the responsibility and the data protection and operating conditions of the individual provider. The vehicle manufacturer has no influence on the content that is exchanged in this instance. Information on the type, scope and purpose of the data capture and use of personal data as part of the services of third parties can be ascertained from the individual provider.

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## **BLUETOOTH**

Bluetooth is a short-range wireless technology. Bluetooth devices are short-range devices transmitting on the license-free ISM band (Industrial, Scientific, Medical) between 2.402...2.480 GHz. They can be operated anywhere in the world without a licence being required.

Although Bluetooth is designed to establish and sustain robust connections over short distances, as with every other wireless technology disruptions are possible. Interference can affect connections or connections can sometimes fail. Particularly when multiple devices operate in a Bluetooth network, with wireless technology of this nature it is not possible to ensure fault-free communications in every situation.

### **Possible sources of interference:**

- interference zones due to transmission masts and similar.
- devices with non-compliant Bluetooth implementations.
- proximity of other Bluetooth-compatible devices.

## 12 GENERAL INSTRUCTIONS

—shielding by metal objects or bodies.

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### INTELLIGENT EMERGENCY CALL

—with intelligent emergency call<sup>OE</sup>

#### Principle

The intelligent emergency call enables manual or automatic emergency calls, for example, in the event of an accident.

The emergency calls are received by an emergency call centre that is commissioned by the vehicle manufacturer.

For information on operating the intelligent emergency call and its functions, see (▣ 82).

#### Legal basis

Processing of personal data in conjunction with the intelligent emergency call is in line with the following regulations:

—Protection of personal data:

Directive 95/46/EC of the European Parliament and of the Council.

—Protection of personal data:

Directive 2002/58/EC of the European Parliament and of the Council.

The legal basis for the activation and function of the intelli-

gent emergency call is the concluded ConnectedRide contract for this function, as well as the corresponding laws, ordinances and directives of the European Parliament and of the European Council.

The relevant ordinances and directives regulate the protection of natural persons during the processing of personal data.

The processing of personal data by the intelligent emergency call satisfies the European directives for the protection of personal data. The intelligent emergency call processes personal data only with the agreement of the registered keeper.

The intelligent emergency call and other services with additional benefits can process personal data only with the express permission of the person affected by the data processing, for example, the registered keeper.

#### SIM card

The intelligent emergency call operates via mobile communications using the SIM card installed in the vehicle. The SIM card is permanently logged into

the mobile phone network to enable rapid connection setup. Data is sent to the vehicle manufacturer in the event of an emergency.

### **Improving quality**

The data that is transferred in an emergency is also used by the manufacturer of the vehicle to improve product and service quality.

### **Location determination**

The position of the vehicle can be determined exclusively by the mobile phone network provider based on the mobile phone site locations. It is not possible for the service provider to link the vehicle identification number and the phone number of the installed SIM card. Only the manufacturer of the vehicle can link a VIN and the phone number of the SIM card installed in a particular vehicle.

### **Log data of emergency calls**

The log data of emergency calls is stored in a memory of the vehicle. The oldest log data is regularly deleted. The log data includes, for example, information on when and where an emergency call was made.

In exceptional cases, the log data can be read out of the vehicle memory. As a rule, log data is only read out following a court order, and this is only possible if the corresponding devices are connected directly to the vehicle.

### **Automatic emergency call**

The system is designed so that, following a sufficiently serious accident, which is detected by sensors in the vehicle, an emergency call is automatically activated.

### **Sent information**

When making an emergency call using the intelligent emergency call, the system forwards the same information to the designated emergency call centre as is forwarded to the public emergency call centre by the legal emergency call eCall. In addition, the intelligent emergency call sends the following additional information to an emergency call centre commissioned by the vehicle manufacturer and, if required, to the emergency services:

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- Accident data, for example the direction of impact detected by the vehicle sensors, to assist the emergency services response.
- Contact details, for example the phone number of the installed SIM card and the phone number of the rider, if available, to enable rapid contact with those involved in the accident if required.

### **Data storage**

The data for an activated emergency call is stored in the vehicle. The data contains information on the emergency call, for example the location and time of the emergency call. The voice recordings of the emergency call are stored at the emergency call centre. The voice recordings of the customer are stored for 24 hours in case details of the emergency call need to be analysed. After this, the voice recordings are deleted. The voice recordings of the employee of the emergency call centre are stored for 24 hours for quality assurance purposes.

### **Information on personal data**

The data that is processed as part of the intelligent emergency call is processed exclusively to carry out the emergency call. As part of its statutory obligation, the manufacturer of the vehicle provides information about the data that it has processed and any data that it still has stored.

### **Regional restriction**

A precondition for the operability of the intelligent emergency call function is that the national-market version has to include support for the region where the vehicle is currently in use.

More information about regional restrictions:

**[support.bmw-motorrad.com](https://support.bmw-motorrad.com)**



# GENERAL VIEWS

02

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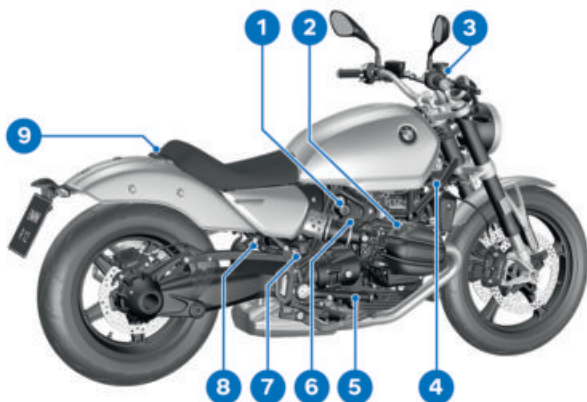
### GENERAL VIEW, LEFT SIDE



- 1 Checking operation of the clutch (➡ 161)
- 2 Fuel filler neck (➡ 130)
- 3 Rider footrest
- 4 Checking engine oil level (➡ 154)
- 5 USB charging socket (➡ 185)
- 6 Tyre pressures table (➡ 162)
- 7 Type plate (on steering-head bearing)



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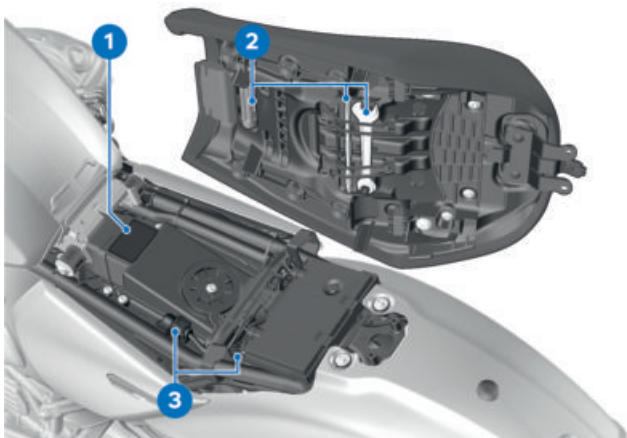
**GENERAL VIEW, RIGHT SIDE**

- |                                                                                            |                                          |
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| <b>5</b> Vehicle identification<br>number (front right at the<br>bottom on the rear frame) |                                          |
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| <b>8</b> Adjusting damping for<br>rear wheel ( 114)                                        |                                          |

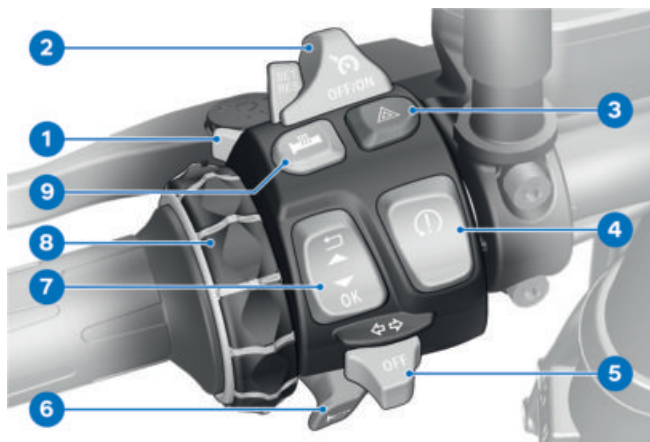
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### UNDERNEATH THE SEAT

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- 1** Payload table
- 2** Toolkit (▮▮▮▮▶ 153)
- 3** Fuses (▮▮▮▮▶ 178)

**MULTIFUNCTION SWITCH, LEFT**

- 1 High-beam headlight and headlight flasher (➡ 85)
- 2 Cruise control (➡ 95)
- 3 Hazard warning lights (➡ 88)
- 4 Traction control (DTC) (➡ 92)  
Auxiliary headlights (➡ 86)
- 5 Turn indicators (➡ 88)
- 6 Horn
- 7 Rocker button (➡ 62)
- 8 Multi-Controller (➡ 103)
- 9 Grip heating (➡ 100)

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### MULTIFUNCTION SWITCH, RIGHT



- 1** Ignition (➡ 78)
- 2** Riding mode (➡ 93)
- 3** Emergency-off switch (kill switch) (➡ 81)
- 4** Starter button (➡ 123)

## MULTIFUNCTION SWITCH, RIGHT

–with intelligent emergency call<sup>OE</sup>



- 1 Ignition (➡ 78)
- 2 Riding mode (➡ 93)
- 3 Emergency-off switch (kill switch) (➡ 81)
- 4 Starter button (➡ 123)  
Reverser
- 5 SOS button  
Intelligent emergency call  
(➡ 82)

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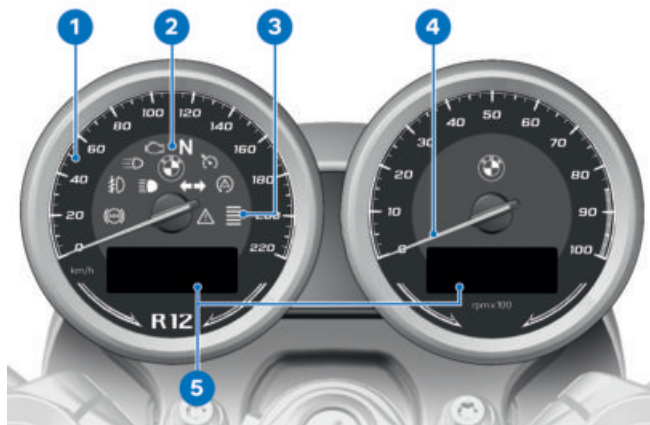
### INSTRUMENT CLUSTER



- 1 Speedometer
- 2 Indicator and warning lights (III 30)
- 3 Photosensor for brightness control of the instrument lighting  
Indicator light  
Keyless Ride (III 77)  
DWA light-emitting diode (III 89)
- 4 Display (III 31)

## INSTRUMENT CLUSTER

—with rev. counter<sup>OA</sup>



- 1 Speedometer
- 2 Indicator and warning lights (III 30)
- 3 Photosensor for brightness control in the display  
DWA light-emitting diode (III 89)
- 4 Rev. counter
- 5 Displays (III 31)

## 26 GENERAL VIEWS

### INSTRUMENT CLUSTER, DIGITAL DISPLAY

—with Digital Display<sup>OE</sup>



- 1 Display
- 2 Photosensor for brightness control in the display  
DWA light-emitting diode  
( 89)  
ABS indicator and warning light ( 136)





# STATUS INDICATORS

03

---

|                                                      |           |
|------------------------------------------------------|-----------|
| <b>INDICATOR AND WARNING LIGHTS</b>                  | <b>30</b> |
| <b>DISPLAY, ROUND INSTRUMENT</b>                     | <b>31</b> |
| <b>DISPLAY, ROUND INSTRUMENT</b>                     | <b>32</b> |
| <b>INDICATOR AND WARNING LIGHTS, DIGITAL DISPLAY</b> | <b>33</b> |
| <b>DIGITAL DISPLAY, START SCREEN</b>                 | <b>34</b> |
| <b>DIGITAL DISPLAY, PURE RIDE</b>                    | <b>35</b> |
| <b>WARNING INDICATORS</b>                            | <b>36</b> |
| <b>SERVICE DISPLAY</b>                               | <b>58</b> |

## 30 STATUS INDICATORS

### INDICATOR AND WARNING LIGHTS



- |                                                       |                                                                                                              |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>1</b> ABS (➡ 136)                                  | <b>10</b> General warning light<br>Displayed in combination<br>with warning symbols in<br>the display (➡ 36) |
| <b>2</b> Auxiliary headlights<br>(➡ 86)               |                                                                                                              |
| <b>3</b> High-beam headlight<br>(➡ 85)                |                                                                                                              |
| <b>4</b> Daytime riding light<br>(➡ 87)               |                                                                                                              |
| <b>5</b> Warning light, drive mal-<br>function (➡ 51) |                                                                                                              |
| <b>6</b> Neutral indicator light                      |                                                                                                              |
| <b>7</b> Cruise control (➡ 95)                        |                                                                                                              |
| <b>8</b> Turn indicators (➡ 88)                       |                                                                                                              |
| <b>9</b> DTC (➡ 92)                                   |                                                                                                              |

---

**DISPLAY, ROUND INSTRUMENT**

- 1** Select the riding mode  
( 93)
- 2** Gear indicator
- 3** Unit of selected display
- 4** On-board computer  
Selecting display in  
speedometer ( 64)  
Warning symbol ( 36)  
Status

## 32 STATUS INDICATORS

### DISPLAY, ROUND INSTRUMENT

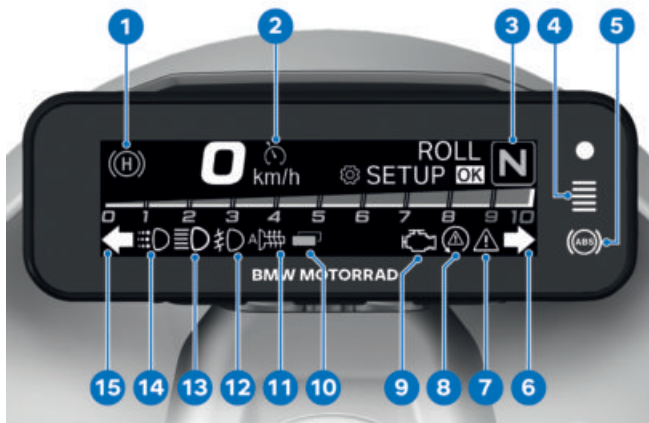
—with rev. counter<sup>OA</sup>



- 1 Select the riding mode  
( 93)
- 2 Gear indicator
- 3 Unit of selected display
- 4 Selecting display in rev.  
counter ( 70)
- 5 Unit of selected display
- 6 On-board computer  
Selecting display in  
speedometer ( 64)  
Warning symbol ( 36)  
Status

## INDICATOR AND WARNING LIGHTS, DIGITAL DISPLAY

–with Digital Display<sup>OE</sup>

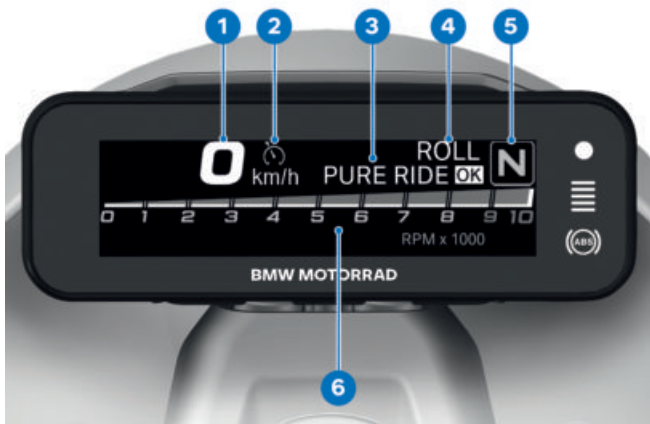


- |                                                                                                            |                                                      |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <b>1</b> Hill Start Control Pro<br>( 98)                                                                   | <b>8</b> DTC ( 92)                                   |
| <b>2</b> Cruise control ( 95)                                                                              | <b>9</b> Warning light, drive mal-<br>function ( 51) |
| <b>3</b> Neutral indicator light<br>Gear indicator                                                         | <b>10</b> Bluetooth connection act-<br>ive ( 102)    |
| <b>4</b> Photosensor for bright-<br>ness control in the display<br>DWA light-emitting diode<br>( 89)       | <b>11</b> Grip heating ( 100)                        |
| <b>5</b> ABS ( 136)                                                                                        | <b>12</b> Auxiliary headlights<br>( 86)              |
| <b>6</b> Turn indicators, right                                                                            | <b>13</b> High-beam headlight<br>( 85)               |
| <b>7</b> General warning light<br>Displayed in combination<br>with warning symbols in<br>the display ( 36) | <b>14</b> Daytime riding light<br>( 87)              |
|                                                                                                            | <b>15</b> Turn indicators, left                      |

## 34 STATUS INDICATORS

### DIGITAL DISPLAY, START SCREEN

—with Digital Display<sup>OE</sup>



- 1 Speedometer
- 2 Cruise control (▮▮▮ 95)
- 3 Call up PURE RIDE  
(▮▮▮ 35)  
Call up the on-board com-  
puter (▮▮▮ 66)  
Call up SETUP (▮▮▮ 69)
- 4 Riding mode (▮▮▮ 93)
- 5 Gear indicator
- 6 Rev. counter



## DIGITAL DISPLAY, PURE RIDE

—with Digital Display<sup>OE</sup>



- 1 Speedometer
- 2 Cruise control (➡ 95)
- 3 Riding mode (➡ 93)
- 4 Gear indicator

## 36 STATUS INDICATORS

### WARNING INDICATORS

#### Mode of presentation

Warnings are indicated by the corresponding warning lights. If two or more warnings occur at the same time, all the appropriate warning lights show. Warning symbols corresponding to the warnings appear in alternate sequence.

The possible warnings are listed on the next pages.



Warnings that do not have a warning light of their own are indicated as follows:

- General warning light **1**
- Fault ID **2**
- Warning symbol **3**

By consulting the overview below, you can use fault ID **2** to ascertain the significance and possible causes of the fault.



#### Acknowledging warnings

Warnings **2** have to be acknowledged by short-pressing the top or bottom section of rocker button **1**.

The display that was active beforehand does not reappear until warning **2** has been acknowledged.

If two or more warnings are present rocker button **1** has to be pressed to proceed to and acknowledge each warning **2** in turn.



### Calling up active warnings

Repeatedly short-press rocker button **1** until warnings **2** are displayed.

Press rocker button **1** to call up the next warning **2** in the sequence.

The message can be called up again as long as the fault persists.

—with Digital Display<sup>OE</sup>

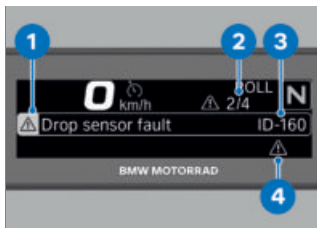
### Presentation, digital display

Warnings are indicated by the 'General' warning light showing in combination with a dialogue and a fault ID number in the instrument cluster. The 'General' warning light shows yellow or red, depending on the urgency of the warning.



The status of the 'General' warning light matches the most urgent warning.

The possible warnings are listed on the next pages.



### Digital display in "Warnings" view

The messages differ in how they show on the display. Different colours and symbols are used depending on priority:

—Yellow warning triangle **1**:

Warning message.

—Alternatively: White circle with small **i**: Information, or red **STOP**: Critical warning message, do not continue to ride.

—Number of messages **2**.

—Fault ID **3**: For accurate identification of the message.

—'General' warning light **4**: Red or yellow, depending on the highest urgency.

Active warnings are also attached dynamically as pop-ups in the on-board computer listing. The message can be called up again as long as the fault persists (► 66).

## 38 STATUS INDICATORS

### Warnings, overview

| Indicator and warning lights                                                                         | Display text                                                                                                 | Meaning                                                                                                                  |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|  is displayed.      |                                                                                                              | Outside temperature warning<br>(  43)   |
|  flashes regularly.  |                                                                                                              | ABS self-diagnosis not completed (  43) |
|  slow-flashes.       |                                                                                                              | DTC self-diagnosis not completed (  43) |
|  quick-flashes.      |                                                                                                              | DTC intervention<br>(  44)              |
|  lights up yellow.   |  EWS error<br>ID030         | Fault, electronic immobiliser<br>(  44) |
|  lights up yellow.   |  Traction control<br>fault  | DTC failed<br>(  44)                    |
|  lights up yellow.   | ID040                                                                                                        |                                                                                                                          |
|  lights up yellow.  |  Traction control<br>fault | DTC restricted<br>(  45)              |
|  lights up yellow. | ID041                                                                                                        |                                                                                                                          |
|  lights up yellow. |  ABS Pro fault            | ABS Pro failed<br>(  45)              |
|  shows.            | ID050                                                                                                        |                                                                                                                          |

| Indicator and warning lights                                                                                                                                                                    | Display text                                                                                                                                                                                                                   | Meaning                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|  lights up yellow.<br> shows. |  ABS fault<br>ID051                                                                                                                           | ABS failed<br>(  46)                           |
|  lights up yellow.<br> shows. |  ABS fault<br>ID052                                                                                                                           | ABS fault (  46)                               |
|  lights up yellow.                                                                                             |  Remote key fault<br>ID060                                                                                                                    | Radio-operated key out of range<br>(  47)      |
|  lights up yellow.                                                                                             |  Remote key fault<br>ID061                                                                                                                    | Keyless Ride failed (  47)                     |
|  lights up yellow.                                                                                             |  Remote key battery<br>ID070<br> Remote key battery<br>ID071 | Replacing battery of radio-operated key (  47) |
|  lights up yellow.                                                                                            |  Alarm system battery fault<br>ID080                                                                                                         | Anti-theft alarm battery flat<br>(  48)      |
|                                                                                                                                                                                                 |  Alarm system battery low<br>ID081                                                                                                          | Anti-theft alarm battery weak<br>(  48)      |
|  lights up yellow.                                                                                           |  Alarm system fault<br>ID082                                                                                                                | DWA failed<br>(  48)                         |

## 40 STATUS INDICATORS

| Indicator and warning lights                                                                         | Display text                                                                                                                                    | Meaning                                                                                                                    |
|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|                                                                                                      |  is displayed in white.<br>Service due soon<br>ID090           | Service due<br>(  48)                     |
|  lights up yellow.   |  is displayed in yellow.<br>Service overdue<br>ID091           | Service-due date has passed<br>(  49)     |
|  lights up yellow.   |  The faulty bulb is displayed<br>ID101-ID131                   | Bulb faulty<br>(  49)                     |
|  lights up yellow.   |  The vehicle light that has failed is indicated<br>ID117/ID126 | Light control failed (  50)               |
|  lights up yellow.   |  Engine fault<br>ID140                                         | Fault, engine control (  50)              |
|  flashes red.        |  Danger! Engine<br>ID141                                       | Serious fault in engine control<br>(  50) |
|  shows.             |  Drive fault<br>ID150                                         | Drive malfunction<br>(  51)              |
|  flashes.          |  Drive fault<br>ID152                                        | Serious drive malfunction (  51)        |
|  lights up yellow. |  Drop sensor fault<br>ID160                                  | Drop sensor defective (  51)            |
|                                                                                                      |  Fall sensor triggered<br>ID161                              | Fall sensor tripped (  52)              |

| Indicator and warning lights                                                                          | Display text                                                                                                           | Meaning                                                  |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
|  lights up yellow.   |  Side stand fault<br>ID170            | Malfunction, side stand monitor (→ 52)                   |
|  lights up yellow.   |  Emergency call syst. fault<br>ID180  | Emergency call function failed (→ 52)                    |
|  lights up yellow.   |  Emergency call syst. fault<br>ID182  | Emergency call function restricted (→ 52)                |
|  lights up yellow.   |  Cruise control fault<br>ID211        | Cruise control failed (→ 53)                             |
|  lights up yellow.   |  Vehicle voltage fault<br>ID250       | Vehicle battery overheated (→ 53)                        |
|  flashes red.        |  Danger! Vehicle voltage<br>ID251     | Serious fault in the power supply (→ 53)                 |
|  lights up yellow.   |  Vehicle voltage critical.<br>ID260   | Voltage of the vehicle electrical system critical (→ 54) |
|  lights up yellow. |  Vehicle voltage low<br>ID261       | On-board system voltage low (→ 54)                       |
|  lights up red.    |  12 V charg. voltage crit.<br>ID270 | Battery voltage critical (→ 54)                          |

## 42 STATUS INDICATORS

| Indicator and warning lights                                                                         | Display text                                                                                                                           | Meaning                                                    |
|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
|  lights up yellow.   |  Fault: Engine too hot<br>ID290                       | Engine temperature high (→ 55)                             |
|  lights up red.      |  Danger! Engine too hot<br>ID291                      | Engine overheated (→ 55)                                   |
|  lights up yellow.   |  Tyre pressure at<br>ID301                            | Tyre pressure close to limit of permitted tolerance (→ 55) |
|  flashes red.        |  Danger RDC at<br>ID302, ID303                        | Tyre pressure outside permitted tolerance (→ 56)           |
|  lights up yellow.   |  RDC fault<br>ID304                                   | Tyre pressure monitoring (RDC) failed (→ 57)               |
|  lights up yellow.   |  RDC battery fault<br>ID310                           | Battery for tyre pressure sensor weak (→ 57)               |
|  lights up yellow.  |  and distance counter<br>KM R or MI R are displayed. | Fuel down to reserve (→ 57)                                |
|  lights up yellow. |  Anti-theft protection<br>ID340                     | Protection against theft (→ 58)                            |



## Ambient temperature

The outside temperature is displayed in the on-board computer.

When the vehicle is at a standstill, the heat of the propulsion unit can falsify the ambient-temperature reading. If the heat of the propulsion unit is affecting it too much, dashes are temporarily shown in place of the value.



There is a risk of black ice if the ambient temperature falls below the limit value of approx. 3 °C.

The first time the temperature drops below this value, the ambient-temperature reading and the ice crystal symbol flash in the on-board computer.

## Outside temperature warning



is displayed.

Possible cause:

|              |                                                            |
|--------------|------------------------------------------------------------|
|              | The air temperature measured at the vehicle is lower than: |
| approx. 3 °C |                                                            |



## WARNING

**Risk of black ice forming even when temperature is above approx. 3 °C**

Risk of accident

- Always take extra care when temperatures are low; remember that there is particular danger of black ice forming on bridges and where the road is in shade.

- Ride carefully and think well ahead.

## ABS self-diagnosis not completed



flashes.

Possible cause:

The ABS function is not available, because self-diagnosis did not complete. The motorcycle has to move forward a few metres for the wheel sensors to be tested.

- Pull away slowly. Bear in mind that the ABS function is not available until self-diagnosis has completed.

## DTC self-diagnosis not completed



slow-flashes.

## 44 STATUS INDICATORS

Possible cause:



DTC self-diagnosis not completed

The DTC function is not available, because self-diagnosis did not complete. (The motorcycle has to reach a defined minimum speed with the engine running for the wheel sensors to be checked: min. 5 km/h)

- Pull away slowly. Bear in mind that the DTC function is not available until self-diagnosis has completed.

### DTC intervention



quick-flashes.

Possible cause:

The DTC has detected a degree of instability at the rear wheel and has intervened to reduce torque.

The indicator and warning light flashes longer than the duration of the DTC. This affords the rider visual feedback on control intervention even after the critical situation has been dealt with.

- You can continue to ride. Ride carefully and think well ahead.

### Fault, electronic immobiliser



lights up yellow.



EWS error ID030

Possible cause:

The vehicle key being used is not authorised for starting, or communication between vehicle key and electrical machine electronics is disrupted.

- Remove all other vehicle keys from the same ring as the key used for the vehicle.
- Use second vehicle key.
- Have defective vehicle keys replaced, preferably by an authorised BMW Motorrad retailer.

### DTC failed



lights up yellow.



lights up yellow.



Traction control fault ID040

Possible cause:

The engine control unit has detected a DTC fault.



