BMW
MOTORRAD

# RIDER'S MANUAL

## K 1600 GTL



MAKE LIFE A RIDE

**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.

**01 GENERAL INSTRUCTIONS** 2

Quick & easy reference 4
Abbreviations and symbols 4
Equipment 5
Technical data 5
Currency 6
Additional sources of information 6
Certificates and operating licences 6
Data memory 6
Intelligent emergency call 11
Bluetooth® 14
Connectivity functions 14

**02 GENERAL VIEWS** 16

General view, left side 18
General view, right side 19
Overall view of cockpit 20
Underneath the seat 21
Multifunction switch, left 22
Multifunction switch, right 23
Multifunction switch, right 24
Instrument cluster 25

**03 STATUS INDICATORS** 26

Indicator and warning lights 28
Menu view 29
Pure Ride view 30
My Vehicle view 33
Warning indicators 35

**04 INSTRUMENT CLUSTER** 70

Warnings 72
Controls 72
My vehicle 73
Operation 74
Settings 76
Bluetooth 77
Splitscreen 79
Navigation 80
Media 82
Telephone 83
Software version 84
Licence information 84

**05 OPERATION** 86

Ignition 88
Emergency-off switch (kill switch) 93
Intelligent emergency call 93
Lighting 96
Anti-theft alarm (DWA) 101
Dynamic Traction Control (DTC) 104

Electronic Suspension Adjustment (D-ESA) 105
Riding mode 105
Cruise control 107
Hill Start Control (HSC) 110
Reverser 112
Central locking system 113
Favourites buttons 114
Heating 114
Slipstream deflector 116
Seat 117
Cases 118
Topcase 120
Storage compartments 123

06 AUDIO SYSTEM 128

Radio 130
Audio settings 132
Player 134
Satellite radio 134
HD Radio reception 136
In-helmet audio playback 137

07 ADJUSTMENT 138

Mirrors 140
Windscreen 140
Clutch 141
Brakes 141

08 RIDING 144

Safety information 146
Regular check 149
Starting 149
Running in 150
Shifting gear 151
Brakes 152
Parking your motorcycle 155
Refuelling 156
Securing motorcycle for transportation 159

09 ENGINEERING DETAILS 162

General notes 164
Antilock Brake System (ABS) 164
Dynamic Traction Control (DTC) 168
Dynamic engine brake control 169
Electronic chassis and suspension adjustment 170
Riding mode 170
Tyre pressure control (RDC) 172
Gear Shift Assistant 173
Hill Start Control (HSC) 174
Adaptive headlight 176

**10 MAINTENANCE 178**

General notes 180
Toolkit 181
Front-wheel stand 181
Rear-wheel stand 182
Engine oil 182
Brake system 184
Clutch 189
Coolant 190
Tyres 190
Wheel rims 192
Wheels 192
Lighting 199
Jump-starting 199
Battery 200
Fuses 204
Diagnostic connector 205

**11 ACCESSORIES 208**

General notes 210
Power sockets 210

**12 CARE 212**

Care products 214
Washing the vehicle 214
Cleaning easily damaged components 215
Care of paintwork 216
Paint preservation 217
Laying up motorcycle 217
Restoring motorcycle to use 217

**13 TECHNICAL DATA 218**

Troubleshooting chart 220
Threaded fasteners 224
Fuel 226
Engine oil 227
Engine 227
Clutch 228
Transmission 228
Final drive 228
Frame 228
Chassis and suspension 228
Brakes 229
Wheels and tyres 229
Electrical system 230
Dimensions 231
Weights 231
Performance figures 232

**14 SERVICE 234**

Reporting safety-relevant defects 236
Recycling 237
BMW Motorrad Service 237
BMW Motorrad service history 238
BMW Motorrad mobility services 239
Maintenance work 239
Maintenance schedule 241
BMW Motorrad running-in check 242
Maintenance confirmations 243

Service confirmations 255

APPENDIX 258

Declaration of Conformity 259
Battery directive 262
Radio equipment TFT instrument cluster 264
Radio equipment electronic immobiliser 266
Keyless Ride Key 268
Keyless Ride ECU Certification 270
Tire Pressure Control 272
Radio equipment audio system 273
Radio equipment intelligent emergency call 273

INDEX 276

# GENERAL INSTRUCTIONS

01

QUICK & EASY REFERENCE 4
ABBREVIATIONS AND SYMBOLS 4
EQUIPMENT 5
TECHNICAL DATA 5
CURRENCY 6
ADDITIONAL SOURCES OF INFORMATION 6
CERTIFICATES AND OPERATING LICENCES 6
DATA MEMORY 6
INTELLIGENT EMERGENCY CALL 11
BLUETOOTH® 14
CONNECTIVITY FUNCTIONS 14

# 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. |
| OA | Optional accessories. You can obtain BMW Motorrad optional accessories through your authorised BMW Motorrad dealer; optional accessories have to be retrofitted to the vehicle. |
| ABS | Anti-lock brake system. |
| D-ESA | Electronic Suspension Adjustment. |
| DTC | Dynamic Traction Control. |
| DWA | Anti-theft alarm. |
| EWS | Electronic immobiliser. |
| RDC | Tyre pressure monitoring. |

## 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.

## 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.

## 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**.

## 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**.

## CERTIFICATES AND OPERATING LICENCES

The certificates for the vehicle and the General Operating Permits for accessories can be downloaded from **bmw-motorrad.com/certification**.

## 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 ConnectedDrive user account.

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

Vehicle users have the right to obtain full information at no cost from persons or entities storing personal data of the vehicle user.
These entities may include:
–Manufacturer of the vehicle
–Authorised BMW Motorrad Retailers
–Specialist workshops
–Service providers

Vehicle users have the right to request information on what personal data has been stored, for what purpose the data is used, and where the data comes from. To obtain this information, proof of ownership or use is required.
The right to information also includes information about data that has been shared with other companies or entities.
The website of the vehicle manufacturer contains the applicable data protection information. This data protection information includes information on the right to have data deleted or corrected.
The manufacturer of the vehicle also provides their contact details and those of the data protection officer on their website.

# 8 GENERAL INSTRUCTIONS

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 func-

tions. Furthermore, the data is used to detect and rectify malfunctions and to enable the vehicle manufacturer to optimise vehicle functions.
The vast majority of this data is non-permanent and is only processed in the vehicle itself. Only a small amount of the data is stored in incident or fault memories as required by events.
If services are accessed, for example repairs, service processes, warranty cases and quality assurance measures, this technical information can be read out of the vehicle together with the vehicle identification number.
The information can be read out by an authorised BMW Motorrad Retailer or a specialist workshop. The legally stipulated 12 V socket for on-board diagnosis (OBD) in the vehicle is used to read out the data.
The data is obtained, processed and used by the relevant parts of the retailer network. The data is used to document the technical conditions of the vehicle, to help with error localization, to comply with warranty obligations and to improve quality.
In addition, the manufacturer has various product monitoring obligations arising from product liability legislation. To meet these obligations, the vehicle manufacturer requires technical data from the vehicle. The data from the vehicle can also be used to check warranty claims from the customer.
Fault and event memories in the vehicle can be reset during servicing or repair work by an authorised BMW Motorrad Retailer or a specialist workshop.

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

**General**

Depending on the equipment, comfort and customised settings can be stored in the vehicle and can be changed or reset at any time.
If required, data can be entered in the entertainment and communication system of the vehicle, for example using a smartphone.
Depending on the individual equipment, this includes:

–Multimedia data, such as music for playback
–Contacts data for use in connection with a communication system or an integrated navigation system
–Entered destinations
–Data on the use of internet services. This data can be stored locally in the vehicle or is located on a device that is connected to the vehicle, for example smartphone, USB stick, MP3 player. If this data is stored in the vehicle, the data can be deleted at any time.

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

**Incorporation of mobile devices**

Depending on the equipment, mobile devices connected to the vehicle, for example smartphones, can be controlled using the operating elements of the vehicle.
The image and sound of the mobile device can then be output via the multimedia system. At the same time, specific information is transferred to the mobile device. Depending on the type of integration, this includes, for example, position data and additional general vehicle information. This enables optimal use of the selected apps, for example navigation or music playback.
The type of additional data processing is determined by the provider of the respective app. The scope of the possible settings depends on the corresponding app and the operating system of the mobile device.

**Services**

**General**

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

**Services of the vehicle manufacturer**

For online services of the vehicle manufacturer, the individual functions are described at suitable points, for example, rider's manual, manufacturer's website. At the same time, information is also provided on the relevant data protection law. Personal data may be used to provide online services. Data is exchanged using a secure connection, for example with the IT systems provided by the vehicle manufacturer. Obtaining, processing and using personal data outside of the normal provision of services requires legal permission, contractual agreement or consent. It is also possible to have the entire data connection activated or deactivated. Statutory functions are excluded from this.

**Services from other providers**

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

## INTELLIGENT EMERGENCY CALL

–with intelligent emergency call OE

**Principle**

The intelligent emergency call enables manual or automatic emergency calls, for example, in the event of an accident. The emergency calls are received by an emergency call centre that is commissioned by the vehicle manufacturer.
For information on operating the intelligent emergency call and its functions, see (➠ 93).

**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.

**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**

## 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 (➠ 77). For more information

on the Connectivity functions go to:
**bmw-motorrad.com/connectivity**

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

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).

**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.

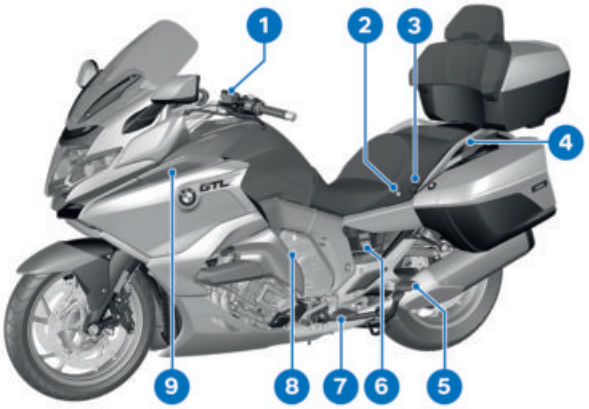
On some mobile devices, e.g. those with the iOS operating system, the BMW Motorrad Connected app has to be opened prior to use.

# GENERAL VIEWS

# 02

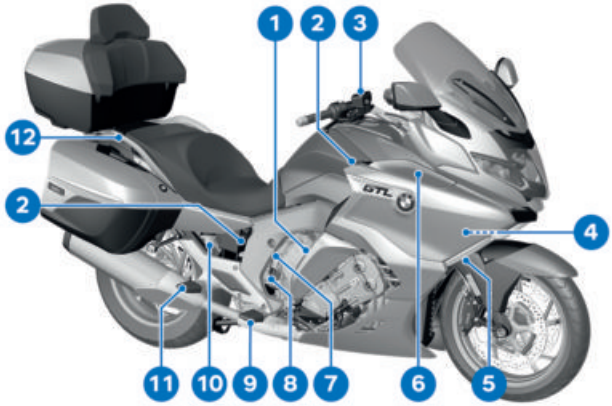
GENERAL VIEW, LEFT SIDE 18
GENERAL VIEW, RIGHT SIDE 19
OVERALL VIEW OF COCKPIT 20
UNDERNEATH THE SEAT 21
MULTIFUNCTION SWITCH, LEFT 22
MULTIFUNCTION SWITCH, RIGHT 23
MULTIFUNCTION SWITCH, RIGHT 24
INSTRUMENT CLUSTER 25

## GENERAL VIEW, LEFT SIDE




**1** Clutch-fluid reservoir (➠ 189)
**2** Seat lock (➠ 117)
**3** Passenger seat heating (➠ 115)
**4** Passenger grab handle
**5** Rear footrest
**6** Payload table
Tyre pressures table
**7** Rider footrest
**8** Storage compartment (➠ 123)
**9** Slipstream deflector (➠ 116)

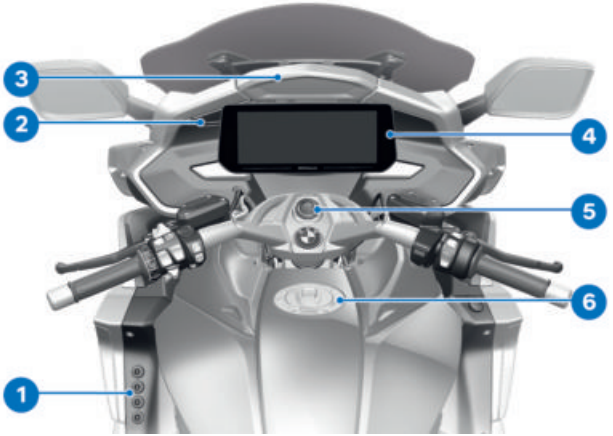
## GENERAL VIEW, RIGHT SIDE




**1** Storage compartment (➠ 123)
**2** Power sockets (➠ 210)
**3** Brake-fluid reservoir, front (➠ 187)
**4** Coolant level indicator (behind the side trim panel) (➠ 190)
**5** Type plate (wheel carrier, front right)
**6** Slipstream deflector (➠ 116)
**7** Engine number (above oil filler neck)
Vehicle identification number (above the oil filler neck on the rear part of the main frame)
**8** Oil filler opening (➠ 182)
**9** Rider footrest
**10** Brake-fluid reservoir, rear (➠ 188)
**11** Rear footrest
**12** Passenger grab handle

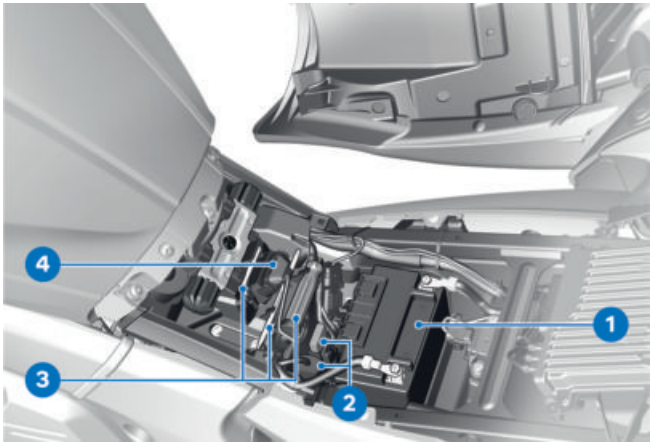
# 20 GENERAL VIEWS

## OVERALL VIEW OF COCKPIT



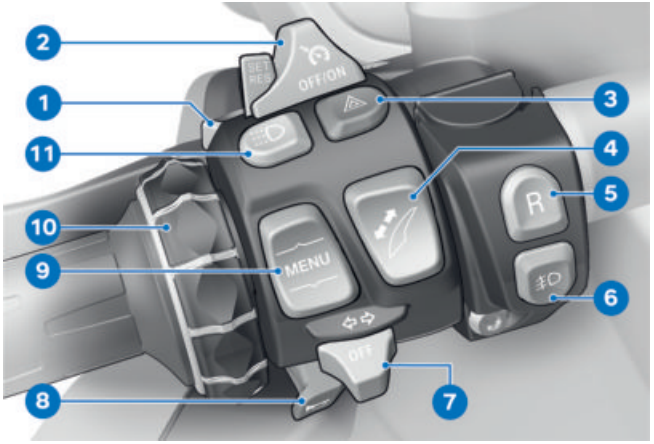

**1** Favourites buttons (➠ 114)
**2** Button, charging storage compartment (➠ 124)
**3** Charging storage compartment (➠ 124)
**4** Instrument cluster (➠ 30)
**5** Ignition switch/steering lock (➠ 88)
**6** Fuel filler neck (➠ 156)

## UNDERNEATH THE SEAT




**1** Battery (➠ 200)
**2** Fuses (➠ 204)
**3** Toolkit (➠ 181)
**4** Diagnostic connector (➠ 205)

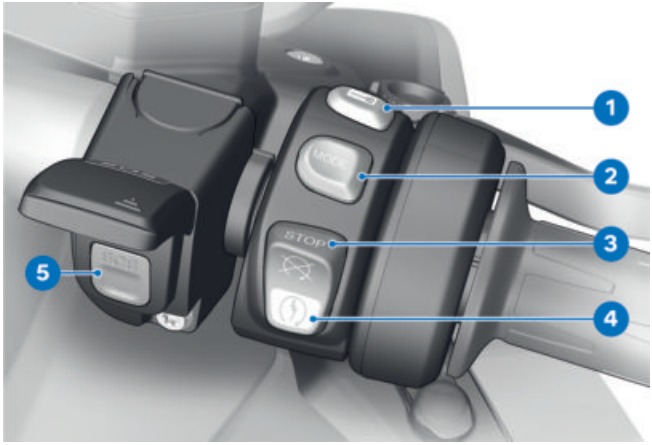
## MULTIFUNCTION SWITCH, LEFT




**1** High-beam headlight and headlight flasher (➠ 96)
**2** Cruise control (➠ 107)
**3** Hazard warning lights (➠ 100)
**4** Windscreen (➠ 140)
**5** Reverser (➠ 112)
**6** Auxiliary headlights (➠ 97)
**7** Turn indicators (➠ 100)
**8** Horn
**9** MENU rocker button (➠ 73)
**10** Multi-Controller (➠ 72)
**11** Daytime riding light (➠ 98)

## MULTIFUNCTION SWITCH, RIGHT

–with intelligent emergency call[OE]




**1** Central locking system (➠ 113)

**2** Riding mode (➠ 106)

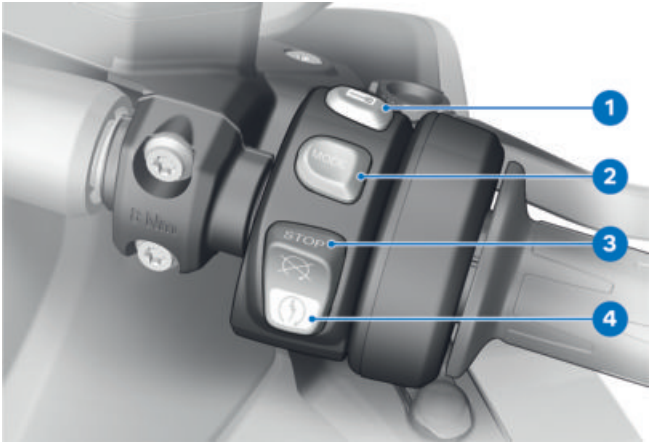
**3** Emergency-off switch (kill switch) (➠ 93)

**4** Starter button (➠ 149)

**5** SOS button
Intelligent emergency call (➠ 93)

## MULTIFUNCTION SWITCH, RIGHT

–without intelligent emergency call[OE]




**1** Central locking system (➠ 113)
**2** Riding mode (➠ 106)
**3** Emergency-off switch (kill switch) (➠ 93)
**4** Starter button (➠ 149)

## INSTRUMENT CLUSTER




**1** Indicator and warning lights (➠ 28)

**2** Instrument cluster (➠ 30)

**3** Indicator light
DWA (➠ 102)
Keyless Ride (➠ 88)

**4** Photosensor (for adapting the brightness of the instrument lighting)

# STATUS INDICATORS

03

INDICATOR AND WARNING LIGHTS 28
MENU VIEW 29
PURE RIDE VIEW 30
MY VEHICLE VIEW 33
WARNING INDICATORS 35

# 28 STATUS INDICATORS

## INDICATOR AND WARNING LIGHTS




**1** Turn indicators, left (➠ 100)
**2** High-beam headlight (➠ 96)
**3** General warning light (➠ 35)
**4** Turn indicators, right (➠ 100)
**5** Warning light, drive malfunction (➠ 51)
**6** DTC (➠ 60)
**7** ABS (➠ 59)
**8** Daytime riding light (➠ 98)
**9** Auxiliary headlights (➠ 97)

