



**BMW  
MOTORRAD**

# **RIDER'S MANUAL**

M 1000 RR



**MAKE LIFE A RIDE**

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**Vehicle data**

Model

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Vehicle Identification Number

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Colour code

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Date of first registration

---

Registration number

---

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**Dealership details**

Person to contact in Service department

---

Ms/Mr

---

Phone number

---

Dealership address/phone number (company stamp)

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# YOUR BMW.

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

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

Read this rider's manual carefully before starting your new BMW. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features.

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

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

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

BMW Motorrad.

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# **GENERAL INSTRUCTIONS**

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## 4 GENERAL INSTRUCTIONS


### QUICK & EASY REFERENCE


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


### ABBREVIATIONS AND SYMBOLS

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

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

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

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

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

- Instruction.
- » Result of an activity.
- ▣ Reference to a page with more detailed information.
- ◁ Indicates the end of a passage relating to specific accessories or items of equipment.



Tightening torque.



Technical data.

NV

National-market version.

- OE Optional equipment. The vehicles are assembled complete with all the BMW Motorrad optional equipment originally ordered.
- OA Optional accessories. You can obtain BMW Motorrad optional accessories through your authorised BMW Motorrad dealer; optional accessories have to be retrofitted to the vehicle.
- ABS Anti-lock brake system.
- DTC Dynamic Traction Control.
- DWA Anti-theft alarm.
- EWS Electronic immobiliser.

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## EQUIPMENT

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

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

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

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## PARTS AND ACCESSORIES

BMW Motorrad recommends the use of parts and accessory products approved by BMW Motorrad. BMW Motorrad parts and accessories have been checked by BMW Motorrad with regard to their safety and usability with BMW Motorrad vehicles. Information about approved parts and accessories is available from your authorised BMW Motorrad retailer. BMW Motorrad guarantees original BMW Motorrad parts and accessories. BMW Motorrad does not check whether other-make products can be used safely with BMW Motorrad vehicles, even when the product in question has a country-specific official approval. BMW Motorrad

## 6 GENERAL INSTRUCTIONS

does not assess whether these products are suitable under all conditions of use for BMW Motorrad vehicles.

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### PREVENTIVE MAINTENANCE AND REPAIRS

Cutting-edge technology, for example the use of modern materials and high-end electronics, requires corresponding maintenance and repair work. BMW Motorrad recommends having the corresponding work carried out by an authorised BMW Motorrad retailer (also referred to as "authorised service point"). If you prefer some other qualified service point or specialist workshop, BMW Motorrad recommends making sure that all work, such as maintenance and repairs, is carried out in accordance with BMW Motorrad specifications by appropriately trained personnel.

Substandard work can lead to subsequent damage and an associated safety risk.

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### TECHNICAL DATA

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

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

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### CURRENCY

The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your vehicle

may differ from the information supplied in the rider's manual.

At the time of production of the motorcycle, the rider's manual is the most up-to-date source. Owing to updates subsequent to the date of publication, differences between the printed rider's manual and the online version are possible.

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

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## **ADDITIONAL SOURCES OF INFORMATION**

### **Authorised BMW Motorrad retailer**

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

### **Internet**

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

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## **CERTIFICATES AND OPERATING LICENCES**

The certificates for the vehicle and the official operating licences for accessories can be downloaded from [bmw-motorrad.com/certification](http://bmw-motorrad.com/certification).

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## **DATA MEMORY**

### **General**

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

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

## 8 GENERAL INSTRUCTIONS

### 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 vehicle owner. There are also other ways to use data obtained from the vehicle to trace the rider or vehicle owner, for example using the Connected-Drive user account.

### Data protection rights

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

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

These entities may include:

- Manufacturer of the vehicle
- Qualified service partners
- Specialist workshops
- Service providers

Vehicle users have the right to request information on what personal data has been stored,

for what purpose the data is used, and where the data comes from. To obtain this information, proof of ownership or use is required.

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

The vehicle owner can also request that a BMW Motorrad retailer or another qualified service partner or specialist workshop read out the data that is stored in the vehicle for a charge.

The vehicle data is read out using the legally prescribed 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 conditions, for example temperature

The data is only processed in the vehicle itself and is generally non-permanent. The data is not stored beyond the operating period.

Electronic components, for example control units, contain components for storing technical information. Information

can be temporarily or permanently stored on the vehicle condition, component loads, incidents or errors.

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

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

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

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

## 10 GENERAL INSTRUCTIONS

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 a BMW Motorrad retailer or another qualified service partner or specialist workshop. The legally stipulated 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.

