



**BMW  
MOTORRAD**

# **RIDER'S MANUAL**

R 1300 RT



**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.

NV

National-market version.

|       |                                                                                                                                                                                 |      |                                                      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------------------------------|
| OE    | Optional equipment. The vehicles are assembled complete with all the BMW Motorrad optional equipment originally ordered.                                                        | EWS  | Electronic immobiliser.                              |
| 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. | FCW  | Front Collision Warning.                             |
| ABS   | Anti-lock brake system.                                                                                                                                                         | MSR  | Dynamic engine brake control                         |
| ACC   | Active Cruise Control (distance control).                                                                                                                                       | RECW | Rear collision warning (Rear End Collision Warning). |
| ASA   | Automated shift assistant.                                                                                                                                                      | RDC  | Tyre pressure monitoring.                            |
| D-ESA | Electronic Suspension Adjustment.                                                                                                                                               | SWW  | Lane change warning.                                 |
| DCA   | Dynamic wheel alignment (Dynamic Chassis Adaption).                                                                                                                             |      |                                                      |
| DTC   | Dynamic Traction Control.                                                                                                                                                       |      |                                                      |
| DWA   | Anti-theft alarm.                                                                                                                                                               |      |                                                      |

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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.

## 6 GENERAL INSTRUCTIONS

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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 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

## 8 GENERAL INSTRUCTIONS

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.

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.

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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 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 corres-



ponding 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.

–shielding by metal objects or bodies.

### CONNECTIVITY FUNCTIONS

Connectivity functions include media, telephony and navigation. Connectivity functions can be used when the instrument cluster is connected to a mobile device and a helmet (87). For more information on the Connectivity functions go to:

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



Depending on the mobile end device, the scope of Connectivity functions might be restricted.

#### BMW Motorrad Connected app

The BMW Motorrad Connected app enables the user to call up usage data and vehicle status information. For some functions such as navigation, for example, the app has to be installed on the mobile device and paired to the instrument cluster. The app is used to start route guidance and adjust the navigation.



On some mobile devices, e.g. those with the iOS operating system, the BMW Motorrad Connected app has to be opened prior to use.

## 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 operation of the intelligent emergency call and its functions, see the section entitled Operation (104).

### 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 intelligent 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.

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### **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:

- 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

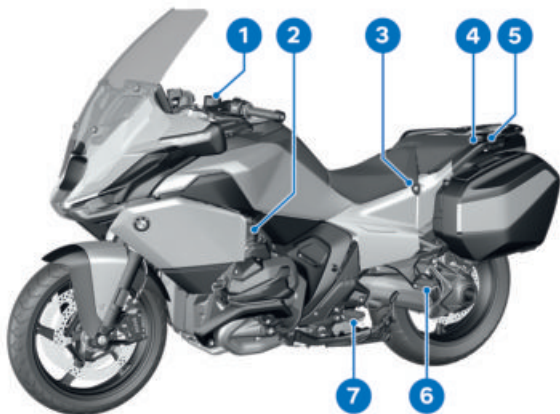
02

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|                                    |           |
|------------------------------------|-----------|
| <b>GENERAL VIEW, LEFT SIDE</b>     | <b>18</b> |
| <b>GENERAL VIEW, RIGHT SIDE</b>    | <b>19</b> |
| <b>OVERALL VIEW OF COCKPIT</b>     | <b>20</b> |
| <b>UNDERNEATH THE SEAT</b>         | <b>21</b> |
| <b>MULTIFUNCTION SWITCH, LEFT</b>  | <b>22</b> |
| <b>MULTIFUNCTION SWITCH, RIGHT</b> | <b>23</b> |
| <b>MULTIFUNCTION SWITCH, RIGHT</b> | <b>24</b> |
| <b>INSTRUMENT CLUSTER</b>          | <b>25</b> |

## 18 GENERAL VIEWS

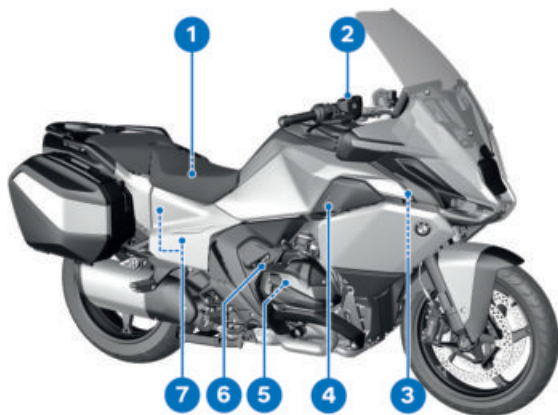
### GENERAL VIEW, LEFT SIDE



- 1** Clutch-fluid reservoir  
( 225)
- 2** Slipstream deflector  
( 141)
- 3** Seat lock ( 148)
- 4** Tyre inflation pressure table (under passenger seat)  
Passenger seat heating  
( 135)
- 5** Passenger grab handle
- 6** Rear footrest
- 7** Rider footrest



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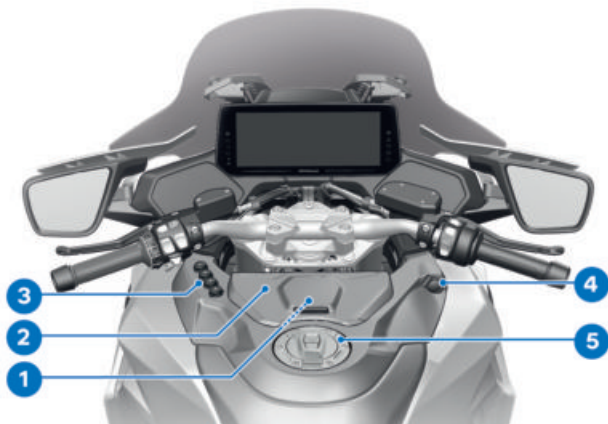
**GENERAL VIEW, RIGHT SIDE**

- |                                                                                                                      |                                                                                |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>1</b> Under rider's seat:<br>Battery (➡ 238)<br>Diagnostic connector<br>(➡ 248)                                   | <b>6</b> Brake-fluid reservoir, rear<br>(behind spring-strut cover)<br>(➡ 224) |
| <b>2</b> Brake-fluid reservoir, front<br>(➡ 223)                                                                     | <b>7</b> Fuses (➡ 245)                                                         |
| <b>3</b> Vehicle identification<br>number (on steering-head<br>bearing)<br>Type plate (on steering-<br>head bearing) |                                                                                |
| <b>4</b> Coolant-level indicator<br>(➡ 226)                                                                          |                                                                                |
| <b>5</b> Oil filler opening<br>(➡ 218)                                                                               |                                                                                |

## 20 GENERAL VIEWS

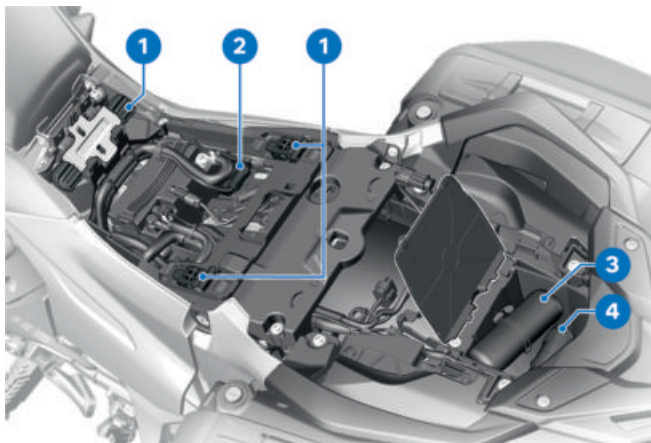
### OVERALL VIEW OF COCKPIT

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- 1** USB charging socket  
( 139)
- 2** Storage compartment  
( 139)  
Payload table (in storage compartment)
- 3** Favourites buttons  
( 138)
- 4** Power socket ( 252)
- 5** Fuel filler neck ( 183)

---

**UNDERNEATH THE SEAT**

- 1** Adjusting seat height  
(➡ 164)
- 2** Diagnostic connector  
(➡ 248)
- 3** Toolkit (➡ 217)
- 4** Topcase plug connection  
(➡ 256)

## 22 GENERAL VIEWS

### MULTIFUNCTION SWITCH, LEFT



- |                                                              |                                     |
|--------------------------------------------------------------|-------------------------------------|
| <b>1</b> High-beam headlight and headlight flasher (▮▮▮ 107) | <b>10</b> Multi-Controller (▮▮▮ 80) |
| <b>2</b> Cruise control (▮▮▮ 115)                            | <b>11</b> Functions list (▮▮▮ 82)   |
| <b>3</b> Hazard warning lights (▮▮▮ 108)                     |                                     |
| <b>4</b> Multi-function rocker switch (▮▮▮ 82)               |                                     |
| <b>5</b> Automatic light control (▮▮▮ 107)                   |                                     |
| <b>6</b> Automated Shift Assistant (ASA) (▮▮▮ 114)           |                                     |
| <b>7</b> Turn indicators (▮▮▮ 109)                           |                                     |
| <b>8</b> Horn                                                |                                     |
| <b>9</b> MENU rocker button (▮▮▮ 81)                         |                                     |

**MULTIFUNCTION SWITCH, RIGHT**

—without intelligent emergency call<sup>OE</sup>



- 1** Steering lock  
Central locking system  
Ignition (➡ 99)
- 2** Riding mode (➡ 111)
- 3** Emergency-off switch (kill switch) (➡ 103)  
Rollaway prevention  
(➡ 177)
- 4** Starting engine (➡ 172)

## 24 GENERAL VIEWS

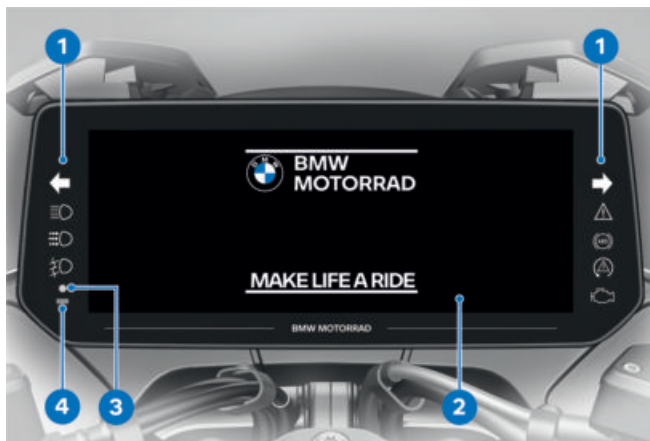
### MULTIFUNCTION SWITCH, RIGHT

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



- 1** Steering lock  
Central locking system  
Ignition (➡ 99)
- 2** Riding mode (➡ 111)
- 3** Emergency-off switch (kill switch) (➡ 103)  
Rollaway prevention  
(➡ 177)
- 4** Starter button (➡ 172)
- 5** SOS button  
Intelligent emergency call  
(➡ 172)

## INSTRUMENT CLUSTER



- 1 Indicator and warning lights (➡ 28)
- 2 Display (➡ 30)
- 3 Indicator light DWA (➡ 131)  
Keyless Ride (➡ 98)
- 4 Photosensor (for adapting the brightness of the instrument lighting)

# STATUS INDICATORS

03

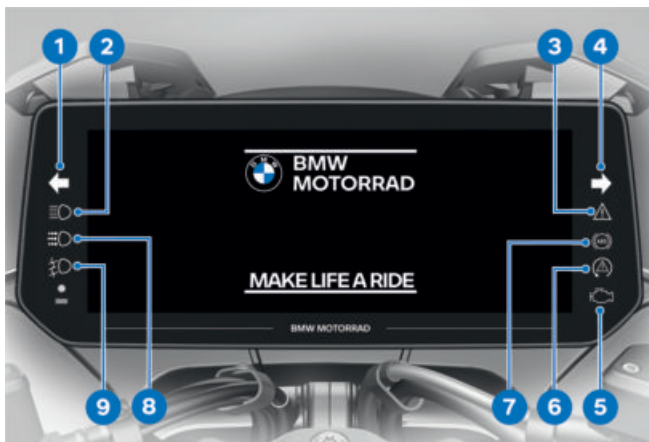


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|                                     |           |
|-------------------------------------|-----------|
| <b>INDICATOR AND WARNING LIGHTS</b> | <b>28</b> |
| <b>MENU VIEW</b>                    | <b>29</b> |
| <b>PURE RIDE VIEW</b>               | <b>30</b> |
| <b>MY VEHICLE VIEW</b>              | <b>33</b> |
| <b>WARNING INDICATORS</b>           | <b>36</b> |

## 28 STATUS INDICATORS

### INDICATOR AND WARNING LIGHTS



- 1 Turn indicators, left  
(➡ 109)
- 2 High-beam headlight  
(➡ 107)
- 3 General warning light  
(➡ 36)
- 4 Turn indicators, right  
(➡ 109)
- 5 Warning light, drive mal-  
function (➡ 55)
- 6 DTC (➡ 63)
- 7 ABS (➡ 62)
- 8 Automatic daytime riding  
light (➡ 108)
- 9 Auxiliary headlights  
(➡ 108)

## MENU VIEW

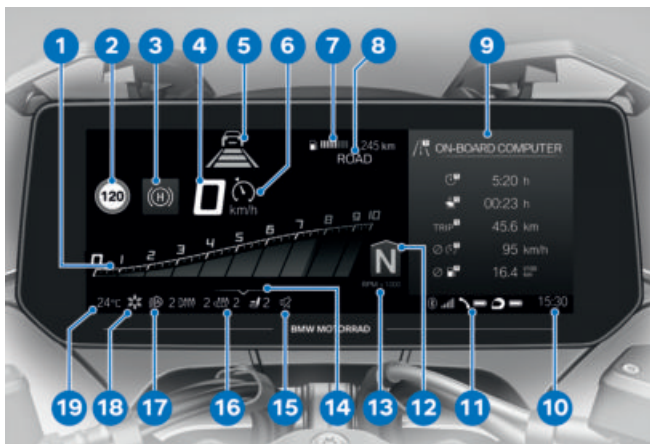


- |                                                                    |                                                |
|--------------------------------------------------------------------|------------------------------------------------|
| <b>1</b> Hill Start Control<br>( 127)                              | <b>12</b> Muting ( 86)                         |
| <b>2</b> Speedometer                                               | <b>13</b> Heating ( 134)                       |
| <b>3</b> Cruise control ( 115)                                     | <b>14</b> Automatic light control<br>( 107)    |
| <b>4</b> Distance control ACC<br>(Active Cruise Control)<br>( 121) | <b>15</b> Outside temperature<br>warning ( 47) |
| <b>5</b> Rider info. status line<br>( 85)                          | <b>16</b> Ambient temperature                  |
| <b>6</b> Riding mode ( 111)                                        | <b>17</b> Menu section                         |
| <b>7</b> Gear indicator                                            |                                                |
| <b>8</b> Splitscreen ( 89)                                         |                                                |
| <b>9</b> Clock ( 86)                                               |                                                |
| <b>10</b> Connection status<br>( 88)                               |                                                |
| <b>11</b> Operating pointer                                        |                                                |

## 30 STATUS INDICATORS

### PURE RIDE VIEW

#### START SCREEN



- |                                                        |                                       |
|--------------------------------------------------------|---------------------------------------|
| 1 Rev. counter (➡ 31)                                  | 11 Connection status (➡ 88)           |
| 2 Speed Limit Info (➡ 92)                              | 12 Recommendation to up-shift (➡ 32)  |
| 3 Hill Start Control (➡ 127)                           | 13 Gear indicator                     |
| 4 Speedometer                                          | 14 Operating pointer                  |
| 5 Distance control ACC (Active Cruise Control) (➡ 121) | 15 Muting (➡ 86)                      |
| 6 Cruise control (➡ 115)                               | 16 Heating (➡ 134)                    |
| 7 Rider info. status line (➡ 85)                       | 17 Automatic light control (➡ 107)    |
| 8 Riding mode (➡ 111)                                  | 18 Outside temperature warning (➡ 47) |
| 9 Splitscreen (➡ 89)                                   | 19 Ambient temperature                |
| 10 Clock (➡ 86)                                        |                                       |

## REV. COUNTER



- 1 Scale
- 2 Upper/red engine speed range
- 3 Needle
- 4 Secondary indicator

 The red-hatched engine speed range changes depending on the coolant temperature:

The colder the engine, the lower the rotational speed at which the red-shaded rotational speed range begins.

The warmer the engine, the higher the rotational speed at which the red-shaded rotational speed range begins.

## 32 STATUS INDICATORS

### Range



Range readout **1** indicates how far you can ride with the fuel remaining in the tank. This distance is calculated on the basis of average consumption and the quantity of fuel on board.

–When the vehicle is propped on its side stand the slight angle of inclination means that the sensor cannot register the fuel level correctly.

This is the reason why the range is recalculated only when the side stand is in the retracted position.

–The range is shown together with a warning once the fuel reserve has been reached.

–After a refuelling stop, range is recalculated if the amount of fuel in the tank is greater than the reserve quantity.

–The calculated range is only an approximate figure.

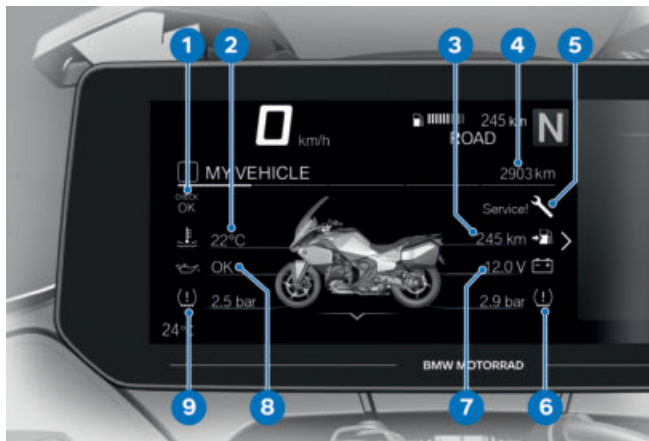
### Recommendation to upshift



The recommendation to upshift in Pure Ride view **1** or in status line **2** indicates the best time to upshift economically.

## MY VEHICLE VIEW

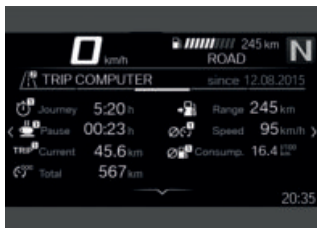
### START SCREEN



- 1 Check Control display  
Mode of presentation  
(➡ 36)
- 2 Coolant temperature  
(➡ 54)
- 3 Range (➡ 32)
- 4 Odometer
- 5 Service display (➡ 75)
- 6 Tyre pressure, rear  
(➡ 34)
- 7 On-board voltage  
(➡ 239)
- 8 Engine oil level (➡ 53)
- 9 Tyre pressure, front  
(➡ 34)

## 34 STATUS INDICATORS

### On-board computer and trip computer



The ON-BOARD COMPUTER and TRIP COMPUTER menu screens display vehicle and trip data, such as average values.

### Tyre pressure

In addition to the MY VEHICLE menu screen and the Check Control messages, there is also the TYRE PRESSURE screen for showing the tyre pressures:



The values on the left are for the front wheel; those on the right are for the rear wheel. Actual and specified tyre pressures and the difference

between them are displayed for each wheel.

Immediately after the ignition is switched on, only dashes are displayed. The sensors do not start transmitting tyre pressure signals until the first time the vehicle accelerates to more than the minimum speed stated below:



RDC sensor is not active

min. 30 km/h (The RDC sensor does not transmit its signal to the vehicle until a certain minimum speed has been reached.)



The tyre-pressure readings in the instrument cluster are temperature-compensated and are always referenced to the following tyre-air temperature:

20 °C



If the tyre symbol appears as well, showing yellow or red, this is a warning. The pressure difference is highlighted with an exclamation point in the same colour.





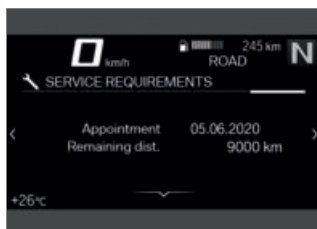
If the value in question is close to the limit of the permissible tolerance range, the reading is accompanied by the 'General' warning light showing yellow.



The 'General' warning light flashes red if the tyre pressure registered by the sensor is outside the permissible tolerance range.

For further information about BMW Motorrad RDC, see the section entitled "Engineering details" (► 206).

## Service requirements



When the next service is due within less than a month or within 1000 km, a white Check Control message is displayed.

## 36 STATUS INDICATORS

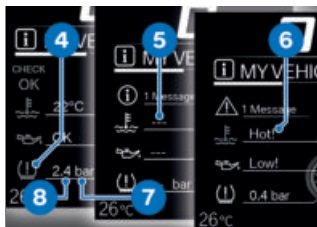
### WARNING INDICATORS

#### Mode of presentation

Warnings are indicated by the corresponding warning lights. Warnings are indicated by the 'General' warning light showing in combination with a dialogue 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.

- Green CHECK OK **1**: no message, optimum values.
- White circle with small "i" **2**: information.
- Yellow warning triangle **3**: warning, value not ideal.
- Red warning triangle **3**: warning, value critical.

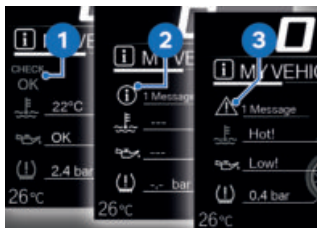


#### Values display

Symbols **4** differ in how they show on the display. The colours used differ and reflect the urgency of the message. Along with numerical values **8** with units **7**, texts **6** are displayed as well:

#### Colour of the symbol

- Green: (OK) Current value is ideal.
- Blue: (Cold!) Current temperature is low.
- Yellow: (Low!/High!) Current value is too low or too high.
- Red: (Hot!/High!) Current temperature or value is too high.



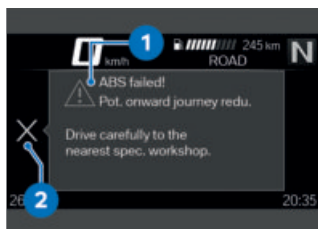
#### Check Control display

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

–White: (---) No valid value available. Dashes **5** are displayed instead of a numerical value.

 To some extent, individual values can be processed only after the vehicle has covered a certain distance or has reached a certain speed. Dashes are displayed as placeholders for as long as a measured value cannot be displayed because the preconditions for measurement have still to be met. If there are no valid measured values, there will be no assessment in the form of a coloured symbol.

–Check Control messages are attached dynamically to the pages as additional tabs in the *My vehicle* menu. The message can be called up again as long as the fault persists.



### Check Control dialogue

Messages are output as Check Control dialogues **1**.

–If symbol **2** is actively displayed, it can be acknowledged by tilting the Multi-Controller to the left.

## 38 STATUS INDICATORS

### Warnings, overview

| Indicator and warning lights                                                                     | Display text                                                                                                           | Meaning                                                    |
|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
|                                                                                                  |  is displayed.                        | Outside temperature warning (▮▮▮ 47)                       |
|  shows yellow.   |  Remote key not in range.             | Radio-operated key out of range (▮▮▮ 47)                   |
|  shows yellow.   |  Keyless Ride failure                 | Keyless Ride failed (▮▮▮ 48)                               |
|  shows yellow.   |  Remote key battery weak.             | Replacing battery of radio-operated key (▮▮▮ 48)           |
|  shows yellow.   |  Vehicle voltage critical!            | Voltage of the vehicle electrical system critical (▮▮▮ 48) |
|  flashes yellow. |  Battery voltage critical!            | Charging voltage critical (▮▮▮ 49)                         |
|  shows yellow.   |  Fault in the on-board battery.       | Fault in the vehicle battery (▮▮▮ 49)                      |
|  shows yellow. |  On-board battery overheated.       | Vehicle battery overheated (▮▮▮ 50)                        |
|  flashes red.  |  Serious fault in the power supply! | Serious fault in the power supply (▮▮▮ 50)                 |

| Indicator and warning lights                                                                              | Display text                                                                                                                  | Meaning                              |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|  shows yellow.           |  The faulty bulb is displayed.               | Bulb faulty (→ 50)                   |
|  flashes yellow.         |  The faulty bulb is displayed.               |                                      |
|  shows yellow.           |  Light control failure!                      | Light control failed (→ 51)          |
|                                                                                                           |  Alarm system batt. capacity weak.           | Anti-theft alarm battery weak (→ 52) |
|  shows yellow.           |  Alarm system battery empty.                 | Anti-theft alarm battery flat (→ 52) |
|  shows yellow.           |  Alarm system failure                        | DWA failed (→ 53)                    |
|  shows yellow.           |  Engine oil level<br>Check engine oil level. | Engine-oil level too low (→ 53)      |
|  shows yellow.           |  Engine temp. high!                          | Engine temperature high (→ 54)       |
|  shows red.             |  Engine overheating!                        | Engine overheated (→ 54)             |
|  Lights up or flashes. |  Drive!                                    | Drive malfunction (→ 55)             |
|  flashes red.          |  Serious fault in the engine control!      | Serious drive malfunction (→ 55)     |
|  flashes.              |                                                                                                                               |                                      |

## 40 STATUS INDICATORS

| Indicator and warning lights                                                                                                                                                              | Display text                                                                                                                                                                                                                                        | Meaning                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
|  shows yellow.<br> shows. |  No communication with engine control.                                                                                                                             | Engine control failed (→ 55)                               |
|  shows yellow.                                                                                            |  Fault in the engine control.                                                                                                                                      | Engine in emergency-operation mode (→ 56)                  |
|  flashes red.                                                                                             |  Serious fault in the engine control!                                                                                                                              | Serious fault in engine control (→ 56)                     |
|  shows yellow.                                                                                            |  Tyre pressure does not match setpoint                                                                                                                             | Tyre pressure close to limit of permitted tolerance (→ 57) |
|  flashes red.                                                                                             |  Tyre pressure does not match setpoint<br> Tyre press. control. Loss of pressure. | Tyre pressure outside permitted tolerance (→ 57)           |
|                                                                                                                                                                                           |  "---"                                                                                                                                                            | Transmission fault (→ 58)                                  |
|  shows yellow.                                                                                          |  "---"                                                                                                                                                           | Sensor faulty or system fault (→ 59)                       |
|  shows yellow.                                                                                          |  Tyre pressure check failure!                                                                                                                                    | Tyre pressure monitoring (RDC) failed (→ 59)               |
|  shows yellow.                                                                                          |  RDC sensor battery weak.                                                                                                                                        | Battery for tyre pressure sensor weak (→ 60)               |

| Indicator and warning lights                                                                                                                                                                    | Display text                                                                                                        | Meaning                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
|                                                                                                                                                                                                 |  Fall sensor faulty.               | Malfunction, drop sensor (▮▮▮ 60)           |
|                                                                                                                                                                                                 |  Cannot start engine.              | Motorcycle dropped (▮▮▮ 60)                 |
|  shows yellow.                                                                                                 |  Emergency call system restricted. | Emergency call function restricted (▮▮▮ 60) |
|  shows yellow.                                                                                                 |  Emergency call system error.      | Emergency call function failed (▮▮▮ 61)     |
|  shows yellow.                                                                                                 |  Side stand monitoring faulty.     | Malfunction, side stand monitor (▮▮▮ 61)    |
|  shows yellow.                                                                                                 |  Main stand not correctly stowed.  | Centre stand not fully folded in (▮▮▮ 61)   |
|  flashes regularly.                                                                                            |                                                                                                                     | ABS self-diagnosis not completed (▮▮▮ 62)   |
|  shows yellow.<br> shows.  |  Limited ABS availability!        | ABS fault (▮▮▮ 62)                          |
|  shows yellow.<br> shows. |  ABS failure!                    | ABS failed (▮▮▮ 62)                         |

## 42 STATUS INDICATORS

| Indicator and warning lights                                                                     | Display text                                                                                                       | Meaning                                         |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
|  shows yellow.   |  ABS Pro failure!                 | ABS Pro failed (▮▮▮ 63)                         |
|  shows.          |                                                                                                                    |                                                 |
|  shows yellow.   |  ABS indicator light faulty!      | ABS indicator and warning light failed (▮▮▮ 63) |
|  quick-flashes.  |                                                                                                                    | DTC intervention (▮▮▮ 63)                       |
|  slow-flashes.   |                                                                                                                    | DTC self-diagnosis not completed (▮▮▮ 64)       |
|  shows.          |  Off!                             | DTC switched off (▮▮▮ 64)                       |
|                                                                                                  |  Traction control deactivated.    |                                                 |
|  shows yellow.   |  Traction control limited!        | DTC restricted (▮▮▮ 64)                         |
|  shows.          |                                                                                                                    |                                                 |
|  shows yellow.  |  Traction control failure!       | DTC fault (▮▮▮ 65)                              |
|  shows.        |                                                                                                                    |                                                 |
|  shows yellow. |  Damping adjustment failed.     | Fault when adjusting damper (▮▮▮ 65)            |
|  shows yellow. |  Suspension adjustment limited. | Chassis adjustment restricted (▮▮▮ 65)          |



| Indicator and warning lights                                                                    | Display text                                                                                                                                                                            | Meaning                                                |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
|  shows yellow. |  Suspension adjustment failed.                                                                         | Chassis adjustment failed (▣▣▣▣ 66)                    |
|  shows yellow. |  Ride height. Lowering not possible.                                                                   | Fault when lowering chassis (▣▣▣▣ 66)                  |
|  shows yellow. |  Ride height. Raising not possible.                                                                    | Fault when raising chassis (▣▣▣▣ 67)                   |
|  shows yellow. |  Load equalisation failed.                                                                             | Load compensation unavailable (▣▣▣▣ 67)                |
|                                                                                                 |  Jacking aid temporarily deactivated.                                                                  | Lift assistance temporarily deactivated (▣▣▣▣ 67)      |
|  shows yellow. |  Tank reserve level reached.                                                                           | Fuel down to reserve (▣▣▣▣ 68)                         |
|                                                                                                 |  shows green.                                                                                          | Hill Start Control active (▣▣▣▣ 68)                    |
|                                                                                                 |  flashes yellow.<br>HSC not available. Engine not running.<br>HSC not available. Side stand extended. | Hill Start Control automatically deactivated (▣▣▣▣ 68) |

## 44 STATUS INDICATORS

| Indicator and warning lights                                                                     | Display text                                                                                                                              | Meaning                                                                 |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|                                                                                                  |  is displayed.<br>HSC not available. Engine not running. | Hill Start Control cannot be activated (►► 68)                          |
|  shows yellow.   |  Brake temp. high!                                       | The temperature of the brakes is too high (►► 69)                       |
|  shows yellow.   |  Brake temp. critical!                                   | Temperature of brake critical (►► 69)                                   |
|  shows yellow.   |  Cruise control has no function.                         | Cruise control failed (►► 70)                                           |
|  shows yellow.   |  ACC temporarily failed.                                 | Distance control (Active Cruise Control ACC) temporarily failed (►► 70) |
|  shows yellow.   |  Distance control failed.                                | Distance control (Active Cruise Control ACC) failed (►► 70)             |
|  shows yellow. |  Front-collision warning temporarily failed.           | Front collision warning temporarily unavailable (►► 71)                 |
|  shows yellow. |  Front-collision warning failed.                       | Front collision warning unavailable (►► 71)                             |

| Indicator and warning lights                                                                      | Display text                                                                                                              | Meaning                                              |
|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
|  shows yellow.   |  Lane change warning temporarily failed. | Lane change warning temporarily unavailable (▮▮▮ 71) |
|  shows yellow.   |  Lane change warning failed.             | Lane change warning unavailable (▮▮▮ 72)             |
|                                                                                                   |  Audio system too hot: Level 3           | Temperature of audio system too high (▮▮▮ 72)        |
|                                                                                                   |  Audio system voltage high!              | Voltage of audio system too high (▮▮▮ 72)            |
|                                                                                                   |  The gear indicator flashes.             | Gear not taught (▮▮▮ 73)                             |
|                                                                                                   |  The gear indicator flashes.             | Shifting to neutral failed (▮▮▮ 73)                  |
|  shows yellow.   |  Gearshift faulty!                       | Shift mechanism malfunction (▮▮▮ 73)                 |
|  shows yellow.  |  Gearbox fault.                         | Fault in the transmission (▮▮▮ 74)                   |
|  shows yellow. |  Clutch temperature high!              | Clutch temperature high (▮▮▮ 74)                     |
|  shows red.    |  Clutch faulty!                        | Clutch malfunction (▮▮▮ 74)                          |
|  shows red.    |  Gearbox damaged!                      | Serious fault in the transmission (▮▮▮ 75)           |

## 46 STATUS INDICATORS

| Indicator and warning lights                                                                    | Display text                                                                                                                  | Meaning                                          |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
|                | flashes.                                                                                                                      | Rollaway prevention device not activated (75)    |
|  flashes green. |                                                                                                                               | Hazard warning lights system is switched on (75) |
|  flashes green. |                                                                                                                               |                                                  |
|                                                                                                 |  is displayed in white.<br>Service due!      | Service due (76)                                 |
|  shows yellow.  |  is displayed in yellow.<br>Service overdue! | Service-due date has passed (76)                 |

## Ambient temperature

The ambient temperature is displayed in the status line of the instrument cluster.