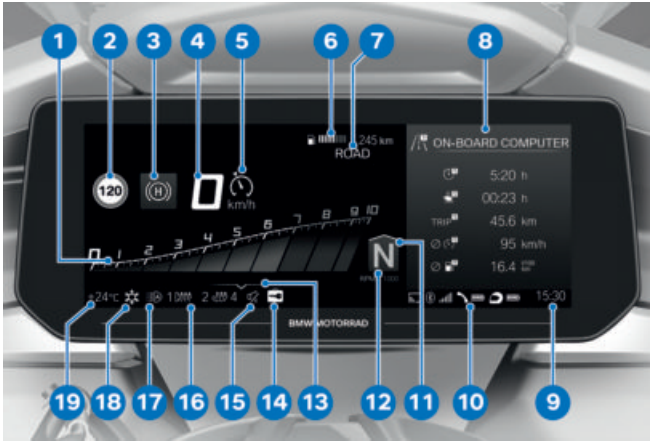
## MENU VIEW




**1** Hill Start Control (➠ 110)
**2** Speedometer
**3** Cruise control (➠ 107)
**4** Rider info. status line (➠ 75)
**5** Riding mode (➠ 105)
**6** Gear indicator
**7** Splitscreen (➠ 79)
**8** Clock (➠ 76)
**9** Connection status (➠ 77)
**10** Operating pointer
**11** Central locking system (➠ 113)
**12** Muting (➠ 76)
**13** Heating (➠ 114)
**14** Automatic daytime riding light (➠ 99)
**15** Outside temperature warning (➠ 44)
**16** Ambient temperature
**17** Menu section

## PURE RIDE VIEW

PURE RIDE VIEW




**1** Rev. counter (➠ 31)
**2** Speed Limit Info (➠ 82)
**3** Hill Start Control (➠ 110)
**4** Speedometer
**5** Cruise control (➠ 107)
**6** Rider info. status line (➠ 75)
**7** Riding mode (➠ 105)
**8** Splitscreen (➠ 79)
**9** Clock (➠ 76)
**10** Connection status (➠ 77)
**11** Recommendation to upshift (➠ 32)
**12** Gear indicator
**13** Operating pointer
**14** Central locking system (➠ 113)
**15** Muting (➠ 76)
**16** Heating (➠ 114)
**17** Automatic daytime riding light (➠ 99)
**18** Outside temperature warning (➠ 44)
**19** Ambient temperature

**REV. COUNTER**




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

**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.

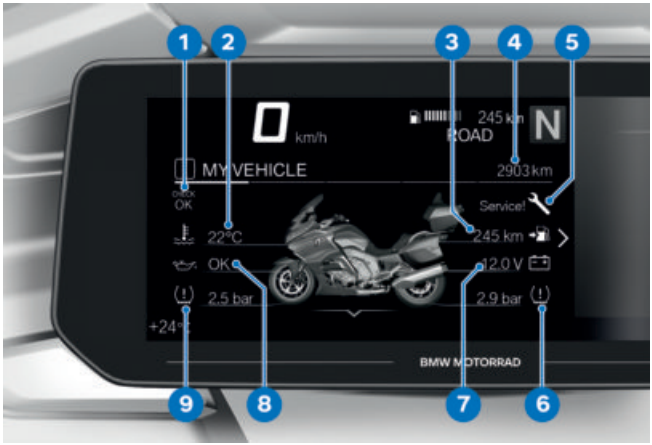
**Recommendation to upshift**




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
(➠ 35)

**2** Coolant temperature
(➠ 50)

**3** Range (➠ 32)

**4** Odometer

**5** Service display (➠ 67)

**6** Tyre pressure, rear
(➠ 53)

**7** On-board voltage
(➠ 201)

**8** Engine oil level (➠ 50)

**9** Tyre pressure, front
(➠ 53)

# 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.

**Service requirements**



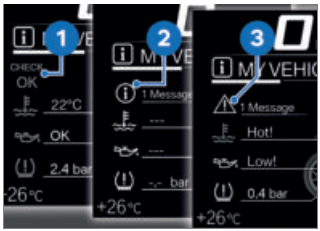

When the next service is due within less than a month or within 1000 km, a white Check Control message is displayed.

## 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 display. The 'General' warning light shows yellow or red, depending on the urgency of the warning.

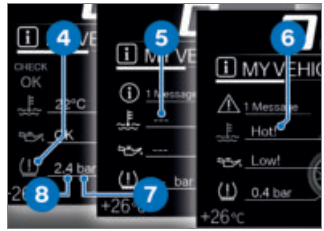
The status of the 'General' warning light matches the most urgent warning.
The possible warnings are listed on the next pages.




### Check Control display

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

–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 message, value critical




### Values display

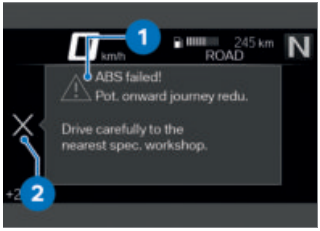
Symbols **4** differ in how they show on the display. The colours used differ and reflect the urgency of the message. Along with numerical values **8** with units **7**, texts **6** are displayed as well:

### 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.
–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 dialogue**

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

–If there are two or more Check Control messages of equal priority, the messages keep changing in the order of their occurrence until they are acknowledged.
–If symbol **2** is actively displayed, it can be acknowledged by tilting the Multi-Controller to the left.
–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.

## Warnings, overview

| Indicator and warning lights | Display text | Meaning |
|---|---|---|
| |  is displayed. | Outside temperature warning (➠ 44) |
|  shows yellow. |  Remote key not in range. | Radio-operated key out of range (➠ 44) |
|  shows yellow. |  Keyless Ride failure | Keyless Ride failed (➠ 45) |
|  shows yellow. |  Remote key battery weak. | Replacing battery of radio-operated key (➠ 45) |
| |  Vehicle voltage low. | Voltage of the vehicle electrical system too low (➠ 45) |
|  shows yellow. |  Vehicle voltage critical! | Voltage of the vehicle electrical system critical (➠ 46) |
|  flashes yellow. |  Battery voltage critical! | Charging voltage critical (➠ 46) |
|  shows yellow.<br> flashes yellow. |  The faulty bulb is displayed.<br> The faulty bulb is displayed. | Bulb faulty (➠ 47) |
|  shows yellow. |  Light control failure! | Light control failed (➠ 48) |

| Indicator and warning lights | Display text | Meaning |
|---|---|---|
| | Alarm system batt. capacity weak. | Anti-theft alarm battery weak (➠ 48) |
| shows yellow. | Alarm system battery empty. | Anti-theft alarm battery flat (➠ 49) |
| shows yellow. | Alarm system failure | DWA failed (➠ 49) |
| shows yellow. | Engine oil level Check engine oil level. | Engine-oil level too low (➠ 50) |
| shows yellow. | Engine temp. high! | Engine temperature high (➠ 50) |
| shows red. | Engine overheating! | Engine overheated (➠ 51) |
| shows. | Engine! | Drive malfunction (➠ 51) |
| flashes red. flashes. | Serious fault in the engine control! | Serious drive malfunction (➠ 51) |
| shows yellow. shows. | No communication with engine control. | Engine control failed (➠ 52) |
| shows yellow. | Fault in the engine control. | Engine in emergency-operation mode (➠ 52) |

| Indicator and warning lights | Display text | Meaning |
|---|---|---|
|  flashes red. |  Serious fault in the engine control! | Serious fault in engine control (➠ 53) |
|  shows yellow. |  Tyre pressure does not match setpoint | Tyre pressure close to limit of permitted tolerance (➠ 54) |
|  flashes red. |  Tyre pressure does not match setpoint<br> Tyre press. control. Loss of pressure. | Tyre pressure outside permitted tolerance (➠ 55) |
| |  "---" | Transmission fault (➠ 56) |
|  shows yellow. |  "---" | Sensor faulty or system fault (➠ 56) |
|  shows yellow. |  Tyre pressure check failure! | Tyre pressure monitoring (RDC) failed (➠ 57) |
|  shows yellow. |  RDC sensor battery weak. | Battery for tyre pressure sensor weak (➠ 57) |
| |  Fall sensor faulty. | Malfunction, drop sensor (➠ 57) |
| |  Cannot start engine. | Motorcycle dropped (➠ 57) |

| Indicator and warning lights | Display text | Meaning |
|---|---|---|
|  shows yellow. |  Emergency call system restricted. | Emergency call function restricted (➠ 58) |
|  shows yellow. |  Emergency call system error. | Emergency call function failed (➠ 58) |
|  shows yellow. |  Side stand monitoring faulty. | Malfunction, side stand monitor (➠ 58) |
|  flashes regularly. | | ABS self-diagnosis not completed (➠ 59) |
|  shows yellow.  shows. |  Limited ABS availability! | ABS fault (➠ 59) |
|  shows yellow.  shows. |  ABS Pro failure! | ABS Pro failed (➠ 59) |
|  shows yellow. |  ABS indicator light faulty! | ABS indicator and warning light failed (➠ 60) |
|  quick-flashes. | | DTC intervention (➠ 60) |
|  slow-flashes. | | DTC self-diagnosis not completed (➠ 60) |

| Indicator and warning lights | Display text | Meaning |
|---|---|---|
|  shows. |  Off! | DTC switched off (➠ 61) |
| |  Traction control deactivated. | |
|  shows yellow.  shows. |  Traction control limited! | DTC restricted (➠ 61) |
|  shows yellow.  shows. |  Traction control failure! | DTC fault (➠ 61) |
|  shows yellow. |  Spring strut adjustment faulty! | D-ESA fault (➠ 62) |
|  shows red. |  Rear spring strut faulty. | Serious suspension strut fault (➠ 62) |
| |  shows green. | Hill Start Control active (➠ 63) |
| |  flashes yellow. HSC not available. Engine not running. HSC not available. Side stand extended. | Hill Start Control automatically deactivated (➠ 64) |

| Indicator and warning lights | Display text | Meaning |
|---|---|---|
| |  is displayed.<br>`HSC not available. Engine not running.` | Hill Start Control cannot be activated (➠ 64) |
|  shows yellow. |  `Brake temp. high!` | The temperature of the brakes is too high (➠ 64) |
|  shows yellow. |  `Brake temp. critical!` | Temperature of brake critical (➠ 65) |
|  shows yellow. |  `Cruise control has no function.` | Cruise control failed (➠ 65) |
| |  `Audio system too hot: Level 3` | Temperature of audio system too high (➠ 65) |
| |  `Audio system voltage high!` | Voltage of audio system too high (➠ 66) |
| |  `Tank reserve level reached.` | Fuel down to reserve (➠ 66) |
| |  The gear indicator flashes. | Gear not taught (➠ 66) |
|  flashes green.<br> flashes green. | | Hazard warning lights system is switched on (➠ 67) |
| |  is displayed in white.<br>`Service due!` | Service due (➠ 67) |

| Indicator and warning lights | Display text | Meaning |
|---|---|---|
|  shows yellow. |  is displayed in yellow.<br>`Service overdue!` | Service-due date has passed (➠ 67) |

**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 ambient-temperature reading and the ice crystal symbol flash 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. (➠ 92)
- Use the spare key to continue your journey.

- Battery of the radio-operated key is empty or loss of the radio-operated key. (➠ 91)
- 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 poss. 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. (➠ 92)

**Voltage of the vehicle electrical system too low**

 `Vehicle voltage low. Switch off unnecessary consumers.`

The voltage of the vehicle electrical system is too low. If you continue to ride the motorcycle 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.

**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.

**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 OE

 `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.`

**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) OE

 `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) OE


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) OE


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 preconditions for the electronic oil-level check are as follows:
–Engine idling for at least 10 seconds.
–Engine is at operating temperature.
–No brake applied.
–Vehicle is standing upright on a smooth, level surface.
–Side stand is retracted or vehicle propped on its centre stand.

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. (➠ 182)

If the oil level is too low:

- Topping up the engine oil. (➠ 184)

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 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. (➠ 190)

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. (➠ 190)

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**

 shows.

 `Engine! 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 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**

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" (➠ 172).

**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 (➠ 172)
» Pressure adaptation (➠ 173)
» 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. 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 (➠ 172)
» Pressure adaptation (➠ 173)
» 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 (➠ 172).

| | |
|---|---|
|  | 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.

**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 OE

 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 (➠ 93) onwards.
- Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

**Emergency call function failed**

–with intelligent emergency call OE

 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.

**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 (➠ 166).
- 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 (➠ 166).
- 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.

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.

- Switch the DTC function on and off. (➠ 104)

**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.

**ATTENTION**

**Damaged components**

Damage to sensors, for example, which causes malfunctions

- Do not transport any objects underneath the driver or passenger seat.
- Secure the toolkit.
- Do not damage the angular rate sensor.
- Bear in mind that the DTC function and other dynamic control system functions are restricted.
- You can continue to ride. Bear in mind the more detailed information on situations that can lead to a DTC fault (➠ 168).
- 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.

**ATTENTION**

**Damaged components**

Damage to sensors, for example, which causes malfunctions

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

- Do not damage the angular rate sensor.
- Bear in mind that the DTC function and other dynamic control system functions are not available.
- You can continue to ride. Bear in mind the more detailed information on situations that can lead to a DTC fault (➠ 168).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

**D-ESA fault**

 shows yellow.

 Spring strut adjustment faulty! Onward journey possible. Ride carefully to next specialist workshop.

Possible cause:

The Dynamic ESA control unit has detected a fault. Components of the electronic suspension 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.

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

**Serious suspension strut fault**

 shows red.

 Rear spring strut faulty. Stop when it is safe to do so and have it checked by a specialist workshop.

Possible cause:

A serious fault affecting the suspension strut has been detected.

**WARNING**

**Impaired handling characteristics**

Risk of falling

- Do not continue your journey.

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

Possible cause:

–with centre stand OE

A serious fault affecting the suspension strut has been detected.

- Stop carefully.
- Make sure the ground is level and firm and place the motorcycle on its centre stand.
- Check whether the rear wheel contacts the ground when the motorcycle is propped on its centre stand.

» If the rear wheel does not contact the ground you can resume riding, adopting a moderate style of riding.

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

» If the rear wheel contacts the ground or there is uncertainty about the condition of the suspension strut, do not resume riding.

**WARNING**

**Impaired handling characteristics**

Risk of falling

- Do not continue your journey.

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

**Hill Start Control active**

 shows green.

Possible cause:

Hill Start Control (➠ 174) has been activated by the rider.

- Switch off Hill Start Control.
- Set up Hill Start Control Pro. (➠ 110)

**Hill Start Control automatically deactivated**

 flashes yellow.

`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.

**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.

**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.

**Fuel down to reserve**

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. (➠ 156)

**Gear not taught**

–with shift assistant Pro OE

N The gear indicator flashes.

Possible cause:
The gearbox sensor is not fully trained.
- Start the engine. (➠ 149)
- 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 (➠ 173).
• If teaching is not successful, have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad retailer.

**Hazard warning lights system is switched on**

 flashes green.

 flashes green.

Possible cause:

The driver has switched on the hazard warning lights system.
• Hazard warning lights. (➠ 100)

**Service display**

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

» The vehicle retains its value.

# INSTRUMENT CLUSTER

# 04

| | |
|---|---|
| WARNINGS | 72 |
| CONTROLS | 72 |
| MY VEHICLE | 73 |
| OPERATION | 74 |
| SETTINGS | 76 |
| BLUETOOTH | 77 |
| SPLITSCREEN | 79 |
| NAVIGATION | 80 |
| MEDIA | 82 |
| TELEPHONE | 83 |
| SOFTWARE VERSION | 84 |
| LICENCE INFORMATION | 84 |

## 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**

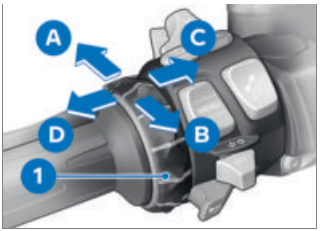
Operating the integrated information system and communication devices while driving results in a risk of accident

- 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.

**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.

## 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. (➠ 79)

**Reset the on-board computer**

- Call up the on-board computer. (➠ 73)
- 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. (➠ 73)
- 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. (➠ 79)

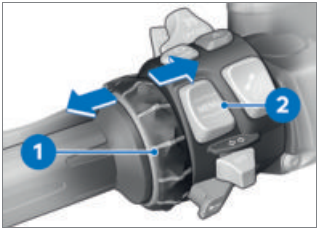
**Reset the trip computer**

- Call up the trip computer. (➠ 74)
- 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. (➠ 75)
- Short-press the bottom section of button **2**.

The following menus can be called up:

–`My vehicle`
–`Radio`
–`Navigation`
–`Media`

–Telephone
–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. (➠ 89)

» 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. (➠ 76)




- 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:

- 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. (➠ 78)
- 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. (➠ 89)
- 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 of the instrument cluster is faulty, consult the troubleshooting chart in the section entitled “Technical data”. (➠ 221)

**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

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 that are not to be paired (e.g. mobile phones and navigation systems) must be OFF.

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. (➠ 77)
- 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". (➠ 220)

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

» Telephone data (➠ 84)

» If the phonebook is not displayed, consult the troubleshooting chart in the section entitled "Technical data". (➠ 222)

» If the Bluetooth connection does not work as expected, consult the troubleshooting chart in the section entitled "Technical data". (➠ 221)

**Connect rider's and passenger's helmet**

- Perform pairing. (➠ 77)
- 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 passeng. 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". (➠ 220)

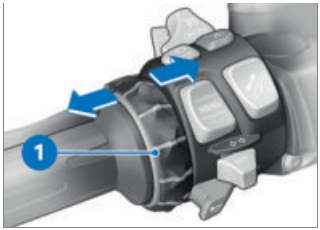
» If the Bluetooth connection does not work as expected, consult the troubleshooting chart in the section entitled "Technical data". (➠ 221)

**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. (➠ 75)
- Repeatedly short-push Multi-Controller **1** to the right or left until the display you want appears.
- Alternatively: Long push Multi-Controller **1** to the right to return to the display last selected in splitscreen view.

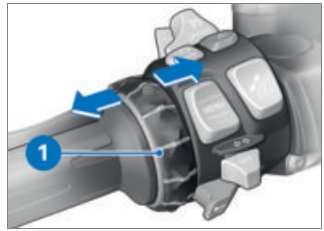
The following displays can be selected:

–`ON-BOARD COMPUTER`
–`TRIP COMPUTER`
–`Navigation`
–`MEDIA`

`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. (➠ 75)
- Repeatedly push Multi-Controller **1** to the left until the splitscreen view is switched off.
- Alternatively: Long-push Multi-Controller **1** to the left.

## 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.

### WiFi connection

A Wi-Fi connection is used to transmit the 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.

### Show the map view

- Connect a mobile device. (➠ 77)
- 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. (➠ 77)
- 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". (➠ 222)

**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.

**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. (➠ 78)
- 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.

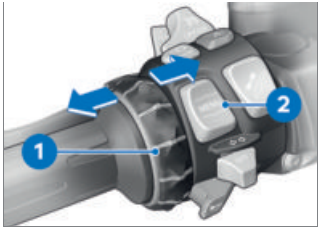
---

**MEDIA**

**Precondition**

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

**Controlling music playback**




- Call up the Media menu.