Error and incident memories in the vehicle can be reset during servicing or repair work by a BMW Motorrad retailer or another qualified service partner or 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, website of the manufacturer. At the same time, information is also provided on the relevant data protection law. Personal data may be used to provide online services. Data

## 12 GENERAL INSTRUCTIONS

is exchanged using a secure connection, for example with the IT systems provided by the vehicle manufacturer.

Obtaining, processing and using personal data outside of the normal provision of services requires legal permission, contractual agreement or consent. It is also possible to have the entire data connection activated or deactivated. Statutory functions are excluded from this.

### **Services from other providers**

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

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### **BLUETOOTH®**

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

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

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

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


–Shielding by metal objects or bodies.

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## 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 (▶ 58). For more information on the Connectivity functions go to:

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

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

### **BMW Motorrad Connected app**

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

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

# GENERAL VIEWS

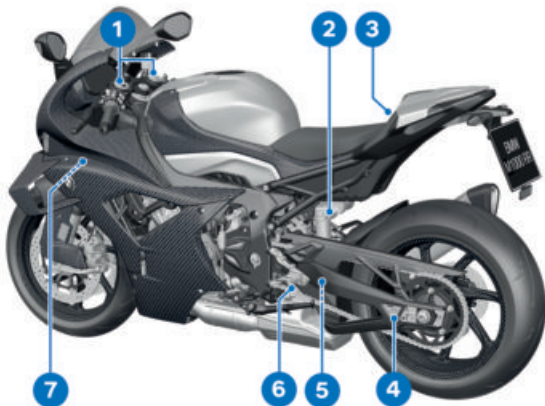
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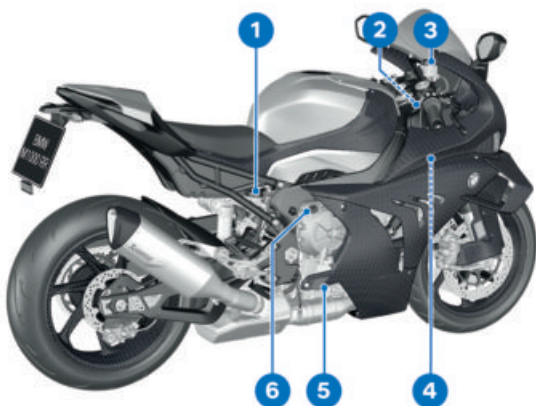
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## GENERAL VIEW, LEFT SIDE



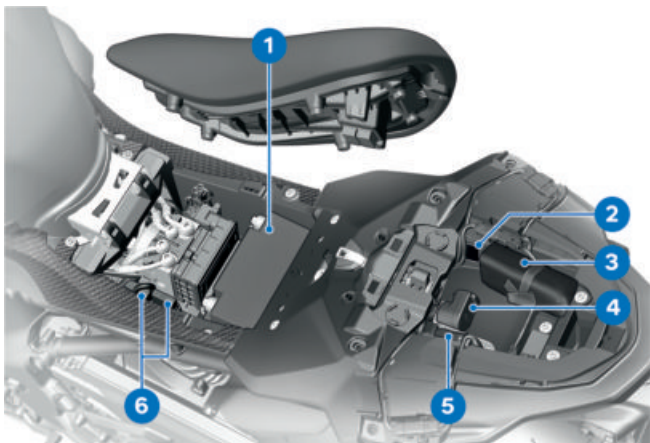
- |  |  |
|--|--|
| <b>1</b> Rebound-stage damping, front wheel (►► 96)<br>Spring preload at front wheel (►► 93)<br>Compression-stage damping, front wheel (►► 96) | <b>5</b> Rebound-stage damping, rear wheel (►► 97) |
| <b>2</b> Compression-stage damping, rear wheel (►► 97)<br>Spring preload at rear wheel (►► 94)   | <b>6</b> Rider footrest                            |
| <b>3</b> Lock for tail-hump cover (►► 83)  | <b>7</b> Steering damper (►► 92)                   |
| <b>4</b> Tyre pressures table<br>Chain settings  |  |

**GENERAL VIEW, RIGHT SIDE**

- 1** Brake-fluid reservoir, rear  
(➡ 170)
- 2** Vehicle identification number (on steering-head bearing)  
Type plate (on steering-head bearing)
- 3** Brake-fluid reservoir, front  
(➡ 169)
- 4** Coolant expansion tank  
(➡ 173)
- 5** Engine oil level indicator  
(➡ 165)
- 6** Oil filler opening  
(➡ 166)