When the vehicle is at a standstill, the heat of the electrical machine can falsify the ambient-temperature reading. If the heat of the electrical machine 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 ice crystal symbol flashes in the status line of the instrument cluster.

## 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.

## Radio-operated key out of range



shows yellow.



Remote key not in range. Not possible to switch on ignition again.

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. (101)
- Use the spare key to continue your journey.

## 48 STATUS INDICATORS

- Battery of the radio-operated key is empty or loss of the radio-operated key. (100)
- Remain calm if the Check Control dialogue appears on the display while you are riding. You can continue your journey, the engine will not switch off.
- Have the faulty radio-operated key replaced by an authorised BMW Motorrad retailer.

### Keyless Ride failed



shows yellow.



Keyless Ride failure  
Do not stop the engine. It may not be possible to restart the engine.

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



shows yellow.



Remote key battery weak. Function limited. Change battery.

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.
- Replace the battery of the radio-operated key. (101)

### Voltage of the vehicle electrical system critical



shows yellow.



Vehicle voltage critical! Consumers were switched off. Check battery condition.



### WARNING

#### Failure of the vehicle systems

Risk of accident

- Do not continue your journey.

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

### Charging voltage critical



flashes yellow.



Battery voltage critical! Accident risk. Stop driving.



### 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.

### Fault in the vehicle battery



shows yellow.



Fault in the on-board battery.

Limited onward journey possible. Drive carefully to nearest specialist workshop.

Possible cause:

Communication with the vehicle battery is disrupted.

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

Possible cause:

A battery type is used that does not match the encoding of the control unit.

- After a change of battery type, have the encoding checked by a specialist workshop,

## 50 STATUS INDICATORS

preferably an authorised BMW Motorrad retailer.

### **Vehicle battery overheated**



shows yellow.



On-board battery overheated. Switch off the engine or continue riding with restriction to allow cooling.

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.



Serious fault in the power supply! Stop immediately! Have it

checked by a specialist workshop.



### **WARNING**

#### **Failure of the vehicle systems**

Risk of accident

- Do not continue your journey.

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.

### **Bulb faulty**



shows yellow.



The faulty bulb is displayed:



High beam faulty!



Front left turn indicator faulty! or Front right turn indicator faulty!





Low-beam headlight faulty!



Front side light faulty!



Daytime riding light faulty!

–with additional headlight<sup>OE</sup>



Left additional headlight faulty!  
or Right additional headlight faulty! <



Tail light faulty!



Brake light faulty!



Rear left turn indicator faulty! or  
Rear right turn indicator faulty!



Number plate light faulty!

–Have it checked by a specialist workshop.



flashes yellow.



The faulty bulb is displayed:



Active headlight faulty.



## 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.

Possible cause:

One or more bulbs faulty.

- Identify faulty bulb or bulbs by visual check.
- Have LED light sources replaced as complete units; consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

## Light control failed



shows yellow.



Light control failure! Have it checked by a specialist workshop.

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### 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.

#### **Anti-theft alarm battery weak** —with anti-theft alarm (DWA)<sup>OE</sup>



Alarm system batt. capacity weak. No restrictions. Make an appointment at a specialist workshop.



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.

#### **Anti-theft alarm battery flat** —with anti-theft alarm (DWA)<sup>OE</sup>



shows yellow.



Alarm system battery empty. No independent alarm. Make an appointment at a specialist workshop.



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.

**DWA failed**

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



shows yellow.



Alarm system failure  
Have it checked by a specialist workshop.

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.

**Electronic oil-level check**

The electronic oil-level check assesses the oil level in the engine as OK or Low!

The following preconditions have to be satisfied for electronic oil-level checking, and several measurements might have to be taken:

- Engine idling for at least 20 seconds.
- Engine is at operating temperature.
- Vehicle is standing upright on a smooth, level surface.
- Side stand has been retracted.

—The suspension strut is set to suit the load state.

If measurement is incomplete or if these conditions are not met, the oil level cannot be judged by the system. Dashes (---) appear on the display instead of a reading.

**Engine-oil level too low**

shows yellow.



Engine oil level  
Check engine oil level.

Possible cause:

The electronic oil-level sensor has registered a low oil level. If the vehicle is not standing upright on a smooth, level surface, the message might appear even though the oil level is correct. The next time you stop for fuel:

- Check the engine oil level.

( 218)

If the oil level is too low:

- Topping up the engine oil.

( 219)

If the oil level is correct:

- Check whether the preconditions for the electronic oil-level check are met.

If the message appears repeatedly, even though the oil

## 54 STATUS INDICATORS

level is slightly below the **MAX** mark:

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

### Engine temperature high



shows yellow.



Engine temp. high!  
Continue riding with restriction to allow cooling.



### ATTENTION

#### Riding with overheated engine

Engine damage

- Compliance with the information set out below is essential.

Possible cause:

The coolant level is too low.

- Check the coolant level.  
( 226)

If the coolant level is too low:

- Allow the motor to cool down. Top up the coolant. Have the cooling system checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

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



shows red.



Engine overheating!  
Stop when it is safe to do so and switch off the engine.



### ATTENTION

#### Riding with overheated engine

Engine damage

- Compliance with the information set out below is essential.

Possible cause:

The coolant level is too low.

- Check the coolant level.  
( 226)

If the coolant level is too low:

- Allow the motor to cool down. Top up the coolant. Have the cooling system checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

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.

### Drive malfunction



Lights up or flashes.



Drive! Have it checked by a specialist workshop.

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 red.



flashes.



Serious fault in the engine control! Riding at mod. speed pos. Damage possible. Have checked by workshop.

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.

### Engine control failed



shows yellow.



shows.



No communication with engine control. Multiple sys. affected. Ride carefully to the

## 56 STATUS INDICATORS

next specialist workshop.

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.

### Engine in emergency-operation mode



shows yellow.



Fault in the engine control. Onward journey possible. Ride carefully to next specialist workshop.



### WARNING

#### Unusual ride characteristics when engine running in emergency-operation mode

Risk of accident

- Avoid accelerating sharply and overtaking.

Possible cause:

The electronic control unit has diagnosed a fault. In exceptional cases, the engine stops and refuses to start. Otherwise, the engine runs in emergency operating mode.

- You can continue to ride, but bear in mind that the usual engine performance might not be available.
- 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.



Serious fault in the engine control! Riding at mod. speed pos. Damage possible. Have checked by workshop.



## 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.

### Tyre pressure close to limit of permitted tolerance



shows yellow.



Tyre pressure does not match setpoint  
Check tyre pressure.

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 (III ➔ 207)

» Pressure adaptation (III ➔ 207)

» Find the correct tyre pressures in the following places:

- Back cover of the rider's manual
- Instrument cluster in the TYRE PRESSURE view
- Tyre pressures table

### Tyre pressure outside permitted tolerance



flashes red.



Tyre pressure does not match setpoint  
Stop immediately! Check tyre pressure.



Tyre press. control.  
Loss of pressure.

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Stop immediately! Check tyre pressure.



### 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 (207)

» Pressure adaptation (207)

» Find the correct tyre pressures in the following places:

– Back cover of the rider's manual

– Instrument cluster in the TYRE PRESSURE view

– 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.

### Transmission fault



"---"

Possible cause:

The vehicle has not reached the minimum speed (206).



RDC sensor is not active

min. 30 km/h (The RDC sensor does not transmit its signal to the vehicle until a certain minimum speed has been reached.)

- Increase speed above this threshold and observe the RDC readings. Assume that a permanent fault has not occurred unless the 'General' warning light comes on to accompany the symptoms. Under these circumstances:



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

Possible cause:

Wireless communication with the RDC sensors has been disrupted. Possible causes include radio-communication systems operating in the vicinity and interfering with the link between the RDC control unit and the sensors.

- Move to another location and observe the RDC readings. Assume that a permanent fault has not occurred unless the 'General' warning light comes on to accompany the symptoms. Under these circumstances:
- Have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### **Sensor faulty or system fault**



shows yellow.



"---"

Possible cause:

Vehicle is fitted with wheels not equipped with RDC sensors.

- Retrofit a set of wheels equipped with RDC sensors.

Possible cause:

One or both RDC sensors have failed or a system fault has occurred.

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

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



shows yellow.



Tyre pressure check failure! Function limited. Have it checked by a specialist workshop.

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.

## 60 STATUS INDICATORS

### Battery for tyre pressure sensor weak



shows yellow.



RDC sensor battery weak. Function limited. Have it checked by a specialist workshop.



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.

### Malfunction, drop sensor



Fall sensor faulty. Have it checked by a specialist workshop.

Possible cause:

The drop sensor is not available.

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

### Motorcycle dropped



Cannot start engine. Stand motorcycle upright. Switch ignition on/off. Start the engine.

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.

### Emergency call function restricted

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



shows yellow.



Emergency call system restricted. If this occurs again, have the vehicle checked by a specialist workshop.

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 (104) onwards.

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

### Emergency call function failed

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



shows yellow.



Emergency call system error. Make an appointment at a specialist workshop.

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.

### Malfunction, side stand monitor



shows yellow.



Side stand monitoring faulty. Onward journey possible. Engine will stop if stationary! Have checked by workshop.

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.

min. 5 km/h

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

### Centre stand not fully folded in

—with centre stand<sup>OE</sup>



shows yellow.



Main stand not correctly stowed.

Stop when it is safe to do so and check the main stand.



### WARNING

#### Centre stand contacts ground if not fully retracted

Risk of accident

- Before riding off, fully retract the centre stand.
- Before riding off, fully retract the peg.

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Possible cause:

The centre stand is not fully folded in.

- Stop carefully and check the centre stand.
- Make sure that the centre stand is fully folded in.
- If the fault persists, have it rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### ABS self-diagnosis not completed



flashes.

Possible cause:



ABS self-diagnosis not completed

The ABS function is not available, because self-diagnosis did not complete. (The vehicle 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 ABS function is not available until self-diagnosis has completed.

### ABS fault



shows yellow.



shows.



Limited ABS availability! Onward journey possible. Ride carefully to next specialist workshop.

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 (1192).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### ABS failed



shows yellow.



shows.



ABS failure! Onward journey possible.

Ride carefully to next specialist workshop.

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 (192).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### ABS Pro failed



shows yellow.



shows.



ABS Pro failure! Onward journey possible. Ride carefully to next specialist workshop.

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 (192).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### ABS indicator and warning light failed



shows yellow.



ABS indicator light faulty! Onward journey possible. Check by specialist workshop required.

Possible cause:

The ABS indicator and warning light 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.

### DTC intervention



quick-flashes.

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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.

### DTC self-diagnosis not completed



slow-flashes.

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 switched off



shows.



Off!



Traction control deactivated.

Possible cause:

The rider has switched off the DTC system.

- Operate the DTC. (► 109)

### DTC restricted



shows yellow.



shows.



Traction control limited! Onward journey possible.

Ride carefully to next specialist workshop.

Possible cause:

The engine control unit has detected a DTC fault.

- 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 (► 194).

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

### DTC fault



shows yellow.



shows.



Traction control failure! Onward journey possible. Ride carefully to next specialist workshop.

Possible cause:

The engine control unit has detected a DTC fault.

- Bear in mind that the DTC function and other dynamic control system functions are not available.
- You can continue to ride. Bear in mind the more detailed information on situations that can lead to a DTC fault (► 194).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Fault when adjusting damper



shows yellow.



Damping adjustment failed. Limited onward journey possible. Drive carefully to nearest specialist workshop.

Possible cause:

Components of the electronic damping adjustment system are faulty or communication with the control unit is disrupted. In this condition, the motorcycle has too much damping and is uncomfortable to drive, especially on roads in poor condition.

- Bear in mind that damping adjustment is not available.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Chassis adjustment restricted



shows yellow.



Suspension adjustment limited. Onward journey possible. Have it checked by a specialist workshop.

## 66 STATUS INDICATORS

Possible cause:

Components of the electronic suspension adjustment system are faulty or communication with the control unit is disrupted.

- Bear in mind that damping adjustment and ride height adjustment are not available or availability is restricted.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Chassis adjustment failed



shows yellow.



Suspension adjustment failed. Limited onward journey possible. Drive carefully to nearest specialist workshop.

Possible cause:

Components of the electronic suspension adjustment system are faulty or communication with the control unit is disrupted.

- Bear in mind that damping adjustment and ride height adjustment are not available.
- Have the fault rectified as quickly as possible by a spe-

cialist workshop, preferably an authorised BMW Motorrad retailer.

### Fault when lowering chassis

—with Dynamic Chassis Adaptation<sup>OE</sup>



shows yellow.



Ride height. Lowering not possible.

Stop carefully. Have it checked by a specialist workshop.

Possible cause:

Components of the electronic suspension adjustment system are faulty or communication with the control unit is disrupted.

- Bear in mind that ride height cannot be lowered.
- You can continue to ride. Bear the raised seat position in mind when pulling away.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.



**Fault when raising chassis**

—with Dynamic Chassis Adaptation<sup>OE</sup>



shows yellow.



Ride height. Raising not possible. Take care when banking. Have it checked by a specialist workshop.

Possible cause:

Components of the electronic suspension adjustment system are faulty or communication with the control unit is disrupted.

- Bear in mind that ride height cannot be raised.
- You can continue to ride. Think well ahead when riding and avoid banking at steep angles.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

**Load compensation unavailable**

shows yellow.



Load equalisation failed. Observe ride position. Have it

checked by a specialist workshop.

Possible cause:

Components of the electronic suspension adjustment system are faulty or communication with the control unit is disrupted. A lack of ride comfort might be perceptible, particularly if the road is in poor condition.

- Bear in mind that load equalisation is not available.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

**Lift assistance temporarily deactivated**

Jacking aid temporarily deactivated.

Too frequent activation can cause damage. Switch ignition off/on.

Possible cause:

The lift assistance function was used several times in succession.

- Avoid repeated actuation of the lift assistance function so as to avoid draining the battery.

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- Before using the lift assistance function again, switch the ignition off and on again.

### Fuel down to reserve



shows yellow.



Tank reserve level reached. Ride to the next filling station.



### 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.

Possible cause:

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



Reserve fuel

approx. 4 l

- Refuel. (11111 183)

### Hill Start Control active



shows green.

Possible cause:

Hill Start Control (11111 210) has been activated by the rider.

- Switch off Hill Start Control.
- Operate Hill Start Control. (11111 127)

### Hill Start Control automatically deactivated



flashes yellow. HSC not available. Engine not running.

HSC not available. Engine not running.

HSC not available. Side stand extended.

Possible cause:

Hill Start Control cannot be activated.

- Retract the side stand.
- » Hill Start Control is operational only with the side stand retracted.
- Start the engine.
- » Hill Start Control is operational only while the engine is running.

### Hill Start Control cannot be activated



is displayed.

HSC not available. Engine not running.

Possible cause:

Hill Start Control cannot be activated.

- Retract the side stand.
- » Hill Start Control is operational only with the side stand retracted.
- Start the engine.
- » Hill Start Control is operational only while the engine is running.

### The temperature of the brakes is too high



shows yellow.



Brake temp. high! Continue riding carefully to cool down. Avoid dynamic riding.



### 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.

Possible cause:

The temperature of the brake is in a critical range.

- By adopting a moderate riding style you can continue to ride until the warning light goes out.

### Temperature of brake critical



shows yellow.



Brake temp. critical! Continue riding carefully to cool down. Avoid dynamic riding.



### 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.

## 70 STATUS INDICATORS



### WARNING

#### Failure to observe service intervals

Risk of accident

- Observe the valid service intervals for brakes.

Possible cause:

The temperature of the brake is in a critical range.

- By adopting a moderate riding style you can continue to ride until the warning light goes out.

#### Cruise control failed



shows yellow.



Cruise control has no function. Onward journey possible. Inspection at workshop required.

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.

#### Distance control (Active Cruise Control ACC)

##### temporarily failed

—with Riding Assistant<sup>OE</sup>



shows yellow.



ACC temporarily failed. Check front radar sensor for damage.

Possible cause:

The function of the front radar sensor is impaired.

- Bear in mind that the distance control function (ACC) is temporarily not available. Adaptive cruise control is still available.
- You can continue to ride. Check the front radar sensor. Remove dirt or objects obstructing the radar sensor.
- Comply with the care and cleaning instructions (► 264).

#### Distance control (Active Cruise Control ACC) failed

—with Riding Assistant<sup>OE</sup>



shows yellow.



Distance control failed. Have it checked by a specialist workshop.

Possible cause:

The control unit has detected a fault.

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

### **Front collision warning temporarily unavailable**

—with Riding Assistant<sup>OE</sup>



shows yellow.



Front-collision warning temporarily failed. Check front radar sensor for damage.

Possible cause:

The function of the front radar sensor is impaired.

- Bear in mind that the front collision warning function is temporarily not available.
- You can continue to ride. Check the front radar sensor. Remove dirt or objects obstructing the radar sensor.
- Comply with the care and cleaning instructions (► 264).

### **Front collision warning unavailable**

—with Riding Assistant<sup>OE</sup>



shows yellow.



Front-collision warning failed. Have it checked by a specialist workshop.

Possible cause:

The control unit has detected a fault.

- Bear in mind that the front collision warning 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.

### **Lane change warning temporarily unavailable**

—with Riding Assistant<sup>OE</sup>



shows yellow.



Lane change warning temporarily failed. Onward journey possible. Check radar sensor for damage.

## 72 STATUS INDICATORS

Possible cause:

The function of the rear radar sensor is impaired.

- Bear in mind that the lane change warning function is temporarily not available.
- You can continue to ride. Check the rear radar sensor. Remove dirt or objects obstructing the radar sensor.
- Comply with the care and cleaning instructions (► 264).

### Lane change warning unavailable

—with Riding Assistant<sup>OE</sup>



shows yellow.



Lane change warning failed. Onward journey possible. Inspection at specialist workshop required.

Possible cause:

The control unit has detected a fault.

- Bear in mind that the lane change warning 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.

### Temperature of audio system too high



Audio system too hot: Level 3 Audio system has been switched off.

The temperature of the control unit for the audio system is too high. The audio system is powered down.

Possible cause:

The audio system control unit has diagnosed an excessively high temperature.

- Protect the motorcycle from the direct rays of the sun.
- If the fault persists, have it rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Voltage of audio system too high



Audio system voltage high! Audio system has been muted.

Possible cause:

The audio system control unit has diagnosed an excessively high voltage.

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

**Gear not taught**

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

 The gear indicator flashes.

Possible cause:

The gearbox sensor is not fully trained.

- Start the engine. (▢ 172)
- Select neutral N.
- Extend and then retract the side stand, without touching the shift lever.
- Use clutch control to engage each gear in turn. In each gear repeatedly move the throttle twistgrip to the idle position and then re-open the throttle.

» The gear indicator stops flashing when the gearbox sensor has been trained successfully.

—When the gearbox sensor has been taught successfully, Gear Shift Assistant Pro works as described (▢ 207).

- If teaching is not successful, have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad retailer.

**Shifting to neutral failed**

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

 The gear indicator flashes.

Possible cause:

Shifting to neutral has failed.

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

**Shift mechanism malfunction**

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



shows yellow.



Gearshift faulty!  
Onward journey possible. Engine start may not be possible. Check at workshop.

Possible cause:

The control unit has detected a malfunction of the shift actuator.

- Bear in mind that the gearshift function is not available. It may not be possible to engage neutral N.
- You may be able to continue riding in the currently engaged gear. Engine restart might not be possible.

## 74 STATUS INDICATORS

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

### Fault in the transmission

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



shows yellow.



Gearbox fault. Limited onward journey possible. Have it checked by a specialist workshop.



### WARNING

#### Restricted switching action

Risk of accident

- Drive carefully and avoid overtaking.

Possible cause:

The control unit has detected an actuator or sensor fault.

- Bear in mind that the gear-shift function is restricted.
- There may be a loss of comfort when driving off.
- You can continue to ride. Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Clutch temperature high

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



shows yellow.



Clutch temperature high! Onward journey possible. Use brake while stationary.

Possible cause:

The clutch has been subjected to excessive load. Engine torque is reduced.

- Apply the brake when stopping on gradients.
- Avoid rapid acceleration from a standstill at short intervals.

### Clutch malfunction

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



shows red.



Clutch faulty! Stop when it is safe to do so. Stop carefully! Have checked by a specialist workshop.

Possible cause:

The control unit has detected a malfunction of the clutch actuator. Problems in actuation of the clutch.

- Note that the clutch may no longer be able to disengage.



- Carefully bring the vehicle to a stop; if necessary use the emergency-off switch (kill switch) to shut down the engine.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Serious fault in the transmission

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



shows red.



**Gearbox damaged!** Stop when it is safe to do so. Have the fault rectified by a specialist workshop.

Possible cause:

The control unit has detected a serious malfunction of an actuator or the sensor system.

- Please note that the clutch is disengaged automatically. Propulsion will be completely interrupted.
- Carefully bring the vehicle to a stop; if necessary use the emergency-off switch (kill switch) to shut down the engine.

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

### Rollaway prevention device not activated

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



flashes.

Possible cause:

Engaging the rollaway prevention device has failed.

- Move the motorcycle forwards or backwards a short distance.

### Hazard warning lights system is switched on



flashes green.



flashes green.

Possible cause:

The driver has switched on the hazard warning lights system.

- Operate the hazard warning flashers. (108)

### Service display



If service is overdue, the due date or the odometer reading at which service was due is accompanied by the

## 76 STATUS INDICATORS

'General' warning light showing yellow.

If the service is overdue, a yellow Check Control message is displayed. Exclamation marks also draw your attention to the displays for service, service appointment and countdown distance in the MY VEHICLE and SERVICE REQUIREMENTS menu screens.

 If the service-due indicator appears more than a month before the service date, the current date has to be corrected. This situation can occur if the battery was disconnected.

### Service due

 is displayed in white.

Service due! Have service performed by a specialist workshop.  
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



shows yellow.



is displayed in yellow.

Service overdue! Have service performed by a specialist workshop.  
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.



# **INSTRUMENT CLUSTER**

**04**

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### 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

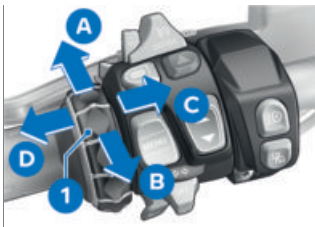
Operating the integrated information system and communication devices while driving results in a risk of accident

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

When performing functions that can only be operated when the vehicle is stationary, an operational feedback message appears in the instrument cluster.

### CONTROLS

#### Multi-Controller



- 1** Multi-Controller
- A** Move the cursor up in lists  
Increase volume
- B** Move the cursor down in lists  
Reducing volume
- C** Activate function in accordance with feedback  
Confirm selection/setting  
Scrolling through menu screens

- D** Activate function in accordance with feedback or go back  
Return to Menu view after making settings  
Change up one level in the hierarchy  
Scrolling through menu screens

### **MENU rocker button**



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

- In Menu view: Change up one level.
- In Pure Ride view: Change the display for rider info. status line.

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

- In Menu view: Open the Pure Ride view.
- In Pure Ride view: Reset on-board computer value.

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

- Change down a level.
- Confirm selection/setting.

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

- Change back to the last menu after a previous menu change effected by long-pressing the top section of the rocker button.



Instructions given by the navigation system are displayed as a dialogue if the Navigation menu has not been called up. Operation of the MENU rocker button is temporarily restricted.

---

## **MULTI-FUNCTION ROCKER SWITCH**

### **Principle**

The multi-function rocker switch enables operation of individually assigned functions. In the MULTI-ROCKER SWITCH menu one function can be assigned and a second function selected as the priority-select function. Settings made by means of the multi-function rocker switch are

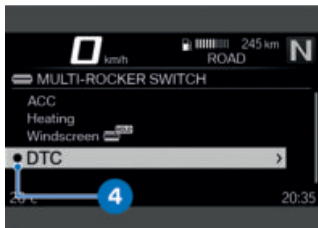
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retained after the ignition has been switched off.

### Assigning function



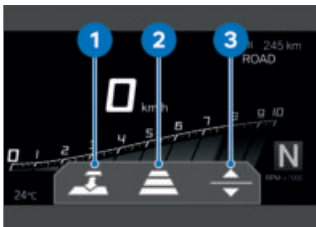
- Press button **1**.  
» The **MULTI-ROCKER SWITCH** menu opens.
- Use Multi-Controller **3** to select the desired function.
- Short-push Multi-Controller **3** to the right.



Function **4** is assigned to the multi-function rocker switch.

- Use multi-function rocker switch **2** to set the value for the function.

 The current status of the function is shown the first time the button is pressed. Pressing the button a second time changes function value.



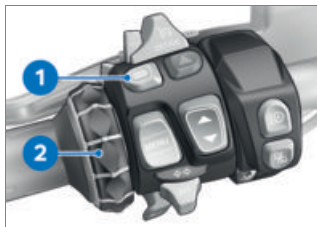
Operating feedback shows the symbol of the corresponding function **1** and the status of the function **2**. The arrows **3** show the corresponding setting options.

### Priority-select function

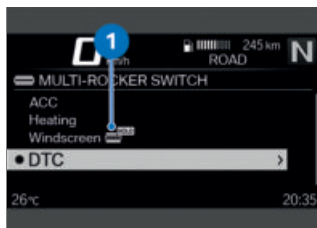
The priority-select function provides a way of toggling temporarily between the assigned function and one other function.



## Selecting priority-select function



- Press button **1**.  
» The MULTI-ROCKER SWITCH menu opens.
- Use Multi-Controller **2** to select the desired function.
- Long-push Multi-Controller **2** to the right.



Symbol **1** indicates that the function is selected as the priority-select function.

## Using priority select Requirement

In the MULTI-ROCKER SWITCH menu, the currently assigned function is distinguished from the priority-select function.



- Long-press button **1**.  
» The operating feedback for the priority-select function is shown.
- While the operating feedback is visible, press multi-function rocker switch **2** to change the value for the priority-select function.