## ATTENTION

### Damaged components

Damage to sensors, for example, which causes malfunctions

- Do not transport any objects underneath the driver or passenger seat.
- Secure the toolkit.

- Do not damage the angular rate sensor.
- Bear in mind that the DTC function is not available or the functionality might be subject to certain restrictions.
- You can continue to ride. Bear in mind the more detailed information on situations that can lead to a DTC fault (► 140).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### DTC restricted



lights up yellow.



lights up yellow.



Traction control fault ID041

Possible cause:

The engine control unit has detected a DTC fault.



## ATTENTION

### Damaged components

Damage to sensors, for example, which causes malfunctions

- Do not transport any objects underneath the driver or passenger seat.
- Secure the toolkit.

- Do not damage the angular rate sensor.
- Bear in mind that the DTC function and other dynamic control system functions are restricted.
- You can continue to ride. Bear in mind the more detailed information on situations that can lead to a DTC fault (► 140).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### ABS Pro failed



lights up yellow.

## 46 STATUS INDICATORS



shows.



ABS Pro fault ID050

Possible cause:

Monitoring of the ABS Pro function has detected a fault. The ABS Pro function is not available. The ABS function is still available. ABS provides support only for braking in straight-ahead driving.

- You can continue to ride.

Bear in mind the more detailed information on certain situations that can lead to an ABS Pro fault message (138).

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

### ABS failed



lights up yellow.



shows.



ABS fault ID051

Possible cause:

The ABS control unit has detected a fault. The ABS function is not available.

- You can continue to ride.

Bear in mind the more detailed information on certain situations that can lead to an ABS fault message (138).

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

### ABS fault



lights up yellow.



shows.



ABS fault ID052

Possible cause:

The ABS control unit has detected a fault. The ABS function is available, subject to restrictions.

- You can continue to ride.

Bear in mind the more detailed information on certain situations that can lead to an ABS fault message (138).

- Have the fault rectified as quickly as possible by a spe-

cialist workshop, preferably an authorised BMW Motorrad retailer.

### Radio-operated key out of range



lights up yellow.



Remote key fault  
ID060

Possible cause:

Communication between radio-operated key and propulsion-unit electronics is disrupted.

- Check the battery in the radio-operated key.
- Replace the battery of the radio-operated key. (► 79)
- Use the spare key to continue your journey.
- Battery of the radio-operated key is empty or loss of the radio-operated key. (► 78)
- Remain calm if the Check Control dialogue appears on the display while you are riding. You can continue your journey, operational readiness will not switch off.
- Have the faulty radio-operated key replaced by an authorised BMW Motorrad retailer.

### Keyless Ride failed



lights up yellow.



Remote key fault  
ID061

Possible cause:

The Keyless Ride control unit has diagnosed a communication fault.

- Do not switch off the motor. Proceed as directly as possible to an authorised workshop, preferably an authorised BMW Motorrad retailer.
- » Motor start with Keyless Ride can no longer be initiated.
- » DWA can no longer be activated.

### Replacing battery of radio-operated key



lights up yellow.



Remote key battery  
ID070



Remote key battery  
ID071

Possible cause:

- The integral battery in the radio-operated key has lost a significant proportion of its original capacity. There is no assurance of how long the radio-operated key can remain operational.

## 48 STATUS INDICATORS

- Replace the battery of the radio-operated key. (79)

### Anti-theft alarm battery flat



lights up yellow.



Alarm system battery fault ID080



This error message is displayed briefly only after the Pre-Ride-Check completes.

Possible cause:

The DWA battery is discharged. It is not possible to trigger an alarm after disconnecting the vehicle battery. All other functions of the DWA are functional.

- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Anti-theft alarm battery weak



Alarm system battery low ID081



This error message is displayed briefly only after the Pre-Ride-Check completes.

Possible cause:

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

the vehicle's battery is disconnected.

- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### DWA failed



lights up yellow.



Alarm system fault ID082

Possible cause:

The DWA control unit has diagnosed a communication fault.

- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.
  - » DWA can no longer be activated or deactivated.
  - » False alarm possible.

### Service due



is displayed in white.

Service due soon ID090

Possible cause:

Service is due, because of either distance covered or time expired.

- Have your vehicle serviced regularly by a specialist workshop, preferably an authorised BMW Motorrad retailer.
  - » The vehicle remains operationally reliable and road-worthy.
  - » The vehicle retains its value.

**Service-due date has passed**

lights up yellow.



is displayed in yellow.

Service overdue ID091

Possible cause:

Service is overdue because of the driving performance or the date.

- Have your vehicle serviced regularly by a specialist workshop, preferably an authorised BMW Motorrad retailer.
- » The vehicle remains operationally reliable and road-worthy.
- » The vehicle retains its value.

**Bulb faulty**

lights up yellow.



The faulty bulb is displayed ID101-ID131:

- with LED additional headlight<sup>OA</sup>
- Additional headlight fault (left) ID101◁
- with LED additional headlight<sup>OA</sup>
- Additional headlight fault (right) ID102◁
- Side light fault ID110
- Low-beam headlight fault ID112

- High-beam headlight fault ID113
- Daytime riding light fault ID114
- Front turn indicator fault (left) ID115, Front turn indicator fault (right) ID116
- Rear light fault ID121
- Brake light fault ID122
- Number plate light fault ID123
- Rear turn indicator fault (left) ID124, Rear turn indicator fault (right) ID125
- with Headlight Pro<sup>OE</sup>
- Active headlight fault ID130, Active headlight fault ID131◁

**WARNING****Vehicle overlooked in traffic due to failure of the lights on the vehicle**

Safety risk

- Always replace a faulty bulb at the earliest possible opportunity. Consult a specialist workshop, preferably an authorised BMW Motorrad Retailer.

## 50 STATUS INDICATORS

Possible cause:

Bulb faulty

- Visually inspect to ascertain which bulb is defective.
- Have LED light sources replaced as complete units; consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Light control failed



lights up yellow.



The vehicle light that has failed is indicated ID117/ID126:

- Front light fault ID117
- Rear light fault ID126



### WARNING

#### Vehicle overlooked in traffic on account of failure of the vehicle lighting

Safety risk

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

The vehicle lighting has partially or completely failed.

Possible cause:

Light control has diagnosed a communication fault.

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

### Fault, engine control



lights up yellow.



Engine fault ID140

Possible cause:

Communication with the engine control unit has failed.

- You can continue to ride. Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Serious fault in engine control



flashes red.



Danger! Engine ID141





## WARNING

### Engine damage when running in emergency-operation mode

Risk of accident

- Ride slowly, avoid accelerating sharply and overtaking.
- If possible, have the vehicle picked up and have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad Retailer.

Possible cause:

The engine control unit has diagnosed a fault that can lead to serious consequential faults. The engine is in emergency-operation mode.

- It is possible to continue to ride but not recommended.
- Avoid high load and rpm ranges if possible.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Drive malfunction



shows.



Drive fault ID150

Possible cause:

The motor control unit has diagnosed a fault that affects pollutant emissions and/or reduces power.

- Have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad retailer.
- » You can continue riding; pollutant emissions are higher than the threshold values.

### Serious drive malfunction



flashes.



Drive fault ID152

Possible cause:

The engine control unit has diagnosed a fault that can lead to damage to the exhaust system.

- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.
- » It is possible to continue to ride but not recommended.

### Drop sensor defective



lights up yellow.

## 52 STATUS INDICATORS



Drop sensor fault  
ID160

Possible cause:

The drop sensor is not available.

- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Fall sensor tripped



Fall sensor  
triggered ID161

Possible cause:

The fall sensor has detected a fall and has cut out the motor.

- Hold the vehicle upright and check it for damage.
- Switch the ignition off and then on again or switch the kill switch on and then off again.

### Malfunction, side stand monitor



lights up yellow.



Side stand fault  
ID170

Possible cause:



Side-stand switch or  
wiring damaged

The motor will switch off when speed drops below the minimum threshold. You cannot resume your journey.



Side-stand switch or  
wiring damaged

min. 5 km/h

- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Emergency call function failed

—with intelligent emergency  
call<sup>OE</sup>



lights up yellow.



Emergency call syst.  
fault ID180

Possible cause:

The control unit of the emergency call system has diagnosed a fault. The emergency call function has failed.

- Bear in mind that an emergency call cannot be made.
- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Emergency call function restricted

—with intelligent emergency  
call<sup>OE</sup>



lights up yellow.



Emergency call syst.  
fault ID182

Possible cause:

The emergency call cannot be made automatically or cannot be made via BMW.

- Observe the information on operating the intelligent emergency call from page (► 82) onwards.
- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Cruise control failed

—with cruise control<sup>OE</sup>



lights up yellow.



Cruise control fault  
ID211

Possible cause:

The control unit has detected a fault.

- Bear in mind that the cruise control function is not available.
- You can continue to ride. Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Vehicle battery overheated



lights up yellow.



Vehicle voltage  
fault ID250

Possible cause:

The temperature sensor has detected a high temperature in the vehicle battery.

- If possible, ride in the part-load range to cool down the vehicle battery or shut down the motor.
- If the temperature in the vehicle battery is frequently too high, have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Serious fault in the power supply



flashes red.



Danger! Vehicle  
voltage ID251



### WARNING

#### Failure of the vehicle systems

Risk of accident

- Do not continue your journey.

## 54 STATUS INDICATORS

Possible cause:

The temperature sensor has detected a critical temperature in the vehicle battery or the vehicle voltage is too high. Motor shutdown is imminent.

- Stop the vehicle immediately.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Voltage of the vehicle electrical system critical

 lights up yellow.

 Vehicle voltage critical. ID260

The voltage of the vehicle electrical system is critical. The on-board electronics will drain the battery.

Possible cause:

Consumers with high power consumption are in operation (such as heated body warmers), too many consumers are in operation at one time, or battery faulty.

- Switch off non-essential consumers or disconnect them from the vehicle's electrical system.
- If the fault persists or occurs without consumers connec-

ted, have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### On-board system voltage low

 lights up yellow.

 Vehicle voltage low ID261

Possible cause:

The battery voltage is low.

- Recharge the battery. (111111 176)

### Battery voltage critical

 lights up red.

 12 V charg. voltage crit. ID270



### WARNING

#### Failure of the vehicle systems

Risk of accident

- Do not continue your journey.

Battery is not being charged. The on-board electronics will drain the battery.

Possible cause:

Alternator malfunction, battery faulty or fuse has blown.

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

### Engine temperature high



lights up yellow.



Fault: Engine too hot ID290



### ATTENTION

#### Riding with overheated engine

Engine damage

- Compliance with the information set out below is essential.

Possible cause:

The temperature sensor has detected a high temperature in the motor.

- If possible, ride in the part-load range to cool down the motor.
- If the motor temperature is frequently too high, have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Engine overheated



lights up red.



Danger! Engine too hot ID291



### ATTENTION

#### Riding with overheated engine

Engine damage

- Compliance with the information set out below is essential.

Possible cause:

Engine is overheated.

- Carefully bring the vehicle to a stop, switch off the engine and wait until the engine has cooled down.
- If engine overheating is a frequent occurrence, have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Tyre pressure close to limit of permitted tolerance

—with tyre pressure control (RDC) OE



lights up yellow.

## 56 STATUS INDICATORS



Tyre pressure at ID301

Possible cause:

Measured tyre pressure is close to the limit of permitted tolerance.

- Correct tyre pressure.
- Before adjusting tyre pressure, read the information on temperature compensation and adjusting pressure in the section entitled "Engineering details":

- » Temperature compensation (111111 144)
- » Pressure adaptation (111111 145)
- » Find the correct tyre pressures in the following places:
  - Back cover of the rider's manual
  - Tyre pressures table

### **Tyre pressure outside permitted tolerance**

- with tyre pressure control (RDC)<sup>OE</sup>



flashes red.



Danger RDC at ID302, ID303



### **WARNING**

#### **Tyre pressure outside the permitted tolerance.**

Risk of accident, degradation of the vehicle's driving characteristics.

- Adapt your style of riding accordingly.

Possible cause:

Measured tyre pressure is outside permitted tolerance.

- Check the tyre for damage and to ascertain whether the vehicle can be ridden with the tyre in its present condition.

If the vehicle can be ridden with the tyre in its present condition:

- Correct the tyre pressure at the earliest possible opportunity.
- Before adjusting tyre pressure, read the information on temperature compensation and adjusting pressure in the section entitled "Engineering details":
  - » Temperature compensation (111111 144)
  - » Pressure adaptation (111111 145)
  - » Find the correct tyre pressures in the following places:
    - Back cover of the rider's manual

–Tyre pressures table

- Have the tyre checked for damage by a specialist workshop, preferably an authorised BMW Motorrad retailer.

If you are unsure whether the vehicle can be ridden with the tyre in its present condition:

- Do not continue your journey.
- Notify the breakdown service.

### **Tyre pressure monitoring (RDC) failed**

–with tyre pressure control (RDC)<sup>OE</sup>



lights up yellow.



RDC fault ID304

Possible cause:

The tyre pressure control (RDC) control unit has diagnosed a communication fault.

- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.
- » Tyre pressure warnings not available.

### **Battery for tyre pressure sensor weak**

–with tyre pressure control (RDC)<sup>OE</sup>



lights up yellow.



RDC battery fault  
ID310



This error message is displayed briefly only after the Pre-Ride-Check completes.

Possible cause:

The integral battery in the tyre-pressure sensor has lost a significant proportion of its original capacity. There is no assurance of how long the tyre pressure monitoring system can remain operational.

- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### **Fuel down to reserve**



lights up yellow.



and distance counter KM R  
or MI R are displayed.



### **WARNING**

#### **Irregular engine operation or engine shutdown due to lack of fuel**

Risk of accident, damage to catalytic converter

- Do not run the fuel tank dry.

## 58 STATUS INDICATORS

Possible cause:

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



Reserve fuel

approx. 3.5 l

• Refuel. (100 130)

### Fuel reserve

The amount of fuel remaining in the fuel tank when the low-fuel warning light comes on depends on riding dynamics. The more the fuel moves inside the fuel tank (due to frequent changes in angle of lean, frequent braking and acceleration), the more difficult it becomes to determine the reserve volume of fuel remaining in the tank. For this reason, the reserve volume of fuel cannot be displayed exactly.



Together with the reserve indicator lamp, the distance travelled previously in the fuel reserve KM R or MI R is displayed.

The distance that can still be travelled using the reserve volume of fuel depends on the style of riding (fuel consumption) and the amount of fuel left in the tank.

After a refuelling stop, the distance counter for reserve fuel is reset if the amount of fuel in the tank is greater than the reserve quantity.

### Protection against theft



lights up yellow.



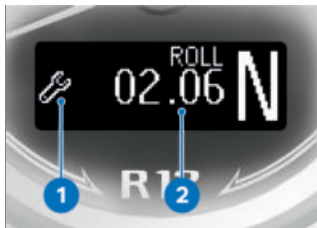
Anti-theft protection ID340

Possible cause:

The serial number of the instrument cluster does not match the serial number saved in the control unit's memory.

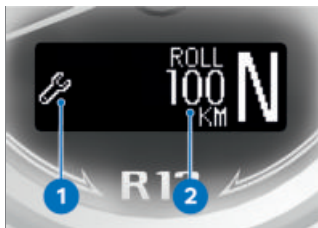
• Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### SERVICE DISPLAY



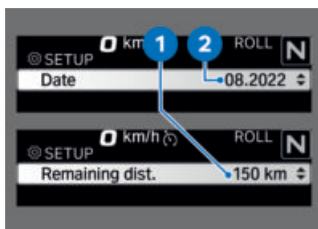
When a service is due within one month, symbol for service due **1** and service-due date **2** are displayed. You can also call up the service data by navigating to **SETUP, SERVICE**.





 The date saved in the instrument cluster must be adjusted if the service display appears more than one month prior to the service-due date. This situation may occur if the battery has been disconnected from the vehicle.

When a service is due within 1000 km, symbol for service due **1** and countdown distance **2** are displayed and the countdown proceeds in steps of 100 miles/kilometres. You can also call up the service data by navigating to **SETUP**, **SERVICE**.



—with Digital Display<sup>OE</sup>

When a service is due within one month or within 1000 km, service-due date **2** or countdown distance **1** is displayed. You can also call up the service data by navigating to **SETUP**, **SERVICE**.◀

# **INSTRUMENT CLUSTER**

**04**

---

|                  |           |
|------------------|-----------|
| <b>WARNINGS</b>  | <b>62</b> |
| <b>CONTROLS</b>  | <b>62</b> |
| <b>OPERATION</b> | <b>64</b> |
| <b>SETUP</b>     | <b>69</b> |
| <b>DISPLAY</b>   | <b>70</b> |
| <b>SETTINGS</b>  | <b>71</b> |

## 62 INSTRUMENT CLUSTER

### WARNINGS



#### WARNING

##### Operation of a smartphone while riding the vehicle

Risk of accident

- Always comply with the road traffic regulations in force where you are riding.
- Do not use a smartphone while riding. This applies with the exception of applications without operation, such as hands-free telephony.



#### WARNING

##### Distraction from the road and loss of control

Operating the integrated information system and communication devices while driving results in a risk of accident

- Operate those systems or devices only when the traffic situation allows for it.
- If necessary, stop and operate the systems or devices when stationary.

### CONTROLS

#### Rocker button



##### Short-press the top section of rocker button 1:

- Go back to previous entry
- Configure settings

##### Long-press the top section of rocker button 1:

- Go back to previous hierarchy level
- with Digital Display<sup>OE</sup>
- Exit PURE RIDE view

##### Short-press the bottom section of rocker button 1:

- Show next entry
- Configure settings

##### Long-press the bottom section of rocker button 1:

- Confirm selection
- In the on-board computer:  
Reset value

- with Digital Display<sup>OE</sup>
- In Start screen: Call up the  
PURE RIDE view

## 64 INSTRUMENT CLUSTER

### OPERATION

#### SELECTING DISPLAY



- Switch on the ignition.  
( 78)
- » The on-board computer readings appear on the display.
- Repeatedly short-press rocker button **1** until the desired value is displayed.

Possible displays:



Odometer



Tripmeter 1



Automatic tripmeter, is reset automatically 6 hours after the ignition is switched off and the date has changed.



Average consumption



Average speed



Electrical machine temperature



On-board voltage

—with tyre pressure control (RDC)<sup>OE</sup>



Tyre pressure◀



Engine speed



Ambient temperature



Time



Countdown distance to next service due, selectable only when next service due within 1000 km or service is overdue.



Service-due date, selectable only when next service is due within one month or service is overdue.

–Riding mode and gear indicator without on-board computer

» The on-board computer content displayed can be configured to suit your preferences.

• Configure the on-board computer displays. (▮▮▮▮▶ 70)

## 66 INSTRUMENT CLUSTER

### SELECT READINGS IN DISPLAY

—with Digital Display<sup>OE</sup>



- Switch on the ignition.  
( 78)
- » The Start view is displayed.
- Repeatedly short-press rocker button **1** until desired value **2** is displayed.

Possible displays:



Odometer



Tripmeter 1



Automatic tripmeter, is reset automatically 6 hours after the ignition is switched off and the date has changed.



Average consumption



Average speed



Electrical machine temperature



On-board voltage

—with tyre pressure control (RDC)<sup>OE</sup>



Tyre pressure<



Ambient temperature





Time



Countdown distance to next service due, selectable only when next service due within 1000 km or service is overdue.



Service-due date, selectable only when next service is due within one month or service is overdue.

» The on-board computer content displayed can be configured to suit your preferences.

- Configure the on-board computer displays. (▶▶▶ 70)

## 68 INSTRUMENT CLUSTER

### Reset the on-board computer

- Switch on the ignition.  
( 78)



- Repeatedly short-press rocker button **1** until the value you want to reset is displayed.
  - Long-press the bottom section of rocker button **1** until the value you selected is reset.
- » The following values can be reset:
- Trip distance recorder reading
  - Average consumption
  - Average speed

## SETUP

### Select SETUP Requirement

The vehicle is at a standstill.



- Repeatedly short-press rocker button **1** until **SETUP** is displayed.
- Long-press the bottom section of rocker button **1** to call up **SETUP**.
- Repeatedly short-press rocker button **1** to select the following menus:
  - VEHICLE
  - SYSTEM
  - DISPLAY
  - SERVICE
  - RESET
  - BACK
- Long-press the bottom section of rocker button **1** to open the desired menu.

## Exit SETUP



- Long-press the top section of rocker button **1**.
  - » **SETUP** is displayed.
  - » Settings were saved.
- Alternatively: Repeatedly short-press rocker button **1** until **BACK** is displayed.
- Long-press the bottom section of the **1** rocker button.
  - » **SETUP** is displayed.
  - » Settings were saved.
- Alternatively: Switch ignition off and on again.
  - » **SETUP** exited and settings not saved.
- Alternatively: Ride off.



Speed for operation in  
**SETUP** mode

max. 10 km/h

- » When permissible maximum speed for operation is exceeded, **SETUP** is exited and the settings are not saved.

## 70 INSTRUMENT CLUSTER

### Resetting SETUP

- Switch on the ignition.
- Select SETUP. (▶▶▶ 69)



- Repeatedly short-press rocker button **1** until RESET is displayed.
- Long-press the bottom section of rocker button **1** to reset SETUP.

 Date and time can also be reset to a default value by using the **SETUP RESET** function.

- Exit SETUP. (▶▶▶ 69)

### DISPLAY

#### Selecting display in rev. counter

- with rev. counter<sup>OA</sup>
- without Digital Display<sup>OE</sup>

- Switch on the ignition.  
(▶▶▶ 78)
- » The riding mode and the gear indicator are displayed in the rev. counter.

- Navigate to **SETUP, DISPLAY** and select **RPM INFO**.
- Select display.

Possible displays:

- EMPTY: Only riding mode and gear indicator are displayed
- TOTAL: Odometer
- TRIP 1: Tripmeter 1
- TRIP A: Automatic tripmeter, is reset automatically 6 hours after the ignition is switched off and the date has changed.
- AV CONS: Average consumption
- SPEED: Average speed
- ENGINE: Electrical machine temperature
- BATTERY: On-board voltage
- with tyre pressure control (RDC)<sup>OE</sup>
- RDC: Tyre pressure ◀
- TEMP.: Ambient temperature
- CLOCK: Time

» The selected reading is displayed along with the riding mode and the gear indicator in the rev. counter.

#### Configuring on-board computer displays Requirement

The vehicle is at a standstill.

- Switch on the ignition.  
(▶▶▶ 78)

- without Digital Display<sup>OE</sup>
- Navigate to **SETUP, DISPLAY** and select **OBC**.

The following displays can be deactivated:

- TRIP 1: Tripmeter 1
- TRIP A: Automatic tripmeter, is reset automatically 6 hours after the ignition is switched off and the date has changed.
- AV CONS: Average consumption
- SPEED: Average speed
- ENGINE: Electrical machine temperature
- BATTERY: On-board voltage
- with tyre pressure control (RDC)<sup>OE</sup>
- RDC: Tyre pressure<
- RPM: Engine speed
- TEMP.: Ambient temperature
- CLOCK: Time<

- with Digital Display<sup>OE</sup>
- Navigate to **SETUP, DISPLAY** and select **ON-BOARD COMP..**

The following displays can be deactivated:

- Trip 1: Tripmeter 1
- Trip A: Automatic tripmeter, is reset automatically 6 hours after the ignition is switched off and the date has changed.
- Consumption: Average consumption
- Speed: Average speed
- Coolant temperature
- Vehicle voltage

- with tyre pressure control (RDC)<sup>OE</sup>
- Tyre pressure: Tyre pressure<
- Outside temperature
- Time<

### Adjusting display brightness

- Switch on the ignition.  
( 78)
- Navigate to **SETUP, DISPLAY** and select **BRIGHTNESS**.
- Adjust the display brightness.

---

## SETTINGS

### Changing system settings

- Switch on the ignition.  
( 78)
- Navigate to **SETUP, SYSTEM**.
- Select the system setting.
  - without Digital Display<sup>OE</sup>
    - » You can change the following system settings:
      - DATE+TIME: Set the date and time.
      - LANGUAGE: Set the language.
      - UNITS: Set the units.<
    - without Digital Display<sup>OE</sup>
    - with ConnectedRide Control<sup>OE</sup>
      - » additionally:
        - CONNECT.: Switch Bluetooth on or off.<
    - with Digital Display<sup>OE</sup>
      - » You can change the following system settings:
        - DATE & TIME: Set the date and time.

## 72 INSTRUMENT CLUSTER

–LANGUAGE: Set the language.

–UNITS: Set the units.◀

–with Digital Display<sup>OE</sup>

–with ConnectedRide Control<sup>OE</sup>

» additionally:

–Connections: Switch

Bluetooth on or off.◀



# OPERATION

# 05



---

|                                           |            |
|-------------------------------------------|------------|
| <b>STEERING LOCK</b>                      | <b>76</b>  |
| <b>IGNITION</b>                           | <b>77</b>  |
| <b>EMERGENCY-OFF SWITCH (KILL SWITCH)</b> | <b>81</b>  |
| <b>INTELLIGENT EMERGENCY CALL</b>         | <b>82</b>  |
| <b>LIGHTING</b>                           | <b>85</b>  |
| <b>ANTI-THEFT ALARM (DWA)</b>             | <b>89</b>  |
| <b>DYNAMIC TRACTION CONTROL (DTC)</b>     | <b>92</b>  |
| <b>RIDING MODE</b>                        | <b>93</b>  |
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| <b>HILL START CONTROL PRO (HSC PRO)</b>   | <b>98</b>  |
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| <b>HEATED GRIPS</b>                       | <b>100</b> |
| <b>CONNECTEDRIDE CONTROL</b>              | <b>101</b> |
| <b>RIDER'S SEAT</b>                       | <b>104</b> |

# 76 OPERATION

## STEERING LOCK

### Locking the steering lock



#### WARNING

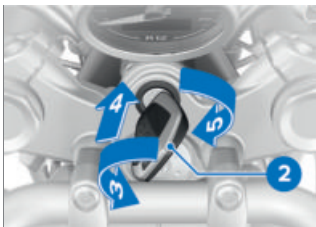
#### Restricted steering angle when steering lock engaged

Risk of falling

- Unlock the steering lock before attempting to pull away.
- Before pulling away, remove the key from the steering lock.

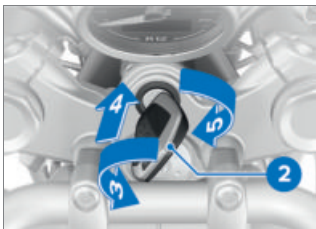


- Turn the handlebars all the way to the left and insert the vehicle key into steering lock 1.



- Turn vehicle key 2 counter-clockwise 3 in the steering lock.
  - Use vehicle key 2 to push the steering lock in 4 and hold it in this position.
  - Turn vehicle key 2 clockwise 5.
- » Steering lock is engaged.
- Remove vehicle key 2.

### Unlocking steering lock



- Push vehicle key 2 into the steering lock 4 and turn it counter-clockwise 3.
- » The steering lock is disengaged.
- Turn vehicle key 2 clockwise 5.

- Remove vehicle key **2**.

## IGNITION

### Radio-operated key

The motorcycle is supplied with one radio-operated key and one spare key. If a key is lost or mislaid, consult the information on the electronic immobiliser (EWS) (➡ 80).

Ignition and anti-theft alarm system, if fitted, work with the radio-operated key. Steering lock and fuel filler cap are locked and unlocked manually.

 The vehicle cannot be started while the radio-operated key is out of range. If the radio-operated key remains out of range the ignition is switched off after about 90 seconds to protect the battery.



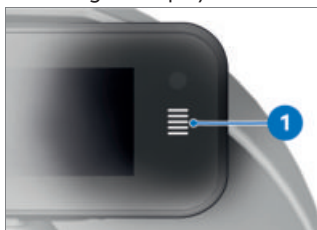
Range of the Keyless  
Ride radio-operated key

approx. 1 m

After the ignition is switched on (➡ 78) connection status is indicated by an indicator light in the instrument cluster.