## 18 GENERAL VIEWS

### UNDER THE RIDER'S SEAT



- 1 Battery (➡ 193)
- 2 Payload table
- 3 Toolkit (➡ 163)
- 4 USB charging socket  
(➡ 204)
- 5 Diagnostic connector  
(➡ 197)
- 6 Fuses (➡ 196)

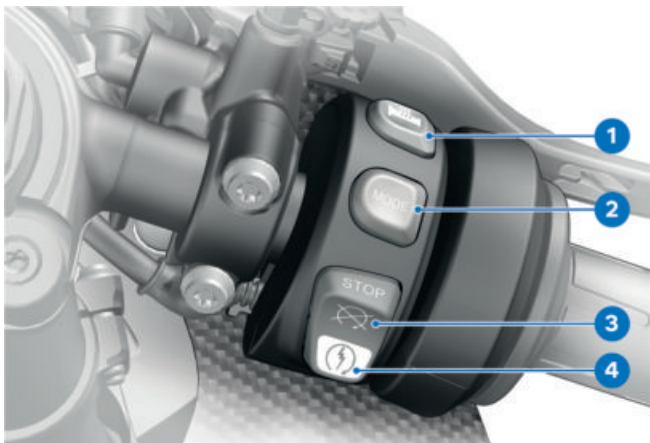


**MULTIFUNCTION SWITCH, LEFT**

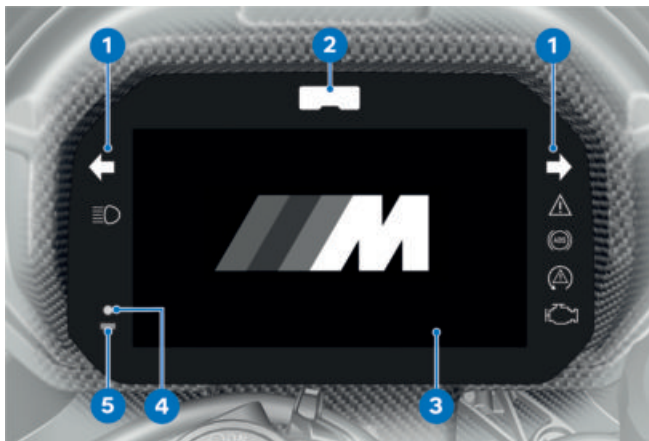
- 1 Operating DTC (►► 72)
- 2 High-beam headlight and headlight flasher (►► 70)
- 3 Cruise control (►► 76)
- 4 Hazard warning lights (►► 71)
- 5 Adapt DTC (►► 132)
- 6 Turn indicators (►► 72)
- 7 Horn
- 8 Multi-Controller (►► 54)
- 9 MENU rocker button (►► 55)

## 20 GENERAL VIEWS

### MULTIFUNCTION SWITCH, RIGHT



- 1 Heated grips (➡ 82)
- 2 Riding mode (➡ 73)
- 3 Emergency-off switch (kill switch) (➡ 69)
- 4 Starter button (➡ 110)  
Race start with Launch Control (➡ 130)

**INSTRUMENT CLUSTER**

- 1 Indicator and warning lights (►► 24)
- 2 Shift light (►► 114)
- 3 Display (►► 26)
- 4 DWA light-emitting diode (►► 81)
- 5 Photosensor (for adapting the brightness of the instrument lighting)