After the operating feedback disappears, the assignment of the multi-function rocker switch resets to the currently selected function.

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### MY VEHICLE

#### On-board computer and trip computer

The ON-BOARD COMPUTER and TRIP COMPUTER menu screens display vehicle and trip data, such as average values.

#### Call up the on-board computer

- Call up the *My vehicle* menu.
- Scroll to the right until the ON-BOARD COMPUTER menu screen is displayed.
  - » Alternatively, the on-board computer can also be shown on the splitscreen.
- Switch on splitscreen view and select display. (►► 89)

#### Reset the on-board computer

- Call up the on-board computer. (►► 84)
- Press down the MENU rocker button.
- Select *Reset all values* or *Reset individual values* and confirm.

The following values can be reset:



Break



Journey



Current



Speed



Consump.

#### Call up the trip computer

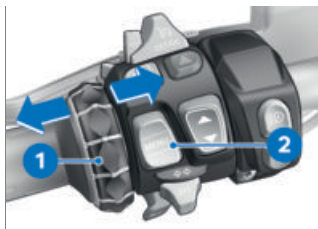
- Call up the on-board computer. (►► 84)
- Scroll to the right until the TRIP COMPUTER menu screen is displayed.
  - » Alternatively, the trip computer can also be shown on the splitscreen.
- Switch on splitscreen view and select display. (►► 89)

#### Reset the trip computer

- Call up the trip computer. (►► 84)
- Press down the MENU rocker button.
- Select *Autom. reset* or *Reset all values* and confirm.
  - » If *Autom. reset* is selected, the trip computer is automatically reset when a minimum of 6 hours have passed and the date has changed since the ignition was switched off.

## OPERATION

### Calling up menu



- Display the Pure Ride view. (▮▮▮ 85)
- Short-press the bottom section of button **2**.

The following menus can be called up:

-My vehicle  
-Navigation  
-Media  
-Telephone  
-Connected  
-Settings

- Repeatedly short-push Multi-Controller **1** to the right until the menu item you want is highlighted.
- Short-press the bottom section of button **2**.

### Display Pure Ride view

- Long-press the top section of the MENU rocker button.

### Changing display for rider info. status line

#### Requirement

The vehicle is at a standstill.  
The Pure Ride view is displayed.

- Switch on the ignition. (▮▮▮ 99)
- » The instrument cluster shows all the information necessary for riding on public roads from the on-board computer (e.g. TRIP 1) and the trip computer (e.g. TRIP 2). The information can be displayed in the top status line.
- Select the content of the top status line. (▮▮▮ 86)



- Long-press button **1** to obtain the Pure Ride view.
- Repeatedly short-press button **1** to select the value in the top status line **2**.

The following values can be displayed:

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Total distance



Current distance 1



Current distance 2



Consumption 1 (Average)



Consumption 2 (Average)



Riding time 1



Riding time 2



Break 1



Break 2



Speed 1 (Average)



Speed 2 (Average)



Tyre pressure



Fuel tank level



Range

### Select the content of the top status line

- Navigate to Settings, Display, Status line content.
- Switch on the desired displays.
  - » You can switch between the selected displays in the top status line. If no displays are selected, only the range will be displayed.

---

### SETTINGS

#### Adjusting volume

- Connect the rider's and passenger's helmets. (▶ 89)
- Increase volume: Turn Multi-Controller up.
- Reduce volume: Turn Multi-Controller down.
- Mute: Turn Multi-Controller all the way down.
  - » Muting pauses media playback.

#### Changing system settings

- Switch on the ignition. (▶ 99)
- Navigate to Settings, System settings.
  - » You can change the following system settings here:
    - Date and time
    - Units
    - Language

### Adjusting brightness

- Navigate to **Settings**, **Display**, **Brightness**.
- Adjust display brightness.
- » When ambient brightness drops below a defined threshold, the display is dimmed to the brightness set here.
- » If the display is faulty, consult the troubleshooting chart in the section entitled "Technical data". (► 271)

### Reset all settings

- Call up the **Settings** menu.
- Select **Reset all** and confirm.

The settings in the following menus are reset to their default factory settings:

- Vehicle settings
- System settings
- Connections
- Display
- Information

- » The pairing of the vehicle to the current BMW Motorrad Connected-Ride account is reset.

## BLUETOOTH PAIRING

### Pairing

Two Bluetooth devices have to recognise each other before they can communicate. This process of mutual recognition is known as pairing. When two devices have paired they remember each other, so the pairing process is conducted only once, on initial contact.



On some mobile devices, e.g. those with the iOS operating system, the BMW Motorrad Connected app has to be opened prior to use.

During the pairing process, the instrument cluster searches for other Bluetooth-compatible devices within its reception range. The conditions that have to be satisfied before the audio system can recognise another device are as follows:

- The device's Bluetooth function must be active
- The device must be "visible" to others
- Other Bluetooth-compatible devices must be OFF (e.g. mobile phones and navigation systems).

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Please consult the operating instructions for your communication system.

### Pairing

- Navigate to **Settings, Connections**.

» Bluetooth connections can be established, managed and deleted in the **CONNECTIONS** menu. The following Bluetooth connections are displayed:

- Mobile device
- Rider's helmet
- Passenger helm.

The connection status for mobile devices is displayed.

### Connect mobile device

- Perform pairing. (▶▶▶ 88)
- Activate the mobile device's Bluetooth function (see mobile device's operating instructions).
- Select **Mobile device** and confirm.
- Select **Pair new mobile device** and confirm.

Mobile devices are being searched for.



flashes in the bottom status line during pairing.

Mobile devices found are displayed.

- Select and confirm mobile device.



If the fuel tank is between the mobile device and the instrument cluster, the Bluetooth connection may be restricted. BMW Motorrad recommends keeping the mobile device above the fuel tank (e.g. carried in a jacket pocket).

- Follow the instructions on the mobile device.
- Confirm that the code matches.

» The connection is established and the connection status updated.

» If the connection is not established, consult the troubleshooting chart in the section entitled "Technical data". (▶▶▶ 270)

» Depending on the mobile device, telephone data is transferred to the vehicle automatically.

» Telephone data (▶▶▶ 94)

» If the phonebook is not displayed, consult the troubleshooting chart in the section entitled "Technical data". (▶▶▶ 271)

» If the Bluetooth connection does not work as expected, consult the troubleshooting chart in the section entitled "Technical data". (▶▶▶ 271)

### Connect rider's and passenger's helmet

- Perform pairing. (▶▶▶ 88)
  - Select Rider's helmet or Passenger helm. and confirm.
  - Make the helmet's communication system visible.
  - Select Pair new rider's helmet or Pair new passenger helmet and confirm.
- Helmets are searched for.



flashes in the bottom status line during pairing.

Helmets found are displayed.

- Select and confirm helmet.
- » The connection is established and the connection status updated.
- » If the connection is not established, consult the troubleshooting chart in the section entitled "Technical data". (▶▶▶ 270)

### Delete connections

- Navigate to Settings, Connections.
- Select Delete connections.
- To delete an individual connection, select the connection and confirm.
- To delete all connections, select Delete all connections and confirm.

## SPLITSCREEN

### Switching on splitscreen view and selecting display

- Display the Pure Ride view. (▶▶▶ 85)
- Repeatedly short-push the Multi-Controller to the right or left until the display you want appears.
- Alternatively: Long-push the Multi-Controller to the right to return to the display last selected in splitscreen view.

The following displays can be selected:

- ON-BOARD COMPUTER
- TRIP COMPUTER
- Navigation
- MEDIA

-with audio system<sup>OE</sup>

MEDIA or RADIO can be displayed, depending on the selected audio source.◀

- » The display you select is retained in memory, even after the ignition is switched off.

### Switching off splitscreen

- Display the Pure Ride view. (▶▶▶ 85)
- Repeatedly short-push the Multi-Controller to the left until the splitscreen view is switched off.
- Alternatively: Long-push the Multi-Controller to the left.

## WIFI

### WiFi connection

A Wi-Fi connection is required to use ConnectivityHub or to transmit a map view from a mobile phone to the instrument cluster. Wi-Fi has to be activated on the mobile phone in order for the full scope of this functionality to be used. For more information on activating WiFi see the operating instructions for the mobile phone.

Depending on the specifics of the local situation, for example in the presence of numerous wifi networks, temporary restrictions and loss of connection are possible.

 On mobile end devices using an iOS operating system, the connection to the instrument cluster may have to be authorised repeatedly due to the manufacturer's security guidelines.

## NAVIGATION

### Precondition

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

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

 On some mobile devices, e.g. those with the iOS operating system, the BMW Motorrad Connected app has to be opened prior to use.

### Show the map view

- Connect a mobile device.  
( 88)
- Call up the BMW Motorrad Connected app.
- Call up the Navigation menu.

 If the NAVIGATION view is selected in the split-screen and the NAVIGATION menu is called up, the split-screen view is automatically exited and the navigation display is shown on the whole instrument cluster.

### Enter the destination address

- Connect a mobile device.  
( 88)



- Call up the BMW Motorrad Connected app and start the route guidance.
- Call up the **Navigation** menu.
  - » Active route guidance is displayed.
  - If WiFi is not activated on the mobile device, route guidance is displayed as arrow navigation.
  - » If active route guidance is not displayed, consult the troubleshooting chart in the section entitled "Technical data". (► 272)

### Select destination from recent destinations

- Navigate to **Navigation**, **Recent destinations**.
- Select and confirm destination.
- Select **Start route guidance**.

### Select destination from favourites

- The **FAVOURITES** menu shows all the destinations saved as favourites in the BMW Motorrad Connected app. You cannot use the instrument cluster to add favourites to the list.
- Navigate to **Navigation**, **Favourites**.

- Select and confirm destination.
- Select **Start guidance**.

### Enter special destinations

- Special destinations, such as points of interest, can be displayed on the map.
- Navigate to **Navigation**, **POIs**.

The following locations can be selected:

- At current location
- At destination
- Along the route
- Select where the special destinations should be looked for.

For example, the following special destination can be selected:

- Filling station
- Select and confirm the special destination.
- Select **Start route guidance and confirm**.

### Set route criteria

- Navigate to **Navigation**, **Route criteria**.

The following criteria can be selected:

- Route type
- Avoid
- Select desired **Route type**.
- Switch desired **Avoid** on or off.

The number of avoidances activated is displayed in brackets.

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### View the route information

- Navigate to Navigation, Settings and select Route info.

You can choose between the following options:

- Dest.
- Waypoint
- Select the desired option.
- » Countdown distance and time are displayed.

### Edit route guidance

- Navigate to Navigation, New destination.

You can choose from the following destinations:

- Recent destinations
- Favourites
- POIs
- Select a destination from one of the three destination categories.
- Select Change route guidance in the destination entry.
- Select Add as waypoint to add the selected destination as a waypoint.
- Select Start guidance to overwrite the current destination.

### End route guidance

- In menu Navigation, tilt the Multi-Controller to the left.
- Alternatively, in menu Active route guidance, select and

confirm Option End route guidance.

### Switching spoken instructions on or off

- Connect the rider's and passenger's helmets. (► 89)
- Navigation instructions can be read out. For this purpose, Spoken instruction must be switched on.
- Navigate to Navigation, Active route guidance.
- Switch Spoken instruction on or off.

### Repeat last spoken instruction

- Navigate to Navigation, Active route guidance.
- Select Current instruction and confirm.

### Switch Speed Limit Info on or off

#### Requirement

Vehicle is connected to a compatible mobile device. The BMW Motorrad Connected app is installed on the mobile device.

- Speed Limit Info shows the maximum speed permitted at the time, if this information is made available by the publisher of the map material in the navigation system.
- Navigate to Settings, Display.

- Switch Speed Limit Info on or off.

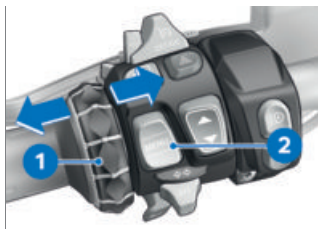
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## MEDIA

### Precondition

The vehicle is connected to a compatible mobile device and helmet.

### Controlling music playback



- Call up the Media menu.
- Adjust volume. (►► 86)
- To select the next track in the player: Short-tilt Multi-Controller **1** to the right.
- To select the preceding track or start of current track: Short-tilt Multi-Controller **1** to the left.
- Call up context menu: Press bottom section of button **2**.

 Depending on the mobile end device, the scope of Connectivity functions might be restricted.

» The following functions can be used in the context menu:

- Playback or Pause.
- Select the Now playing, All artists, All albums or All tracks category for search and playback.
- Select Playlists.

You can make the following adjustments in the Audio settings submenu:

- Switch Shuffle on or off.
- Select Repeat: Off, One (current track) or All.
- with audio system<sup>OE</sup>
- Select Output device.<
- with audio system<sup>OE</sup>
- Select Sound profile.<
- with audio system<sup>OE</sup>
- Set up Equaliser.<

» If the playlist is not shown on the display, consult the troubleshooting chart in the section entitled "Technical data". (►► 272)

---

## TELEPHONE

### Precondition

The vehicle is connected to a compatible mobile device and helmet.

## 94 INSTRUMENT CLUSTER

### Telephone calls



- Call up the Telephone menu.

 When a call is received, a pop-up window opens.

- Accept call: Tilt Multi-Controller **1** to the right.
- Reject call: Tilt Multi-Controller **1** to the left.
- End call: Tilt Multi-Controller **1** to the left.

### Muting

During active phone calls, the microphone in the helmet can be muted.

### Phone calls with multiple participants

While a phone call is in progress, a second call can be accepted. The first phone call is put on hold. The number of active calls is shown in the Telephone menu. It is possible to switch between two phone calls.

### Telephone data

Depending on the mobile device, when pairing ( 87) completes telephone data are automatically sent to the vehicle.

Phone book: List of contacts saved on the mobile device

Call list: List of calls with the mobile device

Favourites: List of favourites saved on the mobile device

---

## CONNECTIVITYHUB

### ConnectivityHub functions

ConnectivityHub lets you conveniently configure BMW Motorrad Connected Rider Gear or ConnectedRide Accessories accessory products using the Multi-Controller.

To find out more about accessories go to:

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

### Requirements

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

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

The accessories are connected to the BMW Motorrad Connected app.

Wi-Fi is activated on the linked end device.

### **Opening ConnectivityHub**

- Connect a mobile device.  
( 88)
- Call up the BMW Motorrad Connected app.
- Call up the Connected menu.
- Select available accessories.  
» The selected accessories can be configured using the Multi-Controller.

---

### **SOFTWARE VERSION**

- Navigate to Settings, Information, Software version.

---

### **LICENCE INFORMATION**

- Navigate to Settings, Information, Licences.

# OPERATION

# 05

---

|                                                     |            |
|-----------------------------------------------------|------------|
| <b>IGNITION</b>                                     | <b>98</b>  |
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| <b>INTELLIGENT EMERGENCY CALL</b>                   | <b>104</b> |
| <b>LIGHTING</b>                                     | <b>106</b> |
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## 98 OPERATION

### 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) (100).

 The vehicle cannot be started or the central locking system locked or unlocked if the radio-operated key is not within range (e.g. key inside one of the cases or the top-case).

If the key is out of range, the ignition is switched off after approximately 90 minutes, the central locking system is **not** locked.

It is advisable to keep the radio-operated key on your person (e.g. in a jacket pocket) and to have the spare key with you as an alternative.



Range of the Keyless  
Ride radio-operated key

approx. 1 m

After the ignition is switched on (99) connection status is indicated by an indicator light in the instrument cluster.



- 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 (99).
- Indicator light **1** goes out: Radio-operated key or spare key found and cleared.

#### Engaging steering lock Requirement

The handlebars are turned towards the left. Radio-operated key is cleared.





- Press and hold down button **1**.
  - » The steering lock engages with an audible click.
  - » Ignition, lights and all function circuits switched off.
- Short-press button **1** to disengage the steering lock.

### Switching on ignition Requirement

Radio-operated key is cleared.



- The steering lock can be unlocked once the ignition is switched on.

### The steering lock is disengaged:

- Short-press button **1**.
  - » Lights and all function circuits are switched on.
  - » Engine can be started.

### Steering lock is engaged:

- Press and hold down button **1**.
  - » The steering lock disengages.
  - » Lights and all function circuits switched on.
  - » Engine can be started.

### Switching off ignition Requirement

Radio-operated key is cleared.



- The steering lock can be locked once the ignition is switched off.

### To switch off the ignition and engage the steering lock:

- Turn the handlebars all the way to the left.
- Press and hold down button **1**.
  - » Light is switched off.

## 100 OPERATION

» The steering lock engages.

### **To switch off the ignition and do not engage the steering lock:**

- Short-press button 1.
- » Light is switched off.
- » The steering lock does not engage.

### **Electronic immobiliser (EWS)**

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

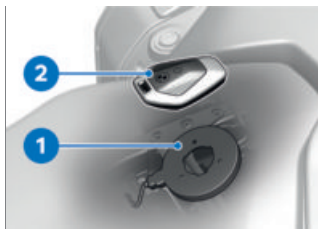
 A second ignition key attached to the same ring as the ignition key used to start the engine could "irritate" the electronics, in which case the enabling signal for starting is not issued. The warning with the key symbol appears in the multifunction display. Always keep other vehicle keys separate from 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 spare 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.

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



- If a key is lost or mislaid, consult the notes on the electronic immobiliser (EWS) ( 100).
- If you happen to lose or mislay the radio-operated key while 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. (148)
- Insert the spare key or folded-in radio-operated key with the empty battery **2** into ring aerial **1**.

 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.
- Install the rider's seat. (149)
- Start the engine. (172)

## 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. (101)

## 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.

## 102 OPERATION



Remote key battery weak. Function limited. Change battery.



### 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.
- 
- 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



Battery type

CR 2032

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

## EMERGENCY-OFF SWITCH (KILL SWITCH)

### Function



- 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)

### Emergency stop switch with automated shift assistant (ASA)

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

To bring the motorcycle to a safe stop, the automated shift assistant performs the following functions after the emergency-off switch is pressed:

- Disconnects the clutch.
- Shifts the transmission to neutral.
- Switch off the engine.

The emergency off switch can also be used to activate the rollaway prevention device (177).

## 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 (13). 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 a language assigned to it depending on the market for which it is intended. The BMW Call Center answers in this language.

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

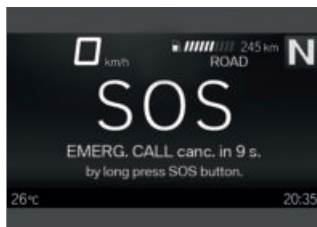
The language assigned to the vehicle varies from the selectable language the rider can choose as the display language in the instrument cluster.

### Manual emergency call Requirement

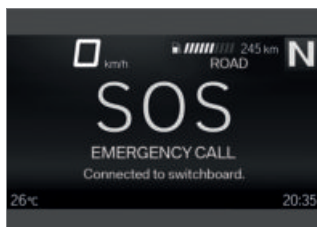
An emergency has occurred.  
The vehicle is at a standstill.  
The ignition is switched on.



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



- » 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.



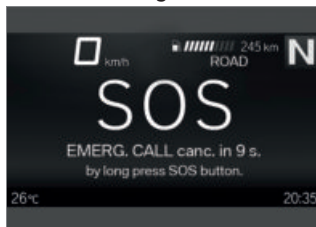
- Provide information to the emergency services using the microphone **3** and speaker **4**.

### 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 minor fall or a crash is detected.
- » An acoustic signal is sounded.

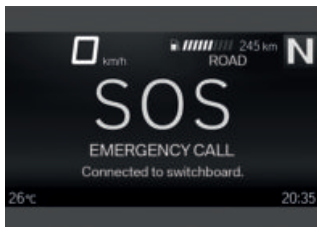


- » The time until transmission of the emergency call is displayed. During that time, it is

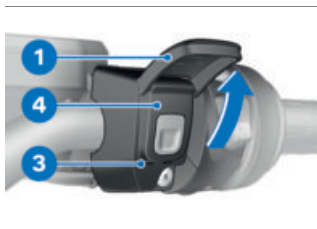
## 106 OPERATION

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.



- 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

### Low-beam headlight and sidelights

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.

The low-beam headlight switches on automatically when the engine is started.

### How automatic light control works

—with adaptive light modes<sup>OE</sup>

Automatic light control produces adaptive illumination of the roadway ahead and permits vision adapted to the riding situation in the dark. Illumination of the roadway ahead depends on speed, bank angle and the headlight beam selected (➡ 212).



## Using automatic light control —with adaptive light modes<sup>OE</sup>

- Switch on the ignition. (▶▶▶ 99)
- Start the engine. (▶▶▶ 172)



- Press button 1.  
» Automatic light control is switched on.



shows.

- Press button 1 again to switch off automatic light control.

## High-beam headlight and headlight flasher

- Switch on the ignition. (▶▶▶ 99)



- 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. (▶▶▶ 99)



- 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.

## 108 OPERATION

–This can be used to light up the path to the house door after the vehicle has been parked, for example.

### Auxiliary headlights

–with additional headlight<sup>OE</sup>

 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. (➡ 172)
- Navigate to Settings, Vehicle settings, Lights and switch on the Additional headlight function.



shows.

### 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.

- Navigate to Settings, Vehicle settings, Lights and switch on the Auto. daytime light function.
- » The automatic daytime driving lights are switched on.
- » 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.



shows.

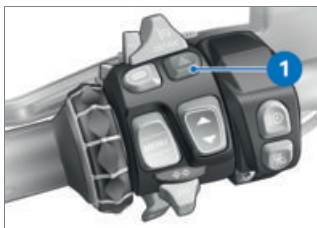
### Hazard warning lights

- Switch on the ignition. (➡ 99)



The hazard warning flashers place a strain on the battery. Do not use the haz-

ard warning flashers for longer than absolutely necessary.



- Press button **1** to switch on the hazard warning flashers.
- » Ignition can be switched off.
- Switch the ignition on and press button **1** again to switch off the hazard warning flashers.

### Turn indicators

- Switch on the ignition.  
( 99)
- Navigate to **Settings**, **Vehicle settings** and select **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.

---

## DYNAMIC TRACTION CONTROL (DTC)

### Operating DTC

- Switch on the ignition.  
( 99)
- Assign the DTC function to the multi-function rocker switch ( 81).
- Set the desired system status.



When the multi-function rocker switch is pressed for the first time, current system status **1** is displayed.

- Long-press the bottom section of the multi-function rocker switch to switch DTC off.
- » The indicator in the display flashes in sync with the indicator light in the instrument cluster.



flashes yellow.

- Press the top section of the multi-function rocker switch to switch DTC on. Alternatively: Switch ignition off and on again.
-  goes out, if self-diagnosis has not completed the DTC indicator and warning light starts flashing.
- For more information on Dynamic Traction Control (DTC) see the section

entitled "Engineering details" (194).

## CHASSIS AND SUSPENSION ADJUSTMENT

### Possibilities for adjustment, Dynamic ESA

Dynamic ESA is an electronic system that enables your motorcycle's suspension to adjust automatically to suit the load the vehicle is carrying.

For more information on Dynamic ESA see the section headed "Engineering details" (202).

### Adjusting suspension damping

—with Dynamic Chassis Adaptation<sup>OE</sup>

- Switch on the ignition. (99)
- To adjust the damping, go to Settings, Assist, Suspension, Damping configuration In the current riding mode in the menu.
- Select setting -1 or -2 to reduce the damping effect in the chosen riding mode.
- Select setting +1 or +2 to increase the damping effect in the chosen riding mode.
- » Adjusting the damping setting also affects the riding modes ECO, RAIN and ROAD

or DYNAMIC and DYNAMIC PRO.

### **Effects of damping on handling.**

The aim of adjusting this setting is to adapt the damping to suit the spring preload, road conditions and desired handling.

#### **Increase damping**

- Sportier handling due to firm suspension.
- Loss of comfort on bumpy or uneven road surfaces.

#### **Decrease damping**

- More comfortable handling due to softer suspension.
- In extreme cases, the chassis may bottom out on severe bumps or unevenness in the road surface.

---

## **RIDING MODE**

### **Using riding modes**

BMW Motorrad offers you pre-configured modes to suit the various purposes:

#### **Standard**

- ECO: Range-optimised riding.
- RAIN: Riding on rain-wet roads.
- ROAD: Riding on dry roads.

–with riding modes Pro<sup>OE</sup>

#### **with riding modes Pro**

- DYNAMIC: Dynamic riding on dry roads.
- DYNAMIC PRO: For dynamic riding on dry roadways while taking into account the settings made by the rider.

The preconfigured modes each provide the optimum combinations of engine characteristics, DTC and MSR for the respective scenario.

For more information on the riding modes, see the section entitled "Engineering details" (▮▮▮ 202).

### **Riding-mode preselection**

–with riding modes Pro<sup>OE</sup>

Riding mode preselection is a function for shortlisting the rider's subset of preferred riding modes.

Between two and a maximum of four riding modes can be added to the riding modes preselection shortlist.

Factory setting:

ECO, RAIN, ROAD and DYNAMIC

# 112 OPERATION

## Preselect a riding mode

—with riding modes Pro<sup>OE</sup>

- Switch on the ignition.  
( 99)
- Navigate to Settings, Vehicle settings, Riding mode preselection.
- Activate or deactivate riding modes for riding mode preselection.
  - » The activated riding modes are available for subsequent selection.
  - » If fewer than two riding modes are preselected, this message is displayed:  
Action not possible.  
Min. number reached.
  - » The list of preselected riding modes is retained in memory, even after the ignition is switched off.

## Select the riding mode

- Switch on the ignition.  
( 99)
- with riding modes Pro<sup>OE</sup>
- Preselect a riding mode.  
( 112)◀



- Press button 1.



- The active riding mode 2 is sent to the back and is displayed in pop-up 3. The guide 4 indicates how many riding modes are available.
- Repeatedly press button 1 until the riding mode you want is displayed.
    - » The availability of the riding modes depends on the custom configuration of the riding modes preselection function.
    - » With the motorcycle at a standstill, the selected riding mode is activated after approximately two 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.
  - Adaptive cruise control is not active.
- » The mode selected in this way is retained with the engine-characteristic, DTC and MSR adaptation settings even after the ignition has been switched off.

## RIDING MODE PRO

–with riding modes Pro<sup>OE</sup>

### Adjustment option

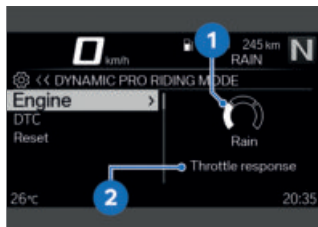
Pro riding mode can be set up to suit the rider's preference.

### Selecting Pro riding mode

- Switch on the ignition.  
( 99)
- Navigate to Settings, Vehicle settings, Riding mode preselection.
- Select DYNAMIC PRO riding mode.

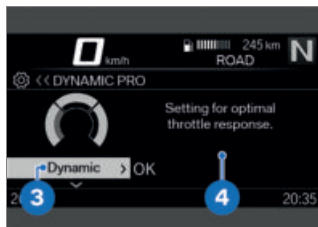
### Setting up Dynamic Pro

- with riding modes Pro<sup>OE</sup>
- Select Pro riding mode.  
( 113)
- Call up Configuration.



The Engine system has been selected. The current setting is displayed as a diagram 1 with explanatory texts relating to the system 2.

- Select system and confirm.



You can browse through the available settings 3 and the corresponding explanations 4.

- Set up the system.
- » The DTC system can be set up in the same way.

### Resetting riding mode settings

- Select Pro riding mode.  
( 113)
- Select Reset and confirm.

# 114 OPERATION

- » The following factory settings apply for DYNAMIC PRO RIDING MODE:
  - ENGINE: Dynamic
  - DTC: Road

## AUTOMATED SHIFT ASSISTANT (ASA)

- with automated shift assistant<sup>OE</sup>

### Function

The automated shift assistant (ASA) performs automated switching actions without needing any input from the rider.

Two transmission modes are available for gear selection:

- Manual mode **M**: Gearshifting by operation of the gearshift lever.
- Automated mode **D**: Automated gear selection taking the current driving situation into account.

In automated riding mode, switching actions are triggered depending on the riding mode, engine speed, throttle grip position and lean angle.

Driving off and braking to a stop are controlled by the automated shift assistant (ASA) regardless of which transmission mode is selected.

For more information on the automated shift assistant (ASA), see the section entitled "Riding" (175).

### Selecting transmission mode

- with automated shift assistant<sup>OE</sup>

- Establish riding readiness. (175)

» Manual mode **M** is active.



The gear selected by the rider and the indicator **M** for manual mode is shown in status line **1** or in the Pure Ride **2** view.



- Short-press button **1**.
  - » Automated riding mode **D** is activated.





The indicator for automated mode D and the current gear are shown in status line **1** or in the Pure Ride **2** view.

- Press button **1** again to return to manual mode.

 The transmission mode can also be changed while the motorcycle is on the move.

## CRUISE CONTROL

**Display when adjusting settings (Speed Limit Info not active)**



Symbol **1** for cruise control is displayed in the Pure Ride view and in the top status line.

**Display when adjusting settings (Speed Limit Info active)**



Symbol **1** for cruise control is displayed in the Pure Ride view and in the top status line.

## Switching on cruise control



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

# 116 OPERATION

## Setting road speed



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

 Adjustment range for cruise control (gear-dependent)

30...231 km/h

 is displayed.