BMW Motorrad recommends setting the volume for media and phone calls on the mobile device to maximum before riding off.

- Adjust volume. (➠ 76)
- 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.
–Select Output device.
–Select Sound profile.
–Set up Equaliser.

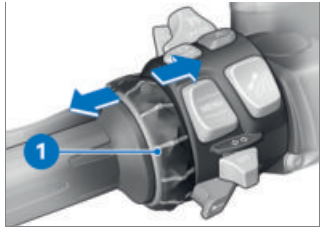
» If the playlist is not shown in the instrument cluster, consult the troubleshooting chart in the section entitled “Technical data”. (➠ 222)

## TELEPHONE

**Precondition**

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

**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 (➠ 77) 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

**SOFTWARE VERSION**

- Navigate to `Settings`, `Information`, `Software version`.

**LICENCE INFORMATION**

- Navigate to `Settings`, `Information`, `Licences`.

# OPERATION

# 05

IGNITION 88
EMERGENCY-OFF SWITCH (KILL SWITCH) 93
INTELLIGENT EMERGENCY CALL 93
LIGHTING 96
ANTI-THEFT ALARM (DWA) 101
DYNAMIC TRACTION CONTROL (DTC) 104
ELECTRONIC SUSPENSION ADJUSTMENT (D-ESA) 105
RIDING MODE 105
CRUISE CONTROL 107
HILL START CONTROL (HSC) 110
REVERSER 112
CENTRAL LOCKING SYSTEM 113
FAVOURITES BUTTONS 114
HEATING 114
SLIPSTREAM DEFLECTOR 116
SEAT 117
CASES 118
TOPCASE 120
STORAGE COMPARTMENTS 123

## IGNITION

### Radio-operated key

The indicator light for the radio-operated key flashes while the search for the radio-operated key is in progress.
The light goes out as soon as the radio-operated key or the emergency key is found.
The light goes out briefly if the search times out without the radio-operated key or the emergency key being found.

You receive one radio-operated key and one spare key. If a key is lost or mislaid, consult the notes on the electronic immobiliser (EWS) (➠ 90).
Ignition, fuel filler cap, central locking system and anti-theft device all work with the radio-operated key. Seat lock, storage compartments, topcase and cases can be locked and unlocked manually.

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 topcase).
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 |

### Engaging steering lock

**Requirement**

Handlebars are turned to the left and radio-operated key is within range.




**ATTENTION**

**Incorrect handlebar angle upon parking on the side stand**

Component damage caused by the vehicle falling over

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

- Press and hold down button **1**.

» The steering lock engages with an audible click.

» Ignition, lights and all function circuits switched off.

- To unlock the steering lock, briefly press button **1**.

**Switching on ignition**

**Requirement**

Radio-operated key is within range.




- There are **two** ways of activating the ignition.

**Version 1:**

- Short-press button **1**.

» Side lights and all function circuits are switched on.

–with central locking system OE

» Floor lighting goes out.◁

» Daytime riding light is switched on.

–with additional headlight OE

» LED auxiliary headlights are switched on.◁

» Pre-Ride-Check and self-diagnoses are performed. (➠ 150)

**Version 2:**

- Steering lock is engaged; press and hold down button **1**.

» The steering lock disengages.

» Side lights and all function circuits switched on.

–with central locking system OE

» Floor lighting goes out.◁

» Daytime riding light is switched on.

–with additional headlight OE
» LED auxiliary headlights are switched on.◁
» Pre-Ride-Check and self-diagnoses are performed. (➠ 150)

**Switching off ignition**

**Requirement**

Radio-operated key is within range.




- There are **two** ways of deactivating the ignition.

**Version 1:**

- Short-press button **1**.

» When the ignition is switched off, the instrument cluster remains switched on for a short time and displays any existing fault messages.
» Windscreen moves to the bottom end position.
–with central locking system OE
» Floor lighting comes on for a short time.◁
» Handlebars not locked.
» Electrically powered accessories remain operational for a limited period of time.
» The battery can be recharged via the socket in the cockpit.

**Version 2:**

- Turn the handlebars all the way to the left.
- Press and hold down button **1**.

» When the ignition is switched off, the instrument cluster remains switched on for a short time and displays any existing fault messages.
» Windscreen moves to the bottom end position.
–with central locking system OE
» Floor lighting comes on for a short time.◁
» Steering lock engaged.
» Electrically powered accessories remain operational for a limited period of time.
» The battery can be recharged via the socket in the cockpit.

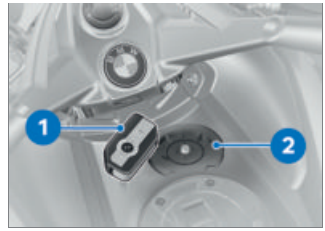
**Electronic immobiliser (EWS)**

The on-board electronics access the data saved in the radio-operated key via a ring aerial in the R/C ignition lock. The ignition is not enabled for starting until the engine control unit has recognised the radio-operated key as "authorised" for your motorcycle.

A spare key attached to the same ring as the radio-operated key used to start the engine could impair the electronics function, in which case the enabling signal for starting is not issued. The warning with the key symbol appears in the multifunction display.
Always keep the spare key separate from the radio-operated key.

If you lose a radio-operated key, you can have it barred by your authorised BMW Motorrad retailer. In order to have a key barred you must bring along all the other keys belonging to the motorcycle.
The engine cannot be started by a barred radio-operated key, but a radio-operated key that has been barred can subsequently be reactivated.
You can obtain spare keys only through an authorised BMW Motorrad retailer. The radio-operated 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**).
- 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 bringing the folded radio-operated key or the spare key close to the ring aerial.
- Hold radio operated key **1** or spare key above ring aerial **2**.

| |
|---|
| Time during which the motor has to be started. The unlocking procedure has to be repeated if this time is allowed to expire. |
| 30 s |

» Pre-Ride-Check is performed.
–Key has been recognised.
–Engine can be started.
• Start the engine. (➠ 149)

**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.

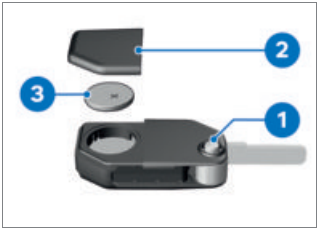
⚠ `Remote key battery weak. Function limited. Change battery.`

**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 |
| 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)




**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)

## INTELLIGENT EMERGENCY CALL

–with intelligent emergency call[OE]

**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.

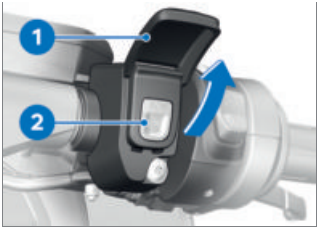
During an emergency call, the location of the vehicle, the choice of language and, if applicable, accident-related data are transmitted to BMW (➠ 11). Under unfavourable

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 driver can choose as the display language in the multifunction display.

**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**.

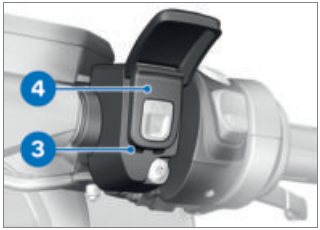



» The time until transmission of the emergency call is displayed. During that time, it is possible to cancel the emergency call.
- To cancel an emergency call: Press SOS button **2** and hold it down for two seconds or switch the ignition off.
- Operate the emergency-off switch to stop the engine.
- 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 light fall or a crash was detected.

» An acoustic signal is sounded.




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

- To cancel an emergency call: Press the SOS button and hold it down for two seconds, or switch the ignition off.
- If possible, remove helmet and stop engine.

» After expiry of the timer, a voice contact 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

**Side light**

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

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

**Switching on low-beam headlight**

- Switch on the ignition. (➠ 89)
- Start the engine. (➠ 149)

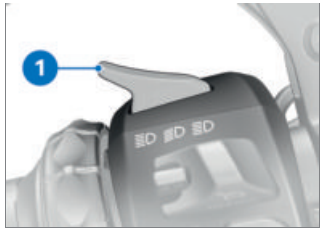



- Alternatively: With the ignition switched on, pull switch **1**.

The low-beam headlight places a strain on the battery. Only switch on the low-beam headlights for a limited period of time when the engine is not running.

**High-beam headlight and headlight flasher**

- Switch on the ignition. (➠ 89)




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

The high-beam headlight can also be switched on when the engine is not running.

The high-beam headlight places a strain on the battery. Switch on the high-beam headlight only for a limited period of time when the engine is not running.

**Headlight courtesy delay feature**

- Switch off the ignition. (➠ 90)




- Immediately after switching off the ignition, pull switch **1** back and hold it in that position until the headlight courtesy delay feature comes on.

» The vehicle's lights come on for one minute and then switch off automatically.

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

**Ground lighting**

– with central locking system OE

The ground light comes on for a short time after the ignition is switched off or after the anti-theft alarm system is deactivated with the radio-operated key.

**Parking lights**

- Switch off the ignition. (➠ 90)



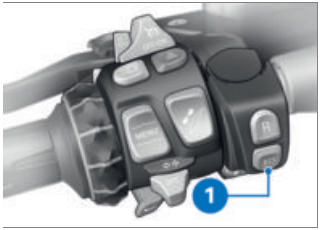

- Immediately after switching off the ignition, push button **1** to the left and hold it in that position until the parking lights come on.
- Switch the ignition on and off again to switch off the parking lights.

**Auxiliary headlights**

– with additional headlight OE

**Requirement**
The low-beam headlight must be switched on.

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.




- Press button **1** to switch on the auxiliary headlights.

shows.
- Press button **1** again to switch off the auxiliary headlights.

**Manual daytime riding light**
**Requirement**
Automatic daytime riding light is switched off.

**WARNING**

**Switching on the daytime riding light in the dark.**
Risk of accident
- Do not use the daytime riding light in the dark.

By comparison with the low-beam headlight, the daytime riding light makes the vehicle more visible to oncoming traffic. This improves daytime visibility.

- Start the engine. (➠ 149)
- Navigate to `Settings`, `Vehicle settings`, `Lights` and switch off the `Auto. daytime light` function.




- Press button **1** to switch on the daytime riding light.

shows.

» The low-beam headlight, the front side lights and the auxiliary headlight are switched off.

- In the dark or in tunnels: Press button **1** again to switch off the daytime riding light and switch on the low-beam headlight and the front side lights. The auxiliary headlight is also switched on again.

The daytime riding light is switched off after approximately 2 seconds and the high-beam headlight, low-beam headlight, front side lights and the additional headlight, as appropriate, are switched on if the high beam is switched on while the daytime riding light is on.

If the high beam headlight is switched off again, the daytime running light is not automatically reactivated, but must be switched on again if required.

**Automatic daytime riding light**

**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.

**WARNING**

**Switching on the daytime riding light in the dark.**

Risk of accident

- Do not use the daytime riding light in the dark.

By comparison with the low-beam headlight, the daytime riding light makes the vehicle more visible to oncoming traffic. This improves daytime visibility.

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

- Switch on the ignition. (➠ 89)

- Call up the Settings menu and then select Vehicle settings.
- Select Lights and switch on Auto. daytime light.

 is displayed.

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

 shows.

**Hazard warning lights**

- Switch on the ignition. (➠ 89)

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




- Press button **1** to switch on the hazard warning lights system.

» Ignition can be switched off.

- To switch off the hazard warning lights system, switch on the ignition if necessary and press button **1** again.

**Turn indicators**

- Switch on the ignition. (➠ 89)
- 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.

## ANTI-THEFT ALARM (DWA)

–with anti-theft alarm (DWA) OE

### Activation

- Switch on the ignition. (➠ 89)
- Adapt DWA. (➠ 103)
- Switch off the ignition. (➠ 90)

» If `Arm automatically` the DWA anti-theft alarm is activated, the DWA is automatically activated after the ignition is switched off.

» Activation takes approximately 30 seconds to complete.

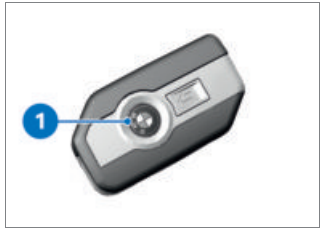
» Turn indicators flash twice.

» Confirmation tone sounds twice (if activated).

» Anti-theft alarm (DWA) is active.

### Activation with radio-operated key

- Switch off the ignition. (➠ 90)




- Press button **1** on the radio-operated key once.

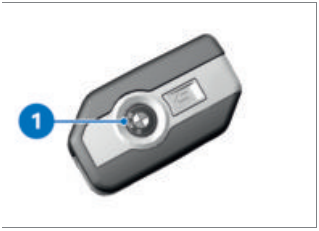
» Activation takes approximately 30 seconds to complete.

» Turn indicators flash twice.

» Confirmation tone sounds twice (if activated).

» Anti-theft alarm is active.

–with central locking system OE




- 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 the **1** key of the radio-operated key during the activation phase.
- Alternatively, the tilt sensor can be deactivated in menu `Settings`, `Vehicle settings`, `Alarm system` (➠ 103).

» Turn indicators flash three times.
» Confirmation tone sounds three times (if activated).
» Tilt sensor is deactivated.

**Alarm signal**

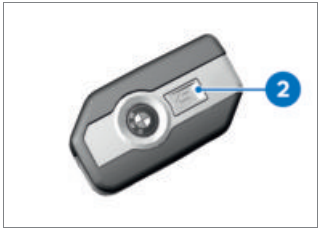
A DWA alarm can be triggered by:
–Tilt sensor
–Switch-on attempt with an unauthorised vehicle key.
–Disconnection of the DWA anti-theft alarm from the motorcycle's battery (DWA internal battery in the anti-theft alarm provides power – acoustic alarm only, the turn indicators do not flash).

When the radio-operated key is within range, an alarm triggered by the tilt alarm sensor is suppressed.

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.

The alarm lasts for approximately 30 seconds. While an alarm is in progress an alarm tone sounds and the turn indicators flash. You can adjust the alarm tone type in the menu `Settings`, `Vehicle settings`, `Alarm system` (➠ 103).

–with central locking system OE




You can cancel an alarm at any time by pressing button **2** 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 indicator light in the instrument cluster then signals the reason for the alarm for one minute.

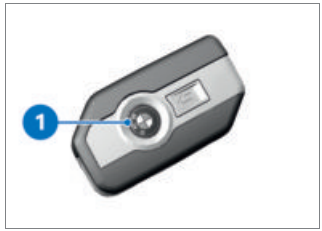
**Light signals issued by the indicator light:**

–Flashes 1x: Tilt sensor 1
–Flashes 2x: Tilt sensor 2
–Flashes 3x: Ignition switched on with unauthorised radio-operated 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. (➠ 89)




- Alternatively, press key **1** of the operated key once.

» Turn indicators flash once.
» Confirmation tone sounds once (if activated).
» DWA is switched off.

**Adapt DWA**

- Switch on the ignition. (➠ 89)
- Navigate to `Settings`, `Vehicle settings` and select `Alarm system`.

» The following adaptation 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 (➠ 104)

**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.

**DYNAMIC TRACTION CONTROL (DTC)**

**Switching DTC function off and on**

- Switch on the ignition. (➠ 89)
- Navigate to Settings, Assist and select DTC.
- Deactivate DTC to switch off Dynamic Traction Control (DTC) temporarily until the next time the ignition is switched on.

 shows.

- Activate DTC to switch on Dynamic Traction Control (DTC). 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" (➠ 168).

## ELECTRONIC SUSPENSION ADJUSTMENT (D-ESA)

### 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" (➠ 170).

### Adjusting suspension damping

- Switch on the ignition. (➠ 89)
- Navigate to `Settings`, `Assist` and select `Damping`.
- Select the desired suspension-damping setting.

You can adjust the damping characteristic while the motorcycle is on the move.

The suspension-damping setting is retained, even after the ignition is switched off.

### Adjusting for loaded state

- Start the engine. (➠ 149)
- Navigate to `Settings`, `Assist` and select `Load`.
- Select the desired loaded-state setting.

The load setting is retained, even after the ignition is switched off.

The load cannot be set while the motorcycle is in motion.

The following message is displayed if no load setting is possible: `Action not possible. Engine must be on.`

The following message is displayed if no load setting is possible because speed is too high: `Action not possible. Speed too high.`

## RIDING MODE

### Use

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

- RAIN: Riding on rain-wet roads.
- ROAD: Riding on dry roads.
- DYNAMIC: Dynamic riding on dry roads.

The optimum interplay of engine characteristic, suspension setup and DTC is provided for each of these scenarios.

See the section entitled "Engineering details" for more information on the selectable riding modes.

**Setting riding mode**

- Switch on the ignition. (➠ 89)




- Press button **1**.




The riding mode currently active **2** is sent to the back and is displayed in the 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.

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

» The following conditions must be satisfied for activation of a new riding mode while riding:

– Throttle grip is in idle position.

– Brake is not applied.

– Cruise control is deactivated.

» The selected riding mode is retained with the engine-characteristic, chassis and suspension and DTC control adaptations even after the ignition has been switched off.

## 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.

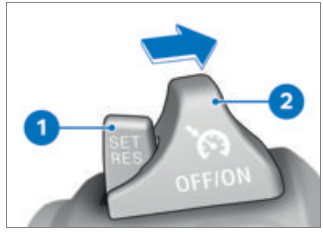
### Switching on cruise control

**WARNING**

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

Risk of falling

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




- Slide switch **2** to the right.

» Button **1** is enabled for operation.

**Setting road speed**




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

| Adjustment range for cruise control (gear-dependent) |
|---|
| 15...220 km/h |

is displayed.

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

**Accelerating**

Depending on the speed unit set in the instrument cluster, the speed is increased or reduced in km/h or mph.




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

» Speed is increased by approx. 1 km/h or 1 mph, as applicable, 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 or 5 mph, as applicable.

» The current speed is maintained and saved if button **1** is not pushed again.

**Decelerating**

Depending on the speed unit set in the instrument cluster, the speed is increased or reduced in km/h or mph.




- Short-push button **1** back.

» Speed is reduced by 1 km/h or 1 mph, as applicable, 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 or 5 mph, as applicable.

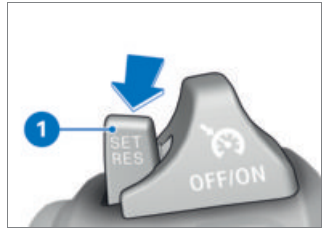
» The current speed is maintained and saved if button **1** is not pushed again.

**Deactivating cruise control**

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

» Indicator light for adaptive cruise control goes out.

**Resuming former cruising speed**

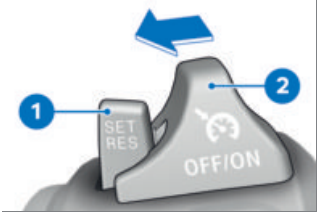



- Short-push button **1** back to return to the speed saved beforehand.

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.

 is displayed.

**Switching off cruise control**




- Slide switch **2** to the left.

» The system is deactivated.

 disappears.

» Button **1** is disabled.

## HILL START CONTROL (HSC)

**Adjust Hill Start Control Pro**

- Switch on the ignition. (➠ 89)
- Navigate to `Settings`, `Assist` and select `HSC Pro`.
- 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 off Hill Start Control Pro, select `Off`.

» Hill Start Control Pro is deactivated.

- To switch on automatic Hill Start Control Pro, select `Auto`.

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

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

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




Symbol **1** for Hill Start Control is displayed in the Pure Ride view and in the top status line.

**Operating Hill Start Control Pro**

**Requirement**

Vehicle stationary and upright, engine running.