—with Digital Display<sup>OE</sup>



- Indicator light **1** flashes: Locating radio-operated key.
- Indicator light **1** shows: Radio-operated key or spare key not found.
- Indicator light **1** slow-flashes: Radio-operated key not cleared. Move the radio-operated key and switch the ignition on again (➡ 78).
- Indicator light **1** goes out: Radio-operated key or spare key found and cleared.

## 78 OPERATION

### Switching on ignition Requirement

Radio-operated key is cleared.



- Press button **1**.  
Side lights and all function circuits are switched on.
- Engine can be started.

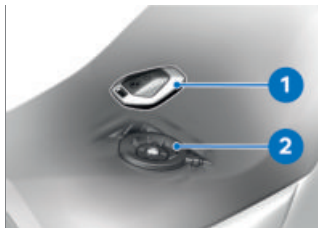
### Switching off ignition Requirement

Radio-operated key is cleared.



- Press button **1**.  
» Lights and all function circuits are switched off.

### Battery of the radio-operated key is empty or loss of the radio-operated key



- Consult the information on the electronic immobiliser (EWS) if a key is lost or mislaid.
- If the radio-operated key is lost or mislaid while you are on a journey, you can start the vehicle with the spare key.
- If the battery of the radio-operated key is empty, the vehicle can be started by simply inserting the folded radio-operated key into the ring aerial under the seat.
- Remove the rider's seat.  
(111111 104)
- Insert the spare key or folded-in radio-operated key with the empty battery **1** into ring aerial **2**.

 The spare key or the closed radio-operated key with the empty battery **must**

**be inserted into** the opening in the ring aerial.



Time during which the motor has to be started.

The unlocking procedure has to be repeated if this time is allowed to expire.

30 s

- » Pre-Ride-Check is performed.
- Key has been recognised.
- Engine can be started.
- Start the engine. (▶▶ 123)
- Install the rider's seat. (▶▶ 105)

### Checking battery voltage of radio-operated key



The battery voltage of the radio-operated key is indicated by the colour of LED 2.

- Press button 1.
- » LED shows green: Battery voltage normal
- » LED shows orange: Battery voltage low
- » LED shows red: Battery voltage critical

The battery of the radio-operated key has to be replaced when the LED shows red.

- Replace the battery of the radio-operated key. (▶▶ 79)

### Replacing battery of radio-operated key

If the radio-operated key does not react when you short-press or long-press a button:

- Battery of the radio-operated key is not at full capacity.



is displayed.



### DANGER

#### Swallowing a battery

Risk of injury or death

- An ignition key contains a button cell as its battery. Batteries or button cells, if swallowed, can cause serious or fatal injury within two hours, for example resulting from internal burns or caustic action.
- Keep ignition keys and batteries out of reach of children.
- If there is any suspicion that a battery or button cell has been swallowed or is inside a part of the body, seek medical assistance immediately.

## 80 OPERATION

- Change the battery.



- Press button **1**.
  - » Key bit flips out.
- Push battery cover **2** up.
- Remove battery **3**.
- Dispose of the old battery in accordance with all applicable laws and regulations; do not attempt to dispose of batteries as domestic waste.



### ATTENTION

#### Unsuitable or incorrectly inserted batteries

Component damage

- Use a battery compliant with the manufacturer's specifications.
  - When inserting the battery, always make sure polarity is correct.
- 
- Insert the new battery with the positive terminal up.



Battery type

For Keyless Ride radio-operated key

CR 2032

- Install battery cover **2**.
  - » Indicator light in the instrument cluster flashes.
  - » The radio-operated key is again ready for use.

### Electronic immobiliser (EWS)

The on-board electronics access the data saved in the ignition key via a ring aerial in the ignition lock. The engine control unit will not permit the engine to be started unless the key is identified as "authorised".



A second ignition key attached to the same ring as the ignition key used to start the engine could "irritate" the electronics, in which case the enabling signal for starting is not issued. The warning with the key symbol appears in the display.

Always keep other vehicle keys separate from the vehicle key used to start the engine.

If you lose a key, you can have it barred by your authorised BMW Motorrad retailer.

If you wish to do this, you will need to bring all other keys for the motorcycle with you. The electrical machine cannot be started by a barred key, but a key that has been barred can subsequently be reactivated. You can obtain extra keys only through an authorised 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.

## EMERGENCY-OFF SWITCH (KILL SWITCH)



- 1** Emergency-off switch (kill switch)



## WARNING

### Operation of the kill switch while riding

Risk of fall due to rear wheel locking

- Do not operate the kill switch when riding.

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



- A** Engine switched off  
**B** Normal operating position (run)



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

## 82 OPERATION

### INTELLIGENT EMERGENCY CALL

—with intelligent emergency call<sup>OE</sup>

#### Emergency call via BMW

Press the SOS button in an emergency only.

The emergency call is not able to be ensured because of technical reasons due to unfavourable conditions, e.g. in areas where there is no mobile phone reception.

During an emergency call, the location of the vehicle, the choice of language and, if applicable, accident-related data are transmitted to BMW (12). Under unfavourable conditions, data transfer can be restricted or delayed. This can lead to delayed processing of the emergency call.

Even if an emergency call using BMW is not possible, the system may make an emergency call to a public emergency call number. This depends on the respective mobile phone network and the national regulations.

#### Language for emergency call

Each vehicle has an assigned language; this language depends on the market to which the vehicle was originally destined. The BMW Call Center answers in this language.

 The language for the emergency call can be changed only by the authorised BMW Motorrad retailer.

The language assigned to the vehicle varies from the selectable language the rider can choose as the display language in the instrument cluster.

#### Manual emergency call Requirement

An emergency has occurred.  
The vehicle is at a standstill.  
The ignition is switched on.

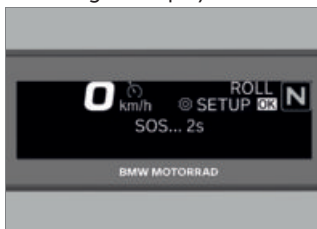


- Open cover 1.
- Short-press SOS button 2.





—with Digital Display<sup>OE</sup>



» The time until transmission of the emergency call is displayed. During that time, it is possible to cancel the emergency call.

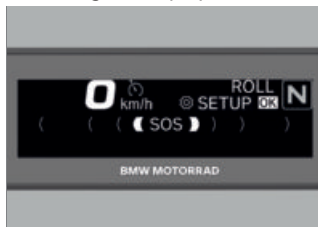
- To cancel an emergency call: Press SOS button **2** and hold it down for two seconds or switch the ignition off.
- Operate the emergency-off switch to stop the engine.
- Remove helmet.

» After expiry of the timer, a voice contact to the BMW Call Center is established.



The connection was established.

—with Digital Display<sup>OE</sup>



The connection was established.◀



- Provide information to the emergency services using the microphone **3** and speaker **4**.

## 84 OPERATION

### Automatic emergency call

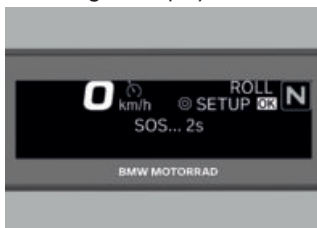
The intelligent emergency call is active after the ignition is switched on and reacts if a fall or crash occurs.

### Emergency call in the event of a light fall

- A light fall or a crash was detected.
- » An acoustic signal is sounded.



—with Digital Display<sup>OE</sup>



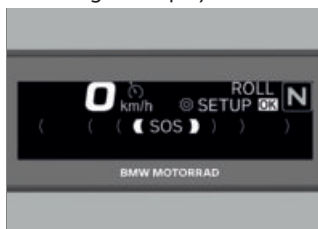
- » The time until transmission of the emergency call is displayed. During that time, it is possible to cancel the emergency call.

- To cancel an emergency call:  
Press the SOS button and hold it down for two seconds or switch the ignition off.
- If possible, remove helmet and stop engine.
- » A voice contact connection to the BMW Call Center is established.

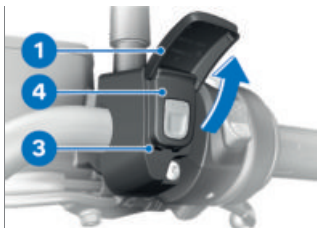


The connection was established.

—with Digital Display<sup>OE</sup>



The connection was established.◀



- Open cover **1**.
- Provide information to the emergency services using the microphone **3** and speaker **4**.

### Emergency call in the event of a severe fall

- A severe fall or a crash is detected.
- » The emergency call is placed automatically without delay.

## LIGHTING

### Side light

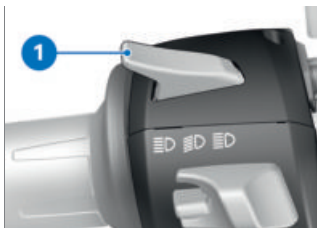
The side lights switch on automatically when the ignition is switched on.



The side lights place a strain on the battery. Switch on the ignition for a limited time only.

### Low-beam headlight

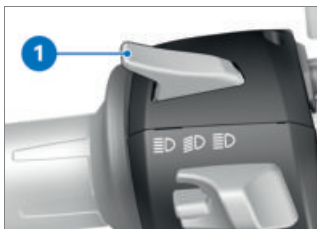
- Switch on the ignition. (▶▶▶ 78)
- Start the engine. (▶▶▶ 123)



- Alternatively: With the ignition switched on, pull switch **1**.

### High-beam headlight and headlight flasher

- Switch on the ignition. (▶▶▶ 78)

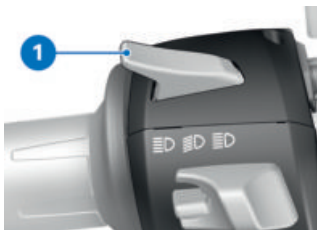


- Push switch **1** forward to switch on the high-beam headlight.
- Pull switch **1** back to operate the headlight flasher.

### Headlight courtesy delay feature

- Switch off the ignition. (▶▶▶ 78)

## 86 OPERATION



- Immediately after switching off the ignition, pull switch **1** back and hold it in that position until the headlight courtesy delay feature comes on.
  - » The vehicle's lights come on for one minute and then switch off automatically.
  - This can be used to light up the path to the house door after the vehicle has been parked, for example.

### Parking lights

- Switch off the ignition.  
( 78)



- Immediately after switching off the ignition, push button **1** to the left and hold it

in that position until the parking lights come on.

- Switch the ignition on and off again to switch off the parking lights.

### Auxiliary headlights

– with LED additional headlight<sup>OA</sup>

### Requirement

The auxiliary headlights are active only when the low-beam headlight is active.

The auxiliary headlights can be switched on only when the daytime riding lights are switched off.

The auxiliary headlights are approved as fog lights and can be used only in poor weather conditions. Always comply with the road traffic regulations in force in the country in which the vehicle is used.

- Start the engine. ( 123)



- Press button **1** to switch on the additional headlight.



The indicator light for the additional headlight illuminates.

- Press button **1** again to switch off the additional headlight.

### Automatic daytime riding light



The changeover between daytime riding light and low-beam headlight including front side lights can be effected automatically.



### WARNING

**The automatic daytime riding light is not a substitute for the rider's personal judgement of the light conditions**

Risk of accident

- Switch off the automatic daytime riding light in poor light conditions.

- Switch on the ignition.

( 78)

—without Digital Display<sup>OE</sup>

- Navigate to **SETUP, VEHICLE, LIGHTS** and switch on the **AUTO** function.

» If ambient brightness drops below a certain value, the low-beam headlight is automatically switched on (e.g. in a tunnel). When sufficient ambient brightness is detected, the daytime riding light is switched back on.



The indicator light for the daytime riding light shows if the daytime riding light is active.◀

—with Digital Display<sup>OE</sup>

- Navigate to **SETUP, VEHICLE, LIGHTS** and switch on the **Auto** function.

» If ambient brightness drops below a certain value, the low-beam headlight is automatically switched on (e.g. in a tunnel). When sufficient ambient brightness is detected, the daytime riding light is switched back on.



The indicator light for the daytime riding light shows if the daytime riding light is active.◀

## 88 OPERATION

### Hazard warning lights

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

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

- Switch on the ignition.  
( 78)



- Press button **1** to switch on the hazard warning lights system.  
» Ignition can be switched off.
- To switch off the hazard warning flashers, switch

on the ignition and press button **1** again.

### Turn indicators

- Switch on the ignition.  
( 78)  
—without Digital Display<sup>OE</sup>
- Navigate to **SETUP, VEHICLE, LIGHTS**.
- Switch **TURN IND.** on or off.  
◀
- with Digital Display<sup>OE</sup>
- Navigate to **SETUP, VEHICLE, LIGHTS**.
- Switch **Comfort turn indicator** on or off.◀



- Push button **1** to the left or right, as appropriate, to switch on the turn indicators.  
» If the comfort turn indicators function is switched on, the turn indicators are cancelled automatically when the speed-dependent distance is covered.
- Alternatively: Press button **1** to cancel the turn indicators.

## ANTI-THEFT ALARM (DWA)

—with anti-theft alarm (DWA)<sup>OE</sup>

### Automatic activation

- Switch on the ignition.  
( 78)
- Adapt DWA. ( 91)
- Switch off the ignition.  
( 78)

—without Digital Display<sup>OE</sup>

- » If **AUTO** the DWA anti-theft alarm is activated, the DWA alarm system is armed automatically when you switch the ignition off.◁

—with Digital Display<sup>OE</sup>

- » If **Auto** the DWA anti-theft alarm is activated, the DWA alarm system is armed automatically when you switch the ignition off.◁
- » Activation takes approximately 30 seconds to complete.
- Turn indicators flash twice.
- » Confirmation tone sounds twice (if programmed).
- » Anti-theft alarm (DWA) is active.

## Activation with radio-operated key



- Switch off the ignition.  
( 78)
- Press button **1** on the radio-operated key once.
- » Activation takes approximately 30 seconds to complete.
- » Turn indicators flash twice.
- » Confirmation tone sounds twice (if activated).
- » Anti-theft alarm is active.

## Activating transport mode

- If the motorcycle is transported by train or trailer, strong movements can trigger an alarm. To activate the transport mode, press key **1** of the radio-operated key once again during the activation phase.
- without Digital Display<sup>OE</sup>
- Alternatively, the transport mode can be activated in the menu **SETUP, VEHICLE, ALARM SYS, TRANSPORT**.  
( 91)

## 90 OPERATION

- » Turn indicators flash three times.
- » Confirmation tone sounds three times (if activated).
- » Transport mode is activated.◁
- with Digital Display<sup>OE</sup>
- Alternatively, the transport mode can be activated in the menu **SETUP, VEHICLE, Anti-theft alarm (DWA), Transport mode.** (||||▶ 91)
- » Turn indicators flash three times.
- » Confirmation tone sounds three times (if activated).
- » Transport mode is activated.◁

### Alarm signal

A DWA alarm can be triggered by:

- Motion sensor
- Switch-on attempt with an unauthorised vehicle key.
- Disconnection of the DWA anti-theft alarm from the vehicle's battery (DWA internal battery in the anti-theft alarm provides power - acoustic alarm only, the turn indicators do not flash)

All functions are sustained even if the internal battery of the DWA anti-theft alarm system is flat; the only difference is that an alarm cannot be triggered

if the system is disconnected from the vehicle's battery.

An alarm lasts for approximately 26 seconds. While an alarm is in progress an alarm tone sounds and the turn indicators flash. The type of acoustic alarm tone can be set by an authorised BMW Motorrad retailer.



You can cancel an alarm at any time by pressing button **1** on the radio-operated key; this does not deactivate the DWA.

If an alarm was triggered while the vehicle was unattended, the rider is notified accordingly by an alarm tone sounding once when operational readiness is switched on. The DWA LED then indicates the reason for the alarm for one minute.



### Light signals issued by the indicator light:

- Flashes 1x: Motion sensor 1
- Flashes 2x: Motion sensor 2
- Flashes 3x: Operational readiness switched on with unauthorised key
- Flashes 4x: Disconnection of the DWA anti-theft alarm from the motorcycle's battery
- Flashes 5x: Motion sensor 3

### Deactivation

- Switch on the ignition.  
( 78)



- Alternatively, press key **1** of the radio-operated key once.
  - » Turn indicators flash once.
  - » Confirmation tone sounds once (if activated).
  - » DWA is switched off.
- without Digital Display<sup>OE</sup>
- » If the alarm function is deactivated by the radio-operated key and operational readiness is not subsequently switched on, the alarm function is automatically reactivated after ap-

prox. 30 seconds if AUTO is switched on.◁

- with Digital Display<sup>OE</sup>
- » If the alarm function is deactivated by the radio-operated key and operational readiness is not subsequently switched on, the alarm function is automatically reactivated after approx. 30 seconds if Auto is switched on.◁

### Adapt DWA

- Navigate to **SETUP, VEHICLE, Anti-theft alarm (DWA)**.
  - without Digital Display<sup>OE</sup>
  - » The following settings are available:
    - Switch **TRANSPORT** on or off
    - Switch **SIGNAL** on or off
    - Switch **AUTO** on or off
    - Adapting **ALARM**◁
  - with Digital Display<sup>OE</sup>
  - » The following settings are available:
    - Switch **Transport mode** on or off
    - Switch **Signal** on or off
    - Switch **Auto** on or off
    - Adapting **Alarm tone**◁
  - » Possibilities for adjustment ( 92)

## 92 OPERATION

### Possibilities for adjustment

—without Digital Display<sup>OE</sup>

**ALARM:** Set the rising and falling or intermittent alarm tone.

**TRANSPORT:** Activate transport mode. The inclination of the vehicle is no longer monitored in transport mode.

 When the vehicle is going to be transported, deactivate the tilt sensor to prevent the anti-theft alarm (DWA) from being triggered.

**SIGNAL:** In addition to turn indicators flashing, alarm tone sounds as confirmation of activation/deactivation of the DWA.

**AUTO:** Automatic activation of the alarm function after the ignition is switched off.

—with Digital Display<sup>OE</sup>

**Alarm tone:** Set the rising and falling or intermittent alarm tone.

**Transport mode:** Activate transport mode. The inclination of the vehicle is no longer monitored in transport mode.

 When the vehicle is going to be transported, deactivate the tilt sensor to prevent the anti-theft alarm (DWA) from being triggered.

**Signal:** In addition to turn indicators flashing, alarm tone sounds as confirmation of activation/deactivation of the DWA.

**Auto:** Automatic activation of the alarm function after the ignition is switched off.

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### DYNAMIC TRACTION CONTROL (DTC)

#### Switching off DTC function

- Switch on the ignition.

( 78)

 You have the option of deactivating Dynamic Traction Control (DTC) while the motorcycle is on the move.



- Press and hold down button **1** until the DTC indicator and warning light changes its status.



starts to show.

» The DTC function is switched off.

## Switching on DTC function



- Press and hold down button **1** until the DTC indicator and warning light changes its status.



goes out; if self-diagnosis has not completed it starts flashing.

- » The DTC function is switched on.
- You also have the option of switching the ignition off and then on again.



A DTC fault has occurred if the DTC warning light shows when the motorcycle accelerates to a speed in excess of the minimum stated below after the ignition was switched off and then on again.

min. 5 km/h

- For more information on DTC traction control, see the section entitled "Engineering details" (▮▮▮▮ 139).

## RIDING MODE

### Using riding modes

BMW Motorrad has developed operational scenarios for your motorcycle from which you can select the scenario suitable for your situation:

- ROLL: Glide riding
- ROCK: Dynamic riding

For each of these riding modes, there is a matching setting for the engine characteristic. For more information on the riding modes, see the section entitled "Engineering details" (▮▮▮▮ 142).

### Select the riding mode

- Switch on the ignition. (▮▮▮▮ 78)



- Press button **1**.

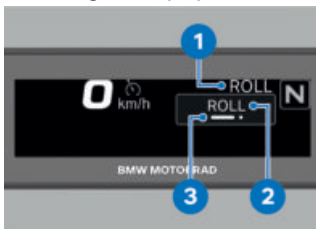
## 94 OPERATION

—without Digital Display<sup>OE</sup>



The active riding mode **1** is displayed. The guide **2** indicates how many riding modes are available.◁

—with Digital Display<sup>OE</sup>



The riding mode currently active **1** is sent to the back and is displayed in the pop-up **2**. The guide **3** indicates how many riding modes are available.◁



- Repeatedly press button **1** until the riding mode you want is displayed.

- » With the vehicle at a standstill, the selected mode is activated after approximately 2 seconds.

- » The following conditions must be satisfied for activation of a new riding mode while riding:
  - Throttle grip is in idle position.

- Brake is not applied.

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

- » additionally:

- Cruise control is deactivated.◁

- » The mode selected in this way is retained with the engine-characteristic, ABS and DTC adaptation settings even after the ignition has been switched off.

## CRUISE CONTROL

—with cruise control<sup>OE</sup>

### Switching on cruise control



#### WARNING

#### Use of cruise control in unsuitable road conditions

Risk of falling

- Do not use cruise control when road conditions are unsuitable, for example in snow, ice, heavy rain, off-road or on slippery surfaces.
- Do not use cruise control on very twisty stretches of road.



- Slide switch **2** to the right.  
» Button **1** is enabled for operation.

### Setting road speed



- Short-push button **1** forward.



Adjustment range for cruise control (gear-dependent)

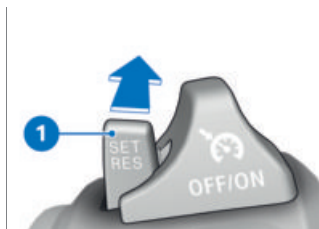
30...180 km/h



shows.

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

### Accelerating

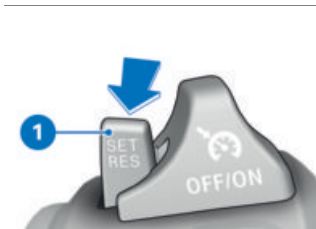


- Short-push button **1** forward.  
» Speed is increased by approx. 1 km/h each time you push the button.

## 96 OPERATION

- Push button **1** forward and hold it in this position.
  - » The vehicle accelerates smoothly.
  - » The current speed is maintained and saved if button **1** is not pushed again.

### Decelerating



- Short-push button **1** back.
  - » Speed is reduced by approx. 1 km/h each time you push the button.
- Push button **1** back and hold it in this position.
  - » The vehicle decelerates smoothly.
  - » The current speed is maintained and saved if button **1** is not pushed again.

### Deactivating cruise control

- Apply the brake or turn the throttle grip back past the idle position to deactivate cruise control.

 Cruise control is deactivated if the clutch is pulled for longer than 1.5 seconds.

 For safety reasons, cruise control is automatically deactivated whenever ABS or DTC intervention occurs. If DTC is deactivated by the rider, cruise control is deactivated as well.

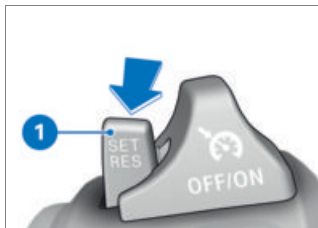
 disappears.

### Automatic deactivation

Adaptive cruise control is deactivated automatically in the following situations:

- When engine speed drops below the minimum threshold (to prevent stalling).
- After several seconds when the vehicle is ridden at maximum engine speed.
- During ABS or DTC interventions.
- If a system fault occurs.

## Resuming former cruising speed



- Short-push button **1** back to return to the speed saved beforehand.

 Opening the throttle overrides cruise control briefly, without deactivating it. When the throttle twistgrip is released, speed drops back to the setting saved beforehand. If you want to reduce speed further you have to deactivate cruise control, for example by applying the brakes.



shows.

## Switching off cruise control



- Slide switch **2** to the left.  
» The system is deactivated.  
» Button **1** is disabled.

## Configure the character of cruise control

- Switch on the ignition.  
( 78)  
–without Digital Display<sup>OE</sup>
- Navigate to **SETUP, VEHICLE** and select **CRUISE CTL**.
- Select the desired setting.  
» The following settings for acceleration and deceleration are possible:
  - COMFORT**: Balanced acceleration and deceleration of the vehicle.
  - DYNAMIC**: More sharply pronounced acceleration and deceleration of the vehicle for a more dynamic style of riding.
- ◀
- with Digital Display<sup>OE</sup>
- Navigate to **SETUP, VEHICLE** and select **CRUISE CONTROL**.
- Select the desired setting.

## 98 OPERATION

» The following settings for acceleration and deceleration are possible:

–Comfortable: Balanced acceleration and deceleration of the vehicle.

–Dynamic: More sharply pronounced acceleration and deceleration of the vehicle for a more dynamic style of riding.



---

### HILL START CONTROL PRO (HSC PRO)

–with Hill Start Control<sup>OE</sup>

#### Adjust Hill Start Control Pro

• Switch on the ignition.

( 78)

–without Digital Display<sup>OE</sup>

• Navigate to **SETUP, VEHICLE**.

• Select **HSC PRO**.

• To switch off Hill Start Control Pro, select **OFF**.

» Hill Start Control Pro is deactivated.

• To switch on manual Hill Start Control Pro, select **ON**.

» Hill Start Control Pro can be activated by forcefully operating the handbrake or footbrake lever.

• To switch on automatic Hill Start Control Pro, select **AUTO**.

» Hill Start Control Pro can be activated by forcefully oper-

ating the handbrake or footbrake lever.

» If the brake is actuated for approximately one second after the vehicle has come to a standstill and the motorcycle is on a gradient of at least 3 %, Hill Start Control Pro is automatically activated.

» The selected setting remains stored even after the ignition is switched off.◀

–with Digital Display<sup>OE</sup>

• Navigate to **SETUP, VEHICLE**.

• Select **HSC PRO**.

• To switch off Hill Start Control Pro, select **Off**.

» Hill Start Control Pro is deactivated.

• To switch on manual Hill Start Control Pro, select **On**.

» Hill Start Control Pro can be activated by forcefully operating the handbrake or footbrake lever.

• To switch on automatic Hill Start Control Pro, select **Auto**.

» Hill Start Control Pro can be activated by forcefully operating the handbrake or footbrake lever.

» If the brake is actuated for approximately one second after the vehicle has come to a standstill and the motorcycle is on a gradient of at



- least 3 %, Hill Start Control Pro is automatically activated.
- » The selected setting remains stored even after the ignition is switched off.◀

## Operating Hill Start Control Pro

### Requirement

Vehicle stationary and upright, engine running.



### ATTENTION

#### Non-availability of Hill Start Control

Risk of accident

- Apply the brakes manually to hold the vehicle.



Hill Start Control Pro is purely a comfort system that facilitates hill starts and consequently, is not to be confused with a parking brake.



Hill Start Control Pro should not be used on gradients steeper than 40 %.



- Apply firm pressure to handbrake lever **1** or to the footbrake lever and then quickly release the lever.
- Alternatively, apply the brake for about one second beyond the vehicle reaching a standstill on an incline of at least 3 %.



appears briefly.

—with Digital Display<sup>OE</sup>



is displayed.◀

- » Hill Start Control Pro is activated.
- To switch off Hill Start Control Pro, operate handbrake lever **1** or the footbrake lever again.



If Hill Start Control Pro has been deactivated by means of the handbrake lever, automatic Hill Start Control is deactivated for the next 4 m.

## 100 OPERATION



flashes briefly.

–with Digital Display<sup>OE</sup>



disappears.◀

- Alternatively, ride off in 1st or 2nd gear.



In order for the motor-cycle to pull away from rest with Hill Start Control Pro, the throttle grip has to be turned to open the throttle for pullaway.



flashes briefly as soon as the brake is fully released.

–with Digital Display<sup>OE</sup>



disappears as soon as the brake is fully released.◀

» Hill Start Control Pro is deactivated.

- See the "Engineering details" section for more information on Hill Start Control Pro (▮ 147).

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### TYRE PRESSURE MONITORING (RDC)

–with tyre pressure control (RDC)<sup>OE</sup>

#### Switch the target-pressure warning on or off

- The system can be set to issue a target-pressure warning

if tyre pressure drops to the defined minimum.