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

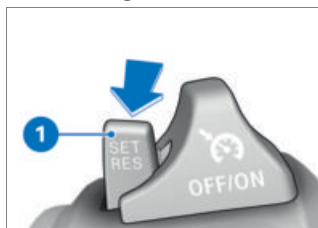
## Accelerating



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

- Push button **1** forward and hold it in this position.
  - » Speed is increased in steps of 10 km/h.
  - » 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.
  - » Speed is reduced in steps of 10 km/h.
  - » The current speed is maintained and saved if button **1** is not pushed again.

## Deactivating cruise control

- Brake or turn the throttle grip (close the throttle by turning the grip back past the idle position) to deactivate cruise control.

—without automated shift assistant<sup>OE</sup>

 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.



is greyed.

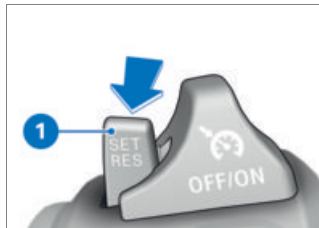
### Automatic deactivation

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.

If adaptive cruise control experiences automatic deactivation, a message to this effect is displayed.

### 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.



Indicator light for cruise control shows.

# 118 OPERATION

## Switching off cruise control



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



disappears.

- » Button **1** is disabled.

## Configure the character of cruise control

—with Riding Assistant<sup>OE</sup>

- Switch on the ignition.  
( 99)
- Navigate to Settings, Assist and select Cruise control.
- Select ACC characteristics.
- Select the desired setting.  
» The following settings for acceleration and deceleration are possible:
  - Comfortable: Balanced acceleration and deceleration of the vehicle.
  - Dynamic: More sharply pronounced acceleration and de-

celeration of the vehicle for a more dynamic style of riding.

## RADAR-BASED RIDER ASSISTANCE SYSTEMS

—with Riding Assistant<sup>OE</sup>

### Safety information

Distance control (ACC), Front Collision Warning (FCW) and lane change warning (SWW) are radar-based rider assistance systems. Functional restrictions and the limits of the systems must be taken into consideration.



### WARNING

#### Rider is not relieved of responsibility to ride safely

Risk of accident due to misjudgement by the systems

- The rider assistance systems are not safety systems. The responsibility for correctly gauging visibility conditions and the traffic situation and intervening accordingly resides with you.



### WARNING

#### Radar cannot detect all objects and traffic situations

Risk of accident

- Radar-based rider assistance systems detect only moving vehicles. This means that for example pedestrians, animals and stationary vehicles are not detected. Cyclists cannot be reliably detected.
- Object detection can be restricted, for example on twisting or hilly roads and when you ride offset from the vehicle ahead in your lane or if you weave from side to side in the lane.
- The front radar (ACC, FCW) does not react to oncoming vehicles and there is a time lag in detection of a vehicle cutting into your lane ahead of you.
- For system-rated reasons, on account of these restrictions, a late warning and sharp application of the brakes can occur or the brakes might not be applied or a warning issued.
- Keep the traffic conditions under observation at all times and intervene actively whenever the situation requires.

**WARNING****Radar is not functional in certain situations**

Risk of accident due to non-application of the brakes or non-issue of a warning

- The front and rear radar systems require a clear view for object detection to work well. Object detection is restricted in heavy rain, fog or snow and also if the radar sensors are dirty or obstructed.
- Object detection can be disrupted by environmental influences such as strong reflections and electromagnetic disturbances.
- If the vehicle is involved in an accident or experiences an impact with an object or is dropped, the installed positions of the radar sensors have to be checked.
- Keep the traffic conditions under observation at all times and intervene actively whenever the situation requires.



## ATTENTION

### **Radar might incorrectly detect certain objects and traffic situations**

Risk of accident

- Radar-based rider assistance systems might respond without justification in reaction to certain objects and complex traffic situations. For example a narrowed traffic lane (roadworks) or objects in the air (e.g. a bouncing ball or a plastic bag) can lead to a warning being issued or the brakes being applied by ACC or FCW.
- Keep the traffic conditions under observation at all times and intervene actively whenever the situation requires.

### **DISTANCE CONTROL (ACTIVE CRUISE CONTROL ACC)**

—with Riding Assistant<sup>OE</sup>

#### **Safety information**

Also follow the safety instructions for radar-based rider assistance systems (118).



## WARNING

### **ACC cannot compensate for excessive speed differences**

Risk of accident

- ACC cannot perform emergency braking. Retardation and the rate at which retardation increases are limited.
- High speed differences, for example when you come up fast behind a truck or when another vehicle cuts into your lane ahead of you, cannot be compensated for by the system.
- When the adjustment range of ACC is exceeded, object detection might be delayed on account of the high speed. Consequently, increased rider caution is required in these circumstances.
- Keep the traffic conditions under observation at all times and intervene actively whenever the situation requires.

**WARNING****ACC can lose sight of an object detected beforehand**

Risk of accident

- When ACC incorrectly deselects a detected object, the motorcycle accelerates back up to the road speed set beforehand. This can be the case in bends, for example.
- Keep the traffic conditions under observation at all times and intervene actively whenever the situation requires.



When riding in other countries, always comply with the country-specific regulations on the operation of radar sensors. If the radar sensor does not have the licence required by a particular country's laws, the radar sensor has to be disconnected. It is best to consult an authorised BMW Motorrad retailer.

**Toggling between cruise control and ACC**

- Switch on the ignition. (▮▮▮▶ 99)
- Configure the character of cruise control. (▮▮▮▶ 118)

**WARNING****ACC cannot slow the vehicle sufficiently when the vehicle corners at high speed**

Risk of accident

- The cornering regulator reduces road speed when distance control is active and the bank angle is excessive. If a vehicle is detected ahead, retardation of the vehicle is built up more slowly while the motorcycle is banked.
- Ride at a correspondingly lower speed.

**WARNING****Reduced assistance after changeover to cruise control**

Risk of accident

- By contrast with ACC, cruise control does not react to traffic ahead. Instead, it matches the vehicle's road speed to the setting selected by the rider.
- Keep the traffic conditions under observation at all times and intervene actively whenever the situation requires.

## 122 OPERATION

- Navigate to Settings, Assist, select Cruise control.
- Activate or deactivate ACC.
- **Alternatively:** Assign the ACC function to the multi-function rocker switch (► 81).

ACC is inactive:

- Short-press the bottom section of the multi-function rocker switch to view the current status.
- Short-press the bottom section of the multi-function rocker switch again to activate ACC.

» This toggles between cruise control and ACC.

ACC is active:

- Long-press the top section of the multi-function rocker switch to view the current status.
- Long-press the top section of the multi-function rocker switch again to deactivate ACC.

» This toggles between ACC and cruise control.

- Bear in mind the information on automatic deactivation (► 117).
- For more information on distance control with Active Cruise Control (ACC) see the

section entitled "Engineering details" (► 197).

### Operating ACC Requirement

ACC is activated.

- Switch on cruise control. (► 115)



is greyed.

- Set the road speed. (► 116)



At speeds above its adjustment range 30...160 km/h, the system regulates to the maximum speed of 160 km/h.

- Short-press the multi-function rocker switch.



The currently set approach distance **1** is displayed.



## Status indicators showing in the instrument cluster

When ACC is in operation, the following symbols can appear in the instrument cluster:

### Indicator lights

» No object detected:



shows green.

» Object detected:



shows green.

» Rider overrides by twisting the throttle grip to open the throttle:



shows green.

### Warning lights

» ACC switched off for system-related reason:



is displayed in red.

» A hazardous situation has been detected and cannot be averted.



flashes red.

If a warning light shows in the instrument cluster:

- Intervene actively to avert potential danger.

## Setting approach distance

- Assign the ACC function to the multi-function rocker switch (81).
- Short-press the multi-function rocker switch.



The currently set approach distance **1** is displayed.



### WARNING

#### Selected approach distance is too short for the riding situation

Risk of accident

- Adapt your approach distance to suit traffic and weather conditions.
- Comply with the safety distance required by law.

- Select the appropriate setting.
- » The following settings are available:



Short approach distance

## 124 OPERATION



Medium approach distance



Long approach distance

- » When the ACC detects a vehicle travelling in front, a depiction of a car appears in the symbol shown here to alert the rider.
- » The approach-distance setting is retained in memory, even after the ignition is switched off.

### FRONT COLLISION WARNING (FCW)

—with Riding Assistant<sup>OE</sup>

#### Safety information

Also follow the safety instructions for radar-based rider assistance systems (118).



#### WARNING

##### **FCW can lose sight of an object detected beforehand**

Risk of accident

- If FCW loses sight of an object detected beforehand a warning might not be issued or its application of the brakes might be cancelled. This can be the case in bends, for example.
- Keep the traffic conditions under observation at all times and intervene actively whenever the situation requires.



#### WARNING

##### **FCW cannot slow the vehicle sufficiently when the vehicle corners at high speed**

Risk of accident

- At an excessively steep bank angle FCW warns with a weaker alert and builds up braking assistance more slowly and to a lower maximum value.
- Ride at a correspondingly lower speed.

## Behaviour of front collision warning

See the "Engineering details" section for more information on FCW (► 199).

### Warning lights

If FCW has detected a critical riding situation, the following symbols can appear in the instrument cluster:

#### Advance warning

» Warning pulse is activated:



shows red.

» Warning pulse is deactivated:



flashes red.

#### Acute warning

» Brake assistance is activated:



flashes red.

» Brake assistance is deactivated:



flashes full-screen red.

If a warning light shows in the instrument cluster:

- Intervene actively to avert potential danger.

## Setting timing for issue of warning

- Navigate to Settings, Assist, select Front-collision warning.
- Select Warning.

The following points in time can be selected:

- Early
- Medium
- Late

### Setting warning pulse

- Navigate to Settings, Assist, select Front-collision warning.
- Select Warning pulse.

» The following settings are available:

- Activated: In addition to issue of the advance warning, an attention-enhancing braking pulse is triggered.
- Deactivated: Only the advance warning is issued.

### Setting brake assistance

 Brake assistance is designed to help defuse critical situations and bridge the rider's reaction time. Manual intervention by the rider is necessary nonetheless.

- Navigate to Settings, Assist, select Front-collision warning.

## 126 OPERATION

- Select **Braking assistance**.
  - » The following settings are available:
    - Activated: In addition to issue of the acute warning, a braking manoeuvre is initiated to assist the rider.
    - Deactivated: Only the acute warning is issued.

### Deactivating (FCW)

- Navigate to **Settings, Assist**, select **Front-collision warning**.
- Navigate to **Warning** and select **Off** to deactivate.

 Haptic interventions of the function can be activated or deactivated individually in the **Front-collision warning** menu, without the function in its entirety having to be deactivated.

» FCW is deactivated:



is displayed.

- See the "Engineering details" section for more information on FCW (► 199).

### LANE CHANGE WARNING (SWW)

–with Riding Assistant<sup>OE</sup>

#### Behaviour of lane change warning

Also follow the safety instructions for radar-based rider assistance systems (► 118).

If lane change warning is active and a critical riding situation for a lane change is encountered, the warnings behave as follows:



#### Notification

–Warning triangle **1** lights up until the critical riding situation has passed.

#### Acute warning

–If actuation of the turn indicators on the side corresponding to the lit-up warning triangle indicates an imminent lane change, warning triangle **1** flashes

because a safe lane change is not possible.

 If the **Urgent only** setting is selected, only the acute warning with a flashing warning triangle is issued.

For more information on lane change warning see the "Engineering details" section (►► 201).

The brightness of the warning triangle depends on ambient brightness or, as applicable, on the brightness of the instrument cluster (►► 87).

### Setting lane change warning

- Navigate to **Settings**, **Assist**, select **LCW**.

 In the factory setting, lane change warning is active by default. A change to the setting is retained in memory after the ignition is switched off.

» The following settings are available:

- Off: SWW is deactivated, neither notifications nor acute warnings are issued.
- On: SWW is active, both notifications and acute warnings are issued.
- Urgent only: SWW is active, only acute warnings are issued.

## HILL START CONTROL (HSC)

### Display



Symbol **1** is displayed in the **Pure Ride** view or in the top status line.

### Switch Hill Start Control on or off

- Switch on the ignition. (►► 99)
- Navigate to **Settings**, **Vehicle settings**.
- Switch **Hill Start Control** on or off.

### Operating Hill Start Control Requirement

Vehicle stationary and upright, engine running.



### ATTENTION

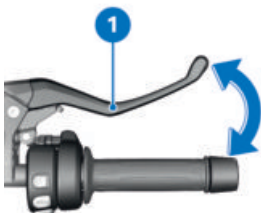
#### Non-availability of Hill Start Control

Risk of accident

- Apply the brakes manually to hold the vehicle.

## 128 OPERATION

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



- Apply firm pressure to handbrake lever **1** or to the footbrake lever and then quickly release the lever.

 shows green.

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

 disappears.

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

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

 disappears as soon as the brake is fully released.

- » Hill Start Control is deactivated.
- See the "Engineering details" section for more information on Hill Start Control ( 210).

### Operating Hill Start Control Pro

—with riding modes Pro<sup>OE</sup>

#### Requirement

Vehicle stationary and upright, engine running.



#### ATTENTION

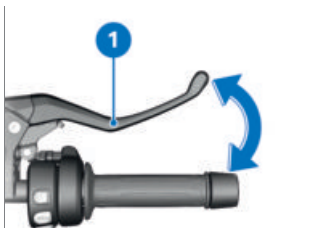
#### Non-availability of Hill Start Control

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 %.



shows green.

- » 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.



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.



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 (► 210).

### Adjust Hill Start Control Pro —with riding modes Pro<sup>OE</sup>

- Switch on the ignition.  
(► 99)
- Navigate to **Settings**,  
**Vehicle settings**.
- 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 **Manual**.
- » 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-

## 130 OPERATION

ating the handbrake or foot-brake 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.

### ANTI-THEFT ALARM (DWA)

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

#### Automatic activation

- Switch on the ignition.  
( 99)
- Customise the anti-theft alarm settings. ( 132)
- Switch off the ignition.  
( 99)
- » If Arm automatically the DWA anti-theft alarm is activated, the 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 activated).
- » Anti-theft alarm (DWA) is active.

### Activation with radio-operated key

- Switch off the ignition.  
( 99)



- 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.

—with central locking system<sup>OE</sup>



- Press button **1** on the radio-operated key twice.
- » 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 deactivate the tilt sensor, press key **1** of the radio-operated key once again during the activation phase.
- Alternatively, the tilt sensor can be deactivated in the menu Settings, Vehicle settings, Alarm system (▮▮▮▮ 132).
- » Turn indicators flash three times.
- » Confirmation tone sounds three times (if activated).
- » Tilt sensor is deactivated.

### Alarm signal

A DWA alarm can be triggered by:

- Tilt 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 30 seconds. While an alarm is in progress an alarm tone sounds and the turn indicators flash. The type of alarm tone can be adjusted in menu Settings, Vehicle settings, Alarm system (▮▮▮▮ 132).



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 motorcycle was unattended, the rider is notified accordingly by an alarm tone sounding once when the ignition is switched on. The DWA

## 132 OPERATION

alarm system LED in the instrument cluster then signals the reason for the alarm for one minute.

### Light signals issued by the indicator light:

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

### Deactivation

 If the alarm function is deactivated by the radio-operated key and the ignition is not subsequently switched on, the alarm function is automatically reactivated after approx. 30 seconds if Arm automatically is switched on.

- Switch on the ignition.  
( 99)



- Alternatively, press key **1** of the radio-operated key once.
  - » Turn indicators flash once.
  - » Confirmation tone sounds once (if activated).
  - » DWA is switched off.

### Customise the anti-theft alarm settings

- Switch on the ignition.  
( 99)
- Navigate to Settings, Vehicle settings, Alarm system.
  - » The following settings are available:
    - Adapting Warning signal
    - Switch Tilt sensor on or off
    - Switch Arming tone on or off
    - Switch Arm automatically on or off
  - » Possibilities for adjustment  
( 133)

### Possibilities for adjustment

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

**Tilt sensor:** Deactivate the tilt sensor to activate the 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.

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

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

- Switch Target pressure warn. on or off.

---

## WINDSCREEN

### Adjusting windscreen

- Switch on the ignition.  
( 99)
- » As you ride off, the windscreen automatically moves to its last position before the ignition was switched off.
- Assign the Windscreen function to the multi-function rocker switch ( 81).
- Select the appropriate setting.



Windscreen adjustment **1** takes place directly when the multi-function rocker switch is pressed for the first time.

- Switch off the ignition.  
( 99)
- » The windscreen automatically moves to the bottom end position.

---

## TYRE PRESSURE MONITORING (RDC)

### 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.
- Navigate to Settings, Vehicle settings, RDC.

## 134 OPERATION

If the windscreen encounters resistance before it reaches its end position, the anti-trap mechanism goes active. The windscreen stops and the mechanism raises it slightly. After a few seconds the windscreen once again attempts to move to the bottom end position.

- Make sure that nothing obstructs the windscreen's freedom of movement.
- » Windscreen does not react when the multi-function rocker switch is pressed.
- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

There is no guarantee that the anti-trap system will function correctly if a windscreen that does not have BMW Motorrad approval is installed.

- Under these circumstances: Before switching off the ignition, make sure that nothing obstructs the windscreen's freedom of movement.

### HEATING

#### Operating the grip heating

 Grip heating can be activated only when the engine is running.

 The increase in power consumption caused by grip heating can cause the battery to discharge when driving in the lower rotational speed range. If the battery charge level is too low, grip heating will be switched off to retain the vehicle's starting capability.

- Start the engine. (▶ 172)
- Assign the Grip heating function to the multi-function rocker switch (▶ 81).
- Select the appropriate setting.



The handlebar grips have three-stage heating **1**.

## Operating the grip heating and seat heating

- with comfort rider's seat<sup>OE</sup>
- or
- with low comfort rider's seat<sup>OE</sup>
- or
- with high comfort rider's seat<sup>OE</sup>

 Grip heating and seat heating are only active when the engine is running.

- Start the engine. (➡ 172)
- Assign the Heating function to the multi-function rocker switch (➡ 81).
- Press the top section of the multi-function rocker switch to adjust the grip heating setting.
- Press the bottom section of the multi-function rocker switch to adjust the seat heating setting.



The handlebar grips **1** and the rider's seat **2** each have three-

stage heating. High heating power is for heating quickly: it is advisable to switch back to a lower heating power soon.

## Operating passenger-seat heating

- with comfort rear seat<sup>OE</sup>

- Start the engine. (➡ 172)

 Passenger seat heating is only active when the engine is running.



- Set switch **1** to the desired heating stage.

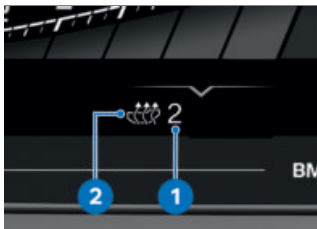


The rear seat has two-stage heating. Stage two is for heating the seat quickly: it is advisable to switch back to

## 136 OPERATION

stage one as soon as the seat is warm.

- 2** Switch centred: Heating off.
- 3** Switch pressed at one dot: low heating power.
- 4** Switch pressed at two dots: high heating power.



The selected heating stage **1** and heated seat symbol **2** are displayed.

### Operating the heated rear grab handle and heated backrest pad

- with topcase carrier<sup>OE</sup>
- with topcase<sup>OE</sup>

- Start the engine. (172)

 Rear grab handle heating and backrest pad heating are only active when the engine is running.

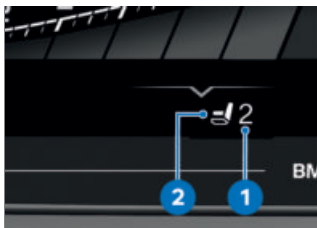


- Set switch **1** to the desired heating stage.



The rear grab handles and backrest pad are equipped with two-stage heating. Stage two is for heating quickly: it is advisable to switch back to stage one once the element is warm.

- 2** Switch centred: Heating off.
- 3** Switch pressed at one dot: low heating power.
- 4** Switch pressed at two dots: high heating power.



The selected heating stage **1** and heating symbol **2** are displayed.

## CENTRAL LOCKING SYSTEM

—with central locking system<sup>OE</sup>

### Locking



- Switch off the ignition.  
( 99)
- Press button **1**.  
» The storage compartment, case and topcase are locked.

### Unlocking

- The central locking unlocks automatically when you switch on the ignition.



- Press button **1**.  
» The storage compartment, case and topcase are unlocked.  
» Once a lock has been locked manually it subsequently has to be unlocked manually as well.

### Automatic locking

- Navigate to Settings, Vehicle settings.
- Activate the Lock when ignition off function.  
» The storage compartment, cases and topcase are automatically locked after the ignition is switched off.

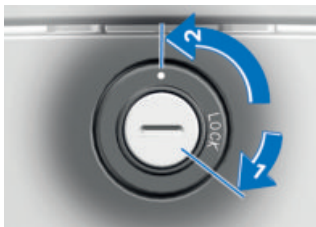
### Emergency unlocking Requirement

If the central locking system refuses to unlock or if cases and topcase have been locked and removed, you can open the cases and topcase manually. The procedure is as follows:

## 138 OPERATION



- Turn the key to the **RELEASE** position in the case lock.
  - Turn the key in the case lock to position **1** and remove the key from the lock.
- » Case is unlocked.



- First turn the key in the top-case lock 45° past the **LOCK** position, then turn it to the dot position and press in the lock barrel.
- » The release lever pops open.

### FAVOURITES BUTTONS

#### Operating favourites buttons



Individual functions can be assigned to the favourites buttons.

- Light pressure on a button.
  - » The assigned function is displayed in the instrument cluster.
- Firm pressure on a button.
  - » The function assigned to the button is performed.

#### Assigning functions

- Navigate to Settings, System settings, Favourite button.
- Select a favourites button from Favourite button 1 to Favourite button 4.
- Select the desired function or Not assigned.
  - » The function is assigned to the selected favourites button.



## STORAGE COMPARTMENT

### Opening and closing storage compartment



#### ATTENTION

#### High temperatures in the storage compartments, particularly in summer

Damage to objects stowed away, particularly electronic devices, such as mobile phones

- In summer, do not place heat-sensitive items in the storage compartment.
- Ask the manufacturer about possible usage restrictions and comply with the information provided.



#### 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.

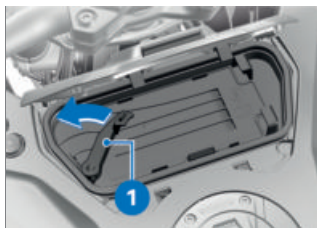


- To open, press slide **2** and flip storage compartment flap **1** open.
- To close, press storage compartment flap **1** closed.

#### Charging smartphone Requirement

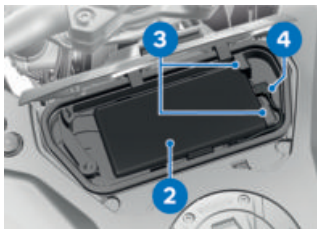
Ignition on.

- Open the storage compartment.



- Open holder **1** and hold it open.

## 140 OPERATION



- Insert the smartphone **2**, display facing upwards, in the holder **3**.
- Connect the smartphone **2** to the charging cable **4**.

 BMW Motorrad recommends using the BMW Motorrad USB cable for charging smartphones in the storage compartment. Commercially available charging cables may not have enough space in the storage compartment and may be damaged.



- Release the holder **1**.  
» The smartphone is secured.

- Close the storage compartment.

### Notes on use

#### Automatic shutdown

The USB charging sockets are shut down automatically under the following circumstances:

- 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 sockets is switched off no more than 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:

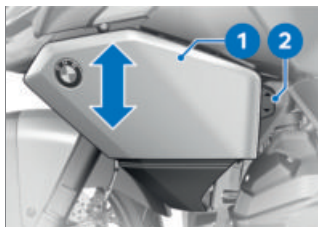
- Make sure that cables do not impede the rider.
- Make sure that cables do not restrict the steering angle or obstruct handling.
- Make sure that cables cannot be trapped.

### Dimensions

The storage compartment is suitable for smartphones up to max. 162 mm x 80 mm x 14 mm in size.

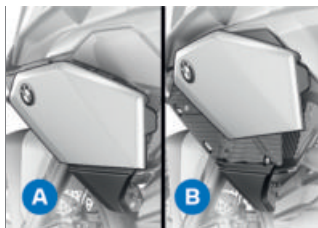
For further information about the USB charging socket in the storage compartment see the section entitled "Accessories" (▮▮▮▮ 254).

### SLIPSTREAM DEFLECTOR



- 1** Slipstream deflector
- 2** Handle strip

Raising and lowering the slipstream deflector on the handle strip changes the airflow striking the rider and passenger.



- A** Slipstream deflector lowered: Increased flow of air from slipstream directed toward the rider, increased cooling effect when outside temperatures are high.

## 142 OPERATION

- B** Slipstream deflector raised: High level of protection against wind and weather, highest level of riding comfort.

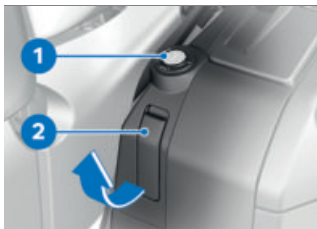
### CASES

#### Opening cases

- Unlock the central locking system (111 137) if necessary.



- Turn the key to the in the case lock to the position indicated by the dot.



- Press lock barrel **1** down.  
» Release lever **2** pops up.
- Pull release lever **2** all the way up and open the case lid.

- Press the release lever **2** down as far as it will go.

#### Closing cases



- Press down firmly on the case lid to close it. Check that nothing is trapped between the lid and the case.

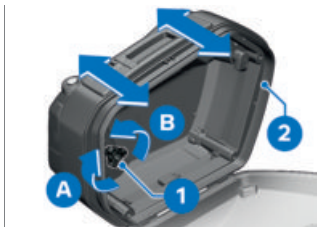
 The cases can also be locked by turning the lock to the **LOCK** position. In this case, ensure that the vehicle key is not left in the cases.

- Turn the key in the case lock to the **LOCK** position and remove the key or lock the central locking system (111 137) if necessary.

#### Adjusting case volume

—with variable luggage system<sup>OE</sup>

- Open the case. (111 142)
- Empty the case.



- To reduce case volume, turn adjustment wheel **1** clockwise in direction **A**.
  - » Adjustment frame **2** is pulled in.
- To increase case volume, turn adjustment wheel **1** counter-clockwise in direction **B**.
  - » Adjustment frame **2** is pushed out.
- Close the case. (▶▶▶ 142)

### Locking protective cap

—with central locking system<sup>OE</sup>



- Turn the protective cap to position **1**.
  - » The protective cap engages with a perceptible snap.

### Unlocking protective cap

—with central locking system<sup>OE</sup>

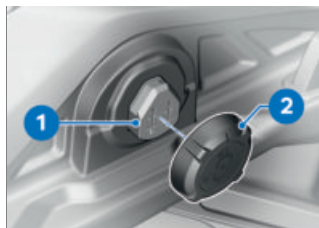


- Turn the protective cap to position **1**.
  - » The protective cap engages with a perceptible snap.

### Installing cases

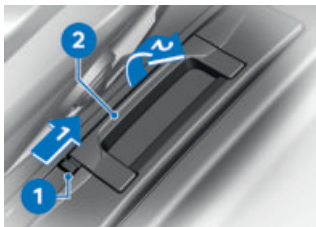
—with central locking system<sup>OE</sup>

- Unlock the protective cap. (▶▶▶ 143)



- Remove protective cap **2** from magnetic plug connection **1**.◀

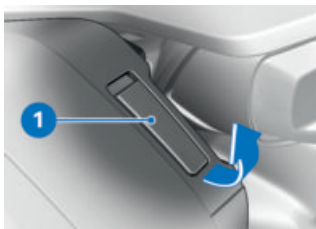
## 144 OPERATION



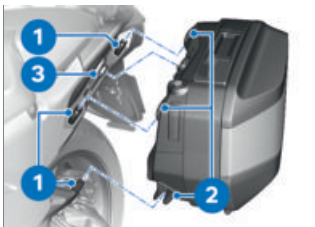
- Push the carry handle locking device **1** to the right.  
» Carry handle **2** pops up.



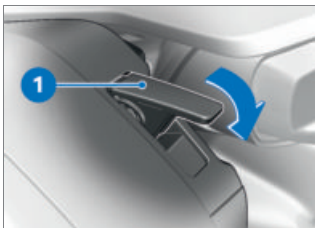
- Turn the key to the **RELEASE** position in the case lock.  
» The locking flap pops up.



- Fully open the locking flap **1** and hold it open.



- Insert the mounts **2** securely into the hooks **1**.  
—with central locking system<sup>OE</sup>
- Check the magnetic plug connection **3** of the case and case holder for dirt or damage beforehand.◁

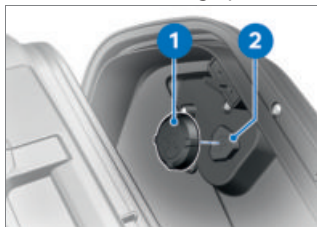


- Push locking flap **1** down until you feel some resistance.  
» The locking flap engages.
- Ensure that the case is fitted in the holder correctly.



- Turn the key in the case lock to position **1** and remove the key or lock the central locking system (▮ 137) if necessary.

—with central locking system<sup>OE</sup>



- Open the case. (▮ 142)
  - Install protective cap **1** on holder **2**.
- with central locking system<sup>OE</sup>
- Lock the protective cap. (▮ 143)
  - Close the case. (▮ 142)◁

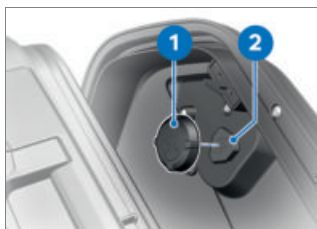


- Close carry handle **1**.  
» Carry handle **1** engages with an audible click.