# **STATUS INDICATORS**

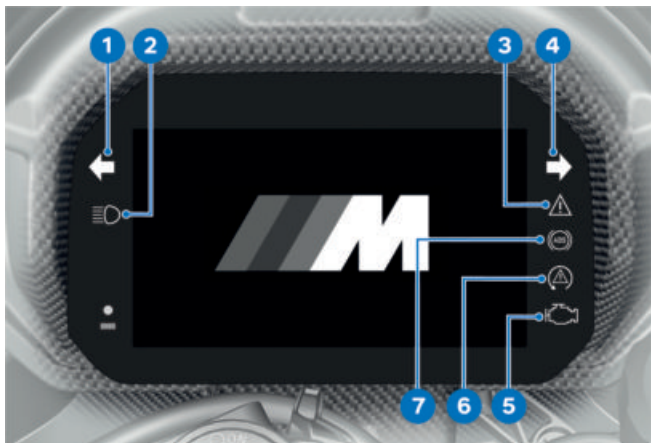
**03**

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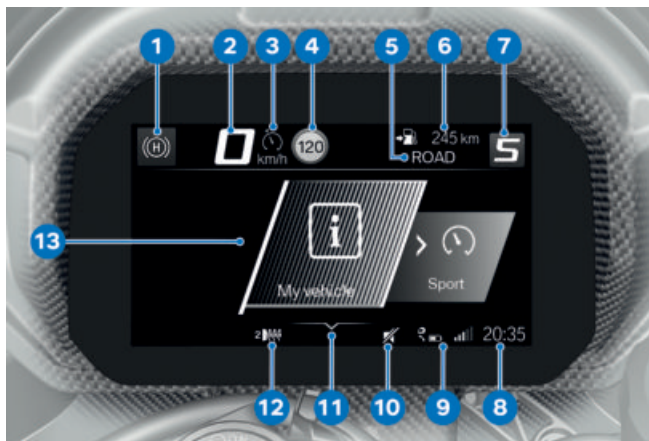
## 24 STATUS INDICATORS

### INDICATOR AND WARNING LIGHTS



- 1 Turn indicators, left (➡ 72)
- 2 High-beam headlight (➡ 70)
- 3 General warning light (➡ 31)
- 4 Turn indicators, right (➡ 72)
- 5 Warning light, drive malfunction (➡ 42)
- 6 DTC (➡ 46)
- 7 ABS (➡ 142)

## MENU VIEW

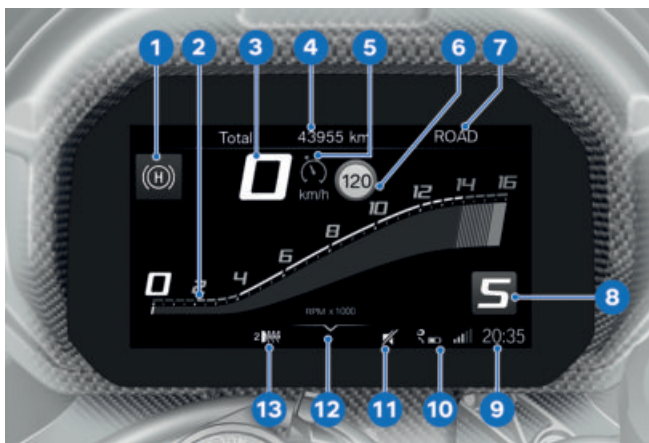


- 1 Hill Start Control (►► 49)
- 2 Speedometer
- 3 Cruise control (►► 76)
- 4 Speed Limit Info (►► 62)  
Adapt DTC (►► 132)
- 5 Riding mode (►► 73)
- 6 Top status line (►► 56)
- 7 Gear indicator
- 8 Clock (►► 58)
- 9 Connection status  
(►► 59)
- 10 Muting (►► 58)
- 11 Operating help
- 12 Grip-heating stage  
(►► 82)
- 13 Menu section

## 26 STATUS INDICATORS

### PURE RIDE VIEW

#### START SCREEN



- 1 Hill Start Control (➡ 49)
- 2 Rev. counter (➡ 27)
- 3 Speedometer
- 4 Top status line (➡ 56)
- 5 Cruise control (➡ 76)
- 6 Speed Limit Info (➡ 62)  
Adapt DTC (➡ 132)
- 7 Riding mode (➡ 73)
- 8 Gear indicator
- 9 Clock (➡ 58)
- 10 Connection status  
(➡ 59)
- 11 Muting (➡ 58)
- 12 Operating help
- 13 Grip-heating stage  
(➡ 82)




## REV. COUNTER



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

engine speed range no longer changes.

 The red engine speed range changes depending on the coolant temperature: The colder the engine, the lower the engine speed at which the red engine speed range starts.

The warmer the engine, the higher the speed at which the red engine speed range starts. When operating temperature is reached, the display of the red

## 28 STATUS INDICATORS

### Range



–The calculated range is only an approximate figure.

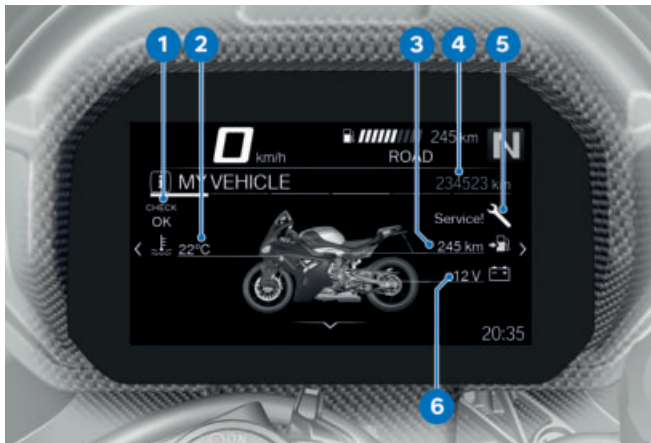
You can view the range **1** reading in the status line of the instrument cluster (▮▮▮▮ 56).