**ATTENTION**

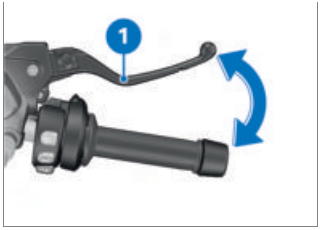
**Non-availability of Hill Start Control**

Risk of accident

- Apply the brakes manually to hold the vehicle.

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

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




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

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.

is displayed in white.

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

Pulling away from rest with the throttle grip turned to open the throttle automatically deactivates Hill Start Control Pro.

disappears as soon as the brake is fully released.

» Hill Start Control Pro is deactivated.

- For more information on Hill Start Control Pro see the section headed "Engineering details" (➠ 174)

## REVERSER

### Requirements

The following prerequisites must have been met to be able to use the reverser:
–Motorcycle at standstill.
–Engine running.
–Brake applied.
–Transmission in idle.
–Side stand has been retracted.
–Clutch is not disengaged.

Reverse without passenger.
On uphill/downhill gradients the reverser cannot guarantee the vehicle is held, as would be the case if a gear were engaged.
Do not use the reverser on excessive uphill/downhill gradients.

| Uphill/downhill gradient for reverser |
|---|
| max. 7 % |

### Activating reverser




- Press button **1**.

» Gear indicator **2** switches from N to R.
» You can use the reverser as soon as the "R" indicator stops flashing.

### Using the reverser




- Release the brake.
- Press and hold down starter button **1** to reverse.

### Automatic termination

Reversing is cancelled automatically:
–On excessive uphill/downhill gradients
–In the event of obstructions
–If the reversing motor has overheated
–If the side stand has been extended
–If the brake is operated

If reversing is cancelled, the "R" in the display flashes.

**Deactivating reverser**




- Press button **1**.

» The gear indicator switches from R to N.

## CENTRAL LOCKING SYSTEM

–with central locking system OE

**Locking**




- Switch on the ignition and press button **1**.
- Alternatively: Press button **2** on the radio-operated key.

» The storage compartments, topcase and cases are locked.

 is displayed.

**Unlocking**




- Switch on the ignition and press button **1**.
- Alternatively: Press button **2** on the radio-operated key.

» The storage compartments, topcase and cases are unlocked.

» Floor lighting comes on for a short time.

» Once a lock has been locked manually it subsequently has to be unlocked manually as well.

**Emergency unlocking**

To manually open cases, topcase and storage compartments with the vehicle key if it is no longer possible to unlock the central locking system:

- Remove the cases. (➠ 119)
- Open the case. (➠ 118)
- Open and close the storage compartment. (➠ 123)
- Open the topcase. (➠ 120)

## 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.

## HEATING

### Operating heated handlebar grips

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

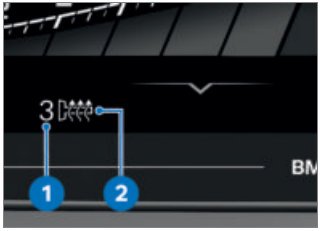
The increase in power consumption caused by having the heated handlebar grips switched on can drain the battery if you are riding at low engine speeds. If the charge level is low, the heated handlebar grips are switched off to ensure the battery's starting capability.

- Start the engine. (➠ 149)
- Navigate to `Settings`, `Heating` and select `Grip heating`.




The grips have five-stage heating. Stage five is for heating the grips quickly: it is advisable to switch back to a lower stage as soon as the grips are warm.

- Select the desired heating stage.




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

**Operate the rider's seat heating**

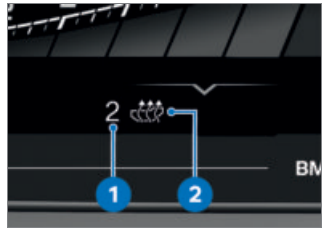
Seat heating can be activated only when the engine is running.

- Start the engine. (➠ 149)
- Navigate to `Settings`, `Heating` and select `Seat heating`.




The rider's seat has five-stage heating. Stage five is for heating the seat quickly: it is advisable to switch back to a lower stage as soon as the seat is warm.

- Select the desired heating stage.




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

**Operating passenger-seat heating**

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

- Start the engine. (➠ 149)

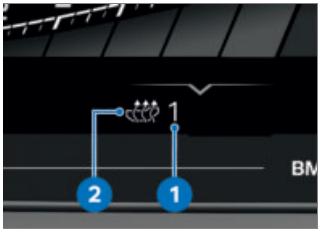



- Set switch **1** to the desired heating stage.




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




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

## SLIPSTREAM DEFLECTOR




**1** Slipstream deflector

**WARNING**

**Adjusting the slipstream deflector while riding.**
Risk of accident
- Adjust the slipstream deflector when the motorcycle is at a standstill.

Opening or closing the slipstream deflectors influences the extent to which cooling air from the slipstream is directed toward or away from the rider.




**A** Slipstream deflectors closed: High level of protection against wind and weather, highest level of riding comfort.

**B** Slipstream deflectors open: Increased flow of air from slipstream directed toward the rider, increased cooling effect when outside temperatures are high.

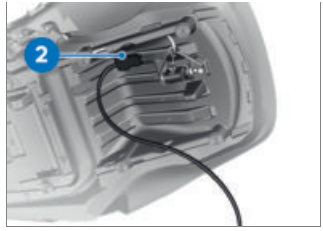
When the slipstream deflectors are open and at high speeds, turbulence may occur in the area of the helmet, which has a negative effect on driving comfort.
BMW Motorrad recommends closing the slipstream deflectors before riding at high speeds.

## SEAT

### Removing seat

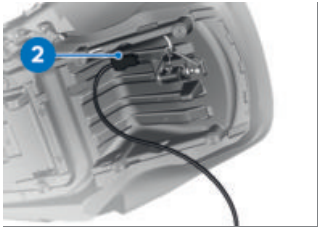



- Use the vehicle key to unlock seat lock **1** and lift the rear of the seat.

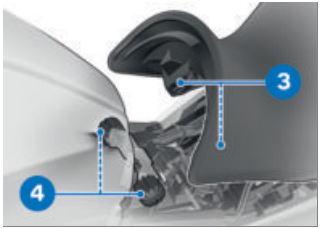



- Disconnect plug connection **2** of the seat heating and remove the seat.
- Place the seat, upholstered side down, on a clean surface.

**Installing seat**




- Connect plug connection **2** of the seat heating.




- Position the seat with mounts **3** in rubber buffers **4** on left and right.
- Lower the rear of the seat and engage the seat in the latching mechanism.

## CASES

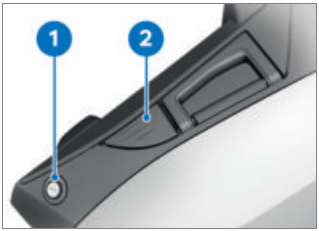
**Opening cases**

–with central locking system OE

- If necessary, unlock the central locking system.◁




- 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 the release lever all the way up and open the case lid.

**Closing cases**




- Pull release lever **2** all the way up.
- Close the lid of the case and press it down. 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.

- Push release lever **2** down until it engages.
- Turn the key in the case lock to the **LOCK** position and remove the key from the lock.

**Removing cases**




- Turn the key to the **RELEASE** position in the case lock.

» The handle pops out.

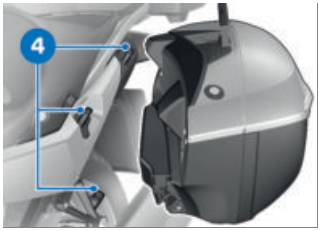



- Pull carry handle **3** up as far as it will go.

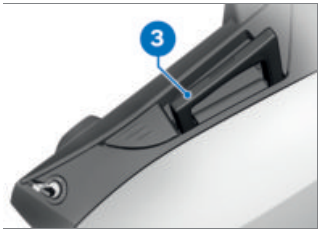
» The case is released and can be removed.

**Installing cases**

- Pull the carry handle up as far as it will go.




- Seat the case in holders **4**.




- Push carry handle **3** down until it engages.
- Turn the key in the case lock to the **LOCK** position and remove the key from the lock.

**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 case |
|---|
| max. 180 km/h |

| Payload per case |
|---|
| max. 10 kg |

## TOPCASE

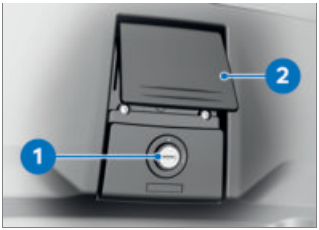
**Opening topcase**

–with central locking system OE

- 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.

**Closing topcase**




- Pull release lever **2** all the way up.
- 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.

- Push release lever **2** down until it engages.
- Turn the key in the topcase lock to the **LOCK** position and remove the key from the lock.

**Removing topcase**

- Remove the seat. (➠ 117)




- Disconnect plug connection **1**.
- Work the topcase-end plug through to the rear.
- Open the topcase.
- If applicable, empty the topcase and lift out the bottom mat.




- Push slide latch **2** toward the outside and hold it in this position.
- Turn rotary latch **3** in the direction indicated by the **RELEASE** arrow.

» Release warning **4** is visible.

- Close the topcase.



- Lift the topcase at the rear and remove it from the luggage carrier.
- Install the seat. (➠ 118)

**Installing topcase**

- Remove the seat. (➠ 117)
- If applicable, empty the topcase and lift out the bottom mat.



- Set the topcase on the luggage carrier.
- Open the topcase. (➠ 120)

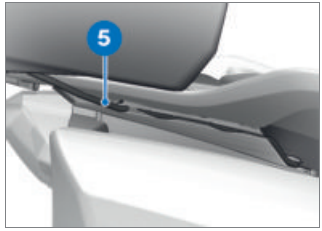



- Turn rotary latch **3** as far as it will go in the direction indicated by the **LOCK** while pressing down on the back edge of the topcase.

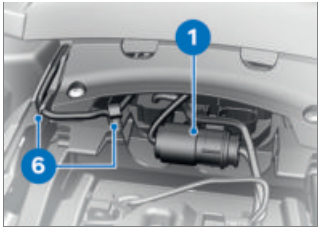
» Release warning **4** is no longer visible.

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.




- Route the connecting cable forward in cable guide **5**.




- Work the cable into place at positions **6**.
- Close plug connection **1**.
- Install the seat. (➠ 118)

**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 |

## STORAGE COMPARTMENTS

### 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.

–with central locking system OE
- If necessary, unlock the central locking system.◁

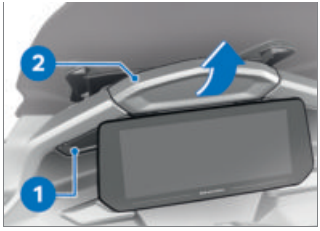


- Turn the key in the storage compartment lock to the position indicated by the dot.
- Press the unlocked lock barrel to open the flap.
- The description applies by analogy to the storage compartment on the right side.

**Opening and closing charging storage compartment**

The charging storage compartment can only be opened when the windscreen is in the upper end position.

- Adjust the windscreen. (➠ 140)




- Press button **1** and open lid **2** in the direction indicated by the arrow.
- To close: Firmly press lid **2** into the lock.

The charging storage compartment cannot be locked.

**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.

- In summer, do not place heat-sensitive items in the charging storage compartment.

**Ventilation**

To ensure adequate circulation of air, a fan is switched on if the temperature in the charging storage compartment rises above 30 °C. The fan switches off again as soon as the temperature inside the charging storage compartment is less than 25 °C.

**Charging smartphone**

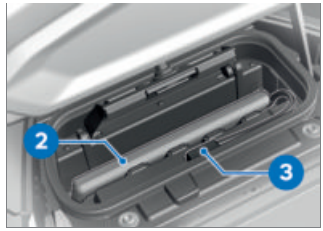
**Requirement**

Ignition is switched on.

- Open the charging storage compartment.




- Flip retainer **1** up.




- Connect smartphone **2** to USB charging interface **3** and place the smartphone, display to the front as viewed in the forward direction of travel, in the charging storage compartment.

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.




- Flip retainer **1** down.
- Close lid **2**.

» The smartphone is secured.

**Notes on use**

The storage compartment is suitable for smartphones up to max. 158 mm x 78 mm x 10 mm in size. For small mobile phones that might not be held securely by the holder, BMW Motorrad recommends using the BMW Motorrad smartphone pouch.

**Charge current**

This is a 5 V USB charging interface that provides a maximum charge current of 1.5 A (maximum charging power 7.5 W).

**Automatic shutdown**

The USB charging interface is 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.

# AUDIO SYSTEM

06

RADIO 130
AUDIO SETTINGS 132
PLAYER 134
SATELLITE RADIO 134
HD RADIO RECEPTION 136
IN-HELMET AUDIO PLAYBACK 137

## RADIO

### Starting

- Switch on the ignition. (➠ 89)

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 NV

- Call up the Source menu. Select Favourites, AM, FM or DAB (might not be available, depending on country).◁

–with Canada export NV

- 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 NV

- Select the source. (➠ 130)
- Select the FM stations menu.

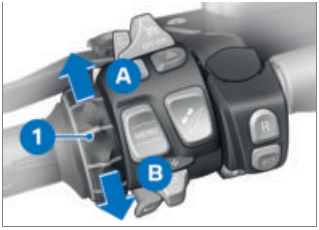
There is a channel menu for each selectable source.◁

–with Canada export NV

- Select the source. (➠ 130)
- 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

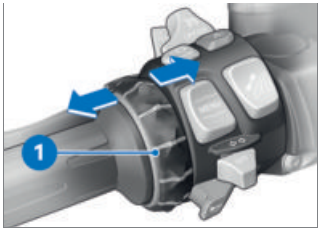
–without Canada export NV

- 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 NV
- 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.

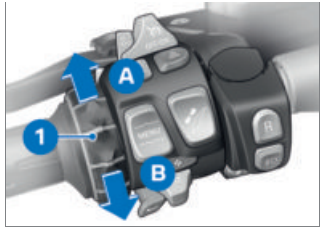
For HD Radio stations, the subprograms within a frequency range can be selected.◁




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

**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 direction **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 reopened.

**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. (➠ 130)
- 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. (➠ 130)
- 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.

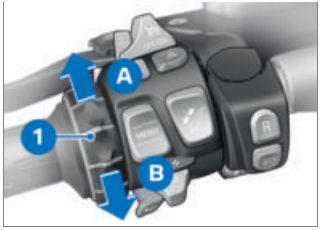
## AUDIO SETTINGS

**Speakers and Bluetooth**

Audio playback is via the onboard 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. (➠ 137). 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.

» Volume is adjusted automatically for the selected output device.

**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`.

» The following settings are available:

– `Bass-Boost`
– `Treble-Boost`
– `Voice`
– `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 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 `Loud-`

speakers 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 on the display**

The following information (country-specific) is shown in the instrument cluster:
–Selected source (➠ 130).
–Station (➠ 130).
–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. (➠ 130)
- 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 NV

**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: XXXXXXXXXXX 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.

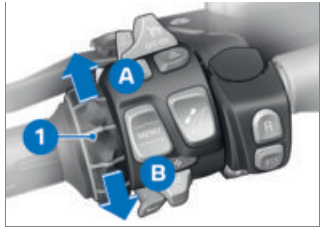
**Selecting category and channel**

- If you want to change the category, navigate to `SiriusXM stations` and select `Category`.

» The choices at your disposal are as follows:

– `All categories`: Shows all subscribed channels
– `Category`: E.g. Rock
– `Stations not inc.`: Shows all not subscribed channels

- Select the channel of your choice.

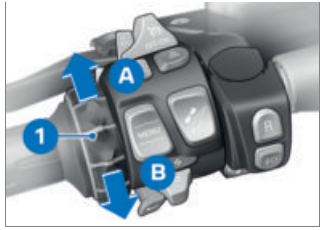



- Turn Multi-Controller **1** in direction **A** or direction **B** to select the channel of your choice from the selected category.

**Saving channel**

- Select the category and channel. (➠ 135)
- 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 direction **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[NV]

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 connected with the 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

MIRRORS 140
WINDSCREEN 140
CLUTCH 141
BRAKES 141

## MIRRORS

### Adjusting mirrors



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

## WINDSCREEN

### Adjusting windscreen

- Switch on the ignition. (➠ 89)

» As you ride off, the windscreen automatically moves to its last position before the ignition was switched off.




- Press top section of button **1** to raise the windscreen.
- Press bottom section of button **1** to lower the windscreen.
- Switch off the ignition. (➠ 90)

» The windscreen automatically moves to the bottom end position.

- Make sure that nothing obstructs the windscreen's freedom of movement.

The windscreen does not automatically move to the bottom end position:

- Switch on the ignition. (➠ 89)
- Press button **1** to move the windscreen to its top and bottom end positions.
- Switch off the ignition. (➠ 90)

» The windscreen's range of adjustment is calibrated.

» Windscreen does not react when button **1** is pressed.

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

Correct anti-trap mechanism functionality cannot be guaranteed if a windscreen has been installed that has not been approved by BMW Motorrad.

- Under these circumstances: Before switching off the ignition, make sure that nothing

obstructs the windscreen's freedom of movement.

## CLUTCH

### Adjusting clutch lever

**WARNING**

**Changed clutch-fluid reservoir position**

Air in the clutch system

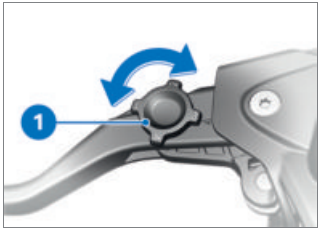
- Do not twist the handlebar operating element.

**WARNING**

**Adjusting the clutch lever while riding**

Risk of accident

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




- Turn adjuster knob **1** to the desired position.

The adjuster knob is easier to turn when the clutch lever is pushed slightly forward.

» Adjustment options:

– Position 1: Narrowest span between handlebar grip and clutch lever

– Position 4: Widest span between handlebar grip and clutch lever

## BRAKES

### Adjusting handbrake lever

**WARNING**

**Changed position of the brake fluid reservoir**

Air in the brake system

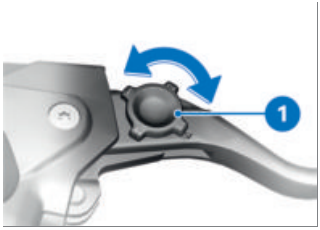
- Do not turn the handlebar fitting on the handlebar.

**WARNING**

**Adjusting the handbrake lever while riding**

Risk of accident

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




- Turn adjuster knob **1** to the desired position.

The adjuster knob is easier to turn when the handbrake lever is pushed slightly forward.

» Adjustment options:
– Position 1: Narrowest span between handlebar grip and handbrake lever
– Position 4: Widest span between handlebar grip and handbrake lever

# RIDING

# 08

SAFETY INFORMATION 146
REGULAR CHECK 149
STARTING 149
RUNNING IN 150
SHIFTING GEAR 151
BRAKES 152
PARKING YOUR MOTORCYCLE 155
REFUELLING 156
SECURING MOTORCYCLE FOR TRANSPORTATION 159

## 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.

**ATTENTION**

**Use of non-colour-fast materials (e.g. blue jeans) on the seat**

Discolouration on the seat

- Avoid contact with non-colour-fast materials.

**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.

**Loading correctly**

**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.
- 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 with cases fitted, see also the section entitled "Operation" (➠ 120).
- Note the maximum permissible payload and maximum permissible speed with topcase fitted, see also the section entitled "Operation" (➠ 123).