### Removing cases

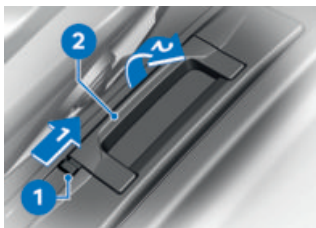
—with central locking system<sup>OE</sup>

- Open the case. (▮ 142)

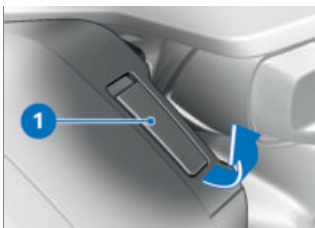


- Remove the protective cap **1** from the holder **2**.
- with central locking system<sup>OE</sup>
- Unlock the protective cap. (▮ 143)
  - Close the case. (▮ 142)◁

## 146 OPERATION



- Push the carry handle locking device **1** to the right.  
» Carry handle **2** pops up.



- Fully open the locking flap **2** and hold it open.
- Take a firm grip of the carry handle and lift the case out of the case holder.

—with central locking system<sup>OE</sup>

- Protect the magnetic plug connection of the case against damage, dirt and corrosion.◁

- Store cases where they will be clean and dry.

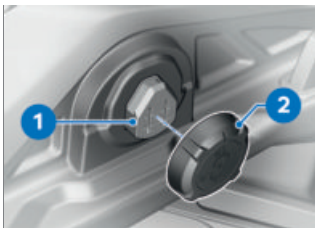
—with central locking system<sup>OE</sup>



- Turn the key to the **RELEASE** position in the case lock.  
» The locking flap pops up.



- Turn the key in the case lock to the dot position and remove the key from the lock.



- Check protective cap **2** and magnetic plug connection **1** for dirt and damage.
- Install protective cap **2** on magnetic plug connection **1**.



- Lock the protective cap.  
( 143)◁

### Maximum payload and maximum speed

Note the maximum payload and the maximum permissible speed.

Always load cases in such a way that the motorcycle's stability against toppling over is sustained.

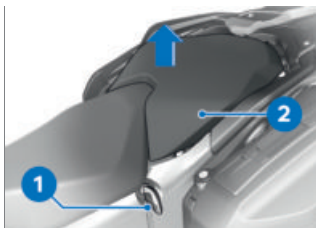
The values for the combination described here are as follows:

|                                                                                   |                                                                          |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------|
|  | Maximum permissible speed for riding with cases fitted to the motorcycle |
|                                                                                   | max. 180 km/h                                                            |
|  | Payload per case                                                         |
|                                                                                   | max. 10 kg                                                               |

## FRONT AND REAR SEATS

### Removing passenger seat

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



- Turn vehicle key **1** counter-clockwise and hold it in this position.
- Slightly raise passenger seat **2** at the front and release the vehicle key.

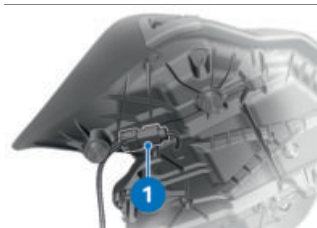
—with comfort rear seat<sup>OE</sup>



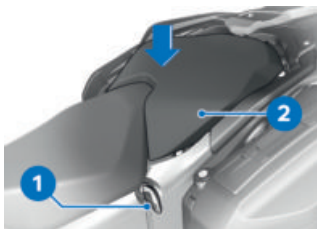
- Disconnect plug connection **1** of the seat heating.◁
- Place the passenger seat, upholstered side down, on a clean, dry surface.

## 148 OPERATION

### Installing passenger seat —with comfort rear seat<sup>OE</sup>



- Connect plug connection **1** of the seat heating.◁



- Insert the passenger seat **2** into the back of the rear frame and press down on the front of the seat.  
» The passenger seat engages with an audible click.
- Remove vehicle key **1**.

### Removing rider's seat



- Turn vehicle key **1** clockwise and hold it in this position.
- Lift the rear of the rider's seat **2**.



- Remove rider's seat **1** from mount **3**.  
—with comfort rider's seat<sup>OE</sup>  
or  
—with low comfort rider's seat<sup>OE</sup>  
or  
—with high comfort rider's seat<sup>OE</sup>
- Disconnect plug connection **2** of the seat heating.◁

- Place the rider's seat, upholstered side down, on a clean, dry surface.
- Adjust the height and angle of tilt of the rider's seat.  
( 164)

### Installing rider's seat

- with comfort rider's seat<sup>OE</sup>
- or
- with low comfort rider's seat<sup>OE</sup>
- or
- with high comfort rider's seat<sup>OE</sup>



- Connect plug connection **1** of the seat heating.◁



- Engage the rider's seat in mounts **2** on left and right

and lower it on to the motorcycle.

- Applying pressure to the rear of the seat, push the front seat slightly forward and then press the seat firmly down.

# AUDIO SYSTEM

06

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|                                 |            |
|---------------------------------|------------|
| <b>RADIO</b>                    | <b>152</b> |
| <b>AUDIO SETTINGS</b>           | <b>154</b> |
| <b>PLAYER</b>                   | <b>156</b> |
| <b>SATELLITE RADIO</b>          | <b>157</b> |
| <b>HD RADIO RECEPTION</b>       | <b>159</b> |
| <b>IN-HELMET AUDIO PLAYBACK</b> | <b>159</b> |

## 152 AUDIO SYSTEM

### RADIO

#### Starting

- Switch on the ignition.  
(▶▶▶ 99)

 The radio menu becomes available shortly after the ignition is switched on.

#### Switch the radio on and off

- Call up the **Radio** menu and switch **Radio** on or off.  
» When the radio is switched off, **Radio off** appears in the bottom status line.

#### Selecting source

- without Canada export<sup>NV</sup>
  - Call up the **Source** menu.  
Select **Favourites**, **AM**, **FM** or **DAB** (might not be available, depending on country).◀
- with Canada export<sup>NV</sup>
  - Select the **Source** menu. Select **Favourites**, **AM**, **FM** or **SiriusXM**. For the **AM** and **FM** wavebands you have the option of selecting **HD Radio** (might not be available, depending on country).◀

#### Selecting station

- without Canada export<sup>NV</sup>
  - Select the source. (▶▶▶ 152)
  - Select the **FM stations** menu.

 There is a channel menu for each selectable source.

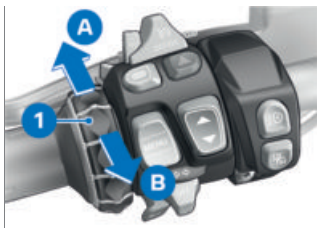


–with Canada export<sup>NV</sup>

- Select the source. (▶▶▶ 152)
- Select the **FM stations** menu.

 There is a channel menu for each selectable source.

 For **HD Radio** stations, the subprograms can be selected via the channel list.◀



- Turn Multi-Controller **1** in direction **A** or **B** to browse through the stations.
- Push the Multi-Controller to the right to select the station you want.

#### Selecting frequency

- without Canada export<sup>NV</sup>
  - Call up the **Source** menu and select **AM** or **FM**.
  - In the **AM** options or **FM** options menu, go to **Search** selection and

select the **Frequency** setting.

- Switch to the player.<

–with Canada export<sup>NV</sup>

- Call up the **Source** menu and select **AM** or **FM**.
- In the **AM** options or **FM** options menu, go to **Search** selection and select the **Frequency** setting.
- Switch to the player.

 For HD Radio stations, the subprograms within a frequency range can be selected.<

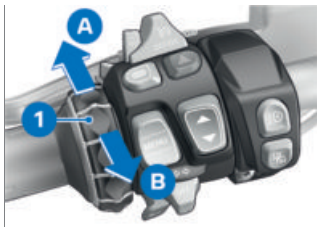


- Push Multi-Controller **1** to the left or right to select the frequency you want in the wave-band.

### **Saving channel**

- Select a station or frequency from the frequency band.
- Press the bottom section of the **MENU** rocker button.
- Select **Add to Favourites**.

» The station selected beforehand appears in the favourites list.



- Turn Multi-Controller **1** in direction **A** or **B** to select the memory slot of your choice.

» The current assignment of this memory slot appears on the display.

» If a station has already been assigned to the memory slot you select, a message to this effect appears on the display. Your choices are as follows:

- Select **Cancel** if you do not want to save the station you selected.
  - Select **Save** to overwrite the contents of the memory slot.
- » The list of channels is re-opened.

## 154 AUDIO SYSTEM

### Favourites list

Selected stations or frequencies can be saved as favourites. Up to 20 favourites can be saved.

There are two ways of adding favourites to the list:

#### Variant 1

- Select the station. (152)
- Select **Add to Favourites**.
  - » The station selected beforehand appears in the favourites list.
- Push the Multi-Controller to the right.
  - » The station you selected has been saved as a favourite.

#### Variant 2

- Select the station. (152)
- Push the Multi-Controller to the right again.
  - » The favourites list opens.
- Push the Multi-Controller to the right again.
  - » The station you selected has been saved as a favourite.
  - » The view automatically returns to the stations list.

### Delete the favourites list Requirement

A favourites list with at least one entry exists.

- Select **Delete Favourites list** at the bottom of the favourites list.

- » A dialogue opens.
- Confirm deletion.
- » The favourites list is deleted.

---

### AUDIO SETTINGS

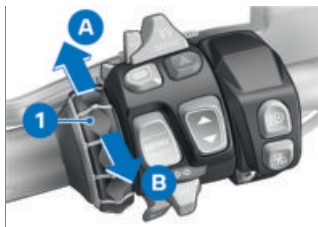
#### Speakers and Bluetooth

Audio playback is via the on-board speakers, a Bluetooth-paired output device, or the speakers in the helmet. If the Bluetooth function is not available in a particular country, only audio playback via the speakers is available.

If a BMW Motorrad communication system with Bluetooth standard 2.0 or higher is connected, the volume control can be operated via the Multi-Controller. (159). When pairing devices that do not comply with Bluetooth standard 2.0 or higher, the volume cannot be controlled using the Multi-Controller.



## Adjusting volume



- Turn Multi-Controller **1** in direction **A** to increase volume.
- Turn Multi-Controller **1** in direction **B** to reduce volume.

## Select the output device

- Navigate to Media, Audio settings and select Output device.
- » The following settings are available:
  - Loudspeakers: Speakers selected for audio playback.
  - Helmet: Helmet or other Bluetooth-enabled output device selected for audio playback.
- » The default setting is Loudspeakers.

## Select the sound profile

- Navigate to Radio, Audio settings and select Sound profile.
- without Audio Pro<sup>OE</sup> audio system
- » The following settings are available:

- Bass-Boost
- Treble-Boost
- Voice
- Studio
- Balanced◀
- with Audio Pro<sup>OE</sup> audio system

» The following settings are available:

- Bass-Boost
- Treble-Boost
- Adaptive
- Studio
- Balanced◀

» The default setting is Bass-

Boost. All sound profiles have an effect only when Loudspeakers is selected.

» For an optimum sound experience without in-helmet playback, select the Studio sound profile. All other sound profiles are optimised for in-helmet playback.

## Adjusting sound settings

- Navigate to Radio, Audio settings and select Equaliser.
- » The following settings are available:
  - Treble: Reduce (-1...-5) or increase (+1...+5) treble
  - Bass: Reduce (-1...-5) or increase (+1...+5) bass
  - Volume equalisation: Switch off speed-dependent

## 156 AUDIO SYSTEM

volume boost (1) or select a boost level (2...4).

- Select the menu item you want, select the setting of your choice and exit the menu.

» The sound settings have an effect only when **Loudspeakers** is selected as the output device.

### Volume and speed

The audio system can automatically adapt the volume to the speed of the motorcycle. The rate at which the volume increases in relation to vehicle speed can be set in four stages. Level 4 corresponds to the biggest boost. Selecting level 1 switches speed-dependent volume boost off.

Automatic speed-dependent volume adjustment works only when **Loudspeakers** is selected as the output device.

---

### PLAYER

#### Status indicators showing in the instrument cluster

—without Canada export<sup>NV</sup>

The following information (country-specific) is shown in the instrument cluster:

—Selected source (■▶ 152).

—Station (■▶ 152).

—Frequency

—Artist

—Track

—Waveband

—with Canada export<sup>NV</sup>

The following information (country-specific) is shown in the instrument cluster:

—Selected source (■▶ 152).

—Station (■▶ 157).

—Frequency

—Artist

—Track

—Waveband

### Change the station or frequency

#### Requirement

Selecting a frequency is possible only in the **AM** or **FM** waveband and **Frequency** only when the appropriate item has been selected in the options.

- Select the source. (■▶ 152)

- Push the Multi-Controller to the right to left select the station or the frequency you want.



In order to change the frequency, go to menu **AM options** or **FM options** and select menu item **Frequency**.

## SATELLITE RADIO

—with Canada export<sup>NV</sup>

### Availability

The functions for reception of satellite radio described in this section are available only in countries in which reception of SiriusXM is possible.

### Subscribing to channel

You have to subscribe to a channel in order to listen to it. Subscribing to a channel can result in costs that are not borne by BMW Motorrad. For information on the available channels go to **siriusxm.com**.

### Activation of channels

To activate a channel, call 1-888-539-7474. The Radio ID is also required.

### Calling up information

Navigate to Radio, SiriusXM information to view the following list entry:

Radio ID: XXXXXXXXXXXX

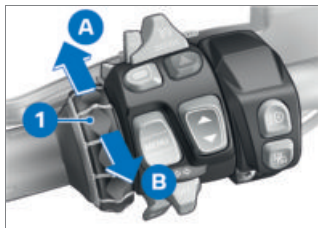
For support, please contact SiriusXM Customer Care at: 1-888-539-7474

### Signal strength

If the signal is not strong enough, SiriusXM No signal. appears on the display.

### Selecting category and channel

- To change the category, call up the SiriusXM stations menu and select Category.
  - » The choices at your disposal are as follows:
    - All categories: Shows all subscribed channels.
    - Category: Shows a category, e.g. Rock.
    - Stations not inc.: Shows all not subscribed channels.
- Select the channel of your choice.

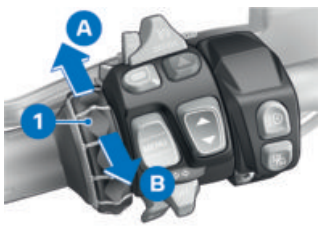


- Turn Multi-Controller **1** in direction **A** or **B** to select the channel of your choice from the selected category.

## 158 AUDIO SYSTEM

### Saving channel

- Select the category and channel. (▶ 157)
- Push the Multi-Controller to the right to select a channel.
- Push Multi-Controller to the right again and select **Add to Favourites**.
- » The favourites list is opened.



- Turn Multi-Controller **1** in direction **A** or **B** to select the memory slot of your choice.
- » The current assignment of this memory slot appears on the display.
- » If a station has already been assigned to the memory slot you select, a message to this effect appears on the display. Your choices are as follows:
- Select **Cancel** if you do not want to save the station you selected.
- Select **Save** to overwrite the contents of the memory slot.

» The favourites list closes automatically and the display returns to the preceding view.

### Calling up channel saved in memory

#### Requirement

The selected **Source** has to be **Favourites**.

- Select **Favourites**.
- » The favourites list appears on the display.
- Push the Multi-Controller to the right to select the channel you want.

### System messages

Under appropriate circumstances, the following messages appear on the display:

SiriusXM Subscription updated.

Updating subscription.

SiriusXM Channel not subscribed.

No subscription to this channel.

SiriusXM No signal.

SiriusXM service interrupted because of a poor signal.

---

## HD RADIO RECEPTION

—with Canada export<sup>NV</sup>

The signal strength of HD Radio stations can vary from place to place. If the digital signal is not strong enough, the system automatically switches to reception of the analog signal. A short interruption in reception might occur as the changeover takes place. If AM is selected as the source, audio quality might be perceptibly poorer after this changeover. As soon as the digital signal is available again, reception automatically returns to the HD Radio station.

---

## IN-HELMET AUDIO PLAYBACK

### Rider's helmet paired



If a rider's helmet is paired with a BMW Motorrad communication system with Bluetooth standard 2.0:

- The volume of playback via the in-helmet speakers can be adjusted directly using the Multi-Controller **1**.
- Any change in helmet volume is shown on the display.

The volume for helmet 2 cannot be controlled using the Multi-Controller.

# ADJUSTMENT

07

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|                     |            |
|---------------------|------------|
| <b>MIRRORS</b>      | <b>162</b> |
| <b>HEADLIGHT</b>    | <b>162</b> |
| <b>CLUTCH</b>       | <b>162</b> |
| <b>BRAKES</b>       | <b>163</b> |
| <b>RIDER'S SEAT</b> | <b>164</b> |

## 162 ADJUSTMENT

### MIRRORS

#### Adjusting mirrors



- Pivot the mirror to the correct position by pressing gently at the edge of the glass.

### HEADLIGHT

#### Headlight beam throw and spring preload

Thanks to automatic load compensation, the headlight range remains constant regardless of the load state.

This might not suffice if the motorcycle is very heavily loaded, however, in which case headlight beam throw has to be adjusted to suit the weight carried by the vehicle.

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

#### Adjusting headlight beam throw



If, for a high load, the adjustment of the spring pre-load is no longer sufficient not to dazzle oncoming traffic:

- Switch on the ignition. (▮▮▮ 99)
- Start the engine. (▮▮▮ 172)
- Adjust headlight beam throw by turning adjusting screw **1**.

When the motorcycle is again ridden with a lower load:

- Return the headlight to its basic setting.

### CLUTCH

—without automated shift assistant<sup>OE</sup>



## Adjusting clutch lever

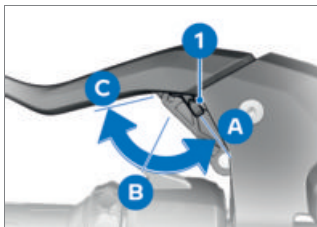


### WARNING

#### Adjusting the clutch lever while riding

Risk of accident

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



- Push adjustment lever **1** to the desired position.

 The adjustment lever is easier to move when the clutch lever is pushed slightly forward.

» Adjustment options:

- Position A: Narrowest span between handlebar grip and clutch lever
- Position B: Medium span between handlebar grip and clutch lever
- Position C: Widest span between handlebar grip and clutch lever

## BRAKES

### Adjusting handbrake lever

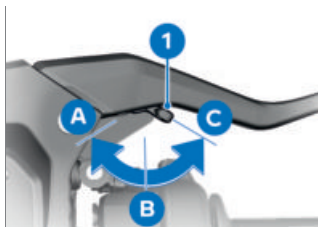


### WARNING

#### Adjusting the handbrake lever while riding

Risk of accident

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



- Push adjustment lever **1** to the desired position.

 The adjustment lever is easier to move when the handbrake lever is pushed forward.

» Adjustment options:

- Position A: Narrowest span between handlebar grip and handbrake lever
- Position B: Medium span between handlebar grip and handbrake lever

## 164 ADJUSTMENT

- Position C: Widest span between handlebar grip and handbrake lever

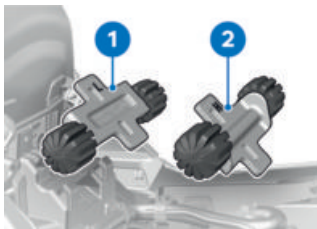
### RIDER'S SEAT

#### Adjust the height and angle of tilt of the rider's seat

- Remove the rider's seat.  
( 148)

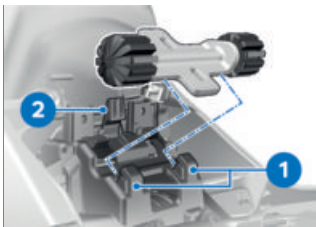


- To remove front height adjuster 1, push locking mechanism 2 forward and lift out the height adjuster.

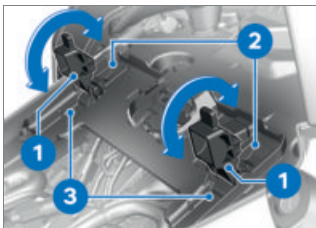


- To set the seat to the low position, install front height adjuster turned in direction 1 (L mark for "Low").

- To set the seat to the high position, install front height adjuster turned in direction 2 (H mark for "High").



- First push the front height adjustment under the mounting 1 then push it into the locking mechanism 2 until it engages.



- To set the seat position to low, swivel the rear height adjustment device 1 to position 3 (front height adjustment device to L marker).
- To set the seat position to high, swivel the rear height adjustment device 1 to pos-

ition **2** (front height adjustment device to **H** marker).

To change the angle of seat tilt:

- Position front and rear height adjusters differently.

**RIDING**

**08**

---

|                                               |            |
|-----------------------------------------------|------------|
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## 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.
- Ensure that the case volumes on the left and right are equal.
- Make sure that the weight is uniformly distributed between right and left.
- Pack heavy items at the bottom and toward the inboard side.
- Note the maximum permissible payload and maximum permissible speed, see also the section entitled "Accessories" (► 147).
- with topcase<sup>OE</sup>
- Note the maximum permissible payload and maximum permissible speed, see also the section entitled "Accessories" (► 257).<
- with tank bag<sup>OA</sup>
- Note the maximum permissible payload and maximum speed for riding with the tank bag.

|                                                                                   |                                                 |
|-----------------------------------------------------------------------------------|-------------------------------------------------|
|  | Payload of tank rucksack                        |
|                                                                                   | max. 5 kg                                       |
|  | Maximum speed for riding with a loaded tank bag |
|                                                                                   | max. 130 km/h $\triangleleft$                   |

## Speed

 Drive cold tyres warm with care to extend the service life of your tyres and ensure optimum road adhesion. Avoid powerful acceleration on cold tyres. Slowly increase lean angles while driving the tyres warm.

 To prevent the tyres from overheating and to extend the service life of your tyres, avoid driving at maximum speed for long periods.

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

- Setup of the suspension
- Imbalanced load
- Loose clothing
- Insufficient tyre pressure
- Poor tyre tread

## Maximum speed with knobbly tyres or winter tyres



### 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 knobbly tyres or 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 burn injury

- When you park the vehicle make sure that no-one and no objects can come into contact with the hot engine and exhaust system.



## WARNING

### Opening radiator cap

Risk of burning

- Do not open the radiator cap when the system is hot.
- Check and, if necessary, top up the coolant in the expansion tank only.

## 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.



## ATTENTION

### Unburned fuel in catalytic converter

Damage to catalytic converter

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



## 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 (➡ 221).
- Check operation of the lights and signalling equipment.

– without automated shift assistant<sup>OE</sup>

- Check operation of the clutch (➡ 225).

– Check the tyre tread depth (➡ 227).

– Check the tyre pressures (➡ 227).

– Check security of cases and luggage.

### **Every 3rd refuelling stop**

– Check the engine oil level (➡ 218).

– Check the brake pad thickness, front brakes (➡ 221).

– Check the brake pad thickness, rear brakes (➡ 222).

– Check the brake-fluid level, front brakes (➡ 223).

– Check the brake-fluid level, rear brakes (➡ 224).

– Check the coolant level (➡ 226).

## STARTING

### Starting engine

- Switch on the ignition.  
( 99)
- » Pre-Ride-Check and self-diagnoses are performed.  
( 173)
- 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.

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

 If the motorcycle is started at idle speed, it is prevented from engaging a gear while the side stand is folded out.

If the side stand is folded out while a gear is engaged and the engine is running, the rollaway prevention device **P** is automatically engaged and the engine switched off.<

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

 When the starter button is pressed, neutral **N** is automatically engaged. There may be a delay before the engine starts. The rollaway prevention device is deactivated.<

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

• Apply the brake.<

—without automated shift assistant<sup>OE</sup>

• Cold starts and low temperatures: Pull the clutch lever.<



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

 Low temperatures can impact on the starting response. Repeated, brief application of load on the battery causes battery temperature to rise, so more battery power is available for starting the engine.

» If the engine refuses to start, consult the troubleshooting chart in the section entitled "Technical data" (➡ 270)

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

- Recharge the battery connected to the vehicle. (➡ 239)
- Jump-start. (➡ 236)

 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.

- » If the instrument cluster remains dark after the ignition is switched on, the troubleshooting chart in the Technical Data section can help. (➡ 272)
- » 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 speeds

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



Running-in speeds

No full load (Odometer reading 0...1000 km)

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



Mileage until the running-in check

500...1200 km

## Brake pads

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.



## WARNING

### New brake pads

Longer stopping distance, risk of accident

- Apply the brakes in good time.

## Tyres

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.

Read the tyre manufacturer's information on how to run in new tyres correctly.



## WARNING

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

Risk of accident

- Ride carefully and avoid extremely sharp inclines.

## GEAR SHIFT ASSISTANT PRO

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

### Function of the 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 is 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" (►► 207).

## AUTOMATED SHIFT ASSISTANT (ASA)

- with automated shift assistant<sup>OE</sup>

### Establishing riding readiness



If a drive-ready state is established while the motorcycle is standing on the centre stand and the brake or throttle is not actuated, neutral position is automatically engaged after a short time. This prevents the motorcycle from accidentally driving off when removed from the centre stand.

If the motorcycle is already in a drive-ready state, this is cancelled when the motorcycle is lifted onto the stand and neutral **N** is then automatically engaged.

- Switch on the ignition. (►► 99)
- Start the engine. (►► 172)
- Retract the side stand.
- Apply the brake.
- Use the gearshift lever to engage 1st gear.
- » The motorcycle is ready to ride.
- » Manual riding mode **M** is active.

## Manual mode

### Requirement

Riding readiness is established.

- Carefully ease the throttle grip open to pull away.
- Use the gearshift lever in the usual way to upshift and downshift.
- » If engine speed in the target gear is within the maximum to minimum rpm range, the gearshift takes place.
- Once the gearshift has completed, fully release the gearshift lever.
- To slow the vehicle to a stop return the throttle grip to the fully closed position and brake to a standstill.

 If engine speed drops below a gear-dependent minimum, an automatic downshift is performed even in manual mode. This is to prevent stalling of the engine.

- Select neutral position N.  
( 176)

## Automated riding mode

### Requirement

Riding readiness is established.

- Select automated riding mode D ( 114).
- Carefully ease the throttle grip open to pull away.

» All switching actions are performed automatically depending on the current riding mode, engine speed and throttle grip position.

 If the gearshift lever is used to shift up or down, automated gear selection is temporarily suspended. As soon as a harmonious transition is possible, automated gear selection is resumed.

- To slow the vehicle to a stop return the throttle grip to the fully closed position and brake to a standstill.
- Select neutral position N.  
( 176)

## Selecting neutral position

### Requirement

Vehicle at standstill and 1st gear selected.

- Apply the brake.
- Long-press the gearshift lever down.



- Alternatively: Long-press button 1.

**N** is displayed.

» The transmission is in neutral.

### **Rollaway prevention Requirement**

Vehicle at standstill, engine running and 1st gear selected.

- Operate the emergency off switch (kill switch).
- Alternatively, with the engine switched off and the transmission in neutral position N: Press the gearshift lever down.

**P** is displayed.

- » The motorcycle is secured against rolling away.
- In rare cases, the position of the gear wheels in the transmission may prevent the rollaway prevention device from being engaged.

**P** flashes.

» Engaging the rollaway prevention device has failed.

- Move the motorcycle forwards or backwards a short distance.

**P** is displayed.

» The motorcycle is secured against rolling away.

- Switch off the ignition.

( 99)

- To release the rollaway prevention device, select neutral N ( 176) or start the engine ( 172).

---

## **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.

—without automated shift assistant<sup>OE</sup>

Remember to pull the clutch at the same time.

Full braking situations are frequently practised. In these, the rider applies full brake pressure as rapidly as possible. The dynamic load distribution system cannot keep up with the increase in deceleration and the full brake force cannot be transmitted to the road surface. BMW Motorrad Integral ABS Pro prevents the front wheel from locking up.

## Emergency braking

If the motorcycle is braked sharply at a sufficient speed, the brake light flashes rapidly to warn following road users. 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 reach speeds of 20 km/h.

## Rear collision warning

—with Riding Assistant<sup>OE</sup>

If the BMW Motorrad Rear End Collision Warning (RECW) system detects a speed-dependent probability of collision, the hazard warning lights are activated briefly with a rapid flashing frequency. For more information on the rear collision warning system (RECW), see the section entitled "Engineering details" (▮ 200).

## Descending mountain passes



### 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.



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

To make the best possible use of the engine brake when driving downhill, select manual riding mode M (114).

### 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.

ABS Pro and the assisting function of Dynamic Brake Control are available in all riding modes.

#### 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 ignition.  
( 99)



### 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.
- Turn the handlebars all the way to the left.
- On a gradient, the motorcycle should always face uphill; select 1st gear.

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

- Select rollaway prevention P. (111► 177)

### Centre stand with lift assistance

—with centre stand<sup>OE</sup>

The lift assistance function makes it easier to lift the vehicle on to its centre stand. By automatically extending the suspension it gives the rider a better mechanical advantage for lifting the vehicle on to the centre stand. Less effort is needed to lift the motorcycle on to the stand.

 A sensor detects extension of the centre stand as a request to prepare for lifting the vehicle on to its stand and readies the suspension accordingly.

### Operating lift assistance

—with centre stand<sup>OE</sup>

 Repeated actuation of the lift assistance function can drain the battery. Actuation of the lift assistance function can be repeated only a certain number of times. Further attempts require the ignition to be switched off and then on again.