–without Digital Display<sup>OE</sup>

- Navigate to **SETUP, VEHICLE**.
- Switch **RDC WARN** on or off.◀

–with Digital Display<sup>OE</sup>

- Navigate to **SETUP, VEHICLE**.
- Switch **RDC warning** on or off.◀

---

### HEATED GRIPS

#### Grip heating not installed



If grip heating is not installed and the button for this function is pressed, a message to the effect that the function is not available appears on the display.

#### Operating heated handlebar grips

–with heated grips<sup>OE</sup>



The heating in the heated handlebar grips can be activated only when the engine is running.



The increase in power consumption caused by having the heated handlebar grips switched on can drain the battery if you are riding at low engine speeds. If the charge level is low, the heated handlebar grips are switched off to

ensure the battery's starting capability.

- Start the engine. (➡ 123)



- Repeatedly press button **1** until the desired heating stage is displayed.

—without Digital Display<sup>OE</sup>

The following settings are available:



Heating off



Low heating power

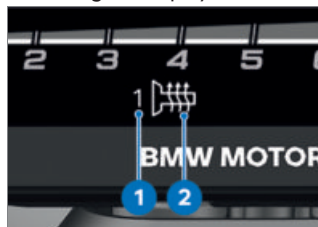


Medium heating power



High heating power◀

—with Digital Display<sup>OE</sup>



Selected heating stage **1** and seat-heating symbol **2** are displayed.◀

- » High heating power is for heating the grips quickly: it is advisable to switch back to a lower heating power as soon as the grips are warm.
- » The selected heating stage will be saved if you allow a certain length of time to pass without making further changes.

## CONNECTEDRIDE CONTROL

—with ConnectedRide Control<sup>OE</sup>

## 102 OPERATION

### Securing smartphone in holder



#### ATTENTION

#### Vibrations when vehicle is moving

Damage to mobile phones carried on the vehicle

- Make sure that the mobile phone carried on the vehicle is suitable for use on the vehicle. Ask the manufacturer about related usage restrictions and comply with the information provided.



- Pull adjuster knob **1** out of holder **2**.
- Turn adjuster knob **1** counter-clockwise to open holder **2**.
- Place smartphone **3** centred in holder **2**.
- Turn adjuster knob **1** clockwise to close holder **2**.
- » Smartphone is secure in the holder.

- Push adjuster knob **1** into holder **2**.

### Attaching smartphone holder



- Insert smartphone holder **2** into base plate **1**.
- Turn smartphone holder **2** through 90°.
- » Smartphone holder engages in base plate.
- Follow the instructions for charging via the USB charging interface (185).

### Connect mobile device Requirement

The BMW Motorrad Connected app is installed on the mobile device.

- Switch on the ignition. (78)
- Navigate to **SETUP, SYSTEM** –without Digital Display<sup>OE</sup>
- Call up **CONNECT.** and switch on **BLUETOOTH**.
- Select **TO PAIR**.

» The time remaining until the mobile device is connected is displayed.<

–with Digital Display<sup>OE</sup>

- Call up **Connections** and switch on **Bluetooth**.
- Select **Pair new device**.
- » The time remaining until the mobile device is connected is displayed.<

- Activate the mobile device's Bluetooth function (see mobile device's operating instructions).
- Call up the **BMW Motorrad Connected** app.
- Connect a new device in the **BMW Motorrad Connected** app.
- Select **BMW\_CR\_Control** as the device and pair.
- » The Bluetooth connection is established.

–with Digital Display<sup>OE</sup>



is displayed.<

- The **BMW Motorrad Connected** app can be operated by means of the **Multi-Controller** (103).

## Multi-Controller



### Precondition

The vehicle is connected via Bluetooth to a compatible mobile device.

The **BMW Motorrad Connected** app is installed on the connected mobile device.

### Scroll Multi-Controller 1 up

–Move the cursor up in lists

### Scroll Multi-Controller 1 down

–Move the cursor down in lists

### Tilt Multi-Controller 1 to the right

- Activate function in accordance with feedback
- Confirm selection/setting
- Scrolling through menu screens

### Tilt Multi-Controller 1 to the left

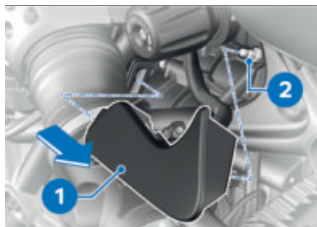
- Activate function in accordance with feedback or go back
- Change up one level in the hierarchy

## 104 OPERATION

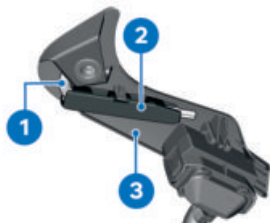
–Scrolling through menu screens

### RIDER'S SEAT

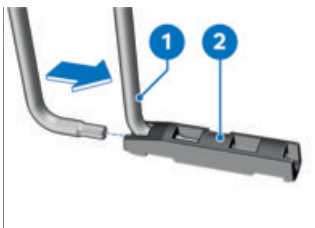
#### Removing rider's seat



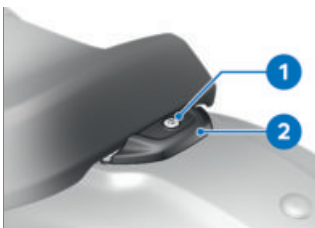
- Disengage cover **1** from holder **2** and remove it in the direction indicated by the arrow, noting the wiring of the diagnostic connector.



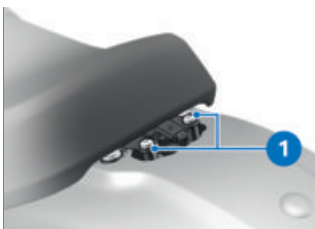
- Remove Torx wrench **1** with extension **2** from cover **3**.



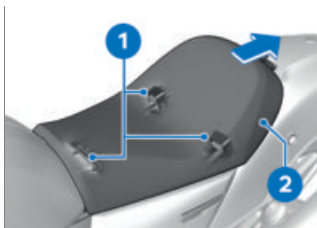
- Insert the short end of Torx wrench **1** into extension **2**.



- Remove screw **1** and remove cover **2**.

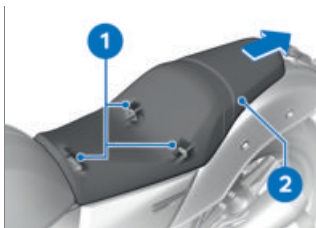


- Remove screws **1**.



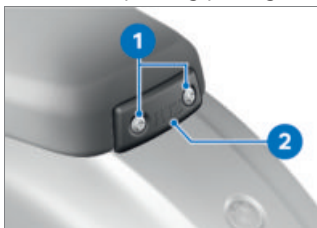
- Pull rider's seat **2** out of lugs **1** and remove.

—with two-up riding package<sup>OE</sup>

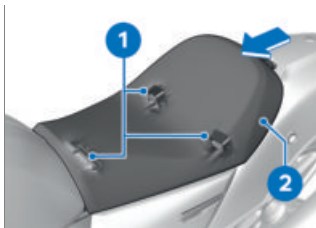


- Pull seat **2** out of lugs **1** and remove.◁

### Installing rider's seat



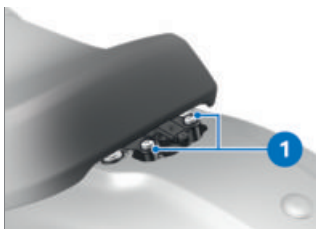
- Remove screws **1** and remove cover **2**.



- Position rider's seat **2** and push it into lugs **1**.

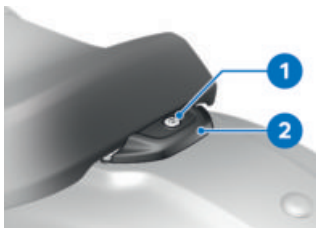


- Remove screw **1**.



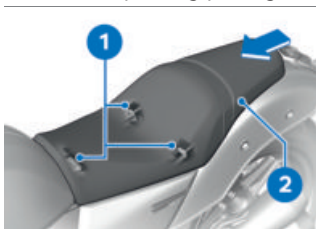
- Install screws **1**.

## 106 OPERATION



- Hold cover 2 in position and install screw 1.

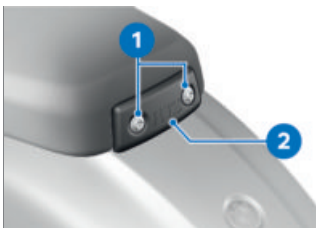
—with two-up riding package<sup>OE</sup>



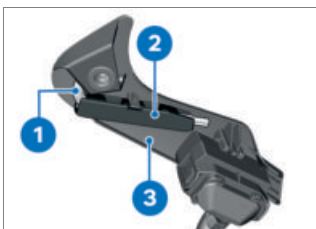
- Position seat 2 and push it into lugs 1.



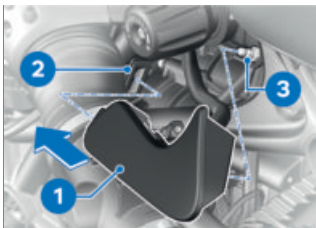
- Install screw 1.



- Hold cover 2 in position and install screws 1.◁



- Insert Torx wrench 1 with extension 2 into cover 3.



- Insert cover 1 in the direction indicated by the arrow into holder 2 and press it into holder 3, noting the wiring of the diagnostic connector.





# ADJUSTMENT

# 06

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|                        |            |
|------------------------|------------|
| <b>MIRRORS</b>         | <b>110</b> |
| <b>HEADLIGHT</b>       | <b>111</b> |
| <b>CLUTCH</b>          | <b>111</b> |
| <b>BRAKES</b>          | <b>112</b> |
| <b>SPRING PRELOAD</b>  | <b>113</b> |
| <b>DAMPING</b>         | <b>114</b> |
| <b>GEARSHIFT LEVER</b> | <b>115</b> |

# 110 ADJUSTMENT

## MIRRORS

### Adjusting mirrors



- Turn the mirror to the correct position.

—with Option 719 Billet Pack Shadow II<sup>OE</sup>



### DANGER

#### Functional impairment due to incorrect installation position

Risk of crash and accident

- Do not change the installation position of the mirror.
- 
- Turn the mirror head to the desired position.◁

### Adjusting mirror arm



- Push protective cap **1** over the threaded fastener of the mirror arm up to expose the threaded fastener.
- Slacken nut **2**.
- Turn the mirror arm to the appropriate position.
- Tighten the nut to the specified torque, while holding the mirror arm to ensure that it does not move out of position.



Mirror (lock nut) to adapter

M10 x 1.25

22 Nm (Left-hand thread)

- Push protective cap **1** over the threaded fastener.

## HEADLIGHT

### Headlight adjustment for right-hand or left-hand traffic

This motorcycle has a symmetric-beam low-beam headlight. If the motorcycle is ridden in a country where the opposite rule of the road applies, its symmetric low-beam headlight means that no measures are necessary to prevent the headlight beam from dazzling oncoming traffic.

### Headlight beam throw and spring preload

Headlight beam throw is kept constant when spring preload is adjusted to suit load.

 If there are doubts about the correct headlight beam throw, have the setting checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

## CLUTCH

### Adjusting clutch lever



#### WARNING

#### Relocated clutch-fluid reservoir

Air in the clutch system

- Do not turn the handlebars or the handlebar fitting on the handlebar.

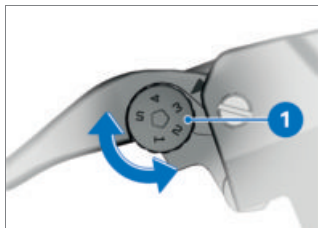


#### WARNING

#### Adjusting the clutch lever while riding

Risk of accident

- Adjust the clutch lever only when the motorcycle is at a standstill.



- Applying light pressure from behind, turn adjusting screw **1** to the desired position.



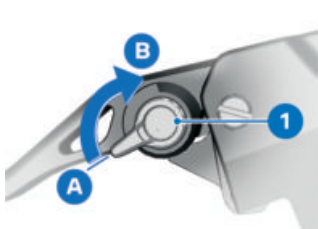
The adjusting screw can be turned more easily if

## 112 ADJUSTMENT

the clutch lever is pushed forward.

» Adjustment options:

- From position 1: narrowest span between handlebar grip and clutch lever
- To position 5: widest span between handlebar grip and clutch lever
- with Option 719 Billet Pack Shadow II<sup>OE</sup>



- Turn adjustment lever 1 to the desired position.
- » Adjustment options:
  - From position **A**: Narrowest span between handlebar grip and clutch lever.
  - In 5 steps toward position **B** to increase the span between handlebar grip and clutch lever.◀

### BRAKES

#### Adjusting handbrake lever



#### WARNING

##### Relocated brake fluid tank

Air in the brake system

- Do not turn the handlebars or the handlebar fitting on the handlebar.



#### WARNING

##### Adjusting the handbrake lever while riding

Risk of accident

- Do not attempt to adjust the handbrake lever unless the vehicle is at a standstill.



- Applying light pressure from behind, turn adjusting screw 1 to the desired position.

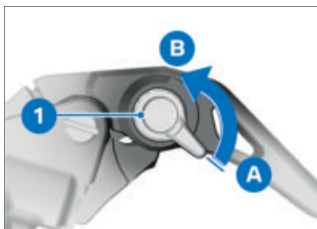


The adjusting screw is easier to turn when the handbrake lever is pushed forward.

» Adjustment options:

- From position 1: narrowest span between handlebar grip and handbrake lever
- To position 5: widest span between handlebar grip and handbrake lever

– with Option 719 Billet Pack Shadow II <sup>OE</sup>



- Turn adjustment lever 1 to the desired position.
- » Adjustment options:
- From position **A**: Narrowest span between handlebar grip and handbrake lever.
- In 5 steps toward position **B** to increase the span between handlebar grip and handbrake lever. ◁

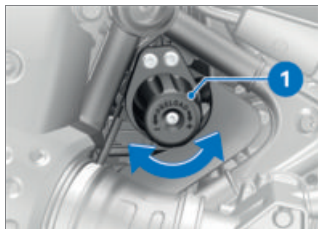
## SPRING PRELOAD

### Adjustment for rear suspension

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

### Adjusting spring preload for rear wheel

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



### WARNING

**Spring preload setting and spring-strut damping setting not matched.**

Impaired handling.

- Adjust spring-strut damping to suit spring preload.

## 114 ADJUSTMENT

- If you want to increase spring preload, turn adjuster knob **1** clockwise.
- If you want to reduce spring preload, turn adjuster knob **1** counter-clockwise.



Basic setting of the rear spring preload

Turn all the way counter-clockwise, then back off 6 turns clockwise (with full load of fuel, with rider weighing approx. 95 kg)

Turn all the way counter-clockwise, then back off 12 turns clockwise (One-up with luggage approx. 105 kg)

Turn all the way counter-clockwise, then back off 22 turns clockwise (Two-up with luggage approx. 165 kg)

- Adjust the damping characteristic to suit spring preload.



See the section on suspension in "Technical data" for a recommendation on how to set up the suspension.

- Adjust the damping for the rear wheel. (➡ 114)

### DAMPING

#### Adjustment

Damping must be adapted to suit the condition of the surface on which the motorcycle is ridden and to suit spring preload.

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

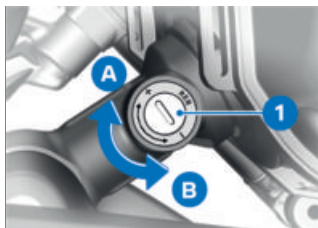
#### Adjusting damping for rear wheel

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



- Prepare the screwdriver from the on-board toolkit. (➡ 153)
- Adjust the damping characteristic, using the tool from the on-board toolkit to turn adjusting screw **1**.





- To increase damping: Use the tool from the on-board toolkit to turn adjusting screw **1** in direction **A**.
- To reduce damping: Use the tool from the on-board toolkit to turn adjusting screw **1** in direction **B**.



Basic setting of rear-suspension damping characteristic

Turn the adjusting screw clockwise as far as it will go, then back it off 6 full turns (One-up riding)

Turn the adjusting screw clockwise as far as it will go, then back it off 4 turn (One-up with luggage)

Turn the adjusting screw clockwise as far as it will go, then back it off 4 turn (Two-up riding)



Basic setting of rear-suspension damping characteristic

Turn the adjusting screw clockwise as far as it will go, then back it off 2 turn (Two-up with luggage)

## GEARSHIFT LEVER

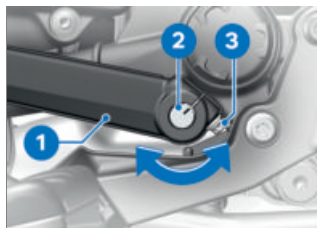


### ATTENTION

#### Unintentional operation of the gearshift lever

Damage to the gearbox

- Check that the gearshift lever is in the correct position.
- Make sure that the gearshift lever is under no load except when gearshifting is in progress.



- Remove screw **3**.
- Disengage gearshift lever **1** from gearshift shaft **2**.
- Hold gearshift lever **1** in the desired position relative to

## 116 ADJUSTMENT

the gearshift shaft and push it on to gearshift shaft **2**.

- Install screw **3**.



Gearshift lever to selector shaft

M6 x 25

8 Nm



**RIDING**

**07**

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|                                               |            |
|-----------------------------------------------|------------|
| <b>SAFETY INFORMATION</b>                     | <b>120</b> |
| <b>REGULAR CHECK</b>                          | <b>123</b> |
| <b>STARTING</b>                               | <b>123</b> |
| <b>RUNNING IN</b>                             | <b>125</b> |
| <b>SHIFTING GEAR</b>                          | <b>125</b> |
| <b>BRAKES</b>                                 | <b>126</b> |
| <b>PARKING YOUR MOTORCYCLE</b>                | <b>129</b> |
| <b>REFUELLING</b>                             | <b>130</b> |
| <b>SECURING MOTORCYCLE FOR TRANSPORTATION</b> | <b>132</b> |

## SAFETY INFORMATION

### Rider's equipment

Do not ride without the correct clothing! Always wear

- Helmet
- Suit
- Gloves
- Boots

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



### WARNING

**Loose textiles, items of luggage or straps snagged by open rotating parts of the vehicle (wheels, drive shaft)**

Risk of accident

- Make sure that loosely worn or carried textiles cannot be snagged by openly rotating parts of the vehicle.
- Keep all items of luggage and straps well clear of openly rotating parts of the vehicle.

## Load



### WARNING

**Handling adversely affected by overloading and imbalanced loads**

Risk of falling

- Do not exceed the permissible gross weight and be sure to comply with the instructions on loading.

- Set spring preload, damping characteristic and tyre pressures to suit total weight.
- Adjust tyre pressures to suit total weight.
- Pack heavy items at the bottom and toward the inboard side.

–with tank bag<sup>OA</sup>

- Note the maximum permissible payload of the tank bag (187 kg).

### Speed

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

- Spring-strut and shock-absorber system not set up correctly
- Imbalanced load
- Loose clothing
- Insufficient tyre pressure

- Poor tyre tread
- On-board luggage systems such as a tank bag or rear bag.

### Top speed



#### **DANGER**

#### **Top speed of the motorcycle higher than the permissible tyre maximum speed**

Risk of accident due to tyre damage at high speed

- Do not exceed the maximum speed for which the tyres are rated.

Always bear the maximum permissible speed of the tyres in mind when riding a motorcycle fitted with winter tyres.

Affix a label stating the maximum permissible speed to the instrument panel in the rider's field of vision.

#### **Risk of poisoning**

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



#### **WARNING**

#### **Exhaust gases adversely affecting health**

Risk of asphyxiation

- Do not inhale exhaust fumes.
- Do not run the engine in an enclosed space.



#### **WARNING**

#### **Inhalation of harmful vapours**

Health hazard

- Do not inhale vapours from operating fluids and plastics.
- Use the vehicle only outdoors.

### Risk of burning



#### **CAUTION**

#### **Engine and exhaust system become very hot when the vehicle is in use**

Risk of burning

- Always wear helmet, suit, gloves and boots.
- While riding and when you park the vehicle, make sure that no-one and no objects come into contact with the hot engine and exhaust system.

## 122 RIDING

### Catalytic converter



#### ATTENTION

#### Unburned fuel in catalytic converter

Damage to catalytic converter

- Note the points listed for protection of the catalytic converter.

If misfiring causes unburned fuel to enter the catalytic converter, there is a danger of overheating and damage.

The following guidelines must be observed:

- Do not run the fuel tank dry.
- Do not attempt to start or run the engine with a spark-plug cap disconnected.
- Stop the engine immediately if it misfires.
- Use only unleaded fuel.
- Comply with all specified maintenance intervals.

### Risk of overheating



#### ATTENTION

#### Engine running for prolonged period with vehicle at standstill

Overheating due to insufficient cooling; in extreme cases vehicle fire

- Do not allow the engine to idle unnecessarily.
- Ride away immediately after starting the engine.

### Tampering



#### ATTENTION

#### Tampering with the motorcycle (e.g. engine management ECU, throttle valves, clutch)

Damage to the affected parts, failure of safety-relevant functions, voiding of warranty

- Do not tamper with the vehicle in any way that could result in tuned performance.



## REGULAR CHECK

### Comply with checklist

At regular intervals, use the checklist below to check your motorcycle.

### Always before riding off

- Check operation of the brake system (156).
- Check operation of the lights and signalling equipment.
- Check operation of the clutch (161).
- Check the tyre tread depth (162).
- Check the tyre pressures (162).
- Check security of luggage.

### Every 3rd refuelling stop

- Check the engine oil level (154).
- Check the brake pad thickness, front brakes (156).
- Check the brake pad thickness, rear brakes (157).
- Check the brake-fluid level, front brakes (159).
- Check the brake-fluid level, rear brakes (160).

## STARTING

### Starting engine

- Switch on the ignition. (78)
- » Pre-Ride-Check and self-diagnoses are performed. (124)
- Select neutral or, if a gear is engaged, pull the clutch lever.

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

-  To ensure rapid operational readiness of the catalytic converter, idle speed is increased for a short time after engine start.
- Cold starts and low temperatures:
    - » Pull the clutch lever.



- Press starter button **1** and hold it down until the engine fires.

 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.

See the subsection on jump starting in "Maintenance" for more details.

» Consult the troubleshooting chart below if the engine refuses to start. (▮▮▮ 198)

Recharge the battery before you try again to start the engine, or use jump leads and a donor battery to start:

- Recharge the battery.

(▮▮▮ 176)

- Jump-start. (▮▮▮ 173)

 The start attempt is automatically interrupted if battery voltage is too low.

## Pre-Ride-Check and self-diagnosis

The instrument cluster runs a test of the instruments and the indicator and warning lights when the ignition is switched on. During the Pre-Ride-Check, all indicator and warning lights show temporarily.

» Self-diagnosis checks the functional readiness of the BMW Motorrad ABS and the BMW Motorrad ASC/DTC.



flashes.



slow-flashes.

» The indicator and warning lights go out when a speed of 5 km/h is reached.

» Self-diagnosis has completed.

If an error message appears when self-diagnosis completes:

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

## RUNNING IN

### Engine

- Until the first running-in check, vary the throttle opening and engine-speed range frequently; avoid riding at constant engine rpm for prolonged periods.
- Try to do most of your riding during this initial period on twisting, fairly hilly roads.
- Comply with the running-in speeds.



Running-in speed

<5000 min<sup>-1</sup> (Odometer reading 0...1000 km)

- Note the mileage after which the running-in check should be carried out.



Mileage until the first running-in check

500...1200 km

### Brake pads



#### WARNING

#### New brake pads

Longer stopping distance, risk of accident

- Apply the brakes in good time.

New brake pads have to be run in before they can achieve their optimum frictional force. You can compensate for this initial reduction in braking efficiency by exerting greater pressure on the levers.

### Tyres



#### WARNING

#### New tyres losing grip on wet roads and at extreme bank angles

Risk of accident

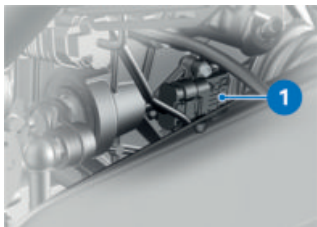
- Ride carefully and avoid extremely sharp inclines.

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

## SHIFTING GEAR

—with shift assistant Pro<sup>OE</sup>

## Gear Shift Assistant Pro



- Select the gears in the usual way by using the foot-operated gearshift lever.
- » The shift assistant assists upshifts and downshifts without the rider having to pull the clutch or close the throttle.
- This is not an automatic-shift system.
- The rider is the most important part of the system and decides when to shift gears.
- The sensor **1** on the gearshift shaft registers the gearshift request and triggers shift assistance.
- » When you are riding at constant speed or in overrun in a low gear with the engine revving high, shifting gear without disengaging the clutch can cause a severe reaction to the load change. BMW Motorrad recommends disengaging the clutch for shifts in these circumstances.
- » Shift assistance is not available in the following situations:
  - With clutch lever pulled.
  - Gearshift lever not in its initial position
- Once the gearshift has completed, the gearshift lever has to be fully released before another gearshift with the Pro can take place.
- For more information on Gear Shift Assistant Pro see the section headed "Engineering details" (145).

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## BRAKES

### How can stopping distance be minimised?

Each time the brakes are applied, a load distribution shift takes place with the load shifting forward from the rear to the front wheel. The sharper the motorcycle decelerates, the more load is shifted to the front wheel. The higher the wheel load, the more braking force can be transmitted without the wheel locking. To optimise stopping distance, apply the front brakes rapidly and keep on increasing the force you apply to the brake lever. This makes the best possible use of the dynamic

increase in load at the front wheel. Remember to pull the clutch at the same time. In the extreme sudden-stop braking situations that are trained so frequently, braking force is applied as rapidly as possible and with the rider's full force applied to the brake levers; under these circumstances the dynamic shift in load distribution cannot keep pace with the increase in deceleration and the tyres cannot transmit the full braking force to the surface of the road.

BMW Motorrad Integral ABS Pro prevents the front wheel from locking up.



### **WARNING**

#### **Rear wheel lift due to severe braking**

Risk of falling

- When you brake sharply, bear in mind that ABS control cannot always be relied on to prevent the rear wheel from lifting clear of the ground.

### **Emergency braking**

If you brake sharply from a speed in excess of >50 km/h, the brake light flashes rapidly as a warning for road users behind you.

If you brake until your speed is less than <15 km/h, the hazard warning lights start to flash as well. The hazard warning lights switch off automatically as soon as you start to accelerate and vehicle speed reaches 20 km/h.

### **Descending mountain passes**



### **WARNING**

#### **Braking mostly with the rear brake on mountain descents**

Brake fade, destruction of the brakes due to overheating

- Use both front and rear brakes, and make use of the engine's braking effect as well.



## DANGER

### Riding with overheated brakes

Risk of accident due to failure of brakes

- Adapt your riding style accordingly.
- Avoid frequent braking by using the engine brake.



## WARNING

### Failure to observe service intervals

Risk of accident

- Observe the valid service intervals for brakes.

## Wet and dirty brakes



## WARNING

### Wetness and dirt result in diminished braking efficiency

Risk of accident

- Apply the brakes lightly while riding to remove wetness and dirt, or dismount and clean the brakes.
- Think ahead and brake in good time until full braking efficiency is restored.

Wetness and dirt on the brake discs and the brake pads diminish braking efficiency.

Delayed braking action or poor braking efficiency must be reckoned with in the following situations:

- Riding in the rain or through puddles of water.
- After the vehicle has been washed.
- Riding on salted or gritted roads.
- After work has been carried on the brakes, due to traces of oil or grease.
- Riding on dirt-covered surfaces or off-road.

## ABS Pro

### Physical limits applicable to motorcycling



## WARNING

### Braking when cornering

Risk of crash despite ABS Pro

- Invariably, it remains the rider's responsibility to adapt riding style to riding conditions.
- Do not take risks that would negate the additional safety offered by this system.