**Speed**

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle. They include:
- –Settings of the spring-strut and shock-absorber system
- –Imbalanced load
- –Loose clothing
- –Insufficient tyre pressure
- –Poor tyre tread

**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.

**Manipulation**

**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 (➠ 184).
–Check operation of the lights and signalling equipment.
–Check operation of the clutch (➠ 189).
–Check the tyre tread depth (➠ 191).
–Check the tyre pressures (➠ 191).
–Check security of cases, topcase and luggage.

### Every 3rd refuelling stop

–Check the engine oil level (➠ 182).
–Check the brake pad thickness, front brakes (➠ 185).
–Check the brake pad thickness, rear brakes (➠ 186).
–Check the brake-fluid level, front brakes (➠ 187).
–Check the brake-fluid level, rear brakes (➠ 188).

## STARTING

### Starting engine

- Switch on the ignition. (➠ 89)

» Pre-Ride-Check and self-diagnoses are performed. (➠ 150)

- 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.

- Cold starts and low temperatures: Pull the clutch lever and turn the throttle grip to open the throttle slightly.




- Press starter button **1**.

The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you

start the engine, or use jump leads and a donor battery to start.
See the subsection on jump starting in "Maintenance" for more details.

» The engine starts.
» Consult the troubleshooting chart below if the engine refuses to start. (➠ 220)

**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. (➠ 223)
» 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, avoiding high-speed main roads and highways if possible.
- Comply with the running-in speeds.

|  Running-in speed |
|---|
| <5000 $min^{-1}$ (Odometer reading 0...300 km) |
| <6500 $min^{-1}$ (Odometer reading 300...1000 km) |

|  Running-in speed |
| --- |
| No full load (Odometer reading 0…1000 km) |

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

|  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.

**WARNING**

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

Risk of accident

- Ride carefully and avoid extremely sharp inclines.

## SHIFTING GEAR

–with shift assistant Pro OE

**Gear Shift Assistant Pro**

For more information on Shift Assistant Pro, see the section headed "Engineering details".

- You select the gear in the usual way by means of the foot-operated shift lever.

» A sensor on the gearshift shaft registers the gearshift request and triggers shift assistance.

» When riding at a steady speed in a low gear at high engine rpm, an attempt to shift gear without pulling the clutch can cause a severe load-change reaction. BMW Motorrad recommends disengaging the clutch for shifts in these circumstances. It is advisable to avoid using

the shift assistant at engine speeds close to the limits at which the governor cuts in to limit engine rpm.

» Shift assistance is not available in the following situations:

– Clutch pulled.
– Gearshift lever not in its initial position.
– Upshifts with the throttle valve closed (engine overrun) and when slowing.
– Downshifts with throttle valve open and when accelerating.

- After a gearshift, the shift lever has to be fully released before another gearshift with the shift assistant can take place.

## 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 vehicle decelerates, the more load is shifted to the front wheel. The higher the wheel load, the more braking force can be transmitted without the wheel locking.

To optimise stopping distance, apply the front brakes rapidly and keep on increasing the force you apply to the brake lever. This makes the best possible use of the dynamic increase in load at the front wheel. Remember to pull the clutch at the same time. In the "emergency braking situations" that are trained so frequently, braking force is applied as rapidly as possible and with the rider's full force applied to the brake levers; under these circumstances the dynamic shift in load distribution cannot keep pace with the increase in deceleration and the tyres cannot transmit the full braking force to the surface of the road. BMW Motorrad Integral ABS prevents the front wheel from locking up.

**WARNING**

**Rear wheel lift due to severe braking**

Risk of falling

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

**Emergency braking**

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

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

**Descending mountain passes**

**WARNING**

**Braking only with the rear brake on mountain descents.**

Brake fade. Destruction of the brakes due to overheating.

- Use the front brake and utilise engine braking.

**DANGER**

**Riding with overheated brakes**

Risk of accident due to failure of brakes

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

**WARNING**

**Failure to observe service intervals**

Risk of accident

- Observe the valid service intervals for brakes.

**Wet and dirty brakes**

**WARNING**

**Wetness and dirt result in diminished braking efficiency**

Risk of accident

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

Wetness and dirt on the brake discs and the brake pads diminish braking efficiency. Delayed braking action or poor braking efficiency must be reckoned with in the following situations:
– Riding in the rain or through puddles of water.
– After the vehicle has been washed.
– Riding on salted or gritted roads.
– After work has been carried on the brakes, due to traces of oil or grease.
– Riding on dirt-covered surfaces or off-road.

**ABS Pro**

**Physical limits applicable to motorcycling**

**WARNING**

**Braking when cornering**

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

ABS Pro is available in all riding modes.

**Possibility of a fall not precluded**

Although ABS Pro provides the rider with valuable assistance and constitutes a huge advance in safety for braking with the motorcycle banked for cornering, it cannot under any circumstances be considered as redefining the physical limits that apply to motorcycling. It is still possible for these limits to be overshot due to misjudgement or rider error. In extreme cases this can result in a crash.

**Use on public roads**

ABS Pro helps 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.

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

## PARKING YOUR MOTORCYCLE

**Side stand**

- Switch off the engine.

**ATTENTION**

**Poor ground underneath the stand**
Risk of damage to parts if vehicle topples
- Always check that the ground under the stand is level and firm.

**ATTENTION**

**Additional weight placing strain on the side stand**
Risk of damage to parts if vehicle topples
- Do not sit or lean on the vehicle while it is propped on the side stand.

- Extend the side stand and prop the motorcycle on the stand.
- If the camber of the roadway permits, turn the handlebars all the way to the left.
- On a gradient, the motorcycle should always face uphill; select 1st gear.

**Centre stand**
–with centre stand[OE]

- Switch off the engine.

**ATTENTION**

**Poor ground underneath the stand**
Risk of damage to parts if vehicle topples
- Always check that the ground under the stand is level and firm.

**ATTENTION**

**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.

- Extend the centre stand and lift the motorcycle on to the stand.
- On a gradient, the motorcycle should always face uphill; select 1st gear.

## REFUELLING

**Fuel grade**

**Requirement**

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

**ATTENTION**

**Engine operation with leaded fuel**

Damage to catalytic converter

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

- Observe the maximum ethanol content of the fuel.

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

| | |
|---|---|
| | Recommended fuel grade |
| E5 E10 | Premium unleaded (max. 15% ethanol, E15)<br>95 ROZ/RON<br>90 AKI |
| | Alternative fuel grade |
| E5 E10 | 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:

E5

E10

**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.

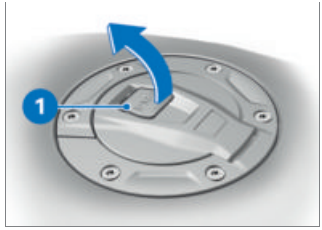
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Switch off the ignition. (➠ 90)

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. 26.5 l |

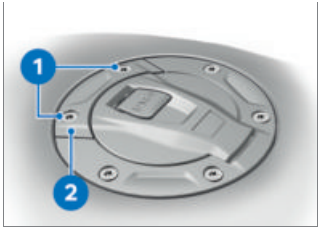
| Reserve fuel |
|---|
| approx. 4 l |

- 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**.

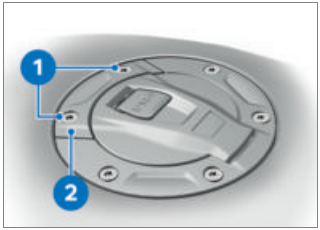
» Fuel filler cap unlocks.

- Fully open the fuel filler cap.
- Refuel. (➠ 156)
- Close the fuel filler cap emergency release. (➠ 159)

**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

- 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.



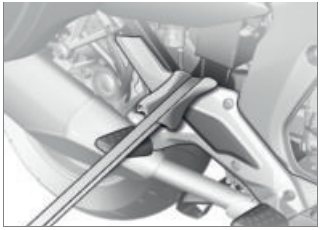
**ATTENTION**

**Routing of tensioning straps not in compliance with correct procedure**

Damage to brake lines, Bowden cables, bearings and trim panels

- Carefully route retaining straps.
- Use a cloth to protect painted components from scratches.

- Guide the tensioning straps through the front suspension on the left and right and then tighten towards the bottom.



- At the rear, secure the straps to the rear frame on both sides and tighten the straps.
- Do not pull the tensioning straps over the footrests.
- Tighten all the straps uniformly; the vehicle's suspension should be compressed as tightly as possible front and rear.

# ENGINEERING DETAILS

09

GENERAL NOTES 164
ANTILOCK BRAKE SYSTEM (ABS) 164
DYNAMIC TRACTION CONTROL (DTC) 168
DYNAMIC ENGINE BRAKE CONTROL 169
ELECTRONIC CHASSIS AND SUSPENSION ADJUSTMENT 170
RIDING MODE 170
TYRE PRESSURE CONTROL (RDC) 172
GEAR SHIFT ASSISTANT 173
HILL START CONTROL (HSC) 174
ADAPTIVE HEADLIGHT 176

## GENERAL NOTES

To find out more about engineering, go to **bmw-motorrad.com/technik**.

## ANTILOCK BRAKE SYSTEM (ABS)

### Partially integral brakes

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

The BMW Motorrad Integral ABS adapts the brake force distribution during braking between the front and rear brakes to suit the load on the motorcycle.

**ATTENTION**

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

Damage to rear brake and clutch

- Do not burn out tyres.

### How does Integral 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?

Bumps 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 rider

brakes in this situation, the ABS has to reduce the brake pressure in order to ensure driving stability when resuming contact with the road. At this point, BMW Motorrad Integral ABS has to assume an extremely low coefficient of friction (gravel, ice, snow) so that the road wheels turn in every conceivable situation, thus ensuing driving stability. As soon as is registers the actual circumstances, the system reacts instantly and adjusts braking force accordingly to achieve optimum braking.

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

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

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

**Rear wheel lift**

Under very severe and sudden deceleration, however, under certain circumstances it is possible that the BMW Motorrad Integral ABS will be unable to prevent the rear wheel from lifting clear of the ground. If this happens the outcome can be a highsiding situation in which the motorcycle can flip over.

**WARNING**

**Rear wheel lift due to severe braking**

Risk of falling

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

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

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

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

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

**Special situations**

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

**Exceptional riding conditions:**

– Heating up with the motorcycle on the centre stand or an auxiliary stand, engine idling or with a gear engaged.
– Rear wheel locked by the engine brake for a lengthy period, for example while descending on a loose surface.

If a fault message should be triggered due to one of the above-described driving conditions, the ABS function can be re-activated by switching the ignition off and then 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 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. 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.

With DTC, the speeds of the front and rear wheels are compared and the angle of heel taken into account as one means of detecting the rear wheel's incipient tendency to spin or slip sideways.

If the lean angle values are identified as implausible over an extended period of time, a substitute value is used for the lean angle or the DTC is switched off. Under these circumstances the indicator for

a DTC fault shows. Self-diagnosis has to complete before fault messages can be issued. The BMW Motorrad traction control may switch off 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 applying the front brake (burnout).
- Warming up with the motorcycle on the centre stand, in neutral or with a gear engaged.

## DYNAMIC ENGINE BRAKE CONTROL

### How does dynamic engine brake control work?

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

**Causes for excessive slip at the rear wheel:**
- Riding with engine overrun on a surface with a low coefficient of friction (e.g. wet leaves).
- Rear-wheel hop when rider downshifts.
- Sharp braking during sporty riding.

In the same way as dynamic traction control BMW Motorrad DTC, engine drag torque control compares the wheel circumferential velocities of the front and rear wheels calculated from the wheel speeds and the tyre radius. Dynamic engine brake control uses this differential to compute slip as a measure of the reserve of stability available 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.

**Effect of dynamic engine brake control**

–In RAIN and ROAD riding modes: Maximum stability.
–In DYNAMIC riding mode: Compared to RAIN and ROAD riding modes, reduced intervention.

## ELECTRONIC CHASSIS AND SUSPENSION ADJUSTMENT

**Riding position equaliser**

Dynamic ESA is an electronic system that enables your motorcycle's suspension to adjust automatically to suit the load the vehicle is carrying. When spring adjustment is set to Auto, the rider does not have to adjust the suspension to suit the load.

BMW Motorrad recommends the Auto suspension setting.

When driving off and when riding, the system monitors the suspension at the rear wheel and corrects the spring setting in order to set the correct riding position. The damping is also adjusted automatically to the load.

By interpreting ride height sensor signals, Dynamic ESA detects movements in the suspension and responds by adjusting the damper valves. This enables the suspension to adapt to the terrain.

Dynamic ESA calibrates itself at regular intervals to ensure the system functions correctly.

**Possibilities for adjustment**

**Damping modes**

–Road: Damping for comfortable on-road riding
–Dynamic: Damping for dynamic on-road riding

**Load settings**

–Min: Minimum spring setting (only to make the motorcycle easier for the rider to mount)
–Auto: Active ride compensation with automatic adjustment of the spring setting and damping (recommended suspension setting)

## RIDING MODE

**Selection**

To adjust the motorcycle to the road condition and the desired driving experience, the following riding modes can be selected:

–RAIN
–ROAD
–DYNAMIC

For each of these riding modes, there is a matching setting for the DTC and engine drag torque control systems and for throttle response.

Dynamic ESA can be parametrised independently of the selected riding mode.

DTC can be switched off in each riding mode. The explanations below always refer to the riding dynamics control systems that are switched on.

**Throttle response**

–In RAIN riding mode: Gentle throttle response.
–In ROAD riding mode: Optimum throttle response.
–In DYNAMIC riding mode: Direct throttle response.

**Traction control DTC**

–In RAIN riding mode: Maximum stability on wet roads. Acceleration on dry roads might be reduced.
–In ROAD riding mode: High stability on dry roads. DTC intervenes later than in RAIN riding mode. This prevents the rear wheel from spinning whenever possible.
–In RAIN and ROAD riding modes, the front wheel is prevented from lifting off the ground.
–In DYNAMIC riding mode, DTC intervention is later than in RAIN and ROAD riding modes. High performance on dry roads. If road conditions are poor, optimum stability cannot be ensured.

**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.

## 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:

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

### Temperature compensation

Tyre pressure is a temperature-sensitive variable: pressure increases as tyre-air temperature rises and decreases as tyre-air temperature drops. Tyre air temperature depends on ambient temperature as well as on the style of riding and the duration of the ride.

|  The tyre-pressure readings in the instrument cluster are temperature-compensated and are always referenced to the following tyre-air temperature: |
|---|
| 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 on the display 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[OE]

**Gear Shift Assistant Pro**

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

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

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

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

**Advantages**

–A large proportion of gearshifts can be carried out without using the clutch.
–Less relative movement between rider and passenger because the shift pauses are shorter.

–It is not necessary to close the throttle twistgrip when shifting under acceleration.
–When downshifting (throttle twistgrip closed), engine speed is adjusted by blipping the throttle.
–Shift time is shorter than a gearshift with clutch actuation.

The rider indicates a gearshift request by moving the gearshift lever from what was an untouched position at normal to snappy speed in the appropriate direction and following this movement through to the mechanical limit position of the gearshift operation. Once the gearshift has completed the shift lever has to be fully released before another gearshift with the Pro shift assistant can take place. In order to optimise shift quality when shifting gears with the Gear Shift Assistant Pro, the rider has to keep load state (throttle twistgrip position) constant before and during the gearshift. The Gear Shift Assistant Pro provides no assistance for gearshifts when the rider declutches.

**Downshifting**

–Downshifting is assisted until maximum rpm for the target gear to be selected is reached. This prevents overrevving.

|  Maximum engine speed |
|---|
| max. 8500 $min^{-1}$ |

**Upshifting**

–Upshifting is assisted until engine speed is below idle rpm in the target gear. This prevents the engine from dropping below idle speed.
–On account of the operating principle, a certain loss of comfort and perceptibly sharper load-change reactions can be experienced if the system is used for upshifts on overrun, particularly in low gears.

## HILL START CONTROL (HSC)

### How Hill Start Control Pro works

Hill Start Control Pro is a ride-off assistant that operates on the partially integral ABS system to prevent the vehicle from rolling back on a gradient, without the rider having to keep pressure applied to

the brake lever. When Hill Start Control Pro is activated, pressure is built up in the rear brake system to keep the machine at a standstill on a gradient.
The brake pressure in the brake system is dependent on the gradient.

**Influence of the brake pressure on the riding off behaviour**

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

**Behaviour when the motorcycle rolls or slips**

– If the vehicle starts to roll while Hill Start Control Pro is active, brake pressure is increased.
– If the rear wheel slips, the brake is released again after approx. 1 m. This keeps the vehicle from slipping downhill with a locked rear wheel, for example.

**Releasing the brake when stopping the engine**

Hill Start Control Pro is deactivated if the rider stops the engine by hitting the emergency-off switch (kill switch) or when the side stand is extended.
In addition to the indicator and warning lights, the rider should be made aware that Hill Start Control Pro 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 partial integral ABS brake system limits the speed of movement to approx. 3 km/h.
– The rider must brake the motorcycle manually.
– After two minutes, or when the brake is actuated, Hill Start Control Pro is completely deactivated.

The holding pressure is released immediately without a brake warning jolt as

soon as the ignition is switched off.

## ADAPTIVE HEADLIGHT

**How does the adaptive cornering headlight work?**

The low-beam unit installed as standard in the headlight consists of two reflectors that produce a low beam from an LED light source. Ride height sensors on front and rear suspension supply data for permanent beam throw adjustment. While the motorcycle is moving straight ahead, pitch compensation keeps the throw of the headlight beam constantly in the optimum, preset range, regardless of ride and load state. With the Adaptive headlight function, the low-beam unit is additionally rotated about an axis to a degree that varies with the bank angle, compensating for the vehicle's angle of lean. The angle of rotation is 70° (± 35°). Along with pitch compensation, therefore, the throw of the low-beam headlight also compensates for the rider's chosen bank angle through corners. The two movements are superimposed, so as the motorcycle is steered through a bend the headlight beam is directed into the bend for better illumination of the road ahead. The results are considerably better illumination of the road ahead when the vehicle corners, and a huge increase in active riding safety.

# MAINTENANCE

# 10

GENERAL NOTES 180
TOOLKIT 181
FRONT-WHEEL STAND 181
REAR-WHEEL STAND 182
ENGINE OIL 182
BRAKE SYSTEM 184
CLUTCH 189
COOLANT 190
TYRES 190
WHEEL RIMS 192
WHEELS 192
LIGHTING 199
JUMP-STARTING 199
BATTERY 200
FUSES 204
DIAGNOSTIC CONNECTOR 205

## 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.

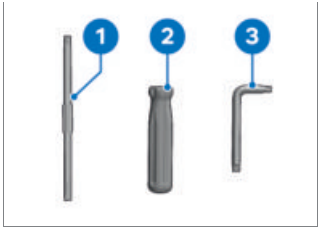
**Microencapsulated screws**

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** Reversible screwdriver blade
Plain-tip blade and Torx T25

**2** Screwdriver handle

**3** Torx wrench, T25/T30
T25 on short end, T30 on long end

## FRONT-WHEEL STAND

### Installing 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.

–with centre stand OE
- Make sure the ground is level and firm and place the motorcycle on its centre stand.

**ATTENTION**

**Centre stand lifts clear if the vehicle is lifted too high**
Risk of damage to parts if vehicle topples
- When lifting, make sure that the centre stand remains in contact with the ground.
- If necessary, adjust the height of the front-wheel stand.

- Make sure the motorcycle is standing firmly.◁

–without centre stand OE

- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (➠ 182)◁



- 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

**WARNING**

**Engine oil level low**

Risk of accident as a result of a blocked engine

- Always make sure that the oil level is correct.