- Switch on the ignition. (111► 99)



### 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

#### Centre stand retracts due to severe movements

Risk of damage to parts if vehicle topples

- Do not lean or sit on the vehicle with the centre stand extended.

- On a gradient, the motorcycle should always face uphill; select 1st gear.
- with automated shift assistant<sup>OE</sup>
- Select rollaway prevention P. (111► 177)



- Flip peg on centre stand **1** open.
- Press your foot down on peg **1** of the centre stand and lift the motorcycle on to the stand.
- » The suspension automatically adjusts to the maximum height.
- » When the motorcycle is on the stand the suspension automatically adjusts to the lowest height to increase stability.



## WARNING

### Centre stand contacts ground if not fully retracted

Risk of accident

- Before riding off, fully retract the centre stand.
- Before riding off, fully retract the peg.
- After removing the motorcycle from the stand, first retract the centre stand, then

flip the peg of the centre stand **1** closed.

- » When you ride off the suspension returns automatically to the ride height selected beforehand.

## 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 (max. 15% ethanol, E10/E15)                    |
|  | 95 ROZ/RON<br>90 AKI                                            |
|  | Alternative fuel grade                                          |
|  | Regular unleaded (power- and consumption-related restrictions.) |
|  | (max. 15% ethanol, E10/E15)<br>91 ROZ/RON<br>87 AKI             |

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



» After refuelling with fuels of poor-quality, sporadic knock-in noises may be perceptible.

## Refuelling Requirement

The steering lock is disengaged.



### 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

#### Wetting of plastic surfaces by fuel

Damage to the surfaces (surfaces become unsightly or dull)

- Clean plastic surfaces immediately after contact with fuel.

—without centre stand<sup>OE</sup>

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

## 184 RIDING

—with centre stand<sup>OE</sup>

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

- Switch off the ignition.

(▮▮▮ 99)

 The fuel filler cap can be opened within the defined waiting time after the ignition has been switched off, without the radio-operated key being within range.



Waiting time for opening the fuel filler cap

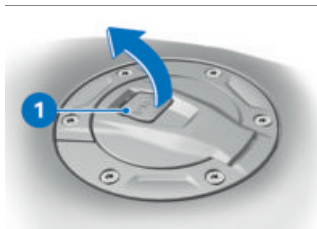
2 min

- » There are **two variant ways** of opening the fuel filler cap:
- Within the waiting time.
  - After the waiting time has expired.

### Variant 1

#### Requirement

Within the waiting time



- Slowly pull tab **1** on the fuel filler cap up.

- » Fuel filler cap unlocks.
- Fully open the fuel filler cap.

### Variant 2

#### Requirement

After the waiting time has expired

- Bring the radio-operated key into range.
- Slowly pull tab **1** up.
- » The indicator light for the radio-operated key flashes while the search for the radio-operated key is in progress.
- Slowly pull tab **1** on the fuel filler cap up again.
- » Fuel filler cap unlocks.
- Fully open the fuel filler cap.



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

 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.

 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. 24 l                                                                      |                      |
|  | Reserve fuel         |
| approx. 4 l                                                                       |                      |

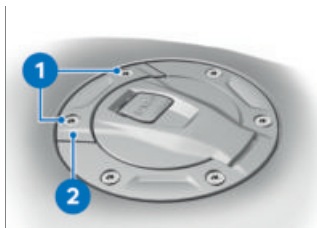
- Press down firmly on the filler cap of the fuel tank.
- » The fuel filler cap engages with an audible click.
- » The fuel filler cap locks automatically when the waiting time expires.
- » The engaged fuel filler cap locks immediately when you secure the steering lock or switch on the ignition.

### Opening fuel filler cap emergency release

Fuel filler cap cannot be opened.

- Have the fault rectified as quickly as possible by a specialist workshop, preferably an

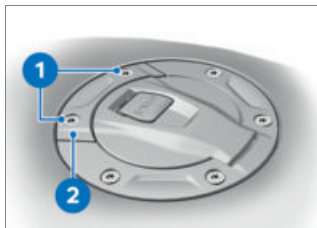
authorised BMW Motorrad retailer.



- Remove screws **1**.
- Remove emergency release **2**.
- » Fuel filler cap unlocks.
- Fully open the fuel filler cap.
- Refuel. (→ 183)
- Close the fuel filler cap emergency release. (→ 185)

### Closing fuel filler cap emergency release Requirement

Fuel filler cap is in closed position.



- Hold emergency release **2** in position.
- Install screws **1**.

## SECURING MOTORCYCLE FOR TRANSPORTATION



### ATTENTION

#### Incorrect lashing

Component damage

- Never lash anything to add-on parts such as the engine protection bars, for example.
- Secure tensioning belts only to the components described as suitable for this purpose.



### ATTENTION

#### Trapping of components

Component damage

- Do not trap components such as brake lines or cable legs.
- 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 on to the transportation flat and hold it in position: do not place it on the side stand or centre stand.
- Have a helper hold the motorcycle to make sure that it cannot topple.

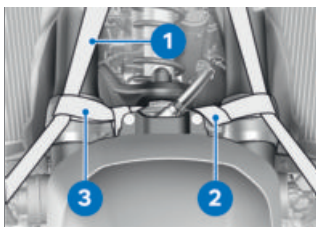




- Lay the tensioning belt (long) over the main frame on the steering head and guide it downwards.



- At the rear, secure the straps to the holders for the passenger footrests on both sides and tighten the straps.
- Tension all the straps uniformly to hold the vehicle securely.



- Loop auxiliary belt **2** around the lower fork bridge from below.
- Loop auxiliary belt **3** around the lower fork bridge from above and thread it through auxiliary belt **2**.
- Thread tensioning belt **1** through auxiliary belt **3** and tighten by pulling down.

# ENGINEERING DETAILS

09

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|                                                     |            |
|-----------------------------------------------------|------------|
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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)

### Fully integral brakes

Your motorcycle has fully integral brakes. With this system, when either brake lever (hand-brake or footbrake lever) is actuated both the front and the rear brakes are applied.

The BMW Motorrad fully integral ABS adapts brake force distribution between front and rear brakes to suit the load on the motorcycle whenever braking requires ABS intervention. Brake force distribution is dependent on riding mode and can be set up to suit the rider.



### 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?

Humps and 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 BMW Motorrad Integral ABS Pro must assume an extremely low coefficient of friction (gravel, ice, snow), so that the wheels will continue to rotate under all imaginable circumstances, because 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 Pro?**

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, under certain circumstances it is possible that the BMW Motorrad Integral ABS Pro 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.

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

Within the limits imposed by physics, BMW Motorrad Integral ABS Pro ensures directional stability on any surface. The system is not optimised for special requirements that apply under extreme competitive conditions off-road or on the track. The driving behaviour should be adapted to actual driving skills and the road conditions.

### **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:

- Heating up with the motor-cycle on the centre stand or an auxiliary stand, engine idling or with a gear engaged.
- Rear wheel locked by the electrical machine's braking moment for a lengthy period, for example while descending on a loose or slippery surface.

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.

### **What significance devolves on regular servicing?**



#### **WARNING**

#### **Brake system not regularly serviced.**

Risk of accident

- In order to ensure that the 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 Pro 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.

### **Evolution of ABS to ABS Pro**

Until now, BMW Motorrad ABS has helped ensure a very high degree of safety for braking with the motorcycle upright and travelling in a straight line. Now ABS Pro offers enhanced safety for braking in corners as well. 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.

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 reserves 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 exceptional 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.

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## **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 and bank-angle-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 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.

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### 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 notification. 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.

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### SHUTDOWN CONCEPT

#### What is the shutdown concept?

While the ignition is on, the electrical system voltage and the battery's state of charge are monitored. If so many electrical loads are active that power demand can no longer be covered by the alternator, the shutdown concept comes

into play. Comfort functions are either downgraded or switched off in line with demand to ensure that vehicle operation can be maintained. In the event of a shutdown, a warning message appears in the instrument cluster.

The shutdown concept achieves the following:

- Stabilisation of the electrical system voltage
- Maintenance of a positive charge-discharge balance
- Less load on the 12 V on-board battery
- Less load on components and vehicle wiring harness

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## **DISTANCE CONTROL (ACTIVE CRUISE CONTROL ACC)**

–with Riding Assistant<sup>OE</sup>

### **What is ACC?**

BMW Motorrad ACC is a cruise control system with approach distance control. The function enables the rider to set a preferred speed and a preferred approach distance from the vehicle directly ahead in the same lane. Cruising speed remains constant as long as the distance to the vehicle directly ahead is not shorter than the approach distance selected by

the rider. As soon as the approach distance is less than this preset, speed is reduced until the distance between the two vehicles again matches the rider's preferred setting. Responsibility remains with the rider, who can intervene at any time and override the ACC. The ACC function has two characteristics: *Comfortable* and *Dynamic*. They affect acceleration and deceleration while control is actively intervening.

### **How does ACC work?**

The front-mounted radar sensor detects vehicles travelling ahead. At the same time, the radar sensor analyses yaw rate and vehicle speed to calculate what is referred to as the prospective ride path, in other words the corridor along which the motorcycle will proceed over the next approx. 100 m approximately. If one of the detected objects is in this prospective ride path the system reacts accordingly, adapting speed so that the rider's preset approach distance from the object travelling ahead is maintained.

## **Control functions of ACC**

ACC is divided into five control functions, as follows:

- Cruise control:** Cruising speed is adapted to the setting chosen by the rider.
- Distance control:** The vehicle cruises at the speed chosen by the rider, but speed is varied to maintain the selected approach distance to be maintained behind the vehicle in front.
- Cornering control:** When the vehicle corners speed is reduced if necessary and the system attempts to achieve a comfortable bank angle (e.g. 20°). As bank angle increases, moreover, braking and acceleration dynamism is limited so that no sudden braking or acceleration takes the rider unawares. Cornering control prevents, for example, unexpected acceleration on object loss by the radar and when the rider's selected speed setting is inappropriately high. Object loss can occur when the vehicle head is only partly registered by the radar as a bend is negotiated.
- Passing assistant:** When a vehicle is present ahead, the rider can activate the passing assistant by switching on the indicators on the side appropriate for a passing manoeuvre. This causes the vehicle to pick up speed, accelerating into a fluid passing manoeuvre. If a passing manoeuvre does not take place the distance behind the vehicle ahead is closed up to some extent for a brief time.
- Passing prevention:** The ACC function prevents a vehicle for which no passing manoeuvre has been signalled from being overtaken. This would apply, for example, to a vehicle that is on the left in right-hand traffic or a vehicle on the right in left-hand traffic. When a vehicle presence is detected in these circumstances the system settles accordingly to the appropriate distance behind. Briefly opening the throttle or indicating for a passing manoeuvre on the opposite side suppresses passing prevention.

### Speed range of ACC

The ACC function can be activated in the following speed ranges:

- 30...160 km/h
- If ACC is activated in the speed range above 160 km/h, the maximum speed of 160 km/h is selected.

### Influence on the performance of ACC

The rider can assist the performance of ACC by:

- Adopting a smooth style of riding.
- Staying as close as possible to the middle of lane behind the vehicle in front.
- When overtaking, making clear lane changes to the passing lane to help the system deselect the vehicle directly ahead in the original lane.
- Returning to the original lane as quickly as possible behind the next vehicle ahead, to allow the system time to select the reference object head.

## FRONT COLLISION WARNING (FCW)

–with Riding Assistant<sup>OE</sup>

### What is FCW?

BMW Motorrad FCW is an collision warning system that warns of critical situations in the lane traffic ahead and assists the rider to recognise and deal with these situations. The function warns of imminent collisions and assists with application of the brakes. Collision warnings are issued visually in the instrument cluster and haptically by warning pulses of the brakes. Collision warnings are two-stage, with an advance warning and an acute warning. The advance warning is issued at least in visual form, via the instrument cluster. If so configured in the menu, this is accompanied by a haptic warning in the form of a warning pulse (▣▶ 125). The warning pulse directs the rider's attention to the hazardous situation. If the criticality of the situation increases, the second stage is issue of the acute warning. The acute warning is issued at least via the instrument cluster, in visual form. If so configured

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in the menu, the brake assistant bridges the rider's reaction time by a slight application of the brakes (125).

### Timing of warning threshold

To determine when the rider should be warned, the system calculates how long the rider can continue to ride with the current dynamic before a controlled braking manoeuvre will become the only way to avoid a collision.

The warning thresholds can be moved slightly as a function of the rider's level of attentiveness. An attentiveness estimator evaluates both the current riding dynamic and the possible interactions of the rider with the motorcycle in order to gauge how attentively the rider is observing the traffic situation ahead.

The timing of the warning threshold can be set to **Early**, **Medium** and **Late**.

### Speed range of FCW

The FCW can monitor traffic ahead and intervene in the following speed ranges:

–30...160 km/h

### Interaction with ACC

FCW is implemented in such a way that during an approach manoeuvre with ACC active, no front collision warning is triggered. ACC reacts primarily to objects in the own lane ahead, so a vehicle that cuts in may be evaluated as a critical object by FCW before ACC identifies it as a vehicle in front. Under these circumstances, with ACC active and a vehicle present ahead, a front collision warning might be triggered. FCW, unlike ACC, does not have to be reactivated for each ride.

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### REAR END COLLISION WARNING (RECW)

–with Riding Assistant<sup>OE</sup>

#### What is RECW?

BMW Motorrad Rear End Collision Warning (RECW) is a collision warning system to help prevent accidents. The function warns of imminent rear-end collisions. Vehicles detected in the same lane and presenting a speed-dependent collision probability are warned by higher-frequency flashing of the direction indicators.

## **Influence on the performance of RECW**

Adherence to the following conditions boosts the efficacy of RECW:

- Adopting a smooth style of riding
- Straight roads
- No weaving from side to side in the lane
- Keep lean angles under 25 degrees

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## **LANE CHANGE WARNING (SWW)**

– with Riding Assistant<sup>OE</sup>

### **What is lane change warning?**

BMW Motorrad lane change warning monitors following traffic and notifies the rider of critical riding situations before a lane change.

### **How does lane change warning work?**

When the rear radar sensor detects the presence of other road users approaching in a neighbouring lane or in the blind spot at the side behind the vehicle, the rider is warned accordingly. A distinction is drawn between a notification and an acute warning. The system knows that a lane change is imminent when the rider ac-

tivates the turn indicators and it issues an early warning to the rider if danger threatens. The warning zone increases in size as the speed differential increases, so that the system can also issue warnings about vehicles that are approaching quickly.

### **Condition for lane change warning**

Lane change warning is subject to the system conditions described below:

- **Range of rear radar:** The radar sensor has a maximum viewing range of approx. 80 m. Timely issue of a collision warning is possible up to a speed differential of 80 km/h relative to the approaching vehicle.
- **Speed ranges:** Warning messages are issued as of speed ranges above 18 km/h and are sustained until speed drops to 15 km/h. In a passing manoeuvre, warning messages are issued as long as the speed differential relative to the passed vehicle is less than 15 km/h.

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–**Rear radar detection when cornering:** Radar detection is fully functional at bank angles up to 25 degrees.

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### CHASSIS AND SUSPENSION ADJUSTMENT

#### Load equalisation

Dynamic ESA is an electronic system that enables your motorcycle's suspension to adjust automatically to suit the load the vehicle is carrying.

The system monitors suspension compression on the rear wheel when driving off and when riding. It corrects the spring preload to adjust the riding position correctly. The damping is also adjusted automatically to the load.

Dynamic ESA calibrates itself at regular intervals to ensure the system functions correctly.

–with Dynamic Chassis Adaptation<sup>OE</sup>

Additionally, the suspension characteristic can be set up to suit the desired riding experience. This is accomplished by automatic adaptation of the spring rate in addition to the damping, depending on riding mode.

The damping characteristics can be adapted in five stages for further adjustment to suit individual preferences.

#### Riding position compensation

Dynamic riding position compensation automatically adjusts the riding position depending on the riding mode. The front and rear of the chassis are raised to different heights in riding modes DYNAMIC and DYNAMIC PRO. This changes the vehicle's geometry, thereby increasing agility and improving driving dynamics. When you stop the vehicle or select ECO, RAIN or ROAD riding mode, the chassis automatically returns to the neutral riding position.

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### RIDING MODE

#### Selection

To adjust the motorcycle to the road condition and the desired driving experience, the following riding modes can be selected:

- ECO
- RAIN
- ROAD (default mode)



- with riding modes Pro<sup>OE</sup>
- DYNAMIC
- DYNAMIC PRO

A maximum of four riding modes can be preselected by means of the riding mode preselection function.

For each of these riding modes, there is a coordinated setting for the DTC and MSR systems, for the engine characteristics and for automated gearshifting.

- with Dynamic Chassis Adaptation<sup>OE</sup>

The adjustment of the DCA also depends on the riding mode selected.

DTC can be switched off in each riding mode. The explanations below always refer to the dynamic safety systems that are switched on.

### **Throttle response**

- ECO: Restrained
- RAIN: Soft
- ROAD: Optimum
- DYNAMIC and DYNAMIC PRO: Direct
- DYNAMIC PRO: The throttle response can be adjusted individually (▮▮▮ 113).

- with automated shift assistant<sup>OE</sup>

### **Automated gear shifting**

- ECO: Automated gear shifting for high efficiency.
- RAIN and ROAD: Optimum automated gear shifting.
- DYNAMIC and DYNAMIC PRO: Automated gear shifting for maximum propulsion.
- DYNAMIC PRO: Automated gear shifting can be adjusted individually (▮▮▮ 113).

## **DTC**

### **Riding stability**

- RAIN: DTC intervenes at an early stage to achieve maximum riding stability.
- ECO, ROAD and DYNAMIC PRO: DTC intervenes later than in RAIN riding mode. This prevents the rear wheel from spinning whenever possible.
- ECO, RAIN, ROAD and DYNAMIC PRO: The front wheel is prevented from lifting off.
- DYNAMIC: DTC intervenes later than in ECO, ROAD and DYNAMIC PRO riding modes. High performance on dry roads. If road conditions are

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poor, optimum stability cannot be ensured.

**DYNAMIC PRO:** DTC can be adjusted to suit the rider's individual preferences (113).

### **Effect of dynamic engine brake control**

- ECO, RAIN and ROAD: Maximum stability.
- DYNAMIC and DYNAMIC PRO: High stability.

### **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.
- 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.

### **ECO mode**

ShiftCam technology is the bridge-builder between ultra-high dynamism and maximum efficiency. The full-load cams allow full valve lift for maximum combustion-chamber charge and high power, whereas the part-load cams considerably shorten the lift of the intake valves and open the valves to different extents. Charge-cycle losses are lessened by de-throttling, friction is reduced, the mixture is swirled more vigorously and combusted more effectively, fuel consumption goes down.

The ECO mode assists the rider with ECO indicator and engine characteristic (parametrisation of the electromotive throttle controller) to keep the engine in the operating range of the consumption-oriented part-load cam, so as to maxim-

ise the distance travelled with a given quantity of fuel.

The length of the green bar in the ECO indicator in the instrument cluster visualises whether the drive is operating in the consumption-optimised range of the part-load cam and the margin from the switch-over threshold to full-load cam operation. The length of the bar represents the load reserve left before the switch-over point for full-load cam operation is reached. The colour changes to grey when load requirement increases and the engine switches to the full-load cam. The reading shown by the ECO indicator varies depending on the gear selected by the rider, the load requirement input via the throttle grip, and engine rpm.

Rider can further reduce consumption by riding with fuel economy in mind (► 211).

## **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.
- If partial braking is applied at high brake pressure gradients, Dynamic Brake Control increases the integral brake pressure on the front and rear wheels with optimum brake force distribution. The stopping distance shortens and controlled braking is possible.

### **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 brak-

ing effect by ignoring actuation of the throttle grip. The effectiveness of emergency braking is ensured.

- 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)

### 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 distinguishes between three tyre pressure ranges matched to the vehicle:

- Filling pressure within the permissible tolerance
- Filling pressure in the limit range of the permissible tolerance
- Filling 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 multifunction 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:                     |
| 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.

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

- Requested 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. 9000 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.

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### AUTOMATED SHIFT ASSISTANT (ASA)

- with automated shift assistant<sup>OE</sup>

#### Functional principle of the automated shift assistant (ASA)

The automated shift assistant is the logical and technical further development of the proven shift assist Pro system. Electronically controlled actuators actuate both the clutch and the gearshift forks to perform automated switching actions without needing any input from the rider.

In manual mode **M**, the rider can actuate the gearshift lever in the desired direction as usual to indicate a gearshift request. If the speed is within the maximum or minimum speed range in the target gear, the switching action is implemented directly. If engine speed drops below a gear-dependent minimum, an automatic downshift is performed even in manual mode. This is to prevent stalling of the engine.

In automated riding mode **D**, switching actions are performed depending on the following parameters:

- Riding mode
- Engine speed
- Throttle grip position
- Angle of heel

Switching actions are initiated according to the driving situation and dynamic requirements.

#### Advantages

- Dynamic and comfortable switching actions.
- Complete elimination of clutch control by the rider.
- Choice of automated or manual switching actions.

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- Automated adaptation of shift characteristics to the rider's dynamic preferences in automated riding mode D.
- Prevents the engine stalling due to unfavourable switching actions.

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

#### **How Hill Start Control works**

Hill Start Control is a ride-off assistant that operates on the 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 is activated, pressure is built up in the rear brake system to keep the machine at a standstill on a gradient.

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 is active, brake pressure is increased.
- If the rear wheel slips, the brake is released again after approx. 1 m. This prevents the vehicle slipping with a locked rear wheel, for example.

–with riding modes Pro<sup>OE</sup>

#### **Hill Start Control Pro**

Hill Start Control Pro enables automatic activation of the holding function.

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

Hill Start Control is deactivated if the rider stops the engine by hitting the emergency-off switch (kill switch) or when the side stand is extended, or after time-out (10 minutes).

In addition to the indicator and warning lights, the rider should be made aware that Hill Start



Control has been deactivated by the following behaviour:

### Brake warning jolt

- The brake is released briefly and reactivated immediately.
- This creates a jolt which the rider feels.
- The 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 when the brake is actuated, Hill Start Control is completely deactivated.

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

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## SHIFTCAM

### Functional principle of ShiftCam

The vehicle features BMW ShiftCam technology for varying valve timing and valve lift on the intake side. The heart of this technology is a one-piece shifting intake camshaft that has two lobes for each valve: a partial-load cam and a full-load cam. The partial-load cam is fine-tuned

for consumption optimisation and engine smoothness. As well as adapting valve timing, the partial-load cam also reduces intake-valve lift. With the partial-load cams activated, moreover, the lobes for the cylinder's left and right intake valves produce staggered valve lift and offset angles of rotation. Consequently the two intake valves open at very slightly different times and the distance to which they open also differs. The advantage: The fuel/air mixture flowing into the combustion chamber is swirled more thoroughly and combusted effectively - so all in all the fuel is utilised more efficiently and engine operation is perceptibly smoother. The full-load cam is designed for optimised engine power and it maximises intake valve lift. The intake camshaft is shifted axially to vary valve timing and valve lift. The pins of an electromechanical actuator engage a shift gate on the intake camshaft. This permits load-dependent and speed-dependent actuation of the intake valves and, consequently, a no-compromises combination

## 212      ENGINEERING DETAILS

of performance and low fuel consumption.

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### **CORNERING HEADLIGHT**

—with Headlight Pro<sup>OE</sup>

#### **How does the additive cornering headlight work?**

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 to the low-beam headlight, enabling the headlight to illuminate the inside of the bend as the motorcycle banks for cornering.

—with adaptive light modes<sup>OE</sup>

#### **How does the adaptive cornering headlight work?**

The adaptive cornering headlight enables LED segments to be switched on individually in addition to the high beam and also as a function of speed. In this way the adaptive cornering headlight produces an optimum light cone that tracks round the radius of the bend as the motorcycle corners, improving the riding experience and road safety both.



**MAINTENANCE**

**10**

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|                             |            |
|-----------------------------|------------|
| <b>GENERAL NOTES</b>        | <b>216</b> |
| <b>TOOLKIT</b>              | <b>217</b> |
| <b>FRONT-WHEEL STAND</b>    | <b>217</b> |
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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!

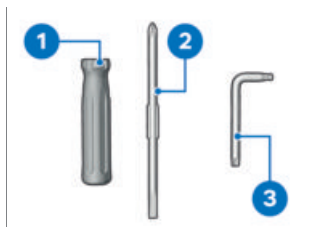
#### **Non-reusable cable ties**

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** Screwdriver handle  
–Use with screwdriver insert
- 2** Reversible screwdriver blade  
With star-head and plain-tip ends  
–Disconnect the battery from the motorcycle. (➡ 240)
- 3** Torx wrench, T25/T30  
T25 on short end, T30 on long end  
–Topping up the engine oil. (➡ 219)  
–Replacing fuses (➡ 245)

## FRONT-WHEEL STAND

### Install the front-wheel stand



#### ATTENTION

**Use of the BMW Motorrad front-wheel stand without accompanying use of centre stand or auxiliary stand**

Risk of damage to parts if vehicle topples

- Place the motorcycle on its centre stand or another auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.
- Make sure the motorcycle is standing firmly.
- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (➡ 218)  
–with centre stand<sup>OE</sup>
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◁

## 218 MAINTENANCE



- See the instructions issued with the front-wheel stand for the details of the correct procedure for installation.
- BMW Motorrad offers an auxiliary stand suitable for every vehicle. Your BMW Motorrad retailer will be happy to help you with the selection of a suitable auxiliary stand.

### 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.
- BMW Motorrad offers an auxiliary stand suitable for every

vehicle. Your BMW Motorrad retailer will be happy to help you with the selection of a suitable auxiliary stand.

### 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.
  - Allow the engine to idle until the fan cuts in.
  - Hold the motorcycle upright with the engine idling for at least 20 seconds, then switch off the engine.
-  For the engine oil level reading to be correct the vehicle must be standing upright with both wheels on the



ground, ready to ride. Do not place the motorcycle on its centre stand or an assembly stand.

- Wait for one minute to allow the oil to drain into the oil reservoir.
- Keep holding the motorcycle 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 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. (→ 219)

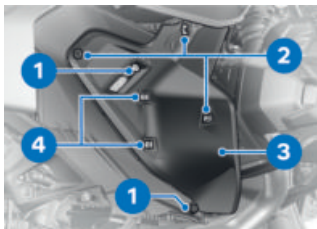
If the oil level is at the top edge of sight glass **1**:

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

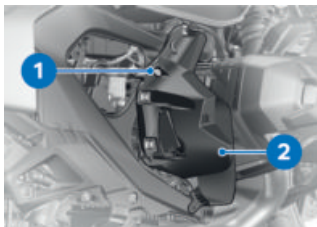
#### Topping up engine oil

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

## 220 MAINTENANCE



- Remove screws **1**.
- Release the engine spoiler **3** from the mounting clips **2** and **4** and remove it.



- Remove screw **1**.
- Remove the holder **2**.



- Wipe the area around the oil filler opening clean.

- Remove cap **1** of the oil filler opening.

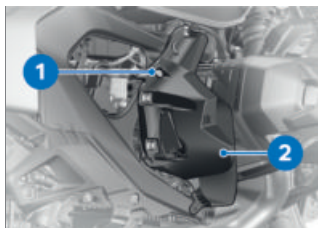


### ATTENTION

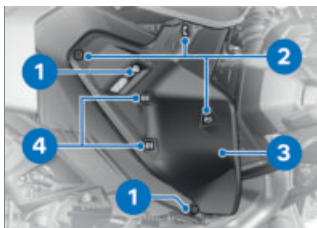
#### Use of insufficient engine oil or too much engine oil

Engine damage due to incorrect oil filling

- Always make sure that the engine oil level is correct.
- If the oil level is below the **MIN** mark max. 0.5 l top up the engine oil.
- Install cap **1** of the oil filler opening.
- Check the engine oil level. (→ 218)



- Align the holder **2**.
- Install screw **1**.



- Align the engine spoiler **3** and fit it into the mounting clips **2** and **4**.
- Install screws **1**.

## 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

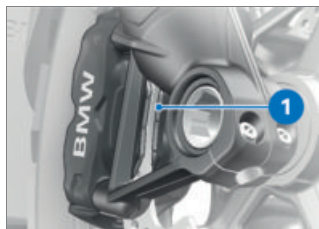
Risk to operational reliability of the brake system

- 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.

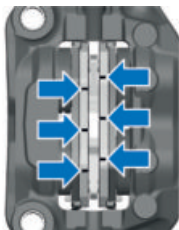
### Checking brake pad thickness, front brakes

- 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**.

## 222 MAINTENANCE



Brake-pad wear limit,  
front

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

If the wear indicating marks are no longer clearly visible:



### WARNING

#### **Brake-pad thickness less than permissible minimum**

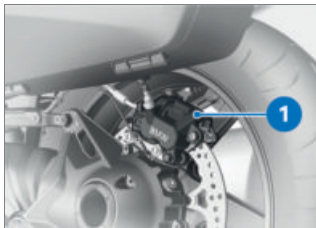
Diminished braking effect, damage to the brakes

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

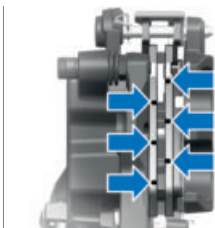
- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### **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: Between spray guard and rear wheel toward brake pads **1**.
- Alternatively: From the right side of the vehicle, between rear wheel from below toward brake pads **1**.



Brake-pad wear limit,  
rear

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

If the wear limit has been reached:



### 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-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 hold the motorcycle upright.  
—with centre stand<sup>OE</sup>
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◁
- Move the handlebars to the straight-ahead position.