### **Possibility of a fall not precluded**

Although ABS Pro and Dynamic Brake Control provide the rider with valuable assistance and constitute a huge advance in safety for braking with the motorcycle banked for cornering, they cannot under any circumstances be considered as re-defining the physical limits that apply to motorcycling. It is still possible for these limits to be overshoot due to misjudgement or rider error. In extreme cases this can result in a crash.

### **Use on public roads**

ABS Pro and Dynamic Brake Control help make the motorcycle even safer for riding on public roads. When the brakes are applied because of an unforeseen hazard when the motorcycle is banked for cornering, within the physical limits that apply to motorcycling the ABS Pro system prevents the wheels from locking and skidding away. In emergency braking, Dynamic Brake Control increases the braking effect and intervenes if the throttle grip is accidentally turned during braking.



ABS Pro was not developed to enhance individual braking performance with the motorcycle banked into corners.

---

## **PARKING YOUR MOTORCYCLE**

### **Side stand**

- Switch off the engine.



### **ATTENTION**

#### **Poor ground underneath the stand**

Risk of damage to parts if vehicle topples

- Always check that the ground under the stand is level and firm.



### **ATTENTION**

#### **Additional weight placing strain on the side stand**

Risk of damage to parts if vehicle topples

- Do not sit or lean on the vehicle while it is propped on the side stand.
- Extend the side stand and prop the motorcycle on the stand.
- If the camber of the roadway permits, turn the handlebars all the way to the left.

# 130 RIDING

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

## REFUELLING

### Fuel grade

#### Requirement

For optimum fuel consumption, fuel should be sulphur-free or as low-sulphur as possible.



### ATTENTION

#### Engine operation with leaded fuel

Damage to catalytic converter

- Do not attempt to run the vehicle on leaded fuel or fuel with metallic additives (e.g. manganese or iron).
- Observe the maximum ethanol content of the fuel.



Fuel additives clean the fuel injection system and the combustion zone. It is advisable to use fuel additives when the engine is operated with low-grade fuel or if the vehicle is to be out of use for a lengthy period of time. More information is available from your authorised BMW Motorrad retailer.



Recommended fuel grade



Premium unleaded (maximum 15 %



ethanol, E15)  
95 ROZ/RON  
90 AKI



Alternative fuel grade



Regular unleaded (maximum 15 % ethanol,



E15)  
91 ROZ/RON  
87 AKI

» Look for these symbols on the fuel filler cap and on the fuel pump:



## Refuelling



### WARNING

#### Fuel is highly flammable

Risk of fire and explosion

- Do not smoke. Never bring a naked flame near the fuel tank.



**WARNING**

**Escape of fuel due to heat-induced expansion if fuel tank is overfilled**

Risk of falling

- Do not overfill the fuel tank.

**ATTENTION****Component damage**

Component damage caused by overfilled fuel tank

- Overfilling the fuel tank will cause excess fuel to penetrate the carbon canister and cause component damage.
- Fill the fuel tank up to the lower edge of the filler neck only.

**ATTENTION****Wetting of plastic surfaces by fuel**

Damage to the surfaces (surfaces become unsightly or dull)

- Clean plastic surfaces immediately after contact with fuel.
- Make sure the ground is level and firm and place the motorcycle on its stand.



- Open the protective cap **2**.
- Use the vehicle key to unlock filler cap of fuel tank **1** by turning it clockwise, and flip the cap open.



- Refuel with fuel of the grade stated above; do not fill the tank past the bottom edge of filler neck **3**.



When refuelling after running on reserve, make sure that you top up the tank to a level above reserve, so that the new level is detected and the fuel reserve indicator light is switched off.

## 132 RIDING

 The "usable fuel capacity" specified in the technical data is the quantity that the fuel tank could hold if refilled after it had been run dry and the engine had cut out due to a lack of fuel.



Usable fuel capacity

approx. 14 l



Reserve fuel

approx. 3.5 l

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

### SECURING MOTORCYCLE FOR TRANSPORTATION

- Make sure that all components that might come into contact with straps used to secure the motorcycle are adequately protected against scratching. Use adhesive tape or soft cloths, for example, for this purpose.

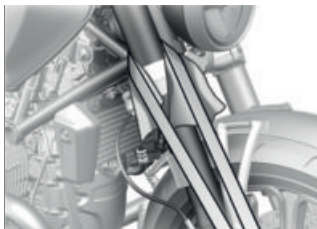


### ATTENTION

#### Vehicle topples to side when being lifted on to stand

Risk of damage to parts if vehicle topples

- Secure the vehicle to prevent it toppling, preferably with the assistance of a second person.
- Push the motorcycle onto the transportation flat and hold it in position: do not place it on the side stand.
- Have a helper hold the motorcycle to make sure that it cannot topple.



## ATTENTION

### Trapping of components

Component damage

- Do not trap components such as brake lines or cable legs.
- At the front, secure the tensioning straps to the bottom fork bridge on both sides.



- At the rear, secure the straps to the rear frame on both sides and tighten the straps.

—with two-up riding package<sup>OE</sup>



- At the rear, secure the tensioning straps to the brackets of the rear footrest on both sides and tension them.◁
- Uniformly tighten all the straps.
- » The vehicle's springs are compressed.

# ENGINEERING DETAILS

08

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## GENERAL NOTES

To find out more about engineering, go to:

**[bmw-motorrad.com/technik](http://bmw-motorrad.com/technik)**

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## ANTILOCK BRAKE SYSTEM (ABS)

### Partially integral brakes

Your motorcycle is equipped with partially integral brakes. Both front and rear brakes are applied when you pull the handbrake lever. The foot-brake lever acts only on the rear brake.



### ATTENTION

#### Attempted burn-out despite Integral braking function

Damage to rear brake and clutch

- Do not burn out tyres.

### How does ABS work?

The amount of braking force that can be transferred to the road depends on factors that include the coefficient of friction of the road surface. Loose stones, ice and snow or a wet road all have much lower coefficients of friction than a clean and dry asphalt surface. The lower the coefficient of friction,

the longer the stopping distance.

If the rider increases braking pressure to the extent that braking force exceeds the maximum transferable limit, the wheels start to lock and the vehicle loses its directional stability: A fall is imminent. Before this situation can occur, ABS intervenes and adapts braking pressure to the maximum transferable braking force. The wheels continue to turn and the driving stability is retained irrespective of the road condition.

### What are the effects of surface irregularities?

Surface irregularities can cause the wheels to lose contact temporarily with the road surface. If this happens the braking force that can be transmitted to the road can drop to zero. If the brakes are applied under these circumstances the ABS has to reduce braking force to ensure that directional stability is maintained when the wheels regain contact with the road surface. At this instant the ABS must assume an extremely low coefficient of friction (gravel, ice, snow), so that the wheels will continue to rotate under all imaginable circumstances, be-

cause this is the precondition for ensuring directional stability. As soon as it registers the actual circumstances, the system reacts instantly and adjusts braking force accordingly to achieve optimum braking.

### **What feedback does the rider receive from the BMW Motorrad Integral ABS?**

If ABS has to reduce braking force on account of the circumstances described above, vibration is perceptible through the handbrake lever.

When the handbrake lever is pulled, brake pressure is also built up at the rear wheel by the integral function. If the brake pedal is depressed after the handbrake lever is pulled, the brake pressure built up beforehand is perceptible as counter-pressure sooner than is the case when the brake pedal is depressed either before or at the same time as the brake lever is pulled.

### **Rear wheel lift**

Under very severe and sudden deceleration, however, it is possible that the BMW Motorrad ABS will be unable to prevent the rear wheel from lifting clear of the ground.

If this happens the outcome can be a highsiding situation in which the motorcycle can flip over.



### **WARNING**

#### **Rear wheel lift due to severe braking**

Risk of falling

- When you brake sharply, bear in mind that ABS control cannot always be relied on to prevent the rear wheel from lifting clear of the ground.

### **What is the design baseline for BMW Motorrad ABS?**

Within the limits imposed by physics, the BMW Motorrad ABS ensures directional stability on any surface.

At speeds above min. 4 km/h, within the limits imposed by physics the BMW Motorrad ABS can ensure directional stability on any surface. Limitations inherent to the design principle mean that at lower speeds the BMW Motorrad ABS cannot provide optimum assistance on all surfaces.

## 138 ENGINEERING DETAILS

The system is not optimised for special requirements that apply under extreme competitive conditions off-road or on the track.

### Special situations

The speeds of the front and rear wheels are compared as one means of detecting a wheel's incipient tendency to lock. If the system registers implausible values for a lengthy period the ABS function is deactivated for safety reasons and an ABS fault message is issued. Self-diagnosis has to complete before fault messages can be issued. In addition to problems with the BMW Motorrad ABS, exceptional riding conditions can lead to a fault message being issued:

- Riding for a lengthy period with the front wheel lifted off the ground (wheelie).
- Rear wheel rotating with the vehicle held stationary by application of the front brake (burn-out).
- Heating up with the motorcycle on the centre stand or an auxiliary stand, engine idling or with a gear engaged.

- Rear wheel locked for a lengthy period, for example while descending off-road.

If a fault message is issued on account of exceptional riding conditions, you can reactivate the ABS function by switching the ignition off and on again.

### How important is regular maintenance?



#### WARNING

#### Brake system not regularly serviced

Risk of accident

- In order to ensure that the BMW Motorrad ABS is always maintained in optimum condition, it is essential for you to comply strictly with the specified inspection intervals.

### Safety reserves

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





## WARNING

### Braking when cornering

Risk of accident despite ABS

- Invariably, the rider bears responsibility for assessing road and traffic conditions and adopting his or her style of riding accordingly.
- Do not take risks that would negate the additional margin of safety offered by this system.

### ABS Pro

ABS Pro increases safety, particularly for braking with the machine banked over in bends. ABS Pro prevents the wheels from locking even under sharp braking. ABS Pro reduces abrupt changes in steering force, particularly in shock-braking situations, counteracting the vehicle's otherwise natural but undesirable tendency to straighten up.

### ABS intervention

Technically speaking, depending on the riding situation ABS Pro adapts ABS intervention to the motorcycle's bank angle. Signals for rate of roll and rate of yaw and lateral acceleration are used

to calculate bank angle. They come from the angular rate sensor, an integral component of Dynamic Traction Control (DTC).

As the motorcycle is heeled over more and more as it banks into a corner, an increasingly strict limit is imposed on the brake-pressure gradient for the start of brake application. This slows the build-up of brake pressure to a corresponding degree. Additionally, pressure modulation is more uniform across the range of ABS intervention.

### Advantages for the rider

The advantages of ABS Pro for the rider are sensitive response and high braking and directional stability combined with best-case deceleration of the motorcycle, even when cornering.

---

## DYNAMIC TRACTION CONTROL (DTC)

### How does traction control work?

Traction control compares the front and rear wheel circumferential velocities. The differential is used to compute slip as a measure of the re-

serves of stability available at the rear wheel. If slip exceeds a certain limit, the electrical machine management system intervenes and adapts torque accordingly. Dynamic Traction Control (DTC) takes bank angle into consideration and on account of this additional bank-angle and acceleration data, its intervention is more precise and more comfortable for the rider.

BMW Motorrad DTC is designed as an assistant system for the rider and for use on public roads. The extent to which the rider affects DTC control can be considerable (weight shifts when cornering, items of luggage loose on the vehicle), especially when the style of riding takes rider and machine close to the limits imposed by physics.

The system is not optimised for special requirements that apply under extreme competitive conditions off-road or on the track. The BMW Motorrad DTC can be deactivated in these cases.



## **WARNING**

### **Risky riding**

Risk of accident despite DTC

- Invariably, the rider bears responsibility for assessing road and traffic conditions and adopting his or her style of riding accordingly.
- Do not take risks that would negate the additional safety offered by this system.

### **Special situations**

In accordance with the laws of physics, the ability to accelerate is restricted more and more as the angle of heel increases. Consequently, there can be a perceptible reduction in acceleration out of very tight bends.

If the electronic processor receives values for the bank angle that it considers implausible over a lengthy period, a dummy value is used for the bank angle or the DTC function is switched off. Under these circumstances the indicator for a DTC fault shows. Self-diagnosis has to complete before fault messages can be issued.

Traction control can shut down automatically under the excep-

tional riding conditions outlined below.

**Exceptional riding conditions:**

- Riding for a lengthy period with the front wheel lifted off the ground (wheelie).
- Rear wheel rotating with the vehicle held stationary by application of the front brake (burn-out).
- Heating up with the motorcycle on an auxiliary stand, in neutral or with a gear engaged.

If the front wheel lifts clear of the ground under severe acceleration, DTC either as a function of the riding mode or the DTC setting reduces engine torque until the front wheel regains contact with the ground. BMW Motorrad recommends turning the throttle grip back slightly when lifting the front wheel in order to reach a stable driving condition again as soon as possible.

---

## **DYNAMIC ENGINE BRAKE CONTROL (MSR)**

### **How does dynamic engine brake control work?**

The purpose of dynamic engine brake control is to prevent the unstable riding states that can be produced by excessive engine braking moment acting on the rear wheel. Depending on the road condition and riding dynamic, excessive braking torque can produce a sharp rise in rear-wheel slip and impair directional stability. Dynamic engine brake control limits this slip at the rear wheel to a safe, mode-dependent regulated slip.

### **Causes for excessive slip at the rear wheel:**

- Riding with engine overrun on a surface with a low coefficient of friction (e.g. wet leaves).
- Rear-wheel hop when rider downshifts.
- Sharp braking during sporty riding.

In the same way as DTC traction control, dynamic engine brake control compares the wheel circumferential velocities of the front and rear wheels. Additional information on the

## 142 ENGINEERING DETAILS

bank angle enables dynamic engine brake control to calculate slip and the reserve of stability at the rear wheel.

If slip overshoots the applicable limit value, the throttle valves are opened very slightly to increase engine torque. Slip is reduced and the vehicle is stabilised.

---

### BATTERY GUARD

#### What is the Battery Guard?

The Battery Guard monitors the battery's state of charge and battery voltage. The Battery Guard helps prevent deep discharge of the battery and enables appropriate recharging in accordance with the drain on the battery.

#### How does Battery Guard work?

As long as the vehicle is switched off, the state of charge or the voltage of the battery is checked once a day. If the system ascertains that the values measured in this way are too low, a warning message is issued after the ignition is switched on. Depending on the availability of BMW Motorrad Teleservices, warning messages can also be transmitted by electronic noti-

fication. More detailed information about the BMW Motorrad Teleservices is available from your authorised BMW Motorrad retailer.

Battery Guard has multi-sage reaction:

–**Low state of charge:** 12 V socket is activated. A charger connected to this socket can recharge the battery.

In combination with BMW Motorrad Teleservices:

–**Low state of charge:** Every three days, a warning message prompting for the battery to be recharged is transmitted.

–**Critical state of charge:** Every day, a warning message prompting for the battery to be recharged is transmitted.

---

### RIDING MODE

#### Selection

To adapt the motorcycle to the desired riding experience, any of the following riding modes can be selected:

–ROLL  
–ROCK

For each of these riding modes, there is a matching setting for the engine characteristic.

DTC can be switched off in each riding mode.

### **Engine characteristic**

- In ROLL riding mode: Optimum throttle response.
- In ROCK riding mode: Direct throttle response.

### **Mode changes**

The riding mode can be changed while the vehicle is stationary with the ignition on. Under the following precondition, it is also possible to change modes while riding:

- No drive torque on the rear wheel.
- No brake pressure in the brake system.

The following steps must be taken to change the riding mode:

- Close the throttle twistgrip.
- Release the brake levers.
- with cruise control<sup>OE</sup>
- Deactivate cruise control.

The desired riding mode is initially preselected. The mode change does not take place until the systems in question are all in the appropriate state.

The selection menu does not disappear from the display until the mode change has taken place.

---

## **DYNAMIC BRAKE CONTROL**

### **How Dynamic Brake Control works**

The Dynamic Brake Control function assists the rider in emergency braking situations.

#### **Detection of emergency braking**

- Sudden, sharp application of the front brake is interpreted as emergency braking.

#### **Behaviour in emergency braking**

- If emergency braking occurs at a speed in excess of min. 10 km/h, the ABS function is further assisted by Dynamic Brake Control.

#### **Behaviour during accidental actuation of the throttle grip**

- If the throttle is accidentally opened (throttle grip position > 5 %) during emergency braking, Dynamic Brake Control ensures the desired braking effect by ignoring actuation of the throttle grip. The effectiveness of emergency braking is ensured.

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- If the throttle is closed (throttle grip position < 5 %) while Dynamic Brake Control is in action, the engine torque requested by the ABS brake system is restored.
- If hazard braking ceases and the rider still has not changed the position of the throttle grip, Dynamic Brake Control steadily ramps engine torque back to the rider's requested level.

### TYRE PRESSURE CONTROL (RDC)

- with tyre pressure control (RDC)<sup>OE</sup>

#### Function

A sensor integrated into each tyre measures the air temperature and the air pressure inside the tyre and transmits this information to the control unit. Each sensor has a centrifugal-force tripswitch that does not enable transmission of the measured values until the motorcycle has accelerated to a defined minimum speed for the first time.



Minimum speed for transmission of the RDC measured values:

min. 30 km/h

The display shows -- for each tyre until the tyre-pressure signal is received for the first time. The sensors continue to transmit the measured-value signals for some time after the vehicle comes to a stop.



Time for transmission of measured values after vehicle comes to a stop:

min. 15 min

An error message is issued if wheels without sensors are fitted to a vehicle equipped with an RDC control unit.

#### Tyre pressure ranges

The RDC control unit differentiates between three tyre-pressure ranges, all of which are parameterised for the motorcycle:

- Tyre pressure within permitted tolerance.
- Tyre pressure close to limit of permitted tolerance.
- Tyre pressure outside permitted tolerance.

#### Temperature compensation

Tyre pressure is a temperature-sensitive variable: pressure increases as tyre-air temperature rises and decreases as tyre-air temperature drops. Tyre air temperature depends on ambient temperature as well as on

the style of riding and the duration of the ride.

The tyre-pressure readings in the display are temperature-compensated and are always referenced to a tyre-air temperature of 20 °C.

The air lines available to the public in petrol stations and motorway service areas have gauges that do not compensate for temperature; the reading shown by a gauge of this nature is the temperature-dependent tyre-air pressure. As a result, the values displayed there usually do not correspond to the values displayed in the display.

### Pressure adaptation

Compare the RDC value in the instrument cluster with the value in the table on the back cover of the rider's manual. Then use the air-line gauge at a service station to compensate for the difference between the RDC reading and the value in the table.



Example

According to the operating instructions, the tyre pressure should be:



Example

2.5 bar

The instrument cluster shows the following value:

2.3 bar

So pressure is low by:

0.2 bar

The gauge on the air line shows:

2.4 bar

You must now increase tyre pressure until the value is:

2.6 bar

## GEAR SHIFT ASSISTANT

—with shift assistant Pro<sup>OE</sup>

### Gear Shift Assistant Pro

Your vehicle is equipped with Gear Shift Assistant Pro, a system originally developed for racing and now adapted for the touring sector. It permits upshifts and downshifts without declutching or closing the throttle in virtually all load and rpm ranges.

The engine control system supports gear changes as a function of:

## 146 ENGINEERING DETAILS

- Required gear
- Engine rpm
- Position of the throttle twistgrip

The rider bears responsibility for use of the shift assistant and must take the riding situation and safety and comfort aspects duly into consideration.

### Advantages

- A large proportion of gearshifts can be carried out without using the clutch.
- Less relative movement between rider and passenger because the shift pauses are shorter.
- It is not necessary to close the throttle twistgrip when shifting under acceleration.
- When downshifting (throttle twistgrip closed), engine speed is adjusted by blipping the throttle.
- Shift time is shorter than a gearshift with clutch actuation.

The rider indicates a gearshift request by moving the gearshift lever from what was an untouched position at normal to snappy speed in the appropriate direction and following this movement through to the mechanical limit position of the

gearshift operation. Once the gearshift has completed the shift lever has to be fully released before another gearshift with the Pro shift assistant can take place. In order to optimise shift quality when shifting gears with the Gear Shift Assistant Pro, the rider has to keep load state (throttle twistgrip position) constant before and during the gearshift. The Gear Shift Assistant Pro provides no assistance for gearshifts when the rider declutches.

### Downshifting

- Downshifting is assisted until maximum rpm for the target gear to be selected is reached. This prevents over-revving.



Maximum engine speed

max. 8500 min<sup>-1</sup>

### Upshifting

- Upshifting is assisted until engine speed is below idle rpm in the target gear. This prevents the engine from dropping below idle speed.
- On account of the operating principle, a certain loss of comfort and perceptibly sharper load-change reactions



can be experienced if the system is used for upshifts on overrun, particularly in low gears.

---

## **HILL START CONTROL PRO (HSC PRO)**

—with Hill Start Control<sup>OE</sup>

### **Hill Start Control function**

Hill Start Control Pro is a pullaway assistant that operates on the partially integral ABS system to prevent the vehicle from rolling back on a gradient, without the rider having to keep pressure applied to the brake lever. When Hill Start Control Pro is activated, pressure is built up in the rear brake system to keep the machine at a standstill on a gradient (► 98).

The brake pressure in the brake system is dependent on the gradient.

### **Effect of an incline on brake pressure and drive-off behaviour**

—If the motorcycle is stopped on a gentle incline, only low brake pressure is built up. In this case, the brakes are quickly released when driving off.

—If the motorcycle is stopped on a steep incline, high brake pressure is built up. In this case, the brakes take longer to release when driving off. More torque is required for driving off which also requires the rider to turn the throttle grip again.

### **Behaviour when the motorcycle rolls or slips**

—If the vehicle starts to roll while Hill Start Control Pro is active, brake pressure is increased.

—If the rear wheel locks up, the brake is released again after approx. 1 m. This prevents the vehicle slipping with a locked rear wheel, for example.

### **Brake release when engine is stopped or after time-out**

Hill Start Control Pro is deactivated if the rider stops the engine by hitting the emergency-off switch (kill switch) or when the side stand is extended or at the end of a ten-minute timeout.

In addition to the indicator and warning lights, the rider should be made aware that Hill Start Control Pro has been deactivated.

tivated by the following behaviour:

### Brake warning jolt

- The brake is released briefly and reactivated immediately.
- This creates a jolt which the rider feels.
- The partial integral ABS brake system limits the speed of movement to approx. 1...2 km/h.
- The rider must brake the motorcycle manually.
- After two minutes, or if the brake is actuated, the partially integral ABS brake system stops speed-control intervention.

 The holding pressure is released immediately without a brake warning jolt as soon as the ignition is switched off.

to the low-beam headlight, enabling the headlight to illuminate the inside of the bend as the motorcycle banks for cornering. The cornering headlight is optimised for slight to moderate bank angles.

The cornering headlight is activated under the following conditions:

- Cornering at a slight to moderate bank angle.
- Speed is min. 10 km/h.
- The low-beam headlight is switched on.

---

### CORNERING HEADLIGHT

–with Headlight Pro<sup>OE</sup>

#### Function

In addition to the bulbs for low beam, high beam and, if applicable, daytime riding light or side light, the headlight has separate LED segments for the cornering light. The LED segments are activated as a function of bank angle in addition



# MAINTENANCE

09

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## GENERAL NOTES

The Maintenance chapter describes straightforward procedures for checking and replacing certain wear parts.

Special tightening torques are listed as applicable. The tightening torques for the threaded fasteners on your vehicle are listed in the section entitled "Technical data".

Some of the work calls for special tools and a thorough knowledge of the technology involved. If in doubt consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Microencapsulated screws

The microencapsulation is a chemical thread-locker. An adhesive compound creates a secure connection between bolt and nut or between screw and component. Consequently, microencapsulated screws are for once-only use and are not intended for re-installation after being slackened.

Regardless of whether the procedure involves removal or installation, the threaded bore always has to be cleaned. After removal of the screw, clean the

internal thread to remove all traces of thread-locking compound. Always use new microencapsulated screws when re-assembling. Prior to disassembly make sure that you have suitable tools for cleaning the threads and a new replacement for each screw to be removed. If the job is not done correctly there is no guarantee that the screw will remain secure, which means that you would be putting yourself at risk!

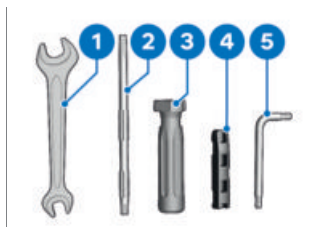
### Non-reusable cable ties

Non-reusable cable ties are used at some points to secure cables and lines. To prevent damage to cables and lines when these items are being removed, it is essential to use a suitable tool, for example diagonal cutting pliers, for their removal.

Cables and lines detached beforehand by the removal of non-reusable cable ties have to be re-secured with new non-reusable cable ties.

Use cable-tie clippers to clip off the excess length of the cable ties.

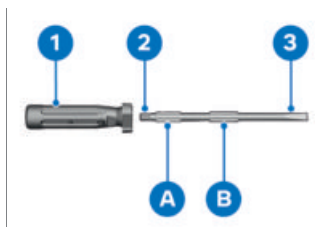
## TOOLKIT



- 1** Open-ended spanner  
Width across flats 10/  
14 mm  
–Adjust the mirror arm.  
(➡ 110)
- 2** Reversible screwdriver  
blade  
Plain-tip blade and  
Torx T25  
–Adjust the damping  
for the rear wheel.  
(➡ 114)
- 3** Screwdriver handle  
–Topping up the engine  
oil. (➡ 155)  
–Use with open-end  
spanner
- 4** Extension for Torx  
wrench  
–Remove the rider's seat.  
(➡ 104)
- 5** Torx wrench, T30  
–Remove the rider's seat.  
(➡ 104)

- 5** –Use with extension

## PREPARING SCREWDRIVER FROM ON-BOARD TOOLKIT



- Push Torx T25 bit **2** or plain-tip blade **3** into screwdriver handle **1**.
- The length of plain-tip blade **3** can be adjusted by insertion in position **A** (long) or **B** (short).

## FRONT-WHEEL STAND

### Installing front-wheel stand



### ATTENTION

#### Use of the front wheel stand without accompanying use of auxiliary stand

Risk of damage to parts if vehicle topples

- Place the motorcycle on an auxiliary stand before lifting the front wheel with the front-wheel stand.

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- Make sure the motorcycle is standing firmly.
- Place the motorcycle on an auxiliary stand.
- Install the rear-wheel stand. (111111 154)
- See the instructions issued with the front-wheel stand for the details of the correct procedure for installation.

---

### REAR-WHEEL STAND

#### Install the rear-wheel stand

- The description of how to fit the rear-wheel stand correctly will be found in the instructions for the stand.

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### ENGINE OIL

#### Checking engine oil level

 To avoid unnecessary environmental impact, BMW Motorrad recommends checking the engine oil after riding min. 50 km.



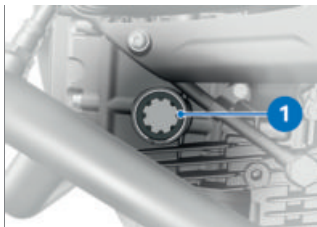
#### ATTENTION

**Misinterpretation of oil level reading, because oil level is temperature-dependent (the higher the temperature, the higher the oil level)**

Engine damage due to incorrect oil filling

- Check the oil level only after a lengthy ride or when the engine is at operating temperature.
- Switch off the engine when it is at operating temperature.
- Wait five minutes for the oil to drain into the oil pan.



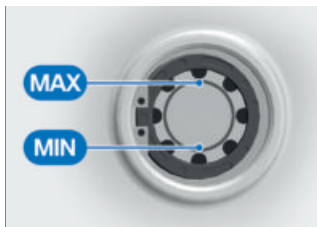


### ATTENTION

#### Vehicle toppling sideways

Risk of damage to parts if vehicle topples

- Secure the vehicle, preferably with the assistance of a second person, so that it cannot topple sideways.
- Make sure the ground is level and firm and hold the motorcycle upright.
- Check the oil level in sight glass **1**.