**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.

–with centre stand OE
- Make sure the ground is level and firm and with the engine at operating temperature, place the motorcycle on its centre stand.◁

–without centre stand OE

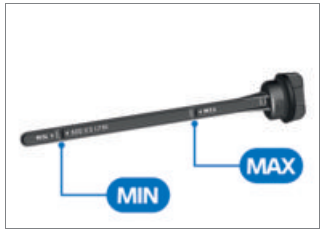
**ATTENTION**

**Vehicle toppling sideways**
Risk of damage to parts if vehicle topples
- Secure the vehicle, preferably with the assistance of a second person, so that it cannot topple sideways.

- Make sure the engine is at operating temperature and hold the motorcycle upright.◁




- Remove oil dipstick **1** and wipe it with a clean, dry cloth.
- Seat the oil dipstick on the oil filler opening, but do not engage the threads.
- Remove the oil dipstick and check the oil level.



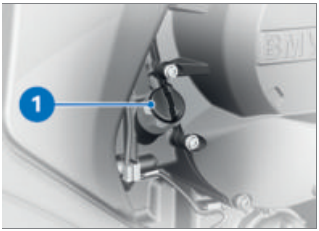

| Engine oil, specified level |
|---|
| Between the **MIN** and **MAX** mark (Engine at regular operating temperature) |

| Engine oil, quantity for topping up |
|---|
| max. 0.5 l (Difference between **MIN** and **MAX**) |

If the oil level is below the **MIN** mark:
- Topping up the engine oil. (➠ 184)

If the oil level is above the **MAX** mark:
- Have the oil level corrected by a specialist workshop, preferably an authorised BMW Motorrad retailer.
- Install the oil dipstick.

**Topping up engine oil**
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Wipe the area around the filler neck clean.




- Remove oil dipstick **1**.

**ATTENTION**

**Use of insufficient engine oil or too much engine oil**
Engine damage due to incorrect oil filling
- Always make sure that the engine oil level is correct.

- Top up the engine oil to the specified level.
- Check the engine oil level. (➠ 182)
- Install oil dipstick **1**.

## BRAKE SYSTEM

**Check operation of the brakes**
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Pull the handbrake lever.
» The pressure point must be clearly perceptible.
- Press the footbrake lever.
» The pressure point must be clearly perceptible.

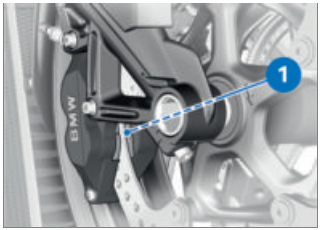
If pressure points are not clearly perceptible:

**ATTENTION**

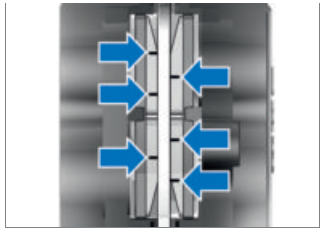
**Work on brake system not in compliance with correct procedure**
Risk to operational reliability of the brake system
- Have all work on the brake system undertaken by trained and qualified specialists.

- 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 front suspension and brake caliper mount toward brake pads **1**.



| Brake-pad wear limit, front |
| --- |
| min. 1.0 mm (Friction pad only, without backing plate. The wear indicators (grooves) must be clearly visible.) |

If the wear indicating marks are no longer clearly visible:

**WARNING**

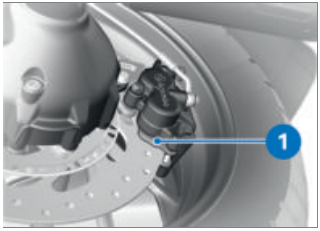
**Brake-pad thickness less than permissible minimum**
Diminished braking effect, damage to the brakes
- In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.

- Have the brake pads replaced by a specialist workshop,

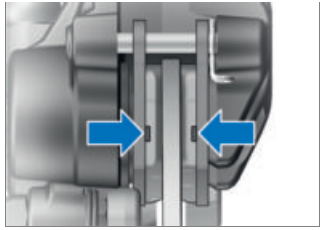
preferably an authorised BMW Motorrad retailer.

**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: From below toward brake pads **1**.



| | |
|---|---|
| | Brake-pad wear limit, rear |
| min. 1.0 mm (Friction pad only, without backing plate. Do not permit wear to progress to the point at which the wear indicators (grooves) are reached.) | |

If the wear indicating mark is no longer visible:

**WARNING**

**Brake-pad thickness less than permissible minimum**
Diminished braking effect, damage to the brakes

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

- Have the brake pads replaced by a specialist workshop,

preferably an authorised BMW Motorrad retailer.

**Checking brake-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.

–with centre stand OE
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◁

–without centre stand OE

**ATTENTION**

**Vehicle toppling sideways**
Risk of damage to parts if vehicle topples
- Secure the vehicle, preferably with the assistance of a second person, so that it cannot topple sideways.

- Make sure the ground is level and firm and hold the motorcycle upright.◁
- Turn the handlebars to a position in which the brake fluid reservoir is horizontal.




- 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

You should never allow the brake fluid level to drop below the **MIN** mark. (Brake-fluid reservoir horizontal, motorcycle upright and handlebars centred.)

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.

–with centre stand OE

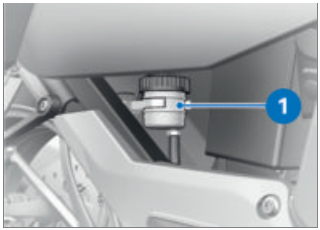
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◁

–without centre stand OE

**ATTENTION**

**Vehicle toppling sideways**
Risk of damage to parts if vehicle topples
- Secure the vehicle, preferably with the assistance of a second person, so that it cannot topple sideways.

- Make sure the ground is level and firm and hold the motorcycle upright.◁




- Check the 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 |
| You should never allow the brake fluid level to drop below the **MIN** mark. (Brake-fluid reservoir horizontal, motorcycle 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

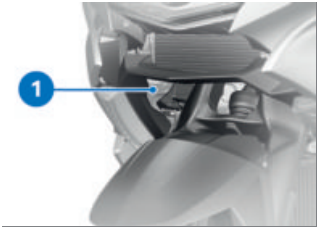
**Checking operation of the clutch**
- Pull the clutch lever.

» The pressure point must be clearly perceptible.

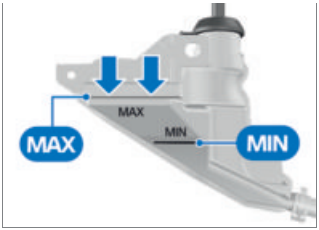
If the pressure point is not clearly perceptible:
- Have the clutch checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

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

## TYRES

**Tyre recommendation**

For each size of tyre, BMW Motorrad tests and classifies as roadworthy certain makes. BMW Motorrad cannot assess the suitability or provide any guarantee of road safety for other tyres.
BMW Motorrad recommends using only tyres tested by BMW Motorrad.

Detailed information is available from your authorised BMW Motorrad Retailer or in the internet at **bmw-motorrad.com/service**.

**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.

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

|  Tyre pressure, front |
|---|
| 2.9 bar (tyre cold) |

|  Tyre pressure, rear |
|---|
| 2.9 bar (tyre cold) |

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

**Check the tyre tread depth**

**WARNING**

**Riding with badly worn tyres**
Risk of accident due to impaired handling
- If applicable, have the tyres changed in good time before they wear to the minimum tread depth permitted by law.

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Measure the tyre tread depth in the main tread grooves with wear marks.

Each tyre has wear indicators integrated into the main tread grooves. The tyre has reached its wear limit when the tread has worn down to the level of the wear

indicators. The locations of the marks are indicated on the edge of the tyre, e.g. by the letters TI, TWI or by an arrow.

If the tyre tread is worn to minimum:

- Replace tyre or tyres, as applicable.

## WHEEL RIMS

### Checking rims

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Visually inspect the rims for defects.
- Have damaged rims checked and, if necessary, replaced by a specialist workshop, preferably an authorised BMW Motorrad retailer.

## WHEELS

### Effect of wheel size on chassis and suspension control systems

Wheel size is very important for the suspension control systems ABS and DTC. 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 wheel speed detection; they too must match the motorcycle's control systems and consequently cannot be replaced.

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.

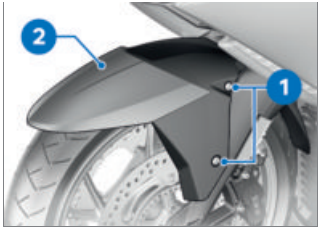
### Removing front wheel

–with centre stand OE

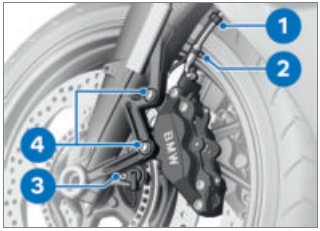
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◁

–without centre stand OE

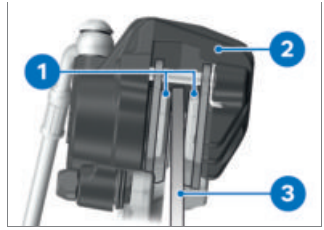
- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (➠ 182)◁




- Remove screws **1** on left and right.
- Pull front-wheel cover **2** forward to remove.




- Disengage the cable for the wheel speed sensor from holding clip **1** and remove cable tie **2**.
- Remove screw **3** and remove the wheel speed sensor from its bore.
- 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**.

**ATTENTION**

**Use of hard or sharp-edged objects in proximity to component**

Component damage

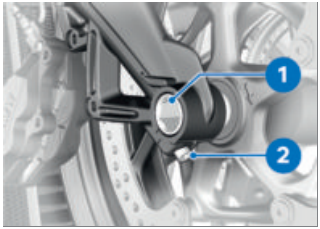
- Take care not to scratch components; cover or mask as necessary.

- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.

**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.

- Carefully pull the brake calipers back and out until clear of the brake discs.
- Raise front of motorcycle until the front wheel can turn freely. Use a suitable front-wheel stand to lift the front of the motorcycle.
- Install the front-wheel stand. (➠ 181)




- Undo right axle clamping screw **2**.
- Support the front wheel and remove quick-release axle **1**.
- Set down front wheel and roll forwards out of the front suspension.

**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.

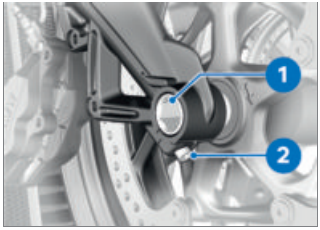
**ATTENTION**

**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.

**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 |

**WARNING**

**Improper installation of the quick-release axle**

Loosening of the front wheel

- After securing the brake calipers and relieving the front forks, tighten the quick-release axle and the axle clamping to the specified tightening torque.

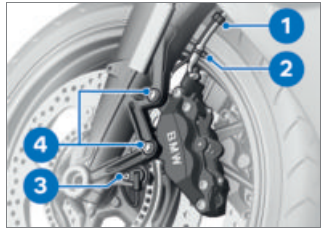
- Raise the front wheel, insert quick-release axle **1** and tighten to specified torque.

| Quick-release axle in threaded bush (wheel carrier) |
|---|
| M24 x 1.5 |
| 50 Nm |

- Tighten right axle clamping screw **2** to specified torque.

| Clamping screw for quick-release axle to wheel carrier |
|---|
| M8 x 30 |
| 19 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.

| Front brake caliper to wheel carrier |
|---|
| M8 x 30 - 10.9 |
| 28 Nm |

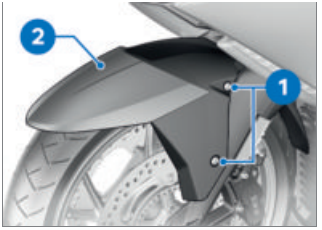
- Remove the adhesive tape from the wheel rim.

**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.
- Seat the cable for the wheel speed sensor in holding clip **1** and install cable tie **2**.
- Insert the wheel speed sensor into the bore hole and install screw **3**.

| Wheel speed sensor to front wheel guide/rear brake calliper |
|---|
| M5 x 10 - 10.9 |
| Thread-locking compound: micro-encapsulated |
| 4.6 Nm |



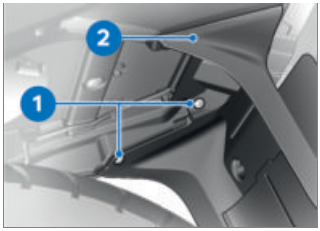

- Hold front wheel cover **2** in position and install screws **1** on left and right.

| Front-wheel cover to wheel carrier |
|---|
| M6 x 16 |
| Thread-locking compound: micro-encapsulated |
| 2 Nm |

**Removing rear wheel**

–with centre stand OE
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◁

–without centre stand OE
- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (➠ 182)◁
- Remove the cases. (➠ 119)




- Remove screws **1** on left and right.
- Remove number plate carrier **2**.
- Engage first gear.




**CAUTION**

**Hot exhaust system**
Risk of burn injury
- Do not touch a hot exhaust system.

- Remove bolts **1** from the rear wheel, while supporting the wheel.
- Roll the rear wheel out toward the rear.

**Installing rear wheel**

**WARNING**

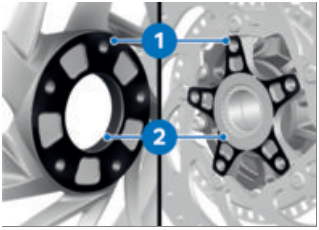
**Use of a non-standard wheel**
Malfunctions in operation of ABS and DTC
- See the information on the effect of wheel size on the ABS and DTC systems at the start of this chapter.

**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.

**ATTENTION**

**Rear wheel installed with tyre's direction of rotation incorrect**
Risk of accident
- Note direction-of-rotation arrows on tyre or rim.

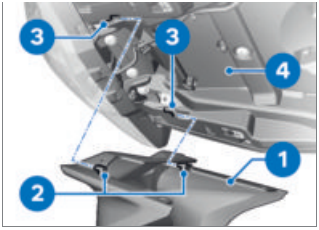



- Clean the contact surfaces of wheel hub **1** and wheel centring spigot **2**.
- Roll the rear wheel to the rear-wheel mounting and position it.

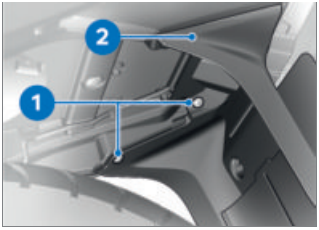



- Install screws **1** and tighten to the specified torque in diagonally opposite sequence.

| Rear wheel on wheel flange |
|---|
| Tightening sequence: Tighten in diagonally opposite sequence |
| M10 x 1.25 x 40 |
| 60 Nm |




- Hold number plate carrier **1** in position and engage retaining lugs **2** in recesses **3** of rear carrier **4**.




- Install number plate carrier **2** with screws **1** on left and right.

| Number plate carrier to rear carrier |
|---|
| M5 x 14 |
| 2 Nm |

- Install the cases. (➠ 119)

## 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.

- When jump-starting the engine, do not disconnect the battery from the on-board electrical system.
- Remove the seat. (➠ 117)
- Run the engine of the donor vehicle during jump-starting.
- Begin by connecting one end of the red jump lead to the positive terminal of the discharged battery and the other end to the positive terminal of the donor battery.
- Connect one end of the black jump lead to the negative terminal of the donor battery, then connect the other end to the negative terminal of the discharged battery.
- 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.
- Allow both engines to run for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from the negative terminal first, then from the positive terminal.
- Install the seat. (➠ 118)

## BATTERY

### Maintenance instructions

Correct upkeep, recharging and storage will prolong the life of the battery and are essential if warranty claims are to be considered.

Compliance with the points below is important in order to maximise battery life:

– Keep the surface of the battery clean and dry.
– Do not open the battery.
– Do not top up with water.
– Be sure to read and comply with the instructions for char-

ging the battery on the following pages.
– Do not turn the battery upside down.

|  Battery type |
| --- |
| AGM, 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.

**Charging battery when connected**

**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.

**Charging battery when disconnected**

**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.

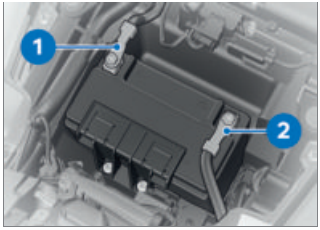
- Disconnect the battery from the motorcycle. (➠ 203)
- Charge the battery using a suitable charger.
- Comply with the operating instructions of the charger.
- Once the battery is fully charged, disconnect the charger's terminal clips from the battery terminals.

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.

- Connect the battery to the motorcycle. (➠ 203)

**Disconnecting battery from motorcycle**

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the seat. (➠ 117)




**ATTENTION**

**Battery not disconnected in accordance with correct procedure**

Risk of short-circuit

- Always proceed in compliance with the specified disconnection sequence.

- First disconnect negative battery cable **1**.
- Then disconnect positive battery cable **2**.

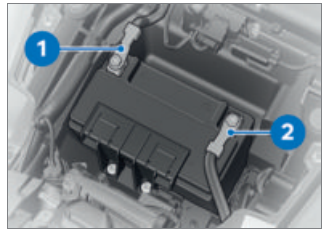
**Connecting battery to motorcycle**

**ATTENTION**

**Battery not connected in accordance with correct procedure**

Risk of short-circuit

- Always proceed in compliance with specified installation sequence.

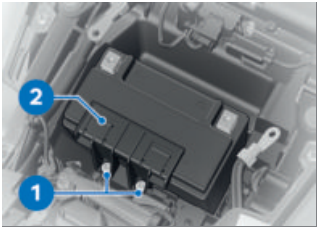



- First connect positive battery cable **2**.
- Then connect negative battery cable **1**.
- Install the seat. (➠ 118)

**Removing battery**

–with anti-theft alarm (DWA) OE

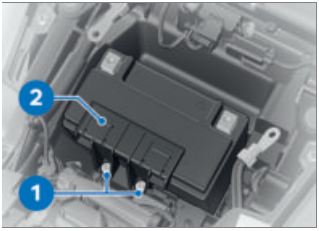
- Switch off the anti-theft alarm system.◁
- Switch off the ignition.
- Disconnect the battery from the motorcycle. (➠ 203)




- Remove screws **1** and retaining bracket **2**.
- Lift the battery up and out; work it slightly back and forth if it is difficult to remove.

**Installing battery**

- Place the battery in the battery compartment, positive terminal on the left in the forward direction of travel.




- Insert retaining bracket **2**, install screws **1**.

| | |
|---|---|
| | Battery holder to rear carrier |
| M5 x 10 | |
| 3 Nm | |

- Connect the battery to the motorcycle. (➠ 203)

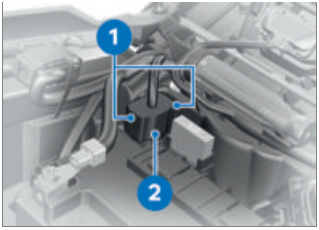
–with anti-theft alarm (DWA) OE

- Switch on the anti-theft alarm. ◁
- Change the system settings. (➠ 76)

## FUSES

**Replacing fuses**

- Switch off the ignition.
- Remove the seat. (➠ 117)




- Press locks **1** on both sides.
- Remove fuse box **2**.

**ATTENTION**

**Jumpering of blown fuses**

Risk of short-circuit and fire

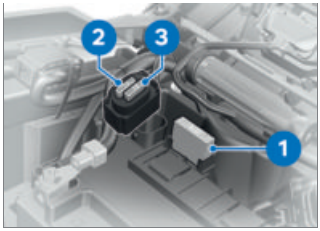
- Never attempt to jumper a blown fuse.
- Always replace a defective fuse with a new fuse of the same amperage.