- Check the brake fluid level in brake fluid reservoir for front wheel brake 1.

 Wear of the brake pads causes the brake fluid level in the reservoir to sink.



Brake fluid level, front

Brake fluid, DOT4

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.

—with centre stand<sup>OE</sup>

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



## 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, 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.

## CLUTCH

—without automated shift assistant<sup>OE</sup>

### Checking operation of the clutch

- Pull the clutch lever.
- » The pressure point must be clearly perceptible.

## 226 MAINTENANCE

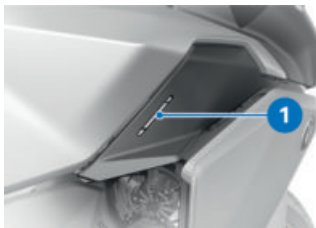
If the pressure point is not clearly perceptible:

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

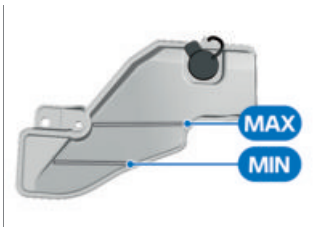
### COOLANT

#### Check the coolant level

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Allow the motor to cool down.



- Check the coolant level in expansion tank **1**.



Specified coolant level

Between **MIN** and **MAX** marks on the expansion tank (Engine cold)

If the coolant drops below the permitted level:

- Top up the coolant.

#### Topping up coolant



#### WARNING

##### Opening radiator cap

Risk of burning

- Do not open the radiator cap when the system is hot.
  - Check and, if necessary, top up the coolant in the expansion tank only.
- 
- Have the coolant topped up by a specialist workshop, 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

2.5 bar (With cold tyres, in one-up and two-up mode and with vehicle load)



Tyre pressure, rear

2.9 bar (With cold tyres, in one-up and two-up mode and with vehicle load)

If tyre pressure is too low:

- Correct tyre pressure.



Tyre pressures can be determined with tyre pressure control (RDC). These displayed values are always temperature-compensated and are always referenced to a tyre air temperature of 20 °C. There is no temperature compensation in the air pressure testers at the filling stations. Consequently, the values they show do not usually tally with the pressure readings shown by the instrument cluster.

### 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.
- If damage is suspected, have the rims checked and, if necessary, replaced by a specialist workshop, preferably an authorised BMW Motorrad retailer.

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## WHEELS

### Effect of wheel size on chassis and suspension control systems

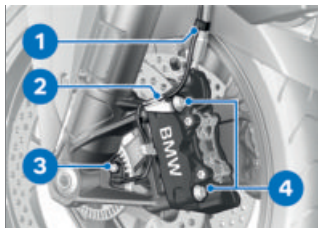
Wheel size is very important as a parameter for the ABS running-gear control system. In particular, the diameter and the width of a vehicle's wheels are programmed into the control unit and are fundamental to all calculations. Any change in these influencing variables, caused for example by a switch 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, it is very important to consult a specialist workshop beforehand, preferably an authorised BMW Motorrad retailer. In some cases, the data programmed into the control units can be changed to suit the new wheel sizes.

## Removing front wheel

- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (→ 218)  
—with centre stand<sup>OE</sup>
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◀



- Disengage the cable for the wheel speed sensor from holding clips **1** and **2**.
- Remove screw **3** and remove the wheel speed sensor from its bore.
- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.



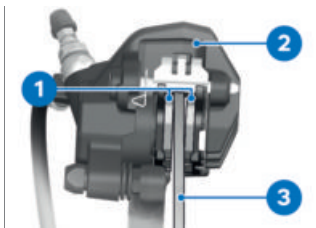
## ATTENTION

### 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.

- Remove mounting bolts **4** of the left and right brake calipers.



- Force brake pads **1** slightly apart by rocking brake caliper **2** back and forth against brake disc **3**.
- Carefully pull the brake calipers back and out until clear of the brake discs.

## 230 MAINTENANCE

- Lift the front of the motor-cycle until the front wheel is clear of the ground, preferably using a BMW Motorrad front-wheel stand.
- Install the front-wheel stand.  
( 217)



- Withdraw quick-release axle **1**, support the front wheel when doing this.
- Set down front wheel and roll forwards out of the front suspension.

- Slacken right axle clamping screws **1**.



- Remove spacer bushing **1** from the wheel hub.

- Slacken left axle clamping screws **2**.
- Remove screw **1**.
- Press quick-release axle slightly toward the inside, so as to be better able to grip it on the right-hand side.

## 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 **1**.



Lubricant

Unirex N3

- Insert spacer bushing **1** 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 **1**.



Lubricant

Unirex N3

- Lift the front wheel slightly and install quick-release axle **1**.

## 232 MAINTENANCE

- Remove front-wheel stand and firmly compress front forks several times. Do not operate the brake in this process.
- Install the front-wheel stand. (▶ 217)



- Install screw **1** and tighten to specified torque. In this process, counter-hold the quick-release axle on the right side.



Screw in quick-release axle

M20 x 1.5

50 Nm

- Tighten left axle clamping screws **2** to the specified torque.



Clamping screws for quick-release axle

Tightening sequence: Tighten screws six times in alternate sequence

M6 x 30 - 10.9

12 Nm



- Tighten right axle clamping screws **1** to the specified torque.



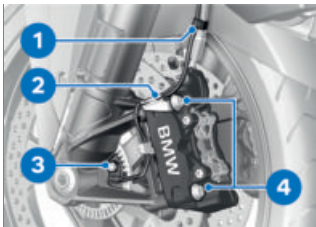
Clamping screws for quick-release axle

Tightening sequence: Tighten screws six times in alternate sequence

M6 x 30 - 10.9

12 Nm

- Remove the front-wheel stand.
- Position left and right brake calipers on the brake discs.



- Install securing screws **4** on left and right and tighten to specified tightening torque.



Radial brake caliper on telescopic forks

M10 x 60

38 Nm

- Remove the adhesive tape from the wheel rim.



### 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.
- Insert the cable for the wheel speed sensor into holding clips **1** and **2**.
- Insert the wheel speed sensor into the bore hole and install screw **3**.



Wheel-speed sensor to fork leg

M6 x 16

Joining compound: Micro-encapsulated

8 Nm

### Removing rear wheel

- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (→ 218)  
—with centre stand<sup>OE</sup>
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◀

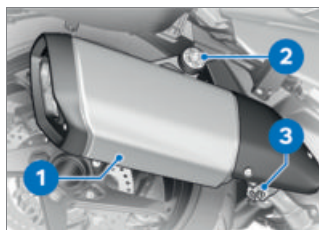


### CAUTION

#### Hot exhaust system

Risk of burn injury

- Do not touch a hot exhaust system.
- Allow rear silencer to cool down.



- Slacken clamp **3**.
- Remove the screw with shaped washer **2**.
- Remove silencer **1** and clamp **3**.

## 234 MAINTENANCE

 The clamp is designed for one-time installation only and has to be replaced before the silencer is installed.



- Remove bolts **1** from the rear wheel, while supporting the wheel.
- 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

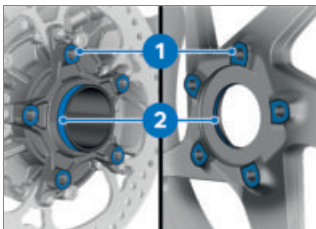
- See the information on the effect of wheel size on the ABS and DTC systems at the start of this chapter.

#### **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**.
- Seat the rear wheel on the rear-wheel adapter.





- Install wheel bolts **1** and tighten to specified torque.

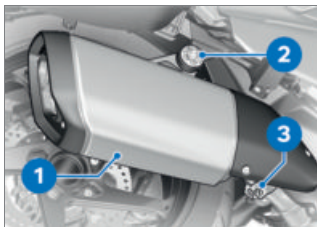


Rear wheel on wheel flange

Tightening sequence: tighten in diagonally opposite sequence

M10 x 1.25

60 Nm



- Lightly lubricate the inner face of new clamp **3**.



The exhaust clamps must be lubricated before installation to ensure the tightness of the exhaust system. It is particularly important to lubricate the area of the joint.



Lubricant

Optimoly TA

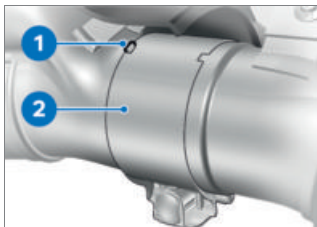
- Slide new clamp **3** on to silencer **1**.
- Push silencer **1** to the limit position.
- Install the screw with shaped washer **2**.



Silencer to bracket

M8 x 35

19 Nm



- Position the clamp with recess **2** in retaining lug **1**.
- » Retaining lug **1** engages in the recess in the clamp.
- Tighten the clamp with recess **2**.



Clamp to silencer and exhaust manifold

Joining compound: Lubricate inner face of clamp, Optimoly TA



Clamp to silencer and exhaust manifold

22 Nm

## 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**
**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.
- Remove the rider's seat. (148)
- When jump-starting the engine, do not disconnect the battery from the on-board electrical system.



- Remove protective cap **1**.
- Use the red jumper cable to connect the positive terminal **3** of the discharged battery to the positive terminal of the donor battery.
- Connect one end of the black jump lead to the negative terminal of the donor battery, then connect the other end to negative terminal **2** of the discharged battery.

—with cold-climate version <sup>OE</sup>



- Use the red jumper cable to connect the positive terminal **1** of the discharged battery to the positive terminal of the donor battery.

## 238 MAINTENANCE

- Connect one end of the black jump lead to the negative terminal of the donor battery, then connect the other end to negative terminal **2** of the discharged 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 the negative terminals first, then disconnect the second lead from the positive terminals.

—without cold-climate version<sup>OE</sup>

- Install protective cap **1**.◁

- Install the rider's seat.

( 149)

### 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.
- 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

Lithium-ion battery, maintenance-free

—with cold-climate version<sup>OE</sup>

AGM battery (Absorbent Glass Mat), maintenance-free



**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 connected battery****ATTENTION****Charging the battery that is connected to the vehicle via the battery terminals**

Damage to the on-board electronics

- Disconnect the battery at the battery terminals before charging.

**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, indicator lights and multifunction display remain off when the ignition is switched on) always charge the **disconnected** battery with the charger connected directly to the battery terminals.



## 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.

- With the battery connected to the vehicle's on-board electrical system, charge via the power socket in the cockpit.



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. If this happens, charge the battery directly at the terminals of the battery that is disconnected from the vehicle.

### Recharging disconnected battery

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



The battery has to be recharged at regular intervals in the course of a lengthy period of disuse. See the instructions for caring for your battery. Always fully recharge the battery before restoring it to use.

### Disconnecting battery from motorcycle



## ATTENTION

### Battery not disconnected in accordance with correct procedure

Risk of short-circuit

- Always proceed in compliance with the specified disconnection sequence.

—with automated shift assist-  
ant<sup>OE</sup>



After disconnecting the battery from the vehicle, the rollaway prevention device

cannot be released. The motorcycle cannot be manoeuvred with the rollaway prevention device engaged. To manoeuvre the vehicle without the battery, park the vehicle in neutral position N.<

 The battery monitor's connector must only be connected/disconnected when the vehicle is de-energised.

When connecting the terminals: Disconnect the connector beforehand.

When disconnecting the terminals: Disconnect the connector afterwards.

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the rider's seat.  
( 148)



- Remove protective cap **1**.
- First disconnect negative battery cable **2**.

- Then disconnect positive battery cable **3**.

—with cold-climate version <sup>OE</sup>



- First disconnect negative battery cable **2**.
- Then disconnect positive battery cable **1**.<

### Connecting battery to motorcycle



#### ATTENTION

#### Battery not connected in accordance with correct procedure

Risk of short-circuit

- Always proceed in compliance with specified installation sequence.

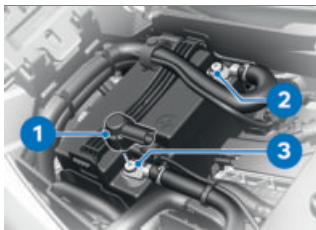


The battery monitor's connector must only be connected/disconnected when the vehicle is de-energised.

When connecting the terminals: Disconnect the connector beforehand.

## 242 MAINTENANCE

When disconnecting the terminals: Disconnect the connector afterwards.

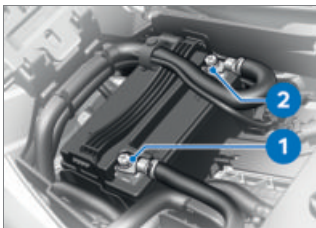


- First connect positive battery cable **3**.
- Then connect negative battery cable **2**.

|                                                                                                            |
|------------------------------------------------------------------------------------------------------------|
|  Wiring harness to battery |
| M6 x 8                                                                                                     |
| 4.5 Nm                                                                                                     |
| –with cold-climate version <sup>OE</sup>                                                                   |
| M6 x 12                                                                                                    |
| 3.5 Nm◁                                                                                                    |

- Install protective cap **1**.

–with cold-climate version<sup>OE</sup>



- First connect positive battery cable **1**.
- Then connect negative battery cable **2**.

|                                                                                                             |
|-------------------------------------------------------------------------------------------------------------|
|  Wiring harness to battery |
| M6 x 8                                                                                                      |
| 4.5 Nm                                                                                                      |
| M6 x 12                                                                                                     |
| 3.5 Nm◁                                                                                                     |

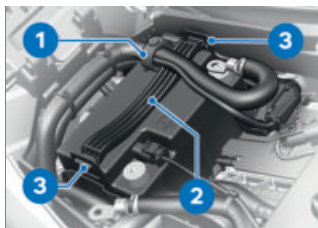
- Install the rider's seat.  
( 149)

### Removing battery

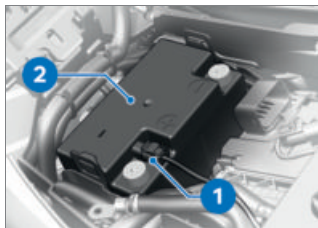
–with anti-theft alarm (DWA)<sup>OE</sup>

- If applicable, switch off the anti-theft alarm.◁
- Switch off the ignition.  
( 99)
- Disconnect the battery from the motorcycle. ( 240)



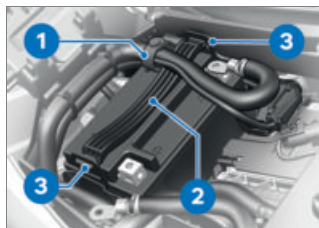


- Remove the retaining tab **1**.
- Remove the battery holder **2** from the holder **3**.
- Disengage the diagnostic socket. (►► 248)



- Disconnect plug connection **1** from battery **2**.
- Lift battery **2** up and out; work it slightly back and forth if it is difficult to remove.

—with cold-climate version<sup>OE</sup>



- Remove the retaining tab **1**.
- Remove the battery holder **2** from the holder **3**.
- Disengage the diagnostic socket. (►► 248)



- Lift battery **1** up and out; work it slightly back and forth if it is difficult to remove.<

### Installing battery

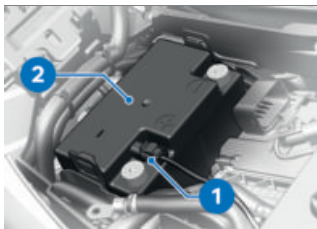


If the vehicle has been disconnected from the battery for a significant time, the current date will have to be reset to guarantee correct operation of the service display.

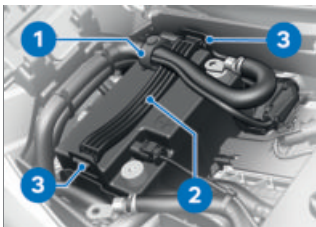
## 244 MAINTENANCE

 After a change of battery type, the Fault in the on-board battery. Limited onward journey possible. Drive carefully to nearest specialist workshop. message is displayed once.

If you decide that you would like to change to a different battery type for your motorcycle, it is very important to consult a specialist workshop beforehand, preferably an authorised BMW Motorrad retailer.



- Insert battery **2** into the battery compartment, positive terminal on the left in the forward direction of travel.
- Connect plug connection **1** to battery **2**.
- Secure the diagnostic socket. (→ 248)

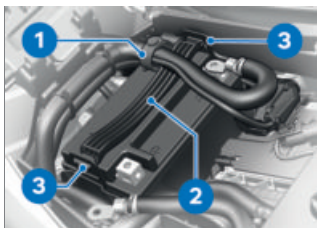


- Insert the battery holder **2** in the mount **3**.
- Install the retaining tab **1**.

—with cold-climate version<sup>OE</sup>



- Insert battery **1** into the battery compartment, positive terminal on the left in the forward direction of travel.
- Secure the diagnostic socket. (→ 248)

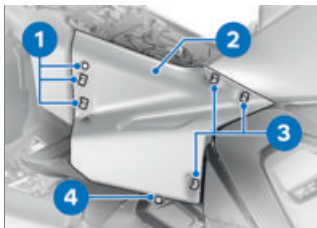


- Insert the battery holder **2** in the mount **3**.
- Install the retaining tab **1**.◁
- Connect the battery to motorcycle. (▮▮▮ 241)  
–with anti-theft alarm (DWA)<sup>OE</sup>
- If applicable, switch on the anti-theft alarm.◁
- Change the system settings. (▮▮▮ 86)

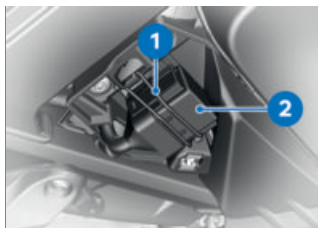
## FUSES

### Replacing fuses

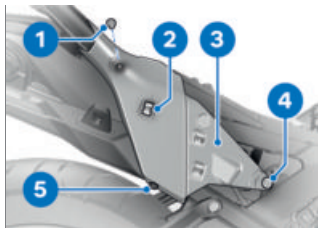
- Remove the rider's seat. (▮▮▮ 148)



- Remove screw **4**.



- Disengage the trim panel **2** from the mounting clips **1** and **3** and remove it.
- Loosen the rubber band **1** and remove the cover cap **2**.
- Remove the case as well if you are replacing the main fuse (▮▮▮ 145).
- Remove the rear seat. (▮▮▮ 147)



- Remove screws **1**, **4** and **5**.
- Disengage the trim panel **3** from the mounting clip **2** and remove it.



- Remove the cover cap **1**.



## ATTENTION

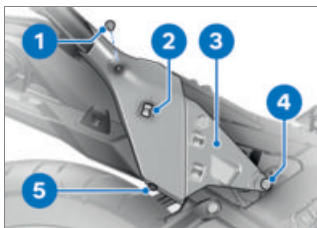
### Jumpering of blown fuses

Risk of short-circuit and fire

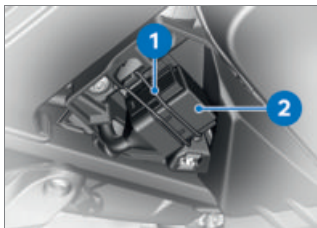
- Never attempt to jumper a blown fuse.
  - Always replace a defective fuse with a new fuse of the same amperage.
- Replace faulty fuse in accordance with the fuse allocation diagram.
-  If fuse defects recur frequently have the electric circuits checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.



- Insert the cover cap **1**.

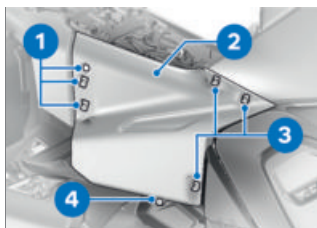


- Align the trim panel **3** and fit it into mounting clip **2**.
- Install screws **1**, **4** and **5**.
- Install the passenger seat. (➡ 148)
- Install the cases. (➡ 143)



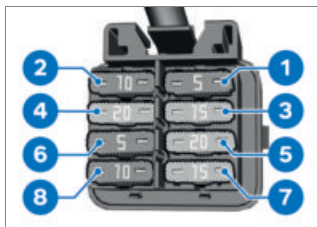
- Insert the cover cap **2**.

- Attach the rubber band **1**.



- Align the trim panel **2** and fit it into the mounting clips **1** and **3**.
- Install screw **4**.
- Install the rider's seat.  
( 149)

### Fuse assignment I



- 1** 5 A  
12 V power socket

- 2** 10 A  
Instrument cluster  
Anti-theft alarm  
Socket for onboard diagnosis  
Seat heating  
Central locking, cases and topcase  
Heated grips  
Heated rear grab handles  
Heated backrest pad
- 3** 15 A  
Keyless Ride  
Coil, isolating relay  
Headlight
- 4** 20 A  
Front radar  
Rear radar  
Sensor box  
Windscreen motor  
CCP
- 5** 20 A  
USB socket  
Voltage supply, cases and topcase
- 6** 5 A  
Multifunction switch, left  
Auxiliary headlights  
CCP
- 7** 15 A  
Audio system
- 8** 10 A  
Horn 2 relay

# 248 MAINTENANCE

## Fuse assignment II



- 1** 50 A  
Main fuse

## DIAGNOSTIC CONNECTOR

### Disengaging diagnostic socket



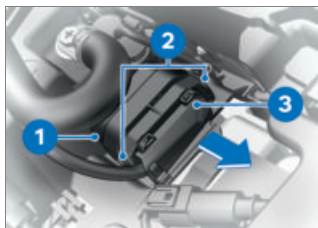
#### CAUTION

#### 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.

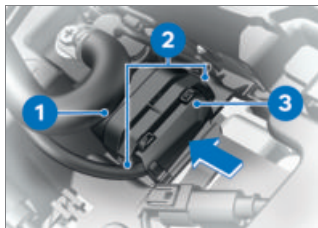
- Remove the rider's seat.  
(111111 148)



- Press locks **2**.
- Disengage diagnostic socket **3** from holder **1**.  
» The interface to the diagnosis and information system can be connected to the diagnostic connector **3**.

### Securing diagnostic socket

- Disconnect the interface for the diagnosis and information system.



- Insert diagnostic socket **3** into holder **1**.  
» Locks **2** engage on both sides.

- Install the rider's seat.

( 149)

# ACCESSORIES

11



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|                             |            |
|-----------------------------|------------|
| <b>GENERAL NOTES</b>        | <b>252</b> |
| <b>POWER SOCKETS</b>        | <b>252</b> |
| <b>USB CHARGING SOCKETS</b> | <b>253</b> |
| <b>TOPCASE</b>              | <b>254</b> |
| <b>OPTIONAL ACCESSORIES</b> | <b>257</b> |

## 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 SOCKETS****Notes on use****Automatic shutdown**

The USB charging sockets are shut down automatically under the following circumstances:

- 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 sockets is switched off no more than 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**

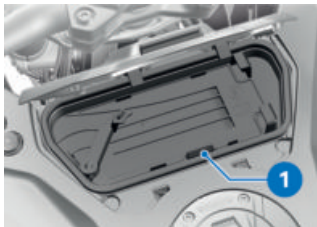
Note the following with regard to the routing of cables from USB charging sockets to items of electronic equipment:

## 254 ACCESSORIES

- 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.

### Storage compartment

The USB charging interface is located under the storage compartment flap (► 139).



This is a 5 V USB charging interface **1** that provides a maximum charge current of 2.1 A (maximum charging power 10.5 W).

### Cases

- with central locking system<sup>OE</sup>



The USB charging socket is inside the left case (► 142). This is a 5 V USB charging interface **1** that provides a maximum charge current of 3 A (maximum charging power 15 W).

### TOPCASE

- with topcase<sup>OE</sup>

#### Opening topcase

- with central locking system<sup>OE</sup>
- If necessary, unlock the central locking system.◁



- Turn the key in the topcase lock to the dot position and remove the key from the lock.



- Press lock barrel **1** down.
- » Release lever **2** pops up.
- Pull release lever **2** all the way up and open the lid of the topcase.
- Press the release lever **2** down until it engages.

### Closing topcase



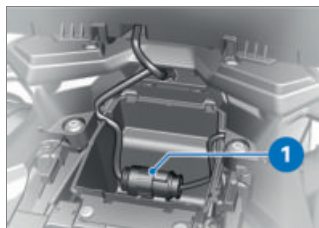
- Close the lid of the topcase and hold it down. Check that nothing is trapped between the lid and the case.

 The topcase can also be closed when the lock is in the **LOCK** position. Make sure that the vehicle key is not left inside the topcase.

- Ensure that the release lever **2** is fully closed.
- Turn the key in the topcase lock to the **LOCK** position and remove the key from the lock.
- Alternatively, turn the key in the topcase lock to the dot position and remove the key.
- » The topcase locks and unlocks with a central locking system.

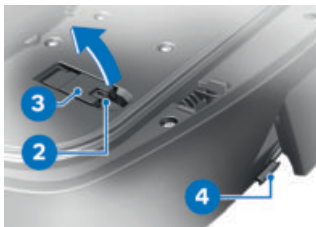
### Removing topcase

- Remove the rider's seat.  
( 148)
- Remove the rear seat.  
( 147)



- Disconnect plug connection **1**.
- Work the plug of the topcase through to the rear.
- Open the topcase.
- If applicable, empty the topcase and lift out the bottom mat.

## 256 ACCESSORIES



- Press and hold the release mechanism **2**.
- Fully open locking flap **3**.
  - » Release warning **4** is visible.
- Close the topcase.



- Lift the topcase at the rear and remove it from the luggage carrier.
- Install the passenger seat.
  - ( 148)
- Install the rider's seat.
  - ( 149)

### Installing topcase

- Remove the rider's seat.
  - ( 148)
- Remove the rear seat.
  - ( 147)

- If applicable, empty the topcase and lift out the bottom mat.



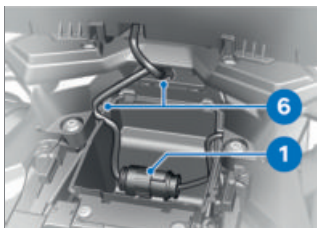
- Set the topcase on the luggage carrier.
- Open the topcase. ( 254)



- Fully close the locking flap **3** while pressing down on the back edge of the top case.
  - » Release warning **4** is no longer visible.

If the release warning is still visible the topcase is not correctly secured.

- Make sure that the topcase is correctly seated on the luggage carrier.



- Work the cable into place at positions **6**.
- Close plug connection **1**.
- Install the passenger seat.  
(148)
- Install the rider's seat.  
(149)

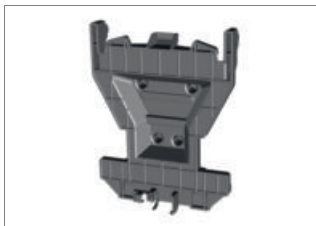
### Maximum payload and maximum speed

Note the maximum payload and the maximum permissible speed.

The values for the combination described here are as follows:

|                                                                                     |                                                |
|-------------------------------------------------------------------------------------|------------------------------------------------|
|   | Maximum speed for riding with a loaded topcase |
| max. 180 km/h                                                                       |                                                |
|  | Payload of topcase                             |
| max. 10 kg                                                                          |                                                |

### Topcase wall mount



A wall mount for handy storage of the topcase is included in the delivery specification. Ask your authorised BMW Motorrad Retailer for more information on the wall mount.

### OPTIONAL ACCESSORIES

#### Available optional accessories



Your authorised BMW Motorrad retailer can offer expert advice on the choice of genuine BMW parts, accessories and other products such as luggage systems or windscreens.

## 258      **ACCESSORIES**

You can examine all the optional accessories from BMW Motorrad by visiting: **[bmw-motorrad.com](http://bmw-motorrad.com)**.





**CARE**

**12**

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|                                           |            |
|-------------------------------------------|------------|
| <b>CARE PRODUCTS</b>                      | <b>262</b> |
| <b>WASHING THE VEHICLE</b>                | <b>262</b> |
| <b>CLEANING EASILY DAMAGED COMPONENTS</b> | <b>263</b> |
| <b>CARE OF PAINTWORK</b>                  | <b>265</b> |
| <b>PAINT PRESERVATION</b>                 | <b>265</b> |
| <b>LAYING UP MOTORCYCLE</b>               | <b>265</b> |
| <b>RESTORING MOTORCYCLE TO USE</b>        | <b>266</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. The substances in BMW 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 specialist 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.

## 264 CARE

### Carbon parts

Clean Carbon parts with water and a microfibre cloth.

### Instrument cluster

Clean the instrument cluster with warm water and washing-up liquid. Then dry it with a clean cloth, e.g. a paper towel.

### 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 high-gloss polish for additional treatment.

### Radiator

Clean the cooler regularly to prevent the engine overheating due to inadequate cooling. Use a garden hose with low water pressure, for example, for this purpose.



### ATTENTION

#### Bending of radiator fins

Damage to radiator fins

- Take care not to bend the radiator fins when cleaning.

### Rubber



### ATTENTION

#### Application of silicone sprays to rubber seals

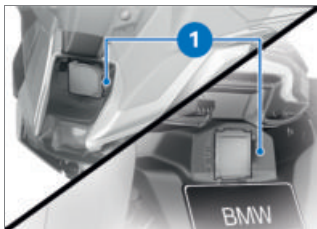
Damage to the rubber seals

- Do not use silicone sprays or care products that contain silicon.

Treat rubber components with water or BMW rubber-care products.

### Radar sensors

—with Riding Assistant<sup>OE</sup>



Clean covers **1** of the radar sensors with a cloth moistened with a proprietary glass cleaner.

## 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 opportu-

ity, 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.