Engine oil, specified level

Between **MIN** and **MAX** marks

If the oil level is below the **MIN** mark:

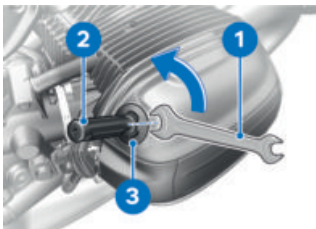
- Topping up the engine oil. (155)

If the oil level is above the **MAX** mark:

- Have the oil level corrected by a specialist workshop, preferably an authorised BMW Motorrad retailer.

#### Topping up engine oil

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



- Wipe the area around the oil filler opening clean.
- For more leverage, engage open-end spanner **1** on screwdriver handle **2** (on-board toolkit).
- Engage screwdriver handle **2** in oil filler plug **3** and turn counter-clockwise.
- Remove oil filler plug **3**.



## ATTENTION

### Use of insufficient engine oil or too much engine oil

## Engine damage due to incorrect oil filling

- Always make sure that the engine oil level is correct.

- Top up the engine oil to the specified level.



Engine oil, quantity for topping up

max. 0.5 | (Difference  
between **MIN** and **MAX**)

- Check the engine oil level.  
( 154)

- Install oil filler plug **3**.

## BRAKE SYSTEM

## Check operation of the brakes

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

If pressure points are not clearly perceptible:



## ATTENTION

**Work on brake system not in compliance with correct procedure**

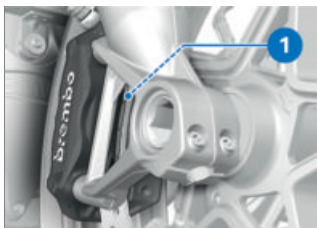
Risk to operational reliability  
of the brake system

- Have all work on the brake system undertaken by trained and qualified specialists.

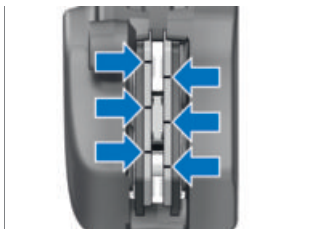
- Have the brakes checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

## Checking brake pad thickness, front brakes

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



- Visually inspect the left and right brake pads to ascertain their thickness. Viewing direction: Between wheel and front suspension toward brake pads **1**.



Brake-pad wear limit,  
front

1.0 mm (friction pad only, without backing plate. The wear indicators (grooves) must be clearly visible.)

If the wear indicating marks are no longer visible:



## WARNING

### Brake-pad thickness less than permissible minimum

Diminished braking effect, damage to the brakes

- In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.

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

### Checking brake pad thickness, rear brakes

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



- Visually inspect the brake pads to ascertain their thickness. Viewing direction: From the left toward the brake caliper.



Brake-pad wear limit,  
rear

1.0 mm (friction pad only, without backing plate. Make sure that the brake disc is not visible through the bore in the inboard brake block.)

If the brake disc is visible:



## WARNING

### Brake-pad thickness less than permissible minimum

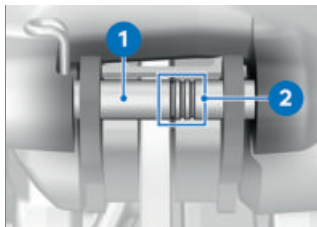
Diminished braking effect, damage to the brakes

- In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.

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

### Brake pad wear

The rear wheel brake has a brake-pad wear indicator.



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

**How to interpret the marks:**

- 3 rings visible: min. 75% brake pad thickness
- 2 rings visible: min. 50% brake pad thickness
- 1 ring visible: min. 25% brake pad thickness
- No ring visible: Wear limit has been reached, check as described above

**Checking brake-fluid level, front brakes****WARNING****Not enough brake fluid in brake fluid reservoir, or contaminants in brake fluid**

Considerably reduced braking power due to presence of air, contaminants or water in the brake system

- Cease operation of the vehicle immediately and do not ride it until the fault has been rectified.
- Check the brake-fluid levels at regular intervals.
- Always make sure that the lid of the brake fluid reservoir and the area around the lid are cleaned before opening.
- Make sure that only fresh brake fluid from a sealed container is used.

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



- Turn the handlebars to a position in which the brake fluid reservoir is horizontal.
- Check the brake fluid level in sight glass **1**.



Wear of the brake pads causes the brake fluid level in the reservoir to sink.



Brake fluid level, front

Brake fluid, DOT4

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Brake fluid level, front

It is not permissible for the brake fluid level to be below the **MIN** mark (Brake-fluid reservoir horizontal, motor-cycle upright.)

If the brake fluid level drops below the permitted level:

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

### Checking brake-fluid level, rear brakes

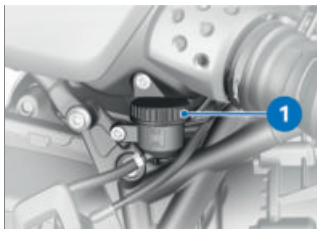


#### WARNING

#### **Not enough brake fluid in brake fluid reservoir, or contaminants in brake fluid**

Considerably reduced braking power due to presence of air, contaminants or water in the brake system

- Cease operation of the vehicle immediately and do not ride it until the fault has been rectified.
  - Check the brake-fluid levels at regular intervals.
  - Always make sure that the lid of the brake fluid reservoir and the area around the lid are cleaned before opening.
  - Make sure that only fresh brake fluid from a sealed container is used.
- 
- Make sure the ground is level and firm and hold the motor-cycle upright.



### ATTENTION

#### Vehicle toppling sideways

Risk of damage to parts if vehicle topples

- Secure the vehicle, preferably with the assistance of a second person, so that it cannot topple sideways.

- Check the brake fluid level in brake fluid reservoir for rear wheel brake **1**.



Wear of the brake pads causes the brake fluid level in the reservoir to sink.



Brake fluid level, rear

Brake fluid, DOT4

It is not permissible for the brake fluid level to be below the **MIN** mark. (Brake-fluid reservoir horizontal)

If the brake fluid level drops below the permitted level:

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

## CLUTCH

### Checking operation of the clutch

- Pull the clutch lever.
- » The pressure point must be clearly perceptible.

If the pressure point is not clearly perceptible:

- Have the clutch checked by a specialist workshop,

# 162 MAINTENANCE

preferably an authorised  
BMW Motorrad retailer.

## TYRES

### Checking tyre pressures



#### WARNING

##### **Incorrect tyre pressure**

Impaired handling characteristics of the motorcycle, shorter useful tyre life

- Always check that the tyre pressures are correct.



#### WARNING

##### **Tendency of valve inserts installed vertically to open by themselves at high riding speeds**

Sudden loss of tyre pressure

- Install valve caps fitted with rubber sealing rings and tighten firmly.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Check tyre pressures against the data below.



Tyre pressure, front

2.3 bar (tyre cold)

2.5 bar (two-up and with luggage, tyre cold)



Tyre pressure, rear

2.5 bar (one-up, tyre cold)

2.9 bar (two-up and with luggage, tyre cold)

With incorrect tyre pressure:

- Correct tyre pressure.

### Check the tyre tread depth



#### WARNING

##### **Riding with badly worn tyres**

Risk of accident due to impaired handling

- If applicable, have the tyres changed in good time before they wear to the minimum tread depth permitted by law.
  - Make sure the ground is level and firm and place the motorcycle on its stand.
  - Measure the tyre tread depth in the main tread grooves with wear marks.
-  Each tyre has wear indicators integrated into the main tread grooves. The tyre has reached its wear limit when the tread has worn down to the level of the wear indicators. The locations of the marks are indicated on the



edge of the tyre, e.g. by the letters TI, TWI or by an arrow.

If the tyre tread is worn to minimum:

- Replace tyre or tyres, as applicable.

---

## WHEEL RIMS

### Checking rims

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

### Check the spokes

—with Option 719 wheel Classic<sup>OE</sup>

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Draw the handle of a screwdriver or a similar instrument across the spokes and listen to the sequence of sounds made by the individual spokes.

If there is a variation in the sequence of sounds:

- Have the spokes checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

---

## WHEELS

### Effect of wheel size on chassis and suspension control systems

Wheel size is very important as a parameter for the suspension control systems such as ABS, for example. In particular, the diameter and the width of a vehicle's wheels are programmed into the control unit and are fundamental to all calculations. Any change in these influencing variables, caused for example by a switch to wheels other than those installed ex-works, can have serious effects on the performance of the control systems.

The sensor rings are essential for correct road-speed calculation, and they too must match the motorcycle's control systems and consequently cannot be changed.

If you decide that you would like to fit non-standard wheels to your motorcycle,

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it is very important to consult a specialist workshop beforehand, preferably an authorised BMW Motorrad retailer. In these cases, the data programmed into the control units has to be changed to suit the new wheel sizes.

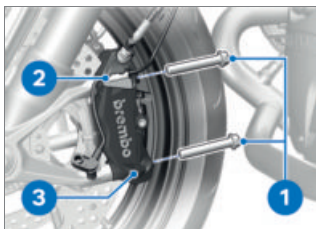
### Removing front wheel

 The front-wheel cover must be loosened on one side to facilitate removal and installation of the front wheel.

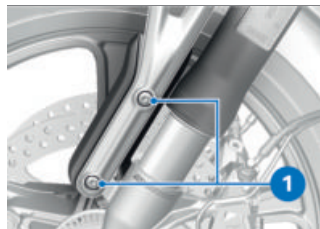
- Place the motorcycle on an auxiliary stand.
- Install the rear-wheel stand. (154)
- Raise front of motorcycle until the front wheel can turn freely.
- Install the front-wheel stand. (153)



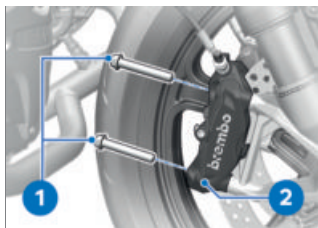
- Disengage the sensor cable from holders **2**.
- Remove screw **1** and remove wheel speed sensor **3** from its bore.



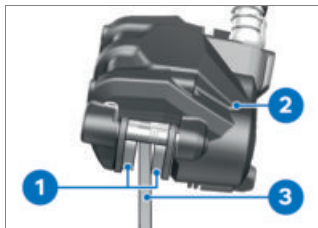
- Remove screws **1** on the left side.
- Disengage holder **2** for the sensor cable and brake caliper **3**.



- Remove screws **1**.



- Remove screws **1** on the right side and disengage brake caliper **2**.



- Force brake pads **1** slightly apart by rocking brake caliper **2** back and forth against brake disc **3**.

### **ATTENTION**

#### **Unwanted inward movement of the brake pads**

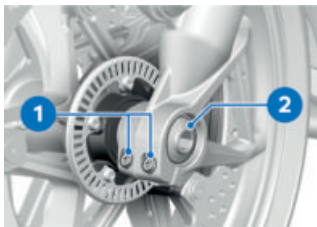
- Component damage on attempt to install the brake caliper or because brake pads have to be forced apart
- Do not operate the brakes with a brake caliper not correctly secured.

### **ATTENTION**

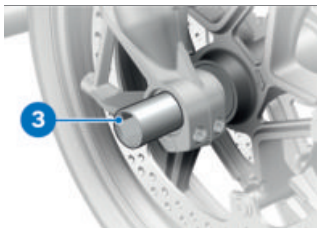
#### **Use of hard or sharp-edged objects in proximity to component**

- Component damage
- Take care not to scratch components; cover or mask as necessary.

- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.
- Carefully pull the brake calipers back and out until clear of the brake discs.



- Slacken screw **2**, but **do not remove it**.
- Slacken clamping bolts **1** on left and right.
- Press quick-release axle with screw **2** slightly toward the inside, so as to be better able to grip it on the right-hand side.
- Remove screw **2**.



- Withdraw quick-release axle **3**, support the front wheel when doing this.
- Set down front wheel and roll forwards out of the front suspension.



- Remove spacing bushing **4** from the front wheel hub.

## Installing front wheel



### WARNING

#### Use of a non-standard wheel

Malfunctions in operation of ABS and DTC

- See the information on the effect of wheel size on the ABS and DTC systems at the start of this chapter.



### ATTENTION

#### Tightening threaded fasteners to incorrect tightening torque

Damage, or threaded fasteners work loose

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



- Lubricate the friction face of spacer bushing **4**.



Lubricant

Unirex N3

- Insert spacer bushing **4**, turned with the collar facing out, into the wheel hub on the left-hand side.

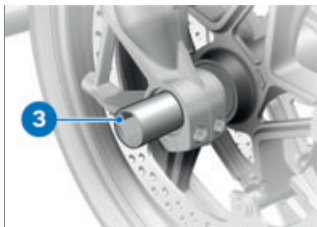


### ATTENTION

#### Front wheel installed wrong way round

Risk of accident

- Note direction-of-rotation arrows on tyre or rim.
- Roll the front wheel into position between the forks of the front suspension.



- Lubricate quick-release axle **3**.



Lubricant

Unirex N3



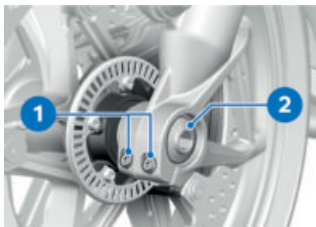
### WARNING

#### Improper installation of the quick-release axle

Loosening of the front wheel

- After securing the brake calipers and relieving the front forks, tighten the quick-release axle and the axle clamping to the specified tightening torque.
- Lift the front wheel and insert quick-release axle **3**.
- Remove front-wheel stand and firmly compress front forks several times. Do not operate the handbrake lever in this process.
- Install the front-wheel stand. (153)

## 168 MAINTENANCE



- Install screw **2**. In this process, counter-hold the quick-release axle on the right side.

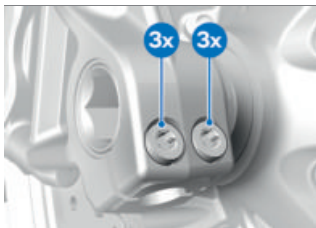


Screw to quick-release axle

M20 x 1.5

50 Nm

- Tighten clamping bolts **1** on left and right to the specified torque.



Clamping screws in axle holder

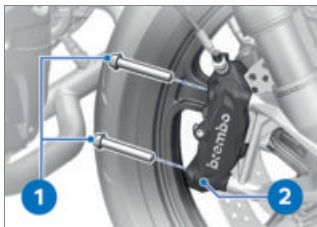
Tightening sequence: Tighten screws six times in alternate sequence

M6 x 30



Clamping screws in axle holder

12 Nm



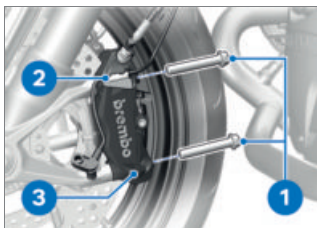
- Hold right brake caliper **2** in position and install screws **1**.



Brake caliper to telescopic fork

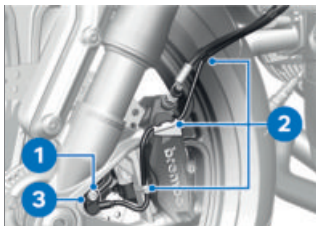
M10 x 65

38 Nm



- Hold left brake caliper **3** and holder for sensor cable **2** in position.
- Install screws **1**.

|                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------|
|  Brake caliper to telescopic fork |
| M10 x 65                                                                                                           |
| 38 Nm                                                                                                              |



- Insert wheel speed sensor **3** into its bore and install screw **1**.

|                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------|
|  Wheel-speed sensor to fork leg |
| M6 x 20                                                                                                          |
| 8 Nm                                                                                                             |

- Insert the sensor cable into holders **2**.



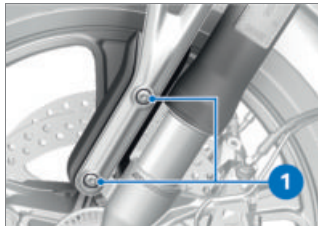
## WARNING

### Brake pads not lying against the brake disc

Risk of accident due to delayed braking effect.

- Before driving, check that the brakes respond without delay.

- Operate the brake several times until the brake pads are bedded.
- Remove the adhesive tape from the wheel rim.



- Tighten screws **1**.

|                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------|
|  Full-size wheel trim, front, to fork |
| M5 x 25                                                                                                                |
| Thread-locking compound: micro-encapsulated                                                                            |
| 5 Nm                                                                                                                   |

- Remove the front-wheel stand.
- Extend the side stand.
- Remove the rear-wheel stand.
- Place the motorcycle on its side stand.

## Removing rear wheel

- Place the motorcycle on an auxiliary stand.
- Install the rear-wheel stand. (154)

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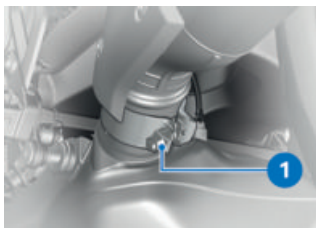


## CAUTION

### Hot exhaust system

Risk of burn injury

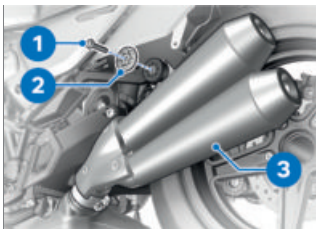
- Do not touch a hot exhaust system.
- Allow rear silencer to cool down.



- Slacken nut **1** of the clamp and slip the clamp to the rear.



The clamp is designed for one-time installation only and has to be replaced before the silencer is installed.



- Remove screw **1** and retaining plate **2** of the holder of the silencer.
- Work silencer **3** to the rear to remove and lay it on a padded surface.



- Engage first gear.
- Support the wheel and remove screws **1**.
- Tilt the rear wheel to the side to remove.



## Installing rear wheel



### WARNING

#### Use of a non-standard wheel

Malfunctions in operation of ABS and DTC

- See the information on the effect of wheel size on the ABS and DTC systems at the start of this chapter.

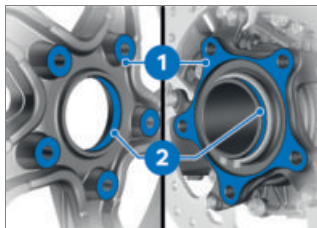


### ATTENTION

#### Tightening threaded fasteners to incorrect tightening torque

Damage, or threaded fasteners work loose

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



- Clean the contact surfaces of wheel hub **1** and wheel centring spigot **2**.



### ATTENTION

#### Use of hard or sharp-edged objects in proximity to component

Component damage

- Take care not to scratch components; cover or mask as necessary.

- Seat the rear wheel on the rear-wheel adapter.



- Install bolts **1** and tighten to the specified torque.



Rear wheel to wheel carrier

Tightening sequence: Tighten in diagonally opposite sequence

M10 x 53 x 1.25

60 Nm

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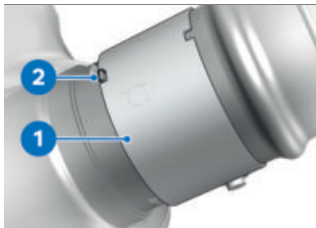
- Lightly lubricate the inner face of new clamp **4**.



Lubricant

Optimoly TA

- Slide new clamp **4** on to silencer **3**.
- Slip silencer **3** on to the pipe at the exhaust flap.
- Align silencer **3**, hold retaining plate **2** in position and install screw **1**, but do not tighten the screw yet.



- Align the new clamp with recess **1** at retaining lug **2**.  
» Retaining lug engages recess in the clamp.



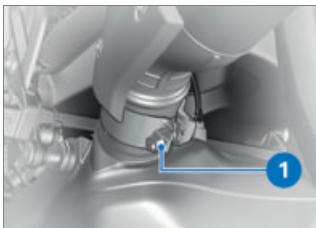
- Tighten screw **1**.



Silencer to rear frame

M8 x 40

19 Nm



- Tighten nut **1** of the clamp.



Clamp to silencer and exhaust manifold

Joining compound: Lubricate inner face of clamp, Optimoly TA

28 Nm

- Extend the side stand.
- Remove the rear-wheel stand.
- Place the motorcycle on its side stand.

---

## LIGHTING

### Replacing LED light sources



#### WARNING

**Vehicle overlooked in traffic due to failure of the lights on the vehicle**

Safety risk

- Always replace a faulty bulb at the earliest possible opportunity. Consult a specialist workshop, preferably an authorised BMW Motorrad Retailer.

All light sources of the vehicle are LED light sources. The service life of the LED light sources is longer than the presumed vehicle service life. If an LED light source is faulty contact a specialist workshop, preferably an authorised BMW Motorrad retailer.

---

## JUMP-STARTING



#### CAUTION

**Touching live parts of the ignition system when the engine is running**

Electric shock

- Do not touch parts of the ignition system when the engine is running.



#### ATTENTION

**Excessive current flowing when the motorcycle is jump-started**

Wiring smoulders/ignites or damage to the on-board electronics

- If the motorcycle has to be jump-started connect the leads to the battery terminals; never attempt to jump-start the engine by connecting leads to the on-board socket.



## ATTENTION

### Contact between crocodile clips of jump leads and vehicle

Risk of short-circuit

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



## ATTENTION

### Contact between remote positive terminal and vehicle

Short-circuit hazard

- Remove the protective cap only to permit use of the remote positive terminal and re-install the protective cap after use.



## ATTENTION

### Jump-starting with a voltage greater than 12 V

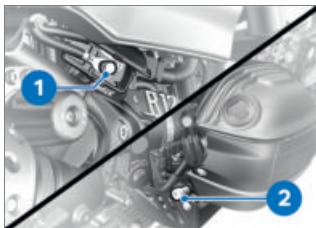
Damage to the on-board electronics

- Make sure that the battery of the donor vehicle has a voltage rating of 12 V.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- When jump-starting the engine, do not disconnect the

battery from the on-board electrical system.



- Unclip protective cap 1 from lock 2 and remove.

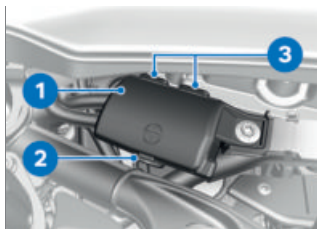


- Begin by connecting one end of the red jump lead to remote positive terminal 1 and the other end to the positive terminal of the donor battery.
- Connect one end of the black jump lead to your vehicle's remote ground terminal 2 and the other end to the negative terminal of the donor battery.
- Run the engine of the donor vehicle during jump-starting.
- Start the engine of the vehicle with the discharged battery

in the usual way; if the engine does not start, wait a few minutes before repeating the attempt in order to protect the starter motor and the donor battery.

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

- Allow both engines to idle for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from remote ground terminal **2** first, then disconnect the second jump lead from remote positive terminal **1**.



- Insert protective cap **1** into holder **3** and clip it into lock **2**.
- » Protective cap **1** engages with an audible click.

## BATTERY

### Maintenance instructions

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

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

- Keep the surface of the battery clean and dry.
- Do not open the battery.
- Do not top up with water.
- Be sure to read and comply with the instructions for charging the battery on the following pages.
- Do not turn the battery upside down.



Battery type

AGM battery (Absorbent Glass Mat)



## ATTENTION

### **On-board electronics (e.g. clock) draining connected battery**

Battery is deep-discharged; this voids the guarantee

- Connect a float charger to the battery if the motorcycle is to remain out of use for more than four weeks.



BMW Motorrad has developed a float charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, the battery can be kept charged during long periods of disuse, without having to be disconnected from the vehicle's on-board systems. For more information, consult an authorised BMW Motorrad retailer.

## Recharging battery



## ATTENTION

### **Recharging a fully discharged battery via the power socket or extra socket**

Damage to the vehicle electronics

- If a battery has discharged to the extent that it is completely flat (battery voltage less than 12 V, status-indicator lights and display remain off when the ignition is switched on) it has to be recharged with the charger connected to the remote positive terminal and the remote ground terminal of the battery.



## ATTENTION

### **Unsuitable chargers connected to a socket**

Damage to charger and vehicle electronics

- Use suitable BMW chargers. The suitable charger is available from your authorised BMW Motorrad dealer.

- Charge the battery via the power socket.

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

- Comply with the operating instructions of the charger.

 If you are unable to charge the battery through the on-board socket, you may be using a charger that is not compatible with your motorcycle's electronics. In this case, charge the battery via the remote positive terminal and the remote ground terminal of the battery.

- Charge the battery via the remote positive terminal and the remote ground terminal.
- Switch off the ignition.

( 78)



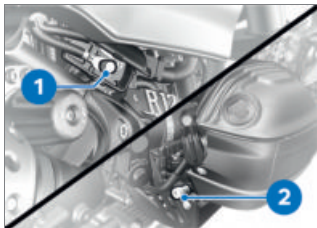
### ATTENTION

#### Contact between remote positive terminal and vehicle

Short-circuit hazard

- Remove the protective cap only to permit use of the remote positive terminal and re-install the protective cap after use.

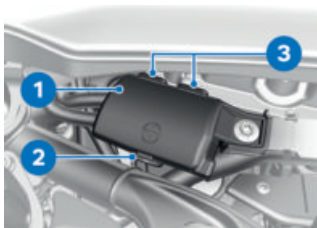
- Unclip protective cap **1** from lock **2** and remove.



- Connect remote positive terminal **1** to the positive terminal of the charger.

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- Connect remote ground terminal **2** to the negative terminal of the charger.
- When charging finishes, disconnect the charger from remote ground terminal **2** first, then disconnect it from remote positive terminal **1**.



- Insert protective cap **1** into holder **3** and clip it into lock **2**.
- » Protective cap **1** engages with an audible click.

### Replacing battery

If the battery is faulty consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

## FUSES

### Replacing fuses



### ATTENTION

#### Jumping of blown fuses

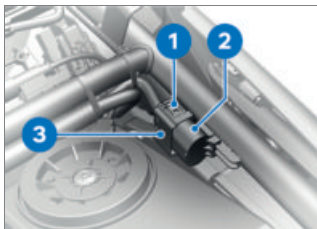
Risk of short-circuit and fire

- Never attempt to jumper a blown fuse.
- Always replace a defective fuse with a new fuse of the same amperage.



If fuse defects recur frequently have the electric circuits checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

- Switch off the ignition.
  - Make sure the ground is level and firm and place the motorcycle on its stand.
  - Remove the rider's seat.
- (►► 104)

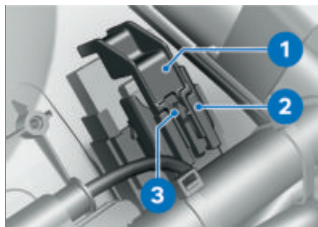


- For **fuse assignment I**, press latches **1** on both sides



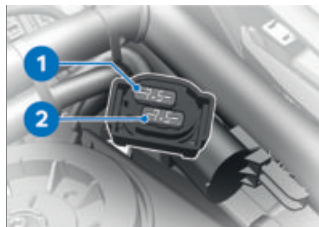
and pull fuse box **3** out of holder **2**.

- Consult the fuse assignment diagram below and replace the defective fuse.
- Re-insert fuse box **3** into holder **2**. Make sure that lock **1** engages.



- For **fuse assignment II** use plain-tip blade from on-board toolkit to open latch **3** and lift cover **1** up to remove.
- Consult the fuse assignment diagram below and replace the defective fuse.
- Re-insert cover **1** into holder **2**.
- » Lock **3** engages.
- Install the rider's seat.  
( 105)

### Fuse assignment I



- 1** 7.5 A  
Instrument cluster  
Anti-theft alarm  
Diagnostic socket
- 2** 7.5 A  
Keyless Ride

### Fuse assignment II



- 1** 60 A  
Main fuse
- 2** 15 A  
Multifunction switch  
Instrument cluster  
CCP

## DIAGNOSTIC CONNECTOR

### Disengaging diagnostic socket

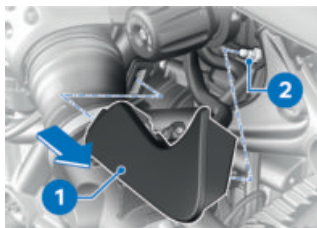


#### CAUTION

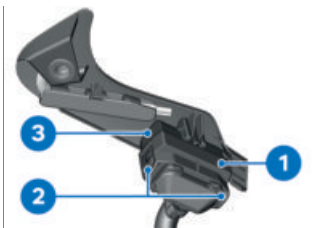
#### Incorrect disconnection of the diagnostic socket for on-board diagnosis

Malfunctions of the vehicle

- Do not disconnect the diagnostic socket or allow it to be disconnected except in the course of a BMW Motorrad service by a specialist workshop or by other authorised persons.
- Have the work carried out by appropriately trained personnel.
- Comply with the stipulations of the vehicle manufacturer.