- Consult the fuse assignment diagram and replace the defective fuse.

If fuse defects recur frequently have the electric circuits checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

- Re-insert fuse box **2**. Make sure that locks **1** engage on both sides.
- Install the seat. (➠ 118)

**Fuse assignment**

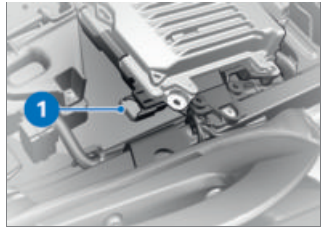



**1** 40 A
Main fuse

**2** 7.5 A
Topcase, RDC, sensor box

**3** 10 A
Instrument cluster, ignition switch, DWA, cut-off relay, OBD connector

**Fuse for audio system**




**1** 15 A
Fuse for audio system

## DIAGNOSTIC CONNECTOR

### Disengaging diagnostic socket

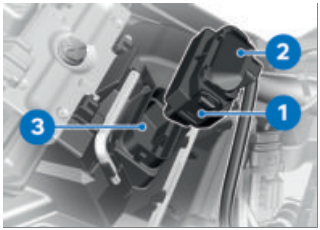
**CAUTION**

**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 seat. (➠ 117)

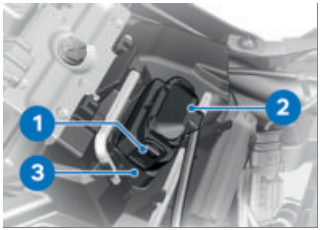



- Press locks **1**.
- Disengage diagnostic socket **2** from seat mount **3**.

» The interface to the diagnosis and information system can be connected to the diagnostic connector **2**.

**Securing diagnostic socket**

- Disconnect the interface for the diagnosis and information system.




- Insert diagnostic socket **2** into seat mount **3**.

» The locks **1** engage.

- Install the seat. (➠ 118)

# ACCESSORIES

11

GENERAL NOTES 210
POWER SOCKETS 210

## 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**

## 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.

|  Automatic shutdown of the sockets after ignition OFF |
| --- |
| max. 15 min |

– 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.

# CARE

# 12

CARE PRODUCTS 214
WASHING THE VEHICLE 214
CLEANING EASILY DAMAGED COMPONENTS 215
CARE OF PAINTWORK 216
PAINT PRESERVATION 217
LAYING UP MOTORCYCLE 217
RESTORING MOTORCYCLE TO USE 217

## 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.

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

**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.

## CARE OF PAINTWORK

**ATTENTION**

**Damage to paintwork due to metal polish**

Risk of damage

- Do not treat painted surfaces and chrome-painted surfaces with metal polish.

Washing the vehicle regularly will help counteract the long-term effects of substances that can damage the paint, especially if your vehicle is ridden in areas with high air pollution or natural sources of dirt, for example tree resin or pollen. Remove particularly aggressive substances immediately, however, as otherwise the paint can be affected or become

discoloured. Substances of this nature include spilt fuel, oil, grease, brake fluid and bird droppings. For this, we recommend BMW Motorrad solvent cleaner followed by BMW Motorrad gloss polish for preservation.
Marks on the paintwork are particularly easy to see after the vehicle has been washed. Remove stains of this kind at the earliest possible opportunity, using benzine or petroleum spirit on a clean cloth or ball of cotton wool. BMW Motorrad recommends using BMW tar remover for removing specks of tar. Then apply preserving agent to the areas treated in this way.

## 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.
- Remove the battery. (➠ 203)
- Spray the brake and clutch lever pivots and the sidestand and centre-stand pivot mounts 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.

## RESTORING MOTORCYCLE TO USE

- Remove the protective wax coating.
- Clean the motorcycle.
- Install the battery. (➠ 204)
- Note the checklist (➠ 149).

# TECHNICAL DATA

13

| | |
|---|---|
| TROUBLESHOOTING CHART | 220 |
| THREADED FASTENERS | 224 |
| FUEL | 226 |
| ENGINE OIL | 227 |
| ENGINE | 227 |
| CLUTCH | 228 |
| TRANSMISSION | 228 |
| FINAL DRIVE | 228 |
| FRAME | 228 |
| CHASSIS AND SUSPENSION | 228 |
| BRAKES | 229 |
| WHEELS AND TYRES | 229 |
| ELECTRICAL SYSTEM | 230 |
| DIMENSIONS | 231 |
| WEIGHTS | 231 |
| PERFORMANCE FIGURES | 232 |

## TROUBLESHOOTING CHART

The engine does not start.

| Possible cause | Rectification |
|---|---|
| Side stand is extended | Retract the side stand. |
| Gear engaged and clutch not disengaged | Select neutral or pull the clutch lever. |
| No fuel in tank | Refuel. (➠ 156) |
| Battery flat | Recharge the battery. |
| 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. |

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. |
| Bluetooth connection interrupted. | The temperature of the instrument cluster is too high. Bluetooth is deactivated. 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 volume in the helmet cannot be adjusted. | Switch off the helmet's communication system and reconnect it after a minute or two. |
| In-helmet volume is too low. | Set the mobile device's volume for media and calls to maximum. |

Instrument cluster is 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. |

Phonebook is not displayed in the instrument cluster.

| Possible cause | Rectification |
|---|---|
| The phonebook was not transmitted to the vehicle. | Confirm transmission of the phone data (➠ 84) when pairing the mobile device. |
| Not all contacts are shown. | The number of phonebook entries that can be saved in the instrument cluster is limited. Reduce the number of phonebook entries on the mobile device. |

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. |

The playlist is not displayed in the instrument cluster.

| 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 |
|---|---|---|
| **Front brake caliper to wheel carrier** | | |
| M8 x 30 - 10.9 | 28 Nm | |
| **Clamping screw for quick-release axle to wheel carrier** | | |
| M8 x 30 | 19 Nm | |
| **Quick-release axle in threaded bush (wheel carrier)** | | |
| M24 x 1.5 | 50 Nm | |
| **Wheel speed sensor to front wheel guide/ rear brake calliper** | | |
| M5 x 10 - 10.9, Replace screw micro-encapsulated | 4.6 Nm | |
| **Front-wheel cover to wheel carrier** | | |
| M6 x 16, Replace screw micro-encapsulated | 2 Nm | |

| Rear wheel | Value | Valid |
|---|---|---|
| **Rear wheel on wheel flange** | | |
| M10 x 1.25 x 40 | **Tightening sequence: Tighten in diagonally opposite sequence** | |
| | 60 Nm | |

| Number plate carrier | Value | Valid |
|---|---|---|
| **Number plate carrier to rear carrier** | | |
| M5 x 14 | 2 Nm | |

**FUEL**

| | |
|---|---|
| Recommended fuel grade | E5 E10 Premium unleaded (max. 15% ethanol, E15)<br>95 ROZ/RON<br>90 AKI |
| Alternative fuel grade | E5 E10 Regular unleaded (power- and consumption-related restrictions) (max. 15% ethanol, E10/E15)<br>91 ROZ/RON<br>87 AKI |
| Usable fuel capacity | approx. 26.5 l |
| Reserve fuel | approx. 4 l |
| Fuel consumption | approx. 5.9 l/100 km, in accordance with WMTC |
| –with power reduction OE | approx. 6.2 l/100 km, in accordance with WMTC |
| CO2 emission | 137 g/km, in accordance with WMTC |
| –with power reduction OE | 143 g/km, in accordance with WMTC |
| Exhaust emissions standard | EU5+ |
| –with Canada export NV | TIER 2, measured in accordance with FTP75 |

## ENGINE OIL

| | |
|---|---|
| Engine oil, capacity | approx. 4.5 l, with filter change |
| Specification | SAE 5W-40, API SJ / JASO MA2, Additives (e.g. molybdenum-based) are not permissible because they can attack coated components of the engine, BMW Motorrad recommends BMW Motorrad ADVANTEC Ultimate oil. |
| Engine oil, quantity for topping up | max. 0.5 l, Difference between **MIN** and **MAX** |

**BMW recommends** ADVANTEC ORIGINAL BMW ENGINE OIL

## ENGINE

| | |
|---|---|
| Engine number location | Above oil filler neck |
| Engine type | A40A16A |
| Engine design | 6-cylinder, four-stroke in-line engine arranged across the direction of travel, featuring four valves per cylinder, two overhead camshafts; liquid cooling, electronic fuel injection, integrated six-speed cassette gearbox, dry-sump lubrication. |
| Displacement | 1649 $cm^3$ |
| Compression ratio | 12.2:1 |
| Nominal capacity | 118 kW, at rpm: 6750 $min^{-1}$ |
| –with power reduction OE | 79 kW, at rpm: 5750 $min^{-1}$ |

| | |
|---|---|
| Torque | 180 Nm, at rpm: 5250 $min^{-1}$ |
| –with power reduction OE | 160 Nm, at rpm: 4250 $min^{-1}$ |
| Maximum engine speed | max. 8500 $min^{-1}$ |
| Idle speed | $900^{\pm 50}$ $min^{-1}$, Engine at regular operating temperature |

**CLUTCH**

| | |
|---|---|
| Clutch type | Multi-disc oil bath |

**TRANSMISSION**

| | |
|---|---|
| Type of transmission | Claw-shift 6-speed gearbox with helical gearing |

**FINAL DRIVE**

| | |
|---|---|
| Gear ratio of final drive | 2.75 (33/12 teeth) |

**FRAME**

| | |
|---|---|
| Type plate location | Top right wheel carrier |
| Position of the vehicle identification number | Rear part of the main frame above the swinging arm, pointing in the direction of travel |

**CHASSIS AND SUSPENSION**

| | |
|---|---|
| **Front wheel** | |
| Type of front suspension | BMW Motorrad Duolever |
| Spring travel, front | 115 mm, at wheel |
| **Rear wheel** | |
| Type of rear suspension | Cast aluminium single-sided swinging arm with BMW Motorrad Paralever |
| Spring travel, rear | 135 mm, at wheel |

| BRAKES | |
|---|---|
| **Front wheel** | |
| Type of front brake | Twin disc brake, diameter 320 mm, 4-piston fixed caliper |
| Brake-pad material, front | Sintered metal |
| Brake disc thickness, front | 5.0 mm, When new<br>min. 4.5 mm, Wear limit |
| **Rear wheel** | |
| Type of rear brake | Single-disc brake, diameter 320 mm, 2-piston fixed caliper |
| Brake-pad material, rear | Organic material |
| Brake disc thickness, rear | 5.5 mm, When new<br>min. 4.9 mm, Wear limit |
| Blow-by clearance of the foot-brake lever | min. 1 mm, between piston and pushrod |

| WHEELS AND TYRES | |
|---|---|
| Speed category, front/rear tyres | W, required at least: 270 km/h |
| **Front wheel** | |
| Front-wheel rim size | 3.50" x 17" |
| Tyre designation, front | 120/70 ZR 17 |
| Load index, front tyre | min. 58 |
| Wheel load, front, at unladen weight | 166 kg |

| | |
|---|---|
| **Rear wheel** | |
| Rear wheel rim size | 6.00" x 17" |
| Tyre designation, rear | 190/55 ZR 17 |
| Load index, rear tyre | min. 75 |
| Wheel load, rear, at unladen weight | 184 kg |
| **Tyre pressure** | |
| Tyre pressure, front | 2.9 bar, tyre cold |
| Tyre pressure, rear | 2.9 bar, tyre cold |

| **ELECTRICAL SYSTEM** | |
|---|---|
| Electrical rating of on-board sockets | max. 10 A, Total for all sockets |
| **Fuses** | |
| Main fuse | 40 A, Controller, cut-off relay, BCL |
| Fuse 1 | 7.5 A, Topcase, RDC, sensor box |
| Fuse 2 | 10 A, Instrument cluster, ignition switch, DWA, cut-off relay, OBD connector |
| Fuse 3 | 15 A, Audio system |
| **Battery** | |
| Battery type | AGM, maintenance-free |
| Battery rated voltage | 12 V |
| Battery rated capacity | 16 Ah |
| Battery type (For Keyless Ride radio-operated key) | CR 2032 |
| **Spark plugs** | |
| Spark plugs, manufacturer and designation | NGK LMAR8AI-10 |

| Lighting | |
|---|---|
| All light sources | LED |

| DIMENSIONS | |
|---|---|
| Length of motorcycle | 2489 mm, over topcase |
| Height of motorcycle | 1490...1580 mm, over windscreen and topcase, at DIN vehicle kerb weight |
| Width of motorcycle | 1000 mm, with mirrors and cases |
| Height of rider's seat | 750 mm, without rider, at DIN unladen weight |
| –with seat, high OE | 800 mm, without rider, at DIN unladen weight |
| Rider's inside-leg arc, heel to heel | 1760 mm, Without rider; at DIN unladen weight |
| –with seat, high OE | 1850 mm, Without rider; at DIN unladen weight |

| WEIGHTS | |
|---|---|
| Vehicle kerb weight | 358 kg, DIN unladen weight, ready for road, 90 % load of fuel, without optional extras (OE) |
| Permissible gross vehicle weight | 560 kg |
| Maximum payload | 202 kg |
| Payload per case | max. 10 kg |
| Payload of topcase | max. 10 kg |

**PERFORMANCE FIGURES**

| | |
|---|---|
| Top speed | >200 km/h |
| –with power reduction[OE] | >200 km/h |
| Maximum speed for riding with a loaded case | max. 180 km/h |
| Maximum speed for riding with a loaded topcase | max. 180 km/h |

# SERVICE

# 14

REPORTING SAFETY-RELEVANT DEFECTS 236
RECYCLING 237
BMW MOTORRAD SERVICE 237
BMW MOTORRAD SERVICE HISTORY 238
BMW MOTORRAD MOBILITY SERVICES 239
MAINTENANCE WORK 239
MAINTENANCE SCHEDULE 241
BMW MOTORRAD RUNNING-IN CHECK 242
MAINTENANCE CONFIRMATIONS 243
SERVICE CONFIRMATIONS 255

## REPORTING SAFETY-RELEVANT DEFECTS

–with Canada export[NV]

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.

## RECYCLING

**Disposal of an EOL vehicle**

BMW Motorrad recommends disposing of a vehicle that has reached the end of its useful life by taking it to a manufacturer-designated receiving centre for EOL vehicles.
In general, the laws of the country in question apply for receiving and recycling of EOL vehicles. Information about recycling and sustainability can be viewed on the country-specific websites of the manufacturer. Additional information can be obtained on request from your authorised BMW Motorrad retailer or another qualified service partner, or from a specialist workshop.

**Disposal of the rider's manual**

–with France export[NV]




Dispose of this rider's manual by depositing it in the container provided for the purpose.

## BMW MOTORRAD SERVICE

BMW Motorrad has an extensive network of retailers in place to look after you and your motorcycle in more than 100 countries. Authorised BMW Motorrad retailers have the technical information and the technical know-how to carry out reliably all preventive maintenance and repair work on your BMW.
You can locate the nearest authorised BMW Motorrad retailer by visiting our website: **bmw-motorrad.com**.

**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.

## 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.

## MAINTENANCE WORK

### BMW pre-delivery check

Your authorised BMW Motorrad Retailer conducts the BMW pre-delivery check before handing over the vehicle 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.

# 240 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**

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 300 - 750 mls | 10 000 km 6 000 mls | 20 000 km 12 000 mls | 30 000 km 18 000 mls | 40 000 km 24 000 mls | 50 000 km 30 000 mls | 60 000 km 36 000 mls | 70 000 km 42 000 mls | 80 000 km 48 000 mls | 90 000 km 54 000 mls | 100 000 km 60 000 mls | 12 months | 24 months |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | x | | | | | | | | | | | | |
| 2 | | x | x | x | x | x | x | x | x | x | x | x[a] | |
| 3 | | x | x | x | x | x | x | x | x | x | x | x[a] | |
| 4 | | | x | | x | | x | | x | | x | | |
| 5 | | | | x | | | x | | | x | | | |
| 6 | | | | x | | | x | | | x | | | |
| 7 | | | | | | | | | | | | | x |
| 8 | | | x | | x | | x | | x | | x | | x[b] |
| 9 | | | | | | | | | | | | x[c] | x[c] |

**1** BMW Motorrad running-in check (including oil change and oil filter change)

**2** BMW Motorrad Service, standard scope

**3** Engine-oil change, with filter

**4** Replace air-filter element

**5** Check valve clearances

**6** Replace all spark plugs

**7** Check the bearing for deflection on the rear wheel swinging arm

**8** Oil change in bevel gears rear

**9** 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

## 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
–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
–Confirm the BMW Motorrad 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
–Draining the condensate hose
–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
–Visual inspection of clutch system
–Check the coolant level
–Check the tyre pressures and tread depth
–Check the side stand's ease of movement
–Check the ease of movement of the centre stand
–Checking lighting and signalling system
–Function test, engine start suppression
–Final inspection and check of roadworthiness
–Performing vehicle test with BMW Motorrad diagnostic system
–Setting service-due date and countdown distance with BMW Motorrad diagnostic system
–Checking battery state of charge
–Confirm the BMW Motorrad service in the on-board literature

**BMW Motorrad pre-delivery check**

carried out

on_____

Stamp, signature

**BMW Motorrad running-in check**

carried out

on_____

odometer reading_____

Next service

at the latest

on_____

or, when reached earlier

odometer reading_____

Stamp, signature

**BMW Motorrad service**
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

| | Yes | No |
|---|---|---|
| BMW Motorrad service | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

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 | ☐ | ☐ |
| Engine oil change with filter | ☐ | ☐ |
| Replacing the air filter element | ☐ | ☐ |
| Checking valve clearance | ☐ | ☐ |
| Renewing all spark plugs | ☐ | ☐ |
| Check bearing for deflection at rear wheel swinging arm (in maintenance | ☐ | ☐ |
| Oil change in rear angular gearbox | ☐ | ☐ |
| Changing the brake fluid in the entire system | ☐ | ☐ |

Notes

Stamp, signature

## SERVICE CONFIRMATIONS

The table is intended as a record of maintenance and repair work, the installation of optional accessories and, if appropriate, technical campaign work.

| Work performed | odometer reading | Date |
|---|---|---|
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| Work performed | odometer reading | Date |
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DECLARATION OF CONFORMITY 259
BATTERY DIRECTIVE 262
RADIO EQUIPMENT TFT INSTRUMENT CLUSTER 264
RADIO EQUIPMENT ELECTRONIC IMMOBILISER 266
KEYLESS RIDE KEY 268
KEYLESS RIDE ECU 270
CERTIFICATION TIRE PRESSURE CONTROL 272
RADIO EQUIPMENT AUDIO SYSTEM 273
RADIO EQUIPMENT INTELLIGENT EMERGENCY CALL 273