## 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.

## 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.  
–with automated shift assistant<sup>OE</sup>

 After disconnecting the battery from the vehicle, the rollaway prevention device cannot be released. The motorcycle cannot be manoeuvred with the rollaway prevention device engaged. To manoeuvre the vehicle without the battery, park the vehicle in neutral position N.<

- Remove the battery. (► 242)  
–with centre stand<sup>OE</sup>
- Spray the hinged foot plate on the centre stand and the centre stand pivots with a suitable lubricant.<
- without automated shift assistant<sup>OE</sup>
- Spray the brake and clutch lever pivots and the side stand pivots with a suitable lubricant.<
- with automated shift assistant<sup>OE</sup>
- Spray the brake lever pivots and side stand pivots with a 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.

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## RESTORING MOTORCYCLE TO USE

- Remove the protective wax coating.
- Clean the motorcycle.
- Install the battery.
- Note the checklist (► 171).





# TECHNICAL DATA

13

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|                                     |            |
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### TROUBLESHOOTING CHART

The engine does not start.

| Possible cause                                                                                               | Rectification                                                                        |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Side stand extended and gear engaged                                                                         | Retract the side stand.                                                              |
| Gear engaged and clutch not disengaged                                                                       | Select neutral or pull the clutch lever.                                             |
| No fuel in tank                                                                                              | Refuel. (➡ 183)                                                                      |
| Battery flat                                                                                                 | Recharge the battery connected to the vehicle. (➡ 239)                               |
| 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. |

The Bluetooth connection is not established.

| Possible cause                                                                       | Rectification                                                                                        |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| The steps required for pairing were not carried out.                                 | Check the necessary steps for pairing in the operating instructions for the communication system.    |
| The communication system was not connected automatically despite successful pairing. | Switch off the helmet's communication system and reconnect it after a minute or two.                 |
| Too many Bluetooth devices are saved on the helmet.                                  | All pairing entries on the helmet are deleted (see the communication system operating instructions). |
| There are other vehicles with Bluetooth-capable devices in the vicinity.             | Avoid simultaneously pairing with more vehicles.                                                     |

Display faulty.

| Possible cause                                       | Rectification                                                                                                                                                                                                              |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The brightness of the instrument cluster is reduced. | The temperature of the instrument cluster is too high. The brightness of the instrument cluster is reduced. Keep direct sunlight off the instrument cluster. Interrupt your journey until the components have cooled down. |

The phonebook is not displayed in the TFT display.

| Possible cause                                    | Rectification                                                                 |
|---------------------------------------------------|-------------------------------------------------------------------------------|
| The phonebook was not transmitted to the vehicle. | Confirm transmission of the phone data (📶 94) when pairing the mobile device. |

Bluetooth connection is interrupted.

| Possible cause                                                | Rectification                                                                        |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------|
| The Bluetooth connection to the mobile device is interrupted. | Switch off energy saving mode.                                                       |
| The Bluetooth connection to the helmet is interrupted.        | Switch off the helmet's communication system and reconnect it after a minute or two. |
| The volume in the helmet cannot be adjusted.                  | Switch off the helmet's communication system and reconnect it after a minute or two. |

## 272 TECHNICAL DATA

Active route guidance is not displayed in the instrument cluster.

| Possible cause                                                      | Rectification                                                                                       |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Navigation from the BMW Motorrad Connected app was not transmitted. | Call up the BMW Motorrad Connected app on the paired mobile device prior to departure.              |
| The route guidance cannot be started.                               | Make sure that the mobile device has a data connection and check the map data on the mobile device. |

Playlist not shown on the display.

| Possible cause                                        | Rectification                                                     |
|-------------------------------------------------------|-------------------------------------------------------------------|
| Too many tracks in the playlist on the mobile device. | Reduce the number of tracks in the playlist on the mobile device. |

The instrument cluster remains dark after the ignition is switched on.

| Possible cause                                                                         | Rectification                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| There is a software error which leads to a function failure of the instrument cluster. | Switch ignition off and on again.                                                                                         |
| The instrument cluster is damaged.                                                     | Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer. |

**THREADED FASTENERS**

| Front wheel                                     | Value                                                                                | Valid |
|-------------------------------------------------|--------------------------------------------------------------------------------------|-------|
| <b>Screw in quick-release axle</b>              |                                                                                      |       |
| M20 x 1.5                                       | 50 Nm                                                                                |       |
| <b>Clamping screws for quick-release axle</b>   |                                                                                      |       |
| M6 x 30 - 10.9                                  | <b>Tightening sequence:</b><br><b>Tighten screws six times in alternate sequence</b> |       |
|                                                 | 12 Nm                                                                                |       |
| <b>Radial brake caliper on telescopic forks</b> |                                                                                      |       |
| M10 x 60                                        | 38 Nm                                                                                |       |
| <b>Wheel-speed sensor to fork leg</b>           |                                                                                      |       |
| M6 x 16<br>Micro-encapsulated                   | 8 Nm                                                                                 |       |

| Rear wheel                                   | Value                                                                         | Valid |
|----------------------------------------------|-------------------------------------------------------------------------------|-------|
| <b>Rear wheel on wheel flange</b>            |                                                                               |       |
| M10 x 1.25                                   | <b>Tightening sequence:</b><br><b>tighten in diagonally opposite sequence</b> |       |
|                                              | 60 Nm                                                                         |       |
| <b>Spray guard to bevel gears</b>            |                                                                               |       |
| M6 x 25, Replace screw<br>micro-encapsulated | 10 Nm                                                                         |       |

## 274 TECHNICAL DATA

| Battery                          | Value  | Valid                                    |
|----------------------------------|--------|------------------------------------------|
| <b>Wiring harness to battery</b> |        |                                          |
| M6 x 8                           | 4.5 Nm |                                          |
| M6 x 12                          | 3.5 Nm | —with cold-climate version <sup>OE</sup> |

| Silencer                                                    | Value | Valid |
|-------------------------------------------------------------|-------|-------|
| <b>Clamp to silencer and exhaust manifold</b>               |       |       |
| Replace clamp<br>Lubricate inner face of clamp, Optimoly TA | 22 Nm |       |
| <b>Silencer to bracket</b>                                  |       |       |
| M8 x 35                                                     | 19 Nm |       |



**FUEL**

|                                               |                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended fuel grade                        |  Premium unleaded (max. 15% ethanol, E10/E15)<br> 95 ROZ/RON<br>90 AKI                                                |
| Alternative fuel grade                        |  Regular unleaded (power- and consumption-related restrictions.) (max. 15% ethanol, E10/E15)<br> 91 ROZ/RON<br>87 AKI |
| Usable fuel capacity                          | approx. 24 l                                                                                                                                                                                                                                                                            |
| Reserve fuel                                  | approx. 4 l                                                                                                                                                                                                                                                                             |
| Fuel consumption                              | 4.9 l/100 km, in accordance with WMTC                                                                                                                                                                                                                                                   |
| —with power reduction <sup>OE</sup>           | 4.9 l/100 km, in accordance with WMTC                                                                                                                                                                                                                                                   |
| —with automated shift assistant <sup>OE</sup> | 5.0 l/100 km, in accordance with WMTC                                                                                                                                                                                                                                                   |
| CO2 emission                                  |                                                                                                                                                                                                                                                                                         |
| —with power reduction <sup>OE</sup>           | 113 g/km, in accordance with WMTC                                                                                                                                                                                                                                                       |
| —with automated shift assistant <sup>OE</sup> | 115 g/km, in accordance with WMTC                                                                                                                                                                                                                                                       |
| Exhaust emissions standard                    | EU5                                                                                                                                                                                                                                                                                     |

## 276 TECHNICAL DATA

### ENGINE OIL

|                                     |                                                                                                                                                                                                          |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engine oil, capacity                | max. 5.0 l, with filter change                                                                                                                                                                           |
| Specification                       | SAE 5W-40, API SL / 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 Ultimate oil. |
| Engine oil, quantity for topping up | max. 0.75 l, Difference between <b>MIN</b> and <b>MAX</b>                                                                                                                                                |

**BMW recommends** **ADVANTEC**  
ORIGINAL BMW ENGINE OIL

### ENGINE

|                                     |                                                                                                                                                                  |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engine number location              | Crankcase bottom section, left                                                                                                                                   |
| Engine type                         | A75B13A                                                                                                                                                          |
| Engine design                       | Air-/liquid-cooled two-cylinder four-stroke boxer engine with two overhead camshafts, two balancing gearwheels and variable intake camshaft control BMW ShiftCam |
| Displacement                        | 1300 cm <sup>3</sup>                                                                                                                                             |
| Compression ratio                   | 13.3:1                                                                                                                                                           |
| Nominal capacity                    | 107 kW, at rpm: 7750 min <sup>-1</sup>                                                                                                                           |
| –with power reduction <sup>OE</sup> | 79 kW, at rpm: 6500 min <sup>-1</sup>                                                                                                                            |
| Torque                              | 149 Nm, at rpm: 6500 min <sup>-1</sup>                                                                                                                           |
| –with power reduction <sup>OE</sup> | 145 Nm, at rpm: 5000 min <sup>-1</sup>                                                                                                                           |
| Maximum engine speed                | max. 9000 min <sup>-1</sup>                                                                                                                                      |

|            |                                                                           |
|------------|---------------------------------------------------------------------------|
| Idle speed | 1050 $\pm$ 50 min <sup>-1</sup> , Engine at regular operating temperature |
|------------|---------------------------------------------------------------------------|

## CLUTCH

|             |                                     |
|-------------|-------------------------------------|
| Clutch type | Multi-plate oil-bath (anti-hopping) |
|-------------|-------------------------------------|

## TRANSMISSION

|                      |                                                          |
|----------------------|----------------------------------------------------------|
| Type of transmission | Claw-shift 6-speed gearbox, integrated into engine block |
|----------------------|----------------------------------------------------------|

## FINAL DRIVE

|                            |                     |
|----------------------------|---------------------|
| Gear ratio of final drive  | 2.818 (31/11 teeth) |
| Rear axle differential oil | SAE 70W-80          |

## FRAME

|                                               |                                                                                                   |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------|
| Frame type                                    | Frame monocoque sheet metal with partially load-bearing drive unit, rear frame die-cast aluminium |
| Type plate location                           | Frame, front right next to steering head                                                          |
| Position of the vehicle identification number | Frame, front right by steering head                                                               |

## CHASSIS AND SUSPENSION

### Front wheel

|                          |                        |
|--------------------------|------------------------|
| Type of front suspension | BMW Telelever          |
| Spring travel, front     | 149 mm, at front wheel |

## 278 TECHNICAL DATA

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### Rear wheel

|                             |                                                                |
|-----------------------------|----------------------------------------------------------------|
| Type of rear suspension     | Cast aluminium single swinging arm with BMW Motorrad Paralever |
| Spring travel at rear wheel | 158 mm, at rear wheel                                          |

---

### BRAKES

---

#### Front wheel

|                                                            |                                                                                   |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Type of front brake                                        | Twin disc brakes, floating brake discs, diameter 310 mm, 4-piston radial calipers |
| Brake-pad material, front                                  | Sintered metal                                                                    |
| Brake disc thickness, front                                | 4.4 mm, When new<br>min. 3.9 mm, Wear limit                                       |
| Free travel of brake controls<br>(Front wheel brake lever) | 1.6...2.1 mm, at the piston                                                       |

---

#### Rear wheel

|                                           |                                                               |
|-------------------------------------------|---------------------------------------------------------------|
| Type of rear brake                        | Single-disc brake, diameter 285 mm, 2-piston floating caliper |
| Brake-pad material, rear                  | Sintered metal                                                |
| Brake disc thickness, rear                | 4.5 mm, When new<br>min. 4.0 mm, Wear limit                   |
| Blow-by clearance of the foot-brake lever | 0.5...1.5 mm, between the frame and the footbrake lever       |

## WHEELS AND TYRES

|                                  |                                |
|----------------------------------|--------------------------------|
| Speed category, front/rear tyres | W, required at least: 270 km/h |
|----------------------------------|--------------------------------|

### Front wheel

|                                   |                      |
|-----------------------------------|----------------------|
| Front-wheel type                  | Aluminium cast wheel |
| Front-wheel rim size              | 3.50" x 17"          |
| Tyre designation, front           | 120/70 ZR 17         |
| Load index, front tyre            | min. 58              |
| Permissible front-wheel imbalance | max. 5 g             |

### Rear wheel

|                                  |                      |
|----------------------------------|----------------------|
| Rear-wheel type                  | Aluminium cast wheel |
| Rear wheel rim size              | 6.00" x 17"          |
| Tyre designation, rear           | 190/55 ZR 17         |
| Load index, rear tyre            | min. 75              |
| Permissible rear-wheel imbalance | max. 5 g             |

### Tyre pressures

|                      |                                                                           |
|----------------------|---------------------------------------------------------------------------|
| Tyre pressure, front | 2.5 bar, With cold tyres, in one-up and two-up mode and with vehicle load |
| Tyre pressure, rear  | 2.9 bar, With cold tyres, in one-up and two-up mode and with vehicle load |

## 280 TECHNICAL DATA

### ELECTRICAL SYSTEM

|                                       |                                                                                                                                                      |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electrical rating of on-board sockets | max. 10 A, Total for all sockets                                                                                                                     |
| Main fuse                             | 50 A, Main fuse                                                                                                                                      |
| Fuse 1                                | 5 A, 12 V socket 2                                                                                                                                   |
| Fuse 2                                | 10 A, Instrument cluster, anti-theft alarm (DWA), on-board diagnosis socket, seat heating, central locking system, grip heating, heated backrest pad |
| Fuse 3                                | 15 A, Cut-off relay, Keyless Ride, headlight                                                                                                         |
| Fuse 4                                | 20 A, Rear radar, front radar, CCP, windscreen motor, sensor box                                                                                     |
| Fuse 5                                | 20 A, USB socket, voltage supply to cases and topcase                                                                                                |
| Fuse 6                                | 5 A, Left multifunction switch, CCP, additional headlight                                                                                            |
| Fuse 7                                | 15 A, Audio system                                                                                                                                   |
| Fuse 8                                | 10 A, Horn 2 relay                                                                                                                                   |

### Battery

|                                          |                                                     |
|------------------------------------------|-----------------------------------------------------|
| Battery type                             | Lithium-ion battery, maintenance-free               |
| —with cold-climate version <sup>OE</sup> | AGM battery (Absorbent Glass Mat), maintenance-free |
| Battery rated voltage                    | 12 V                                                |
| Battery rated capacity                   | 12.5 Ah                                             |
| —with cold-climate version <sup>OE</sup> | 14 Ah                                               |

**Spark plugs**

|                                           |                |
|-------------------------------------------|----------------|
| Spark plugs, manufacturer and designation | NGK LMAR8AI-10 |
|-------------------------------------------|----------------|

**Lighting**

|                   |     |
|-------------------|-----|
| All light sources | LED |
|-------------------|-----|

**ANTI-THEFT ALARM**

|                                                    |         |
|----------------------------------------------------|---------|
| Battery type (For Keyless Ride radio-operated key) | CR 2032 |
|----------------------------------------------------|---------|

**DIMENSIONS**

|                                               |                                                           |
|-----------------------------------------------|-----------------------------------------------------------|
| Length of motorcycle                          | 2229 mm, over number plate carrier, at DIN unladen weight |
| –with topcase <sup>OE</sup>                   | 2406 mm, over topcase                                     |
| Height of motorcycle                          | 1570 mm, without mirrors, at DIN unladen weight           |
| –with Sport windscreen <sup>OE</sup>          | 1387 mm, without mirrors, at DIN unladen weight           |
| Width of motorcycle                           | 971 mm, With mirrors, with handlebar weights              |
| Height of rider's seat                        | 820...840 mm, without rider, at DIN unladen weight        |
| –with comfort rider's seat <sup>OE</sup>      | 825...845 mm, without rider, at DIN unladen weight        |
| –with low comfort rider's seat <sup>OE</sup>  | 780...800 mm, without rider, at DIN unladen weight        |
| –with high comfort rider's seat <sup>OE</sup> | 840...860 mm, without rider, at DIN unladen weight        |

## 282 TECHNICAL DATA

|                                               |                                                      |
|-----------------------------------------------|------------------------------------------------------|
| Rider's inside-leg arc, heel to heel          | 1840...1880 mm, without rider, at DIN unladen weight |
| —with comfort rider's seat <sup>OE</sup>      | 1860...1900 mm, without rider, at DIN unladen weight |
| —with low comfort rider's seat <sup>OE</sup>  | 1780...1820 mm, without rider, at DIN unladen weight |
| —with high comfort rider's seat <sup>OE</sup> | 1890...1930 mm, without rider, at DIN unladen weight |

### WEIGHTS

|                                  |                                                                          |
|----------------------------------|--------------------------------------------------------------------------|
| Vehicle kerb weight              | 281 kg, DIN unladen weight, ready for road 90 % load of fuel, without OE |
| Permissible gross vehicle weight | 510 kg                                                                   |
| Maximum payload                  | 229 kg                                                                   |
| Payload per case                 | max. 10 kg                                                               |
| Payload of topcase               | max. 10 kg                                                               |

### PERFORMANCE FIGURES

|                                                                     |          |
|---------------------------------------------------------------------|----------|
| Starting capability on uphill gradients (at permitted total weight) | 32 %     |
| Top speed                                                           | 231 km/h |
| —with power reduction <sup>OE</sup>                                 | 222 km/h |



**RADIO**

|                                   |                                                   |
|-----------------------------------|---------------------------------------------------|
| Wavebands                         | FM, AM and DAB, depending on the country          |
| –with Canada export <sup>NV</sup> | FM, AM, HD Radio <sup>TM</sup> receiver and SDARS |

**Wavebands**

|                                   |                   |
|-----------------------------------|-------------------|
| FM                                | 87.5...108.0 MHz  |
| –with Canada export <sup>NV</sup> | 87.75...107.9 MHz |
| AM                                | 531...1602 kHz    |
| –with Canada export <sup>NV</sup> | 530...1710 kHz    |

**SPEAKERS (VEHICLE-DEPENDENT)**

|                                |                             |
|--------------------------------|-----------------------------|
| Impedance, cockpit speakers    | 4 $\Omega$                  |
| Output power, cockpit speakers | 25 W, RMS, per speaker unit |
| Frequency range                | 0.1...20 kHz                |

**SERVICE**

**14**

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|                                          |            |
|------------------------------------------|------------|
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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



Dispose of this rider's manual by depositing it in the container provided for the purpose.

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## 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.

## **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 owner of a new BMW vehicle, in circumstances in which assistance is required you can benefit from the protection afforded by the various BMW Motorrad mobility services (e.g. Mobile Service, breakdown service, vehicle recovery service). Ask your authorised BMW Motorrad retailer for information about the mobility services offered.

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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.

## 290 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                        |                |                |
| 6  |                                |                        | X                       |                         | X                       |                         | X                       |                         | X                       |                         | X                        |                |                |
| 7  |                                |                        | X                       |                         | X                       |                         | X                       |                         | X                       |                         | X                        |                |                |
| 8  |                                |                        |                         | X <sup>d</sup>          |                         |                         | X <sup>d</sup>          |                         |                         |                         |                          |                |                |
| 9  |                                |                        |                         |                         |                         |                         |                         |                         | X <sup>d</sup>          |                         |                          |                |                |
| 10 |                                |                        |                         |                         |                         |                         |                         |                         |                         |                         |                          | X <sup>c</sup> | X <sup>c</sup> |
|    |                                |                        |                         |                         |                         |                         |                         |                         |                         |                         |                          |                |                |
|    |                                |                        |                         |                         |                         |                         |                         |                         |                         |                         |                          |                |                |

- 1 BMW 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 Replace all spark plugs
- 7 Replace air-filter element
- 8 Cardan shaft, visual inspection and lubrication
- 9 Replace Cardan shaft

- 10 Change brake fluid, entire system
  - a annually or every 10000 km (whichever comes first)
  - b every two years or every 20000 km (whichever comes first)
  - c for the first time after one year, then every two years
  - d referenced to the distance over which the component was in use

### **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
- Check the coolant level
- Checking tyre tread depth and tyre pressures
- 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

---

## 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
- 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 coolant level
- Checking flexor panel on handlebar bridge
- Check the side stand's ease of movement
- Check the ease of movement of the centre stand
- Check the tyre pressures and tread depth
- 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

## 294 SERVICE

### **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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <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"/> |
| Renewing all spark plugs                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacing the air filter element                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| Visual inspection and lubricate Cardan shaft<br>(during service) | <input type="checkbox"/> | <input type="checkbox"/> |
| Removing/installing or replacing the Cardan<br>shaft             | <input type="checkbox"/> | <input type="checkbox"/> |
| Changing the brake fluid in the entire sys-<br>tem               | <input type="checkbox"/> | <input type="checkbox"/> |

Notes

Stamp, signature



## 306 SERVICE

[illegible]





|                                                    |            |
|----------------------------------------------------|------------|
| <b>DECLARATION OF CONFORMITY</b>                   | <b>309</b> |
| <b>BATTERY DIRECTIVE</b>                           | <b>312</b> |
| <b>RADIO EQUIPMENT TFT INSTRUMENT CLUSTER</b>      | <b>314</b> |
| <b>RADIO EQUIPMENT AUDIO SYSTEM</b>                | <b>316</b> |
| <b>KEYLESS RIDE SYSTEM MAIN UNIT</b>               | <b>316</b> |
| <b>KEYLESS RIDE SYSTEM ACTIVE KEY</b>              | <b>319</b> |
| <b>MID RANGE RADAR</b>                             | <b>323</b> |
| <b>SHORT RANGE RADAR</b>                           | <b>326</b> |
| <b>RADIO EQUIPMENT TYRE PRESSURE CONTROL (RDC)</b> | <b>328</b> |
| <b>RADIO EQUIPMENT INTELLIGENT EMERGENCY CALL</b>  | <b>329</b> |

## 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 |

# 310 APPENDIX

| 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 dB $\mu$ A/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                                                                      |

## 312 APPENDIX

### 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>                                                 |

| Component | Type | Contact                                                                                                           |
|-----------|------|-------------------------------------------------------------------------------------------------------------------|
| 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> |

## 314 APPENDIX

### RADIO EQUIPMENT TFT INSTRUMENT CLUSTER

For all Countries without EU

#### **Model name: ICC10in Manufacturer**

Robert Bosch GmbH  
Robert-Bosch-Platz 1, 70839  
Gerlingen, Germany

#### **Technical information**

The ICC10in can operate in one of two operating modes:

1. Normal mode, with Bluetooth and WLAN on, and
2. Radio off mode (only available during vehicle manufacturing).

BT operating frq. Range:

2402 - 2480 MHz

BT version: 4.2 (no BTLE)

BT output power:

< +4 dBm (internal antenna)

WLAN operating frq. Range:

2402 - 2472 MHz

WLAN standards:

IEEE 802.11 b/g/n

WLAN output power:

< +14 dBm (internal antenna)

#### **Country**

#### **Argentina**



C-25636

#### **Canada**

This device contains licence-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Radiofrequency radiation exposure Information: This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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;

(2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Informations sur l'exposition aux radiofréquences: Cet équipement est conforme aux limites d'exposition aux radiations fixées par le Canada pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 centimètres entre le radiateur et votre corps. Cet émetteur ne doit pas être colocalisée ou opérant en conjonction avec autre antenne ou émetteur.

### Mexico

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.



### Serbia



V011 20

### 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。

## RADIO EQUIPMENT AUDIO SYSTEM

### Model name: MCR001

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

### FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Cet appareil est conforme à la partie 15 des règles FCC. Son fonctionnement est soumis aux deux conditions suivantes :

- (1) Cet appareil ne doit pas causer d'interférences nuisibles, et
- (2) cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant entraîner un fonctionnement indésirable.

### ATTENTION FCC

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité peuvent annuler le droit de l'utilisateur à faire fonctionner l'équipement.

## 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 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

# 318 APPENDIX

## Israel

השם בעל ההיתר : ZADI S.P.A ITALY  
דגם : Italy : ZB005  
5172747 מסר להחליף את האנטנה  
ה-434.79 -433.05 MHz מאושר  
ל-10 MW אשר ספק  
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 interfe-  
rencia, incluyendo la que pueda  
causar su operación no deseada.

ZB005 Certificado Homologa-  
cion Numero:

BMBMZB22-28194

## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément:  
MR00035262ANRT2022  
Date d'agrément: 14/11/2022

## Nigeria

The equipment has been found  
to comply with the standards  
of the Commission and there-  
fore 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**

U005 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

## 320 APPENDIX

**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 Canadien 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

ZADI S.P.A ITALY שם בעל ההיתר:

Italy: אישור ZB006 ארץ: AGREE PAR L'ANRT MAROC

מס. 5172748 אסור להחליף את

MHz תדרים MR00035261ANRT2022

433.05-434.79 אשר ספק השידור Date d'agrément: 14/11/2022

אינו עולה MW.10

### Jordan

BMW Keyless Ride System is in conformity with Jordanian technical requirements.

### Malaysia



RFDT/44A/1222/S(22-5676)

### 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

## 322 APPENDIX

### 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

TR/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



U005 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



## MID RANGE RADAR

For all countries without EU

**Model name: ARS513/ARS5-B**

### Manufacturer

ADC Automotive Distance Control Systems GmbH  
Peter-Dornier-Straße 10, 88131  
Lindau, Germany

## Technical information

Frequency band: 76 - 77 GHz  
Output/Transmission power:  
2,0 W (33 dBm RMS EIPR)

## Country

### Argentina



C-22292

### Australia/New Zealand



## Canada

Model: ARS5-B

IC: 4135A-ARS5B

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.

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

## 324 APPENDIX

Radiofrequency radiation exposure Information: This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be colocated or operating in conjunction with any other antenna or transmitter.

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;

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Informations sur l'exposition aux radiofréquences: Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps. Ce

transmetteur ne doit pas être placé au même endroit ou utilisée simultanément avec un autre transmetteur ou antenne.

### Indonesia



99134/SDPPI/2024  
2651

### Israel

חל איסור לבצע פעולות במכשיר שיש בהן כדי לשנות את תכונותיו האלחוטיות של המכשיר, ובכלל זה שינויי

תוכנה, החלפת אנטנה מקורית או הוספת אפשרות לחיבור לאנטנה חיצונית, בלא קבלת אישור משרד התקשורת, בשל החשש להפרעות אלחוטיות.

### Malaysia



CIDF15000490

**Mexico**

IFT: RCPCOAR18-1800

**Philippines****NTC**

Type Approved

No. ESD-1817853C

**Serbia**

M011 18

**Singapore**

Complies with

IMDA Standards

DA 101586

**South Africa**

TA-2018/2868

APPROVED

**Sultanate of Oman**

OMAN - TRA

D172249

TRA/TA-R/6132/18

**Taiwan****警語**

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。

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。

**Vietnam**

SUNTECH VN

C00082015

## 326 APPENDIX

### SHORT RANGE RADAR

For all countries without EU

**Model name: SRR521/SRR5-B**

#### Manufacturer

ADC Automotive Distance Control Systems GmbH  
Peter-Dornier-Straße 10, 88131  
Lindau, Germany

#### Technical information

Frequency band: 76 - 77 GHz  
Output/Transmission power:  
1,58 W (32 dBm RMS EIPR)

#### Country

**Argentina**



C-21097

**Australia/New Zealand**



#### Canada

Model: SRR5-B

IC: 4135A-SRR5B

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.

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Radiofrequency radiation exposure Information: This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be colocated or operating in conjunction with any other antenna or transmitter.

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;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage

radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Informations sur l'exposition aux radiofréquences: Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps. Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.

## Indonesia



83878/SDPPI/2022  
13349

## Israel

חל איסור לבצע פעולות במכשיר  
שיש בהן כדי לשנות את תכונותיו  
האלחוטיות של המכשיר, ובכלל זה  
Complies with  
MDA Standards  
DA 101586 תוכנה, החלפת אנטנה מקורית או  
הוספת אפשרות לחיבור לאנטנה  
חיצונית, בלא קבלת אישור משרד  
התקשורת,

בשל החשש להפרעות אלחוטיות.

## Malaysia



CIDF15000490

## Mexico

IFT: RCPCOSR20-2859

## Paraguay



2020-11-I-0870

## Serbia



U011 19

## Singapore

# 328 APPENDIX

## South Africa



TA-2019/5066  
APPROVED

### Sultanate of Oman

OMAN - TRA  
D172249  
TRA/TA-R/10407/20

### Taiwan

#### 警語

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。

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。

## Vietnam



SUNTECH VN  
C00082015

### 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。

**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

## 330 APPENDIX

### 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 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'autorisation accordée à l'utilisateur de faire fonctionner l'appareil.





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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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## Important data for refuelling:

### Fuel

|                        |                                                                                                                                                                                                                                                                                         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended fuel grade |  Premium unleaded (max. 15% ethanol, E10/E15)<br> 95 ROZ/RON<br>90 AKI                                                |
| Alternative fuel grade |  Regular unleaded (power- and consumption-related restrictions.) (max. 15% ethanol, E10/E15)<br> 91 ROZ/RON<br>87 AKI |
| Usable fuel capacity   | approx. 24 l                                                                                                                                                                                                                                                                            |
| Reserve fuel           | approx. 4 l                                                                                                                                                                                                                                                                             |
| <b>Tyre pressures</b>  |                                                                                                                                                                                                                                                                                         |
| Tyre pressure, front   | 2.5 bar, With cold tyres, in one-up and two-up mode and with vehicle load                                                                                                                                                                                                               |
| Tyre pressure, rear    | 2.9 bar, With cold tyres, in one-up and two-up mode and with vehicle load                                                                                                                                                                                                               |

For further information on all aspects of your vehicle, visit: **[bmw-motorrad.com](https://bmw-motorrad.com)**