- Disengage cover **1** from holder **2** and remove it in the direction indicated by the arrow, noting the wiring of the diagnostic connector.



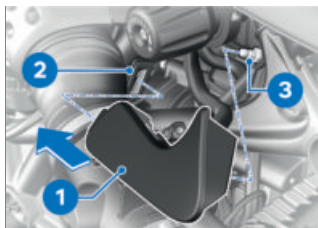
- Press diagnostic connector **1** lightly into holder **3** and at the same time press latches **2** on diagnostic connector **1**.
- Disengage diagnostic socket **1** from holder **3**.
  - » The interface to the diagnosis and information system can be connected to the diagnostic connector **1**.

#### Securing diagnostic socket

- Disconnect the interface for the diagnosis and information system.



- Insert diagnostic socket **1** into holder **3**.
  - » The locks **2** engage.



- Insert cover **1** in the direction indicated by the arrow into holder **2** and press it into holder **3**, noting the wiring of the diagnostic connector.

# ACCESSORIES

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|                             |            |
|-----------------------------|------------|
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| <b>POWER SOCKETS</b>        | <b>184</b> |
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## GENERAL NOTES



### CAUTION

#### Use of other-make products

##### Safety risk

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

BMW has conducted extensive testing of the parts and accessory products to establish that they are safe, functional and suitable. Consequently, BMW accepts responsibility for the products. BMW accepts no liability whatsoever for parts and accessories that it has not approved.

All modifications must be in compliance with legal requirements. Make sure that the vehicle does not infringe the national road-vehicle construction and use regulations applicable in your country. Your authorised BMW Motorrad retailer can offer expert advice on the choice of genuine BMW parts, accessories and other products. To find out more about accessories go to:

**[bmw-motorrad.com/equipment](http://bmw-motorrad.com/equipment)**

## POWER SOCKETS

### Connection of electrical devices

- You can start using electrical devices connected to the motorcycle's sockets only when the ignition is switched on.

### Cable routing

- The cables from the power sockets to the auxiliary devices must be routed in such a way that they do not impede the rider.
- The cable routing should not restrict the steering angle or obstruct handling.
- The cables must not be trapped.

### Automatic shutdown

- The sockets will be automatically switched off during the start procedure.
- The power supply to the sockets is switched off 60 seconds after the ignition is switched off, in order to prevent overloading of the on-board electrics. Low-wattage electrical accessories might not be recognised by the vehicle's electronics. In such cases, power sockets are switched off very shortly after the ignition is turned off.
- If the battery charge state is too low to maintain the motorcycle's start capability, the power sockets are switched off.
- The power sockets are also switched off when the maximum load capability as stated in the technical data is exceeded.

---

### USB CHARGING SOCKET

- mit ConnectedRide Control<sup>OE</sup>

### Notes on use



#### WARNING

#### Obstruction of the steering angle and risk of fire due to improperly routed cables

Driving safety is impaired

- Do not wind cables around the handlebars, and ensure that the handlebars can move freely.
- When routing the cable, ensure that the cable does not come into contact with hot components.



#### ATTENTION

#### Vibrations when vehicle is moving

Damage to mobile phones carried on the vehicle

- Make sure that the mobile phone carried on the vehicle is suitable for use on the vehicle. Ask the manufacturer about related usage restrictions and comply with the information provided.

### Automatic shutdown

The USB charging sockets are shut down automatically under the following circumstances:

## 186 ACCESSORIES

- If battery charge state is too low, to maintain the vehicle's start capability.
- If the maximum load capacity as stated in the technical data is exceeded.
- During the starting operation.

### Connection of electrical devices

You can start using electrical devices connected to the USB charging sockets only when the ignition is switched on. The power supply to the USB charging sockets is switched off 60 seconds after the ignition is switched off, in order to prevent overloading of the on-board electrics.

While riding in the rain, you should disconnect the device from the interface in order to protect against damage. To prevent dirtying, keep the protective cover closed when no device is connected.

### Cable routing

Note the following with regard to the routing of cables from USB charging sockets to items of electronic equipment:

- Make sure that cables do not impede the rider.
- Make sure that cables do not restrict the steering angle or obstruct handling.
- Make sure that cables cannot be trapped.

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## LUGGAGE

### Securing luggage to motorcycle

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#### WARNING

#### Handling adversely affected by overloading and imbalanced loads

Risk of falling

- Do not exceed the permissible gross weight and be sure to comply with the instructions on loading.

- Load. (120)
- Stow luggage in genuine BMW Motorrad accessories.
- » You can obtain additional information on luggage systems and how to secure them correctly from your authorised BMW Motorrad retailer.



## Maximum payload and maximum speed

—with tank bag<sup>OA</sup>

Note the maximum payload and the maximum permissible speed. Always load luggage in such a way that the motorcycle's stability against toppling over is sustained.

The values for the combination described here are as follows:

|                                                                                   |                                                 |
|-----------------------------------------------------------------------------------|-------------------------------------------------|
|  | Payload of tank rucksack                        |
| ≤5 kg                                                                             |                                                 |
|  | Maximum speed for riding with a loaded tank bag |
| ≤130 km/h                                                                         |                                                 |

—With side bag<sup>OA</sup>

|                                                                                     |                                      |
|-------------------------------------------------------------------------------------|--------------------------------------|
|    | Maximum load of side bag             |
| max. 5 kg (per bag)                                                                 |                                      |
|  | Speed limit for riding with side bag |
| max. 130 km/h                                                                       |                                      |

## OPTIONAL ACCESSORIES

### Available optional accessories



Your BMW Motorrad retailer can offer expert advice on the choice of genuine BMW parts, accessories and other products such as the aluminium tail-hump cover and the cover for the rear frame, for example. You can examine all the optional accessories from BMW Motorrad by visiting: **[bmw-motorrad.com](http://bmw-motorrad.com)**.

**CARE**

**11**

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|                                           |            |
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| <b>CARE PRODUCTS</b>                      | <b>190</b> |
| <b>WASHING THE VEHICLE</b>                | <b>190</b> |
| <b>CLEANING EASILY DAMAGED COMPONENTS</b> | <b>191</b> |
| <b>CARE OF PAINTWORK</b>                  | <b>192</b> |
| <b>PAINT PRESERVATION</b>                 | <b>193</b> |
| <b>LAYING UP MOTORCYCLE</b>               | <b>193</b> |
| <b>RESTORING MOTORCYCLE TO USE</b>        | <b>194</b> |

## CARE PRODUCTS



### ATTENTION

#### Use of unsuitable cleaning and care products

Damage to vehicle parts

- Do not use solvents such as cellulose thinners, cold cleaners, fuel or the like, and do not use cleaning products that contain alcohol.



### ATTENTION

#### Use of strongly acidic or strongly alkaline cleaning agents

Damage to vehicle parts

- Dilute in accordance with the dilution ratio stated on the packaging of the cleaning agent.
- Do not use strongly acidic or strongly alkaline cleaning agents.

BMW Motorrad recommends that you use the cleaning and care products you can obtain from your authorised BMW Motorrad retailer.

BMW Motorrad The substances in Care Products have been tested in laboratories and

in practice; they provide optimised care and protection for the materials used in your vehicle.

## WASHING THE VEHICLE



### WARNING

#### Wet brake discs and brake pads after vehicle wash, after riding through water and in rainy conditions

Diminished braking effect, risk of accident

- Apply the brakes in good time to allow the friction and heat to dry the brake discs and brake pads.



### ATTENTION

#### Damage due to high water pressure from high pressure cleaners or steam cleaners

Corrosion or short circuit, damage to labels, seals, hydraulic brake system, electrical system and the motorcycle seat

- Exercise restraint when using a steam jet or high pressure cleaning equipment.

BMW Motorrad recommends that you use BMW insect remover to soften and wash off

insects and stubborn dirt on painted parts prior to washing the vehicle.

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

Remove dirt from the fork legs at regular intervals.

Make sure that the vehicle is washed frequently, especially during the winter months or if it is ridden on salted roads.



### ATTENTION

#### Effect of road salt intensified by warm water

Corrosion

- Use only cold water to remove road salt deposits.

To remove road salt deposits, clean the vehicle and mounted parts, as applicable, with cold water immediately after every trip.



After a ride in the rain, when humidity is high or after the vehicle has been washed, condensation might form inside the headlight. This can cause temporary fogging on the headlight lens. If moisture is constantly present inside the headlight consult a spe-

cialist workshop, preferably an authorised BMW Motorrad retailer.

## CLEANING EASILY DAMAGED COMPONENTS

### Plastics



### ATTENTION

#### Use of unsuitable cleaning agents

Damage to plastic surfaces

- Do not use cleaning agents that contain alcohol, solvents or abrasives.
- Do not use insect-remover pads or cleaning pads with hard, scouring surfaces.

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

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



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

## 192 CARE

### Chrome

Carefully clean chrome parts with plenty of water and motorcycle cleaner from the BMW Care Products range. This is particularly important to counter the effects of salt. Use BMW Motorrad metal polish for additional treatment.

### Radiator



#### ATTENTION

#### Bending of radiator fins

Damage to radiator fins

- Take care not to bend the radiator fins when cleaning.

Clean the radiator at regular intervals to prevent overheating of the engine due to inadequate cooling.

Use a garden hose with low water pressure, for example, for this purpose.

### Rubber



#### ATTENTION

#### Application of silicone sprays to rubber seals

Damage to the rubber seals

- Do not use silicone sprays or care products that contain silicon.

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

### CARE OF PAINTWORK



#### ATTENTION

#### Damage to paintwork due to metal polish

Risk of damage

- Do not treat painted surfaces and chrome-painted surfaces with metal polish.

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

Remove particularly aggressive substances immediately, however, as otherwise the paint can be affected or become discoloured. Substances of this nature include spilt fuel, oil, grease, brake fluid and bird droppings. For this, we recommend BMW Motorrad solvent cleaner followed by BMW Motorrad gloss polish for preservation.

Marks on the paintwork are particularly easy to see after

the vehicle has been washed. Remove stains of this kind at the earliest possible opportunity, using benzine or petroleum spirit on a clean cloth or ball of cotton wool. BMW Motorrad recommends using BMW tar remover for removing specks of tar. Then apply preserving agent to the areas treated in this way.

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## PAINT PRESERVATION

If water no longer rolls off the paint, the paint must be preserved.

For paint preservation, BMW Motorrad recommends the use of BMW Motorrad gloss polish or agents containing carnauba wax or synthetic wax.

 Do not use chrome polish to preserve chrome paints. Use only the agents recommended by BMW Motorrad.

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## LAYING UP MOTORCYCLE

- Fill the motorcycle's fuel tank.

 Fuel additives clean the fuel injection system and the combustion zone. It is advisable to use fuel additives when the engine is operated with low-grade fuel or if the

vehicle is to be out of use for a lengthy period of time. More information is available from your authorised BMW Motorrad retailer.

- Clean the motorcycle.
- Spray the brake-lever and clutch-lever pivots mounts with suitable lubricant.
- Coat bright metal and chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Stand the motorcycle in a dry room in such a way that there is no load on either wheel (preferably using the front-wheel and rear-wheel stands from BMW Motorrad).
- If applicable, connect the charger.

 BMW Motorrad has developed a float charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, the battery can be kept charged during long periods of disuse, without having to be disconnected from the vehicle's on-board systems. For more information, consult an authorised BMW Motorrad retailer.

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## RESTORING MOTORCYCLE TO USE

- Remove the protective wax coating.
- Clean the motorcycle.
- Recharge the battery, if applicable.
- Note the checklist (➡ 123).





# TECHNICAL DATA

12

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|                               |            |
|-------------------------------|------------|
| <b>TROUBLESHOOTING CHART</b>  | <b>198</b> |
| <b>THREADED FASTENERS</b>     | <b>199</b> |
| <b>FUEL</b>                   | <b>201</b> |
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## TROUBLESHOOTING CHART

Engine does not start or is difficult to start.

| Possible cause                                                                                               | Rectification                                                                        |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Kill switch activated.                                                                                       | Kill switch in operating position (run).                                             |
| Side stand is extended and gear is engaged.                                                                  | Retract the side stand.                                                              |
| Gear is engaged and clutch is not pressed.                                                                   | Select neutral or pull the clutch lever.                                             |
| Fuel tank is empty.                                                                                          | Refuel. (➡ 130)                                                                      |
| Battery is flat.                                                                                             | Recharge the battery.<br>(➡ 176)                                                     |
| Starter motor overheating protection has tripped. The starter motor can be operated for a limited time only. | Allow the starter motor to cool down for approximately 1 minute before trying again. |

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**THREADED FASTENERS**

| Front wheel                             | Value                                                                                | Valid |
|-----------------------------------------|--------------------------------------------------------------------------------------|-------|
| <b>Brake caliper to telescopic fork</b> |                                                                                      |       |
| M10 x 65                                | 38 Nm                                                                                |       |
| <b>Clamping screws in axle holder</b>   |                                                                                      |       |
| M6 x 30                                 | <b>Tightening sequence:</b><br><b>Tighten screws six times in alternate sequence</b> |       |
|                                         | 12 Nm                                                                                |       |
| <b>Screw to quick-release axle</b>      |                                                                                      |       |
| M20 x 1.5                               | 50 Nm                                                                                |       |
| <b>Wheel-speed sensor to fork leg</b>   |                                                                                      |       |
| M6 x 20                                 | 8 Nm                                                                                 |       |

| Rear wheel                         | Value                                                                         | Valid |
|------------------------------------|-------------------------------------------------------------------------------|-------|
| <b>Rear wheel to wheel carrier</b> |                                                                               |       |
| M10 x 53 x 1.25                    | <b>Tightening sequence:</b><br><b>Tighten in diagonally opposite sequence</b> |       |
|                                    | 60 Nm                                                                         |       |

## 200 TECHNICAL DATA

| Mirror arm                          | Value                      | Valid |
|-------------------------------------|----------------------------|-------|
| <b>Mirror (lock nut) to adapter</b> |                            |       |
| M10 x 1.25                          | Left-hand thread,<br>22 Nm |       |

| Front-wheel cover                           | Value | Valid |
|---------------------------------------------|-------|-------|
| <b>Full-size wheel trim, front, to fork</b> |       |       |
| M5 x 25, Renew screw<br>micro-encapsulated  | 5 Nm  |       |

| Gearshift shaft                          | Value | Valid |
|------------------------------------------|-------|-------|
| <b>Gearshift lever to selector shaft</b> |       |       |
| M6 x 25                                  | 8 Nm  |       |

| Frame                         | Value | Valid |
|-------------------------------|-------|-------|
| <b>Silencer to rear frame</b> |       |       |
| M8 x 40                       | 19 Nm |       |

| Exhaust system                                              | Value | Valid |
|-------------------------------------------------------------|-------|-------|
| <b>Clamp to silencer and exhaust manifold</b>               |       |       |
| Replace clamp<br>Lubricate inner face of clamp, Optimoly TA | 28 Nm |       |
| <b>Silencer to rear frame</b>                               |       |       |
| M8 x 40                                                     | 19 Nm |       |

## FUEL

|                                   |                                                                                                                                                                                                                                          |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended fuel grade            |  Premium unleaded (maximum 15 % ethanol, E15)<br> 95 ROZ/RON<br>90 AKI |
| Alternative fuel grade            |  Regular unleaded (maximum 15 % ethanol, E15)<br> 91 ROZ/RON<br>87 AKI |
| Usable fuel capacity              | approx. 14 l                                                                                                                                                                                                                             |
| Reserve fuel                      | approx. 3.5 l                                                                                                                                                                                                                            |
| Fuel consumption                  | 5.1 l/100 km, in accordance with WMTC                                                                                                                                                                                                    |
| CO2 emission                      | 119 g/km, in accordance with WMTC                                                                                                                                                                                                        |
| Exhaust emissions standard        | EU 5                                                                                                                                                                                                                                     |
| —with Canada export <sup>NV</sup> | TIER 2, measured in accordance with FTP75                                                                                                                                                                                                |

## ENGINE OIL

|                                     |                                                                                                                                                                                                      |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engine oil, capacity                | max. 3.95 l, with filter change                                                                                                                                                                      |
| Specification                       | SAE 15W-50, API SJ / JASO MA2, Additives (e.g. molybdenum-based) are not permissible because they can attack coated components of the engine, BMW Motorrad recommends BMW Motorrad ADVANTEC Pro oil. |
| Engine oil, quantity for topping up | max. 0.5 l, Difference between <b>MIN</b> and <b>MAX</b>                                                                                                                                             |

## 202 TECHNICAL DATA

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### ENGINE

|                                              |                                                                     |
|----------------------------------------------|---------------------------------------------------------------------|
| Engine number location                       | Crankcase, bottom right, below starter motor                        |
| Engine type                                  | A72B12B                                                             |
| Engine design                                | Air-/oil-cooled four-stroke opposed-twin boxer.                     |
| Displacement                                 | 1170 cm <sup>3</sup>                                                |
| Cylinder bore                                | 101 mm                                                              |
| Piston stroke                                | 73 mm                                                               |
| Compression ratio                            | 12:1                                                                |
| Nominal capacity                             | 70 kW, at rpm: 6500 min <sup>-1</sup>                               |
| —with power reduction to 35 kW <sup>OE</sup> | 35 kW, at rpm: 5250 min <sup>-1</sup>                               |
| Torque                                       | 110 Nm, at rpm: 6000 min <sup>-1</sup>                              |
| —with power reduction to 35 kW <sup>OE</sup> | 98 Nm, at rpm: 3000 min <sup>-1</sup>                               |
| Maximum engine speed                         | max. 8500 min <sup>-1</sup>                                         |
| Idle speed                                   | 1150±50 min <sup>-1</sup> , Engine at regular operating temperature |

---

### CLUTCH

|             |                         |
|-------------|-------------------------|
| Clutch type | Single-plate dry clutch |
|-------------|-------------------------|

---

### TRANSMISSION

|                      |                                                             |
|----------------------|-------------------------------------------------------------|
| Type of transmission | Claw-shift 6-speed gearbox in separate transmission housing |
|----------------------|-------------------------------------------------------------|



|                             |                                                                                                                                                                                                                                         |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gearbox transmission ratios | 1.737, Primary transmission ratio<br>2.375 (38:16 teeth), 1st gear<br>1.696 (39:23 teeth), 2nd gear<br>1.296 (35:27 teeth), 3rd gear<br>1.065 (33:31 teeth), 4th gear<br>0.939 (31:33 teeth), 5th gear<br>0.848 (28:33 teeth), 6th gear |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## FINAL DRIVE

|                            |                                                                |
|----------------------------|----------------------------------------------------------------|
| Type of final drive        | Shaft drive with bevel gears                                   |
| Type of rear suspension    | Cast aluminium single swinging arm with BMW Motorrad Paralever |
| Gear ratio of final drive  | 2.909                                                          |
| Rear axle differential oil | FUCHS Titan EG 4218 SAE 70W-80                                 |

## FRAME

|                                               |                                    |
|-----------------------------------------------|------------------------------------|
| Frame type                                    | Tubular spaceframe                 |
| Type plate location                           | Frame, front left at steering head |
| Position of the vehicle identification number | Main frame front right at bottom   |

## CHASSIS AND SUSPENSION

|                          |                             |
|--------------------------|-----------------------------|
| <b>Front wheel</b>       |                             |
| Type of front suspension | Upside-down telescopic fork |
| Spring travel, front     | 90 mm, at wheel             |

## 204 TECHNICAL DATA

| Rear wheel                                              |                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of rear-wheel suspension                           | Central spring strut with coil spring, adjustable rebound stage damping and spring preload                                                                                                                                                                                                                                                                                                                                 |
| Spring travel at rear wheel                             | 90 mm, at wheel                                                                                                                                                                                                                                                                                                                                                                                                            |
| Basic setting of the rear spring preload                | Turn all the way counter-clockwise, then back off 6 turns clockwise, with full load of fuel, with rider weighing approx. 95 kg<br>Turn all the way counter-clockwise, then back off 12 turns clockwise, One-up with luggage approx. 105 kg<br>Turn all the way counter-clockwise, then back off 22 turns clockwise, Two-up with luggage approx. 165 kg                                                                     |
| Basic setting of rear-suspension damping characteristic | Turn the adjusting screw clockwise as far as it will go, then back it off 6 full turns, One-up riding<br>Turn the adjusting screw clockwise as far as it will go, then back it off 4 turn, One-up with luggage<br>Turn the adjusting screw clockwise as far as it will go, then back it off 4 turn, Two-up riding<br>Turn the adjusting screw clockwise as far as it will go, then back it off 2 turn, Two-up with luggage |

## BRAKES

### Front wheel

|                             |                                               |
|-----------------------------|-----------------------------------------------|
| Type of front brake         | Twin disc brakes with 4-piston fixed calipers |
| Brake-pad material, front   | Sintered metal                                |
| Brake disc thickness, front | min. 4.0 mm, Wear limit                       |

### Rear wheel

|                            |                                                  |
|----------------------------|--------------------------------------------------|
| Type of rear brake         | Single-disc brake with 2-piston floating caliper |
| Brake-pad material, rear   | Organic material                                 |
| Brake disc thickness, rear | min. 4.5 mm, Wear limit                          |

## WHEELS AND TYRES

|                                  |                                                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Recommended tyre combinations    | Your authorised BMW Motorrad retailer will be happy to supply an up-to-date list of the approved wheel/tyre combinations. |
| Speed category, front/rear tyres | V, required at least: 240 km/h                                                                                            |

### Front wheel

|                                              |                      |
|----------------------------------------------|----------------------|
| Front-wheel type                             | Aluminium cast wheel |
| –with Option 719 wheel Classic <sup>OE</sup> | Spoked wheel         |
| Front-wheel rim size                         | 2.75" x 19"          |
| Tyre designation, front                      | 100/90 ZR 19         |
| Load index, front tyre                       | min. 57              |
| Permissible front-wheel imbalance            | max. 5 g             |

## 206 TECHNICAL DATA

### Rear wheel

|                                              |                      |
|----------------------------------------------|----------------------|
| Rear-wheel type                              | Aluminium cast wheel |
| —with Option 719 wheel Classic <sup>OE</sup> | Spoked wheel         |
| Rear wheel rim size                          | 4.00" x 16"          |
| Tyre designation, rear                       | 150/80 ZR 16         |
| Load index, rear tyre                        | min. 71              |
| Permissible rear-wheel imbalance             | max. 5 g             |

### Tyre pressures

|                      |                                                                           |
|----------------------|---------------------------------------------------------------------------|
| Tyre pressure, front | 2.3 bar, tyre cold<br>2.5 bar, two-up and with luggage, tyre cold         |
| Tyre pressure, rear  | 2.5 bar, One-up, tyre cold<br>2.9 bar, two-up and with luggage, tyre cold |

## ELECTRICAL SYSTEM

### Fuses

|        |                                                                |
|--------|----------------------------------------------------------------|
| Fuse 1 | 60 A, Main fuse (alternator, CCP, Wave, fuse boxes)            |
| Fuse 2 | 7.5 A, Anti-theft alarm system, diagnostic socket, speedometer |
| Fuse 3 | 7.5 A, Keyless Ride                                            |
| Fuse 4 | 15 A, Multifunction switch, rev. counter, CCP                  |

**Battery**

|                        |                                   |
|------------------------|-----------------------------------|
| Battery type           | AGM battery (Absorbent Glass Mat) |
| Battery rated voltage  | 12 V                              |
| Battery rated capacity | 14 Ah                             |

**Spark plugs**

|                                           |                 |
|-------------------------------------------|-----------------|
| Spark plugs, manufacturer and designation | NGK MAR8AI-10DS |
|-------------------------------------------|-----------------|

**Lighting**

|                   |     |
|-------------------|-----|
| All light sources | LED |
|-------------------|-----|

**ANTI-THEFT ALARM**

|                                                    |         |
|----------------------------------------------------|---------|
| Activation time on arming                          | 1 s     |
| Alarm duration                                     | 28 s    |
| Battery type (For Keyless Ride radio-operated key) | CR 2032 |

**DIMENSIONS**

|                                                      |                                                                          |
|------------------------------------------------------|--------------------------------------------------------------------------|
| Length of motorcycle                                 | 2200 mm, measured over rear wheel, at DIN unladen weight                 |
| Height of motorcycle                                 | 1110 mm, without mirrors, at DIN unladen weight                          |
| Width of motorcycle                                  | 790 mm, without mounted parts<br>830 mm, using the hand lever            |
| -with Option 719 Billet Pack Shadow II <sup>OE</sup> | 850 mm, using the hand lever                                             |
| Height of rider's seat                               | 754 <sup>+3</sup> <sub>-1</sub> mm, without rider, at DIN unladen weight |
| Rider's inside-leg arc, heel to heel                 | 1760 mm, without rider, at DIN unladen weight                            |

## 208 TECHNICAL DATA

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### WEIGHTS

|                                  |                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------|
| Vehicle kerb weight              | 227 kg, DIN unladen weight, ready for road, 90 % load of fuel, without optional extras (OE) |
| Permissible gross vehicle weight | 430 kg                                                                                      |
| Maximum payload                  | 203 kg                                                                                      |

---

### PERFORMANCE FIGURES

|           |           |
|-----------|-----------|
| Top speed | >200 km/h |
|-----------|-----------|



**SERVICE**

**13**



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|                                          |            |
|------------------------------------------|------------|
| <b>REPORTING SAFETY-RELEVANT DEFECTS</b> | <b>212</b> |
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### REPORTING SAFETY-RELEVANT DEFECTS

—with Canada export<sup>NV</sup>

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 NHTSA (National Highway Traffic Safety Administration) in addition to notifying the BMW of North America, LLC.

If the NHTSA receives other, similar complaints, it may open an investigation. If it finds that a safety defect exists in a group of vehicles, the NHTSA it may order a recall and remedy campaign. However, the NHTSA cannot become involved in individual problems between you, your retailer, or BMW of North America, LLC. You can contact the NHTSA by calling the Vehicle Safety Hotline on 1-888-327-4236 (teletypewriter TTY for the hearing impaired: 1-800-424-9153) toll-free, by visiting the website at <http://www.safercar.gov> or by writing to Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. Further information on vehicle safety is available at <http://www.safercar.gov>.

Canadian customers who wish to report a safety-related defect to Transport Canada, Defect Investigations and Recalls can call the toll-free hotline 1-800-333-0510. You can obtain further information about motor vehicle safety from <http://www.tc.gc.ca/roadsafety>.

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## RECYCLING

### Disposal of an EOL vehicle

BMW Motorrad recommends disposing of a vehicle that has reached the end of its useful life by taking it to a manufacturer-designated receiving centre for EOL vehicles.

In general, the laws of the country in question apply for receiving and recycling of EOL vehicles. Information about recycling and sustainability can be viewed on the country-specific websites of the manufacturer. Additional information can be obtained on request from your authorised BMW Motorrad retailer or another qualified service partner, or from a specialist workshop.

### Disposal of the rider's manual —with France export<sup>NV</sup>



Dispose of this rider's manual by depositing it in the container provided for the purpose.

---

## BMW MOTORRAD SERVICE

BMW Motorrad has an extensive network of retailers in place to look after you and your motorcycle in more than 100 countries. Authorised BMW Motorrad retailers have the technical information and the technical know-how to carry out reliably all preventive maintenance and repair work on your BMW.