## 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).**

CE

**Simplified UK Declaration of Conformity according to Radio Equipment Regulations 2017 of the United Kingdom.**

UK CA

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**

**Technical information**

| Radio equipment | Component | Frequency band | Output/ Transmission Power |
|---|---|---|---|
| EWS4 | EWS | 134 kHz | 50 dBµV/m |
| HUF5794 | Keyless Ride | 433.92 MHz | 10 mW |
| HUF8485 | Keyless Ride | 134.45 kHz | 42 dBµV/m |
| ZB001 | Keyless Ride | 134.5 kHz | allowed 66 dBµA/ m @ 10m |

| Radio equipment | Component | Frequency band | Output/ Transmission Power |
|---|---|---|---|
| ZB002 | Keyless Ride | 433.92 MHz | max. 10 dBm e.r.p |
| TXBM-WMR | DWA | 433.05 MHz - 434.79 MHz | 18.8 dBm |
| RDC3 | RDC | 433.92 MHz | < 13 mW |
| Wus Moto gen 3 | RDC | 433.05 MHz - 434.79 MHz | < 10 mW e.r.p. |
| MC24-MA4 | RDC | | |
| WCA Motorrad-Ladestaufach | Charging compartment | 110 kHz - 115 kHz | < 6 W |
| ICC6.5in | Instrument Cluster | Bluetooth: 2402 MHz - 2480 MHz WLAN: 2412 MHz - 2462 MHz | Bluetooth: < 4 dBm WLAN: < 20 dBm |
| ICC65V2 | Instrument Cluster | Bluetooth: 2400 MHz - 2480 MHz WLAN: 2400 MHz - 2480 MHz | Bluetooth: < 10 mW WLAN: < 100 mW |
| ICC10in | Instrument Cluster | Bluetooth: 2402 MHz - 2480 MHz WLAN: 2402 MHz - 2472 MHz | Bluetooth: < 4 dBm WLAN: < 14 dBm |
| MR-Re14FCR | ACC | 76 - 77 GHz | Peak max. 32 dBm Nom max. 27 dBm |

| Radio equipment | Component | Frequency band | Output/ Transmission Power |
|---|---|---|---|
| ARS513 | Front radar | 77 GHz | Peak max. 30 dBm |
| SRR521 | Rear radar | 77 GHz | Peak max. 30 dBm |
| TL1P22 | Intelligent emergency call | 832 MHz - 862 MHz<br>880 MHz - 915 MHz<br>1710 MHz - 1785 MHz<br>1920 MHz - 1980 MHz<br>2500 MHz - 2570 MHz<br>2570 MHz - 2620 MHz<br>GNSS: 1559 MHz - 1610 MHz | 23 dBm<br>33 dBm<br>30 dBm<br>24 dBm<br>23 dBm<br>23 dBm |
| TL1M-23NE | Intelligent emergency call | 703 MHz - 748 MHz<br>832 MHz - 862 MHz<br>880 MHz - 915 MHz<br>1710 MHz - 1785 MHz<br>1920 MHz - 1980 MHz<br>2300 MHz - 2400 MHz<br>2500 MHz - 2570 MHz<br>2570 MHz - 2620 MHz<br>GNSS: 1559 MHz - 1610 MHz | 23 dBm<br>23 dBm<br>33 dBm<br>30 dBm<br>24 dBm<br>23 dBm<br>23 dBm<br>23 dBm |
| MCR001 | Audio system | | |
| ZB005 | Keyless Ride Main Unit | 134.5 kHz<br>433.92 MHz | < 66 dBµA/m |
| ZB006 | Keyless Ride Active Key | 134.5 kHz<br>433.92 MHz | < 10 mW e.r.p. |
| LIN2BTLE Gateway | Instrument Cluster | 2400 MHz - 2483.5 MHz | < 3 dBm |

## 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, 31520 Ramonville, Saint Agne, France<br>E-mail: contact@lid.tech<br>**www.lid.tech** |
| KLR Key | HUF5794 | Huf Hülsbeck & Fürst GmbH & Co. KG, Steeger Str.17, 42551 Velbert, Germany<br>E-mail: info@huf-group.com<br>**www.huf-group.com** |
| KLR Key | ZB002 | ZADI S.p.A., Via Carlo Marx 138, 41012 Carpi (MO), Italy<br>E-mail: info@zadi.com<br>**www.zadi.com** |
| KLR Key | ZB006 | ZADI S.p.A., Via Carlo Marx, 138 41012 Carpi (MO), Italy<br>E-mail: info@zadi.com<br>**www.zadi.com** |
| DWA8 ECU | DWA8 | Meta System S.p.A, Via Tancredi Galimberti 5, 42124 Reggio Emilia, Italy<br>**www.metasystemcorporation.com** |
| DWA8 RC | TXBMWMR | Meta System S.p.A, Via Tancredi Galimberti 5, 42124 Reggio Emilia, Italy<br>**www.metasystemcorporation.com** |

| Component | Type | Contact |
|---|---|---|
| DWA9 | DWA9 | Bury Sp. z o.o., ul. Wojska Polskiego 4, 39-300 Mielec, Poland<br>E-mail: info@bury.com<br>**www.bury.com** |

**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.

NOM

NYCE
IFETEL

**Serbia**

И011 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 ELECTRONIC IMMOBILISER**

For all countries without EU

**Model name: EWS 4**
**Manufacturer**
BECOM Electronics GmbH
Technikerstraße 1, A-7442
Hochstraß, Austria

**Technical information**

Frequency Band: 134 kHz
Transponder: TMS37145/Type DST80, TMS3705 Transponder
Base Station IC
Output Power: 50 dBµV/m

**Country**

**Argentina**

H-25246

**Australia/New Zealand**

R-NZ

**Brunei**

TA No: DTA-007061

**Canada**

Contains IC:
10430A-MREWS5012
This device complies with part 15 of the FCC Rules and Industry Canada license-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 received, including interference that may cause undesired operation.
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'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

**India**

ETA-SD-20200905860

**Israel**

מספר אישור אלחוטי של משרד התקשורת הוא
74908-51
אסור להחליף את האנטנה המקורית של המכשיר ולא לעשות בו כל שינוי טכני אחר

**Malaysia**

RFCL/47A/0920/S(20-3358)

**Indonesia**

78578/SDPPI/2023
2651
Dilarang melakukan perubahan Spesifikasi yang dapat Menimbulkan gangguan fisik dan/atau elektromagnetik terhadap lingkungan sekitarnya

**Paraguay**

NR: 2020-11-I-0834

**Philippines**

Type Approved
No.: ESD-RCE-2023298

**Serbia**

P1620118300

**Singapore**

Complies with
IMDA Standards
N3504-20

**South Africa**

TA-2020/6131
APPROVED

**Taiwan**

低功 電波 射性電機管 辦法 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。

**Vietnam**

ICT

A1109091120AF04A3

**KEYLESS RIDE KEY**

For all Countries without EU

**Model name: HUF5794**
**Manufacturer**

Huf Hülsbeck & Fürst GmbH & Co. KG
Steeger Str. 17, 42551 Velbert, Germany

**Technical information**

Frequenzy band: 433,92 MHz
Output/Transmission Power: 10 mW

**Country**

**Canada**

This device complies with part 15 of the FCC Rules and 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.
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 acceptor tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

**Indonesia**

81598/SDPPI/2022
13349

**Malaysia**




HIDF17000037

**Morocco**

AGREE PAR L'ANRT MAROC
Numéro d'agrément :
MR00031289ANRT2022
Date d'agrément :
06/01/2022

**Nigeria**

Connection and use of this communications equipment is permitted by the Nigerian Communications Commission

**Pakistan**




TAC NO: 9.140/2022

**Paraguay**




2022-01-I-0051

**Philippines**




Type Approved
No. ESD-RCE-2228693

**Serbia**



*И*005 22

**Singapore**

Complies with
IMDA Standards
DA105282

**South Africa**

TA-2022/0252
APPROVED

**Sultanate of Oman**

OMAN - TRA
R/13021/22
D100428

**Taiwan**

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**Vietnam**

ICT
THACO AUTO
C900248

**KEYLESS RIDE ECU**

For all Countries without EU

**Model name: HUF8485**
**Manufacturer**

Huf Hülsbeck & Fürst GmbH & Co. KG
Steeger Str. 17, 42551 Velbert, Germany

**Technical information**

Frequenzy band: 134,45 kHz
Output/Transmission Power: 42 dBµV/m

**Country**

**Canada**

This device complies with part 15 of the FCC Rules and 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.
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 acceptor tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

**Indonesia**
81597/SDPPI/2022
13349

**Malaysia**




HIDF17000037

**Morocco**
AGREE PAR L'ANRT MAROC
Numéro d'agrément :
MR00031290ANRT2022
Date d'agrément :
06/01/2022

**Nigeria**
Connection and use of this communications equipment is permitted by the Nigerian Communications Commission

**Pakistan**




TAC NO: 9.122/2022

**Paraguay**




2022-01-I-0052

**Philippines**




Type Approved
No. ESD-RCE-2228692

**Singapore**
Complies with
IMDA Standards
DA105282

**South Africa**

TA-2022/0251
APPROVES

**Sultanate of Oman**
OMAN - TRA
R/13020/22
D100428

**Vietnam**

THACO AUTO
C900248

**CERTIFICATION**
**TIRE PRESSURE CONTROL**
**TPC**

**Canada**
IC: 2546A-BC5A4
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'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
WARNING: Changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

**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.

**RADIO EQUIPMENT INTELLIGENT EMERGENCY CALL**

For all countries without EU

**Model name: TL1P22**
**Manufacturer**
LG ELECTRONICS INC.
10, Magokjungang 10-ro, Gangseo-gu Seoul, Republic of Korea

**Country**

**Canada**
IC: 2703H-TM04ANNABM1
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 environment non contrôlé. Il doit être installé de façon à garder une distance minimale de 3.5 centimétres 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.

**A**
Abbreviations and symbols, 4
ABS
Engineering details, 164
Status indicators, 59
Warning indicators, 59, 60
Active cruise control
Warning light, 65
Adaptive Headlight, 176
Ambient temperature, 44
Anti-theft alarm
Indicator light, 25
operating, 101
Audio system
switching on and off, 130
Warning light, 65, 66
Auxiliary headlights
Control, 22
operating, 97

**B**
Battery
charging battery when connected, 201
charging battery when disconnected, 202
connecting to motorcycle, 203
disconnecting from motorcycle, 203
installing, 204
Maintenance instructions, 200
Position on the vehicle, 21
removing, 203
Technical data, 230
Warning indicators, 45, 46
Bluetooth, 77
Helmet, 137
Pairing, 77
Brake fluid
Checking fluid level, front, 187
Checking fluid level, rear, 188
Reservoir, front, 19
Reservoir, rear, 19
Brake pads
checking front, 185
checking rear, 186
Running in, 151
Brake temperature
Warning light, 64, 65
Brakes
ABS Pro in detail, 167
ABS Pro, 154
Adjusting handlebar levers, 141
Checking operation, 184
Safety information, 152
Technical data, 229

**C**
Care
Care products, 214
Chrome, 216
Paintwork preservation, 217
Washing the vehicle, 214
Cases
operating, 118
Central locking
Control, 23, 24
operating, 113
Charging storage compartment
Position on the vehicle, 20
Chassis and suspension
Technical data, 228

Check control
Dialogue, 35
Display, 35
Checklist, 149
Clutch
Adjusting handlebar levers, 141
Checking operation, 189
Fluid reservoir, 18
Technical data, 228
Communication systems
Helmet, 137
Coolant
Checking fill level, 190
Fill-level indicator, 19
Cruise control
Control, 22
operating, 107

**D**

Daytime riding lights
automatic daytime riding light, 99
Control, 22
manual daytime riding light, 98
Diagnostic connector
disengaging, 205
securing, 206
Dimensions
Technical data, 231
Drop sensor
Warning light, 57
DTC, 104
Engineering details, 168
Warning indicators, 60, 61
DWA
Warning indicator lights, 49
Warning indicators, 48, 49
Dynamic engine brake control, 169

**E**

Electrical system
Technical data, 230
Emergency call
Automatically in the event of a light fall, 95
Automatically in the event of a severe fall, 96
Control, 23
Language, 94
Notes, 11
Warning indicators, 58
Emergency off switch (kill switch), 23, 24
operating, 93
Engine
starting, 149
Technical data, 227
Warning indicator lights, 51
Warning indicators, 52, 53
Engine oil
Checking fill level, 182
Electronic oil-level check, 49
Filler neck, 19
Indicator light for engine oil level, 50
Oil dipstick, 19
Technical data, 227
topping up, 184
Engine temperature, 50, 51

ESA
Engineering details, 170
operating, 105

**F**

Favourites buttons, 114
Assigning functions, 114
Position on the vehicle, 20
Final drive
Technical data, 228
Frame
Technical data, 228
Front-wheel stand
installing, 181
Fuel
Filler neck, 20
Fuel grade, 156
refuelling with Keyless Ride, 156, 157
Technical data, 226
Fuel filler cap emergency release, 158, 159
Fuel reserve
Range, 32
Warning indicators, 66
Fuses
Position on the vehicle, 21
replacing, 204
Technical data, 230

**G**

General views
Indicator and warning lights, 28
Instrument cluster, 25, 29, 30
Left multifunction switch, 22
left side of vehicle, 18
My vehicle, 33
Right multifunction switch, 23, 24
right side of vehicle, 19
Underneath the seat, 21

**H**

Hazard warning flashers
Control, 22
operating, 100
Headlight courtesy delay feature, 97
Heated handlebar grips
operating, 114
Hill Start Control, 110
automatically deactivated, 64
cannot be activated, 64
Indicator and warning lights, 63
Hill Start Control Pro, 174
Engineering details, 174
operating, 110
Horn, 22

**I**

Ignition
Position on the vehicle, 20
Immobiliser
Emergency key, 90
Indicator lights, 25
Overview, 28
Instrument cluster
Ambient-light brightness sensor, 25
Overview, 25
Instrument panel, 20, 25
Control, 22
operating, 70, 74, 75, 79
Overview, 29, 30
Selecting display, 72

**J**
Jump-starting, 199

**K**
Keyless Ride
Battery of the radio-operated key is empty or loss of the radio-operated key, 91
Electronic immobiliser (EWS), 90
Engaging steering lock, 88
Fuel filler cap, unlocking, 156, 157
Switching on ignition, 89
Warning indicators, 44, 45
Keys, 88

**L**
Lighting
Replacing LED light sources, 199
Technical data, 231
Warning indicators, 47
Lights
automatic daytime riding light, 99
Control, 22
Ground lighting, 97
Headlight courtesy delay feature, 97
Headlight flasher, 96
High-beam headlight, 96
Low-beam headlight, 96
manual daytime riding light, 98
Parking lights, 97
Side light, 96
Loudspeaker
Relationship with Bluetooth, 132
switching off, 133
Luggage
Instructions for loading, 146

**M**
Maintenance
Maintenance schedule, 241
Maintenance confirmations, 243
Maintenance intervals, 239
Media
operating, 82
Menu
calling up, 74
Mirrors
adjusting, 140
Mobility services, 239
Motorcycle
care, 212
cleaning, 212
lashing, 159
laying up, 217
parking, 155
restoring to use, 217
Multifunction switch
Overview, left side, 22
Overview, right side, 23, 24

**N**
Navigation
operating, 80

**O**
On-board voltage, 45, 46

**P**
Pairing, 77
Parking, 155
Phone
operating, 83
Power socket
Notes on use, 210
Position on the vehicle, 19
Pre-Ride-Check, 150
Pure Ride
Overview, 30

**R**
Radio
Adding favourite, 132
Selecting source, 130
Radio-operated key
Replacing battery, 92
Warning indicators, 44, 45
RDC
Engineering details, 172
Warning indicators, 54, 55, 56, 57
Rear-wheel stand
installing, 182
Recycling, 237
Refuelling
Fuel grade, 156
with Keyless Ride, 156, 157
Rev. counter
Rev. counter, 31
reverser, 112
Control, 22
Rider's seat
Height adjustment, 21
Riding mode
adjusting, 105
Control, 23, 24
Engineering details, 170
Running in, 150

**S**
Safety instructions
for brakes, 152
for riding, 146
Satellite radio
Availability, 134
Calling up channel saved in memory, 136
Saving channel, 135
Selecting category and channel, 135
Signal strength, 135
Subscribing to channel, 134
System messages, 136
Seat
installing, 117
removing, 117
Unlocking, 18
Seat heating
operating, 114
Service, 237
Reporting safety-relevant defects, 236
Service history, 238
Warning indicators, 67
Service-due indicator, 67
Shift assistant, 151, 173
Engineering details, 173
Gear not taught, 66
Riding, 151

Shifting gear
Recommendation to upshift, 32
slipstream deflector
operating, 116
Position on the vehicle, 18
Spark plugs
Technical data, 230
Speed Limit Info, 82
Splitscreen, 79
Selecting display, 79
switching off, 79
switching on, 79
Starting, 149
Control, 23, 24
Status line, top, 76
adjusting, 75
Stowage compartment
operating, 123
Position on the vehicle, 18, 19

**T**

Technical data
Battery, 230
Brakes, 229
Bulbs, 231
Chassis and suspension, 228
Clutch, 228
Dimensions, 231
Electrical system, 230
Engine, 227
Engine oil, 227
Final drive, 228
Frame, 228
Fuel, 226
Spark plugs, 230
Transmission, 228
Weights, 231
Wheels and tyres, 229
Tone settings, 133
Toolkit
Contents, 181
Position on the vehicle, 21
Topcase
operating, 120
Torques, 224
Transmission
Technical data, 228
Troubleshooting chart, 220
Turn indicators
Control, 22
operating, 100
Type plate
Position on the vehicle, 19
Tyre pressure monitoring RDC
Display, 53
Tyres
Checking tread depth, 190, 191
Checking tyre pressure, 190
Pressures, 230
Recommendation, 190
Running in, 151
Table of tyre pressures, 21
Technical data, 229

**V**

Value
Display, 35
Vehicle identification number
Position on the vehicle, 19
Volume
Adapt to speed, 134
adjusting, 133

**W**
Warning indicator lights
ABS, 59, 60
Anti-theft alarm, 49
Audio system, 65, 66
Brake temperature, 64, 65
Bulb faulty, 47
Cruise control, 65
DTC, 60, 61
DWA, 48, 49
Electrical machine control unit, 52, 53
Electrical machine temperature, 50, 51
Emergency call, 58
Engine, 51
Engine electronics, 52
Engine oil level, 50
Fall sensor, 57
Fuel reserve, 66
Gear not taught, 66
Hill Start Control, 63, 64
Keyless Ride, 44, 45
Light control failed, 48
Mode of presentation, 35
My vehicle, 33
On-board voltage, 45, 46
Outside temperature warning, 44
RDC, 54
Service, 67
Side stand, 58
TPM, 55, 56, 57
Warning light, drive malfunction, 51
Warning light, drive malfunction, 51, 52
Warning lights, 25
Overview, 28
Warnings, overview, 37
Weights
Payload table, 21
Technical data, 231
Wheels
Change of size, 192
Checking rims, 192
Installing front wheel, 194
Installing rear wheel, 197
Removing front wheel, 192
Removing rear wheel, 196
Technical data, 229
Windscreen
adjusting, 140
Control, 22

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.
Errors and omissions excepted.

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Original rider's manual, printed in Germany.

Important data for refuelling:

| | |
|---|---|
| **Fuel** | |
| Recommended fuel grade | E5 E10 Premium unleaded (max. 15% ethanol, E15)<br>95 ROZ/RON<br>90 AKI |
| Alternative fuel grade | E5 E10 Regular unleaded (power- and consumption-related restrictions) (max. 15% ethanol, E10/E15)<br>91 ROZ/RON<br>87 AKI |
| Usable fuel capacity | approx. 26.5 l |
| Reserve fuel | approx. 4 l |
| **Tyre pressure** | |
| Tyre pressure, front | 2.9 bar, tyre cold |
| Tyre pressure, rear | 2.9 bar, tyre cold |

For further information on all aspects of your vehicle, visit: **bmw-motorrad.com**

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