You can locate the nearest authorised BMW Motorrad retailer by visiting our website:

**[bmw-motorrad.com](http://bmw-motorrad.com)**



### WARNING

#### **Maintenance and repair work not in compliance with correct procedure**

Risk of accident due to consequential damage

- BMW Motorrad recommends having work of this nature carried out on the vehicle by a specialist workshop, preferably an authorised BMW Motorrad dealer.

In order to help ensure that your BMW is always in optimum condition, BMW Motorrad recommends compliance with the maintenance intervals specified for your motorcycle.

Have all maintenance and repair work carried out confirmed in the "Service" chapter in this manual. Evidence of regular preventive maintenance is essential for generous treatment of claims submitted after the warranty period has expired.

You can inquire about the content of BMW Motorrad services at your authorised BMW Motorrad retailer.

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### **BMW MOTORRAD SERVICE HISTORY**

#### **Entries**

Maintenance work that has been carried out is entered in the proof of maintenance. The entries are like a Service Booklet and provide proof of regular maintenance.

When an entry is made in the electronic service booklet of the vehicle, service-relevant data is saved in the central IT systems accessible through BMW.

If there is a change in vehicle ownership, the data saved in the electronic service booklet can also be viewed by the new vehicle owner. An authorised BMW Motorrad retailer or a specialist workshop can also view data that is stored in the electronic service booklet.

#### **Objection**

The vehicle owner can object to entries being made by the authorised BMW Motorrad retailer or a specialist workshop in the electronic service

booklet along with the corresponding storage of data in the vehicle and transfer of data to the vehicle manufacturer for the period of time that they are the vehicle owner. In this instance, no entry is made in the electronic service booklet of the vehicle.

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### **BMW MOTORRAD MOBILITY SERVICES**

As the owner of a new BMW, in the event of a breakdown you can benefit from the protection afforded by the various BMW Motorrad mobility services (e.g. BMW Mobile Service, breakdown service, vehicle recovery service). Your authorised BMW Motorrad retailer will be happy to provide information about the mobility services available to you.

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### **MAINTENANCE WORK**

#### **BMW pre-delivery check**

The BMW pre-delivery check is performed by your authorised BMW Motorrad retailer before the vehicle is handed over to you.

#### **BMW Running-in check**

The BMW running-in check has to be performed when the vehicle has covered between 500 km and 1200 km.

#### **BMW Motorrad Service**

The BMW Motorrad Service is carried out once a year; the extent of servicing can vary, depending on the age of the vehicle and the distance it has covered. Your authorised BMW Motorrad retailer confirms that the service work has been carried out and enters the date when the next service will be due.

Riders who cover long distances in a year might have to bring in their vehicles for service before the next scheduled date. It is to allow for these cases that a maximum odometer reading is entered as well in the confirmation of service. Servicing has to be brought forward if this odometer reading is reached before the next scheduled date for the service.

## 216 SERVICE

The service-due indicator in the display reminds you about one month or 1000 km in advance when the time for a service is approaching.

To find out more about service go to:

**[bmw-motorrad.com/service](http://bmw-motorrad.com/service)**

The maintenance tasks necessary for your vehicle are set out in the maintenance schedule below. The tasks listed are due either when the vehicle has covered the stated distances, or periodically at the stated times.

## MAINTENANCE SCHEDULE

|    | 500 -1200 km<br>300 - 750 mls | 10 000 km<br>6 000 mls | 20 000 km<br>12 000 mls | 30 000 km<br>18 000 mls | 40 000 km<br>24 000 mls | 50 000 km<br>30 000 mls | 60 000 km<br>36 000 mls | 70 000 km<br>42 000 mls | 80 000 km<br>48 000 mls | 90 000 km<br>54 000 mls | 100 000 km<br>60 000 mls | 12 months      | 24 months      |
|----|-------------------------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|----------------|----------------|
| 1  | X                             |                        |                         |                         |                         |                         |                         |                         |                         |                         |                          |                |                |
| 2  |                               | X                      | X                       | X                       | X                       | X                       | X                       | X                       | X                       | X                       | X                        | X <sup>a</sup> |                |
| 3  |                               | X                      | X                       | X                       | X                       | X                       | X                       | X                       | X                       | X                       | X                        | X <sup>a</sup> |                |
| 4  |                               |                        | X                       |                         | X                       |                         | X                       |                         | X                       |                         | X                        |                | X <sup>b</sup> |
| 5  |                               | X                      | X                       | X                       | X                       | X                       | X                       | X                       | X                       | X                       | X                        |                |                |
| 6  |                               |                        |                         |                         | X                       |                         |                         |                         | X                       |                         |                          | X <sup>c</sup> | X <sup>c</sup> |
| 7  |                               |                        | X                       |                         | X                       |                         | X                       |                         | X                       |                         | X                        |                |                |
| 8  |                               |                        | X                       |                         | X                       |                         | X                       |                         | X                       |                         | X                        |                |                |
| 9  |                               |                        |                         |                         | X <sup>d</sup>          |                         |                         |                         | X <sup>d</sup>          |                         |                          |                |                |
| 10 |                               |                        |                         | X                       |                         |                         | X                       |                         |                         | X                       |                          |                |                |
| 11 |                               |                        |                         | X <sup>f</sup>          |                         |                         | X <sup>f</sup>          |                         |                         | X <sup>f</sup>          |                          |                |                |
| 12 |                               |                        |                         |                         |                         |                         |                         |                         | X <sup>f</sup>          |                         |                          |                |                |
| 13 |                               |                        |                         |                         |                         |                         |                         |                         |                         |                         |                          | X <sup>e</sup> | X <sup>e</sup> |

- 1 BMW Motorrad running-in check (including oil change and oil filter change)
  - 2 BMW Motorrad Service, standard scope
  - 3 Engine-oil change, with filter
  - 4 Oil change in bevel gears rear
  - 5 Check valve clearances
  - 6 Change transmission oil
  - 7 Replace all spark plugs
  - 8 Replace air-filter element
  - 9 Replace belt for alternator
  - 10 Oil change in the telescopic forks
  - 11 Cardan shaft, visual inspection and lubrication
  - 12 Replace Cardan shaft
  - 13 Change brake fluid, entire system
- <sup>a</sup> annually or every 10000 km (whichever comes first)
- <sup>b</sup> every two years or every 20000 km (whichever comes first)

## 218 SERVICE

- c for the first time after one year, then every two years or 40000 km (whichever comes first)
- d every six years or every 40000 km (whichever comes first)
- e for the first time after one year, then every two years
- f referenced to the distance over which the component was in use



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## **BMW MOTORRAD RUNNING-IN CHECK**

### **BMW Motorrad running-in check**

The tasks included in the BMW Motorrad running-in check are listed below. The actual scope of work applicable for your vehicle may vary.

- Setting service-due date and countdown distance
- Performing vehicle test with BMW Motorrad diagnostic system
- Engine-oil change, with filter
- Changing oil in bevel gears
- Check the brake-fluid level, front wheel brake
- Check the brake-fluid level, rear wheel brake
- Checking tyre tread depth and tyre pressures
- Check the tension of the spokes, adjust if necessary
- Checking lighting and signalling system
- Function test, engine start suppression
- Final inspection and check of roadworthiness
- Performing vehicle test with BMW Motorrad diagnostic system
- Confirm the BMW service in the on-board literature

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## MAINTENANCE CONFIRMATIONS

### BMW Motorrad Service standard scope

The tasks included in the BMW Motorrad Service standard scope are listed below. The actual scope of maintenance work applicable for your vehicle may vary.

- Performing vehicle test with BMW Motorrad diagnostic system
- Visual inspection of clutch system
- Checking steering-head bearing
- Visual inspection of the brake lines, brake hoses and connections
- Check the front brake pads and brake discs for wear
- Check the brake-fluid level, front wheel brake
- Check the rear brake pads and brake disc for wear
- Check the brake-fluid level, rear wheel brake
- Check the tyre pressures and tread depth
- Check the side stand's ease of movement
- Check the tension of the spokes, adjust if necessary
- Draining condensate from intake silencer
- Checking lighting and signalling system
- Function test, engine start suppression
- Final inspection and check of roadworthiness
- Performing vehicle test with BMW Motorrad diagnostic system
- Setting service-due date and countdown distance with BMW Motorrad diagnostic system
- Checking battery state of charge
- Confirm the BMW Motorrad service in the on-board literature

**BMW Motorrad pre-delivery check**

carried out

on \_\_\_\_\_

Stamp, signature

**BMW Motorrad running-in check**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

Stamp, signature

## BMW Motorrad service

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

**Work performed**

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

## BMW Motorrad service

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

**Work performed**

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

## BMW Motorrad service

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature



**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

**Work performed**

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

## BMW Motorrad service

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
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| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

**Work performed**

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

## BMW Motorrad service

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

**Work performed**

|                                                                  | Yes                      | No                       |
|------------------------------------------------------------------|--------------------------|--------------------------|
| BMW Motorrad service                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Engine oil change with filter                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Oil change in rear angular gearbox                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Checking valve clearance                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Change gearbox oil                                               | <input type="checkbox"/> | <input type="checkbox"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing belt for generator                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the oil in the telescopic fork                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing Cardan shaft (during service)                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the front brake fluid                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace rear brake fluid                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature

|                                                    |            |
|----------------------------------------------------|------------|
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| <b>RADIO EQUIPMENT TFT INSTRUMENT CLUSTER</b>      | <b>238</b> |
| <b>KEYLESS RIDE SYSTEM MAIN UNIT</b>               | <b>241</b> |
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## DECLARATION OF CONFORMITY

### Manufacturer

Bayerische Motoren Werke Aktiengesellschaft  
Petuelring 130, 80809 Munich, Germany

**Simplified EU Declaration of Conformity according to EU RED (2014/53/EU).**



**Simplified UK Declaration of Conformity according to Radio Equipment Regulations 2017 of the United Kingdom.**



Hereby, BMW AG declares that the radio equipment components listed below are in compliance with Directive 2014/53/EU and with Radio Equipment Regulations 2017 of the United Kingdom. The full text of the EU/UK declarations of conformity are available at the following internet address: **[bmw-motorrad.com/certification](http://bmw-motorrad.com/certification)**

### Technical information

| Radio equipment | Component    | Frequency band | Output/Transmission Power            |
|-----------------|--------------|----------------|--------------------------------------|
| EWS4            | EWS          | 134 kHz        | 50 dB $\mu$ V/m                      |
| HUF5794         | Keyless Ride | 433.92 MHz     | 10 mW                                |
| HUF8485         | Keyless Ride | 134.45 kHz     | 42 dB $\mu$ V/m                      |
| ZB001           | Keyless Ride | 134.5 kHz      | allowed<br>66 dB $\mu$ A/<br>m @ 10m |

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| Radio equipment                        | Component            | Frequency band                                              | Output/Transmission Power                  |
|----------------------------------------|----------------------|-------------------------------------------------------------|--------------------------------------------|
| ZB002                                  | Keyless Ride         | 433.92 MHz                                                  | max.<br>10 dBm<br>e.r.p                    |
| TXBM-WMR                               | DWA 8                | 433.05 MHz - 434.79 MHz                                     | 18.8 dBm                                   |
| RDC3                                   | RDC                  | 433.92 MHz                                                  | < 13 mW                                    |
| Wus<br>Moto gen<br>3                   | RDC                  | 433.05 MHz - 434.79 MHz                                     | < 10 mW<br>e.r.p.                          |
| MC24-MA4                               | RDC                  |                                                             |                                            |
| WCA<br>Motor-<br>rad-Lade-<br>staufach | Charging compartment | 110 kHz - 115 kHz                                           | < 6 W                                      |
| ICC6.5in                               | Instrument Cluster   | Bluetooth: 2402 MHz - 2480 MHz<br>WLAN: 2412 MHz - 2462 MHz | Bluetooth:<br>< 4 dBm<br>WLAN:<br>< 20 dBm |
| ICC65V2                                | Instrument Cluster   | Bluetooth: 2400 MHz - 2480 MHz<br>WLAN: 2400 MHz - 2480 MHz | Bluetooth:<br>< 10 mW<br>WLAN:<br>< 100 mW |
| ICC10in                                | Instrument Cluster   | Bluetooth: 2402 MHz - 2480 MHz<br>WLAN: 2402 MHz - 2472 MHz | Bluetooth:<br>< 4 dBm<br>WLAN:<br>< 14 dBm |
| MR-Re14FCR                             | ACC                  | 76 - 77 GHz                                                 | Peak max.<br>32 dBm<br>Nom max.<br>27 dBm  |



| <b>Radio equipment</b> | <b>Component</b>           | <b>Frequency band</b>                                                                                                                                                                                       | <b>Output/Transmission Power</b>                                             |
|------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| ARS513                 | Front radar                | 77 GHz                                                                                                                                                                                                      | Peak max.<br>30 dBm                                                          |
| SRR521                 | Rear radar                 | 77 GHz                                                                                                                                                                                                      | Peak max.<br>30 dBm                                                          |
| TL1P22                 | Intelligent emergency call | 832 MHz - 862 MHz<br>880 MHz - 915 MHz<br>1710 MHz - 1785 MHz<br>1920 MHz - 1980 MHz<br>2500 MHz - 2570 MHz<br>2570 MHz - 2620 MHz<br>GNSS: 1559 MHz - 1610 MHz                                             | 23 dBm<br>33 dBm<br>30 dBm<br>24 dBm<br>23 dBm<br>23 dBm                     |
| TL1M-23NE              | Intelligent emergency call | 703 MHz - 748 MHz<br>832 MHz - 862 MHz<br>880 MHz - 915 MHz<br>1710 MHz - 1785 MHz<br>1920 MHz - 1980 MHz<br>2300 MHz - 2400 MHz<br>2500 MHz - 2570 MHz<br>2570 MHz - 2620 MHz<br>GNSS: 1559 MHz - 1610 MHz | 23 dBm<br>23 dBm<br>33 dBm<br>30 dBm<br>24 dBm<br>23 dBm<br>23 dBm<br>23 dBm |
| MCR001                 | Audio system               |                                                                                                                                                                                                             |                                                                              |
| ZB005                  | Keyless Ride Main Unit     | 134.5 kHz<br>433.92 MHz                                                                                                                                                                                     | < 66 dBμA/m                                                                  |
| ZB006                  | Keyless Ride Active Key    | 134.5 kHz<br>433.92 MHz                                                                                                                                                                                     | < 10 mW<br>e.r.p.                                                            |
| LIN2BTLE Gateway       | Instrument Cluster         | 2400 MHz - 2483.5 MHz                                                                                                                                                                                       | < 3 dBm                                                                      |

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### BATTERY DIRECTIVE

Batteries are generally subject to the battery directive 2023/1542/EU. Consumer information on the batteries can be found in the relevant sections of this manual.

Batteries are integrated in the following components:

#### Technical information

| Component  | Type    | Contact                                                                                                                                                                                                                   |
|------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RDC sensor | 17109   | LID TECHNOLOGIES, 3 rue Giotto,<br>31520 Ramonville, Saint Agne, France<br>E-mail: <a href="mailto:contact@lid.tech">contact@lid.tech</a><br><b><a href="http://www.lid.tech">www.lid.tech</a></b>                        |
| KLR Key    | HUF5794 | Huf Hülsbeck & Fürst GmbH & Co.<br>KG, Steeger Str.17, 42551 Velbert,<br>Germany<br>E-mail: <a href="mailto:info@huf-group.com">info@huf-group.com</a><br><b><a href="http://www.huf-group.com">www.huf-group.com</a></b> |
| KLR Key    | ZB002   | ZADI S.p.A., Via Carlo Marx 138,<br>41012 Carpi (MO), Italy<br>E-mail: <a href="mailto:info@zadi.com">info@zadi.com</a><br><b><a href="http://www.zadi.com">www.zadi.com</a></b>                                          |
| KLR Key    | ZB006   | ZADI S.p.A., Via Carlo Marx, 138<br>41012 Carpi (MO), Italy<br>E-mail: <a href="mailto:info@zadi.com">info@zadi.com</a><br><b><a href="http://www.zadi.com">www.zadi.com</a></b>                                          |
| DWA8 ECU   | DWA8    | Meta System S.p.A, Via Tancredi<br>Galimberti 5, 42124 Reggio Emilia,<br>Italy<br><b><a href="http://www.metasystemcorporation.com">www.metasystemcorporation.com</a></b>                                                 |
| DWA8 RC    | TXBMWMR | Meta System S.p.A, Via Tancredi<br>Galimberti 5, 42124 Reggio Emilia,<br>Italy<br><b><a href="http://www.metasystemcorporation.com">www.metasystemcorporation.com</a></b>                                                 |

| <b>Component</b> | <b>Type</b> | <b>Contact</b>                                                                                                    |
|------------------|-------------|-------------------------------------------------------------------------------------------------------------------|
| DWA9             | DWA9        | Bury Sp. z o.o., ul. Wojska Polskiego<br>4, 39-300 Mielec, Poland<br>E-mail: info@bury.com<br><b>www.bury.com</b> |

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### RADIO EQUIPMENT TFT INSTRUMENT CLUSTER

For all Countries without EU

**Model name: LIN2BTLE**

**Gateway**

**Manufacturer**

Bury Sp. z o.o.

ul. Wojska Polskiego 4, 39-300

Mielec, Poland

#### Technical Information

BTLE: 2400 MHz - 2483,5 MHz

Output power: < - 3 dBm

#### Country

**Algeria**



Agréé par L'ANF: 117/H/ANF/2023

Approved by ANF/Homologué  
par l'ANF /Approval Number:  
No.117/H/ANF/2023

#### Canada

IC: 5927A-LIN2BTLE

This device complies with  
Part 15 of the FCC Rules and  
with RSS-247 and RSS-Gen  
of the Industry Canada Rules.  
Operation is subject to the  
following two conditions:

(1) this device may not cause  
interference, and

(2) this device must accept any  
interference received, including  
interference that may cause un-  
desired operation.

Le présent appareil est conforme  
aux CNR d'Industrie Canada ap-  
plicables aux appareils radio ex-  
empts de licence. L'exploitation  
est autorisée aux deux condi-  
tions suivantes :

(1) l'appareil ne doit pas produire  
de brouillage, et

(2) l'utilisateur de l'appareil  
doit accepter tout brouillage  
radioélectrique subi, même si le  
brouillage est susceptible d'en  
compromettre le fonctionne-  
ment.

#### NOTICE

Changes or modifications  
made to this equipment not  
expressly approved by Bury  
Sp. z o. o. may void the FCC  
authorization to operate this  
equipment

#### NOTE

This equipment has been tes-  
ted and found to comply with  
the limits for a Class B digital  
device, pursuant to Part 15 of  
the FCC Rules. These limits are  
designed to provide reasona-  
ble protection against harmful  
interference in a residential in-  
stallation. This equipment ge-

nerates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Malaysia



HIDF15000195

## Mexico



IFT: BMBMLI23-19214

Uso del espectro radioeléctrico

"La operación de este equipo está sujeta a las siguientes dos condiciones:

- (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y
- (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada"

## 240 APPENDIX

### Morocco

AGREE PAR L'ANRT MAROC

Numéro d'agrément:

MR\_00036504\_ANRT\_2023

Date d'agrément: 2023-01-27

### Nigeria

Connection and use of this communications equipment is permitted by the Nigerian Communications Commission

### Pakistan



TAC NO. 9.142/2023

### Paraguay



NR: 2023-03-I-0217

### Serbia



IN 005 23

### Singapore

Complies with

IMDA Standards

DA103787

### South Africa



### Taiwan

CCAH23LP2420T1

Warning:

低功率射頻器材技術規範警語 取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## KEYLESS RIDE SYSTEM MAIN UNIT

For all countries without EU

**Model name: ZB005**

**Manufacturer**

ZADI S.p.A.

Via Carlo Marx 138, 41012 Carpi  
(MO), Italy

### Technical Information

Nominal voltage:

13,5 V

Operating voltage:

6,7 - 16 V

Operating temperature:

-20 °C - +60 °C

Operating frequency LF:

134,5 kHz

Operating frequency HF:

433,92 MHz

RF power:

< 66 dBμA/m

IP grade:

IP5K6K

### Country

#### Argentina



H-28764

#### Australia/New Zealand



R-NZ

#### Brunei



Ref. Num.: DTA-022593

#### Canada

IC: 22239-KLRMZB005

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital device complies with Canadian ICES-003. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation

## 242 APPENDIX

est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil numérique classe B est conforme à la norme Canadien NMB-003.

### Hong Kong

Certified for use in Hong Kong  
Certification No. HK0012202803

### India

ZB005 Registration Number:  
ETA-SD-20221109924

### Indonesia



73343/SDPPI/2021  
13349

### Israel

שם בעל ההיתר : ZADI S.P.A ITALY

Italy : דגם : ZB005AGREE PAR L'ANRT MAROC

Numéro d'agrément: 5172747

אסור להחליף את האנטנה 433.05 - 434.79 MHz מאושר

MR00035262ANRT2022

Date d'agrément: 14/11/2022

השידור אינו עולה

### Jordan

BMW Keyless Ride System is in conformity with Jordanian technical requirements.

### Malaysia



RFDT/45A/1222/S(22-5677)

### Mexico

Advertencias de IFETEL

La operación de este equipo está sujeta a las siguientes dos condiciones:

(1) es posible que este equipo o dispositivo no cause interferencia perjudicial y;

(2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

ZB005 Certificado Homologación Numero:

BMBMZB22-28194

### Morocco



## Nigeria

The equipment has been found to comply with the standards of the Commission and therefore approved for connection to the Nigerian Telecommunication Network, or for use in Nigeria.

## Pakistan



Approved by PTA  
TAC NO: 9.110/2021

## Paraguay



NR: 2023-01-I-0035

## Philippines



Type Approved  
No.: ESD-RCE-2231813

## Serbia



И 005 22

## Singapore

Complies with  
IMDA Standards  
DA105282

## Sultanate of Oman

TRA/TA-R/14769/22  
D100428

## South Africa



TA-2022/3277

## Taiwan



取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用

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不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾

### Vietnam



### KEYLESS RIDE SYSTEM ACTIVE KEY

For all countries without EU

**Model name:** ZB006

**Manufacturer**

ZADI S.p.A.

Via Carlo Marx 138, 41012 Carpi  
(MO), Italy

### Technical Information

Battery type

CR2032

Nominal voltage:

3 V

Operating voltage:

2,5 - 3,16 V

Operating temperature:

-20 °C - +60 °C

Operating frequency LF:

134,5 kHz

Operating frequency HF:

433,92 MHz

RF power:

< 10 mW e.r.p.

IP grade:

IP5K7

### Country

### Argentina



H-28765

### Australia/New Zealand



R-NZ

### Brunei



Ref. Num.: DTA-022594

## Canada

IC: 22239-KLRKZB006

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital device complies with Canadian ICES-003.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil numérique classe B est conforme à la norme Canadienne NMB-003.

## Hong Kong

Certified for use in Hong Kong  
Certification No. HK0012202804

## India

ZB005 Registration Number:  
ETA-SD-20221109929

## Indonesia



73333/SDPPI/2021  
13349

## Israel

שם בעל ההיתר: ZADI S.P.A ITALY  
דגם: ZB006 ארץ: Italy אישור מס: 5172748  
מס. 5172748 אסור להחליף את האנטנה מאושר לתחום תדרים MHz 433.05-434.79  
אשר ספק השידור אינו עולה MW.10

## Jordan

BMW Keyless Ride System is in conformity with Jordanian technical requirements.

## Malaysia



RFDT/44A/1222/S(22-5676)

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### Mexico

Advertencias de IFETEL

La operación de este equipo está sujeta a las siguientes dos condiciones:

(1) es posible que este equipo o dispositivo no cause interferencia perjudicial y;

(2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

ZB006 Certificado Homologación Numero:

BMBMZB22-28198

### Morocco

AGREE PAR L'ANRT MAROC

Numéro d'agrément:

MR00035261ANRT2022

Date d'agrément: 14/11/2022

### Nigeria

The equipment has been found to comply with the standards of the Commission and therefore approved for connection to the Nigerian Telecommunication Network, or for use in Nigeria.

### Oman

TRA/TA-R/14770/22

D100428

### Pakistan



Approved by PTA  
TAC NO: 9.111/2021

### Paraguay



NR: 2023-01-I-0036

### Philippines



Type Approved  
No.: ESD-RCE-2231812

### Serbia



И 005 22

**Singapore**

Complies with  
IMDA Standards  
DA105282

**South Africa**

TA-2022/2861

**Taiwan**

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾

**Vietnam****RADIO EQUIPMENT INTELLIGENT EMERGENCY CALL**

For all countries without EU

**Model name: TL1M23NE**

**Manufacturer**

LG ELECTRONICS INC.  
10, Magokjungang 10-ro,  
Gangseo-gu Seoul, Republic of  
Korea

**Country****Canada**

IC: US0186.2022.000413

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 3.5 cm between the radiator & your body. Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference

rence that may cause undesired operation of the device.

The manufacturer is not responsible for any radio or tv interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Avis d'Industrie Canada sur l'exposition aux rayonnements  
Cet appareil est conforme aux limites d'exposition aux rayonnements d'Industrie Canada pour un environnement non contrôlé. Il doit être installé de façon à garder une distance minimale de 3.5 centimètres entre la source de rayonnements et votre corps. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Le fabricant n'est pas responsable des interférences radioélectriques causées par des modifications non autorisées apportées à cet appareil. de telles modifications pourrait annuler l'autori-

sation accordée à l'utilisateur de faire fonctionner l'appareil.

### **RADIO EQUIPMENT TYRE PRESSURE CONTROL (RDC)**

For all countries without EU

**Model name:**

**Wus moto gen 3**

**Manufacturer**

LDL Technology S.A.S.

Parc Technologique du Canal,  
3 rue Giotto, 31520 Ramonville,  
France

### **Technical information**

Frequency band: 433,92 MHz

Maximum effective radiated power: 16,75 dBm

**Country**

**Argentina**



H-23422

**Australia**



**Malaysia**

RBEF/29A/0919/S(19-3776)

**Mexico**IFETEL: IFT/223/UCS/DG-AUSE/  
2418/2019**Morocco**

AGREE PAR L'ANRT MAROC

Numéro d'agrément :

MR 20577 ANRT 2019

Date d'agrément :

26/07/2019

**Singapore**

Complies with

IMDA Standards

N3305-19

**South Africa**

TA-2019/1178

APPROVED

**Taiwan**

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

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Details described or illustrated in this booklet may differ from the vehicle'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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Original rider's manual, printed in Germany.

## Important data for refuelling:

### Fuel

|                        |                                                                                                                                                                                                                                          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended fuel grade |  Premium unleaded (maximum 15 % ethanol, E15)<br> 95 ROZ/RON<br>90 AKI |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                        |                                                                                                                                                                                                                                          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alternative fuel grade |  Regular unleaded (maximum 15 % ethanol, E15)<br> 91 ROZ/RON<br>87 AKI |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                      |              |
|----------------------|--------------|
| Usable fuel capacity | approx. 14 l |
|----------------------|--------------|

|              |               |
|--------------|---------------|
| Reserve fuel | approx. 3.5 l |
|--------------|---------------|

### Tyre pressures

|                      |                                                                      |
|----------------------|----------------------------------------------------------------------|
| Tyre pressure, front | 2.3 bar, tyre cold<br>2.5 bar, two-up and with luggage,<br>tyre cold |
|----------------------|----------------------------------------------------------------------|

|                     |                                                                              |
|---------------------|------------------------------------------------------------------------------|
| Tyre pressure, rear | 2.5 bar, One-up, tyre cold<br>2.9 bar, two-up and with luggage,<br>tyre cold |
|---------------------|------------------------------------------------------------------------------|

For further information on all aspects of your vehicle, visit: [bmw-motorrad.com](https://bmw-motorrad.com)