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.

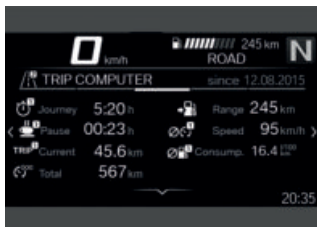
–After a refuelling stop, range is recalculated if the amount of fuel in the tank is greater than the reserve quantity.

**MY VEHICLE VIEW****START SCREEN**

- 1 Check Control display (➔ 31)
- 2 Coolant temperature (➔ 40)
- 3 Range (➔ 28)
- 4 Odometer
- 5 Service display (➔ 50)
- 6 On-board voltage (➔ 193)

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

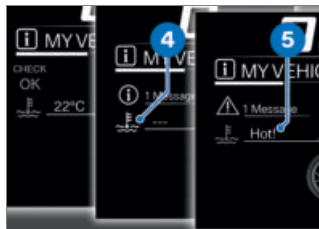
 The status of the 'General' warning light matches the most urgent warning. The possible warnings are listed on the next pages.



### 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, 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 with units, texts **5** are displayed as well:

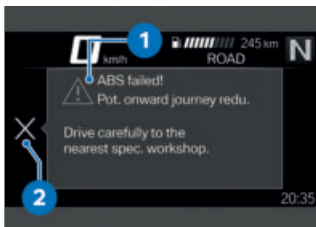
### Colour of the symbol

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

## 32 STATUS INDICATORS

- Red: (Hot!/High!) Current temperature or value is too high.
- White: (---) No valid value available. Dashes 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 in yellow.	Voltage of the vehicle electrical system too low (▬▬▬ 37)
	 Vehicle voltage low.	
 lights up yellow.	 is displayed in yellow.	Voltage of the vehicle electrical system critical (▬▬▬ 37)
	 Vehicle voltage critical!	
 flashes yellow.	 is displayed in yellow.	Charging voltage critical (▬▬▬ 38)
	 Battery voltage critical!	
 lights up yellow.	 The faulty bulb is displayed.	Bulb faulty (▬▬▬ 38)
 flashes yellow.	 The faulty bulb is displayed.	
 lights up yellow.	 Light control failure!	Light control failed (▬▬▬ 39)
	 Alarm system batt. capacity weak.	Anti-theft alarm battery weak (▬▬▬ 40)
	 Alarm system battery empty.	Anti-theft alarm battery flat (▬▬▬ 40)
	 Alarm system failure.	DWA failed (▬▬▬ 40)
 lights up yellow.	 Engine temp. high!	Engine temperature high (▬▬▬ 40)
 lights up red.	 Engine overheating!	Engine overheated (▬▬▬ 41)












## 34 STATUS INDICATORS

Indicator and warning lights	Display text	Meaning
 shows.	 Engine!	Drive malfunction (▣▣▣ 42)
 flashes red.	 Serious fault in the engine control!	Serious drive malfunction (▣▣▣ 42)
 flashes.		
 lights up yellow.	 No communication with engine control.	Engine control failed (▣▣▣ 42)
 lights up.		
 lights up yellow.	 Fault in the engine control.	Engine in emergency-operation mode (▣▣▣ 43)
 flashes red.	 Serious fault in the engine control!	Serious fault in engine control (▣▣▣ 43)
	 Drop sensor faulty.	Malfunction, drop sensor (▣▣▣ 44)
	 Cannot start engine.	Motorcycle dropped (▣▣▣ 44)
 lights up yellow.	 Side stand monitoring faulty.	Malfunction, side stand monitor (▣▣▣ 44)
 flashes regularly.		ABS self-diagnosis not completed (▣▣▣ 44)
 shows.	 Off!	ABS deactivated (▣▣▣ 45)
	 ABS deactivated.	





Indicator and warning lights	Display text	Meaning
 lights up yellow.  shows.	 Limited ABS availability!	ABS fault (▣▣▣ 45)
 lights up yellow.  shows.	 ABS failure!	ABS failed (▣▣▣ 45)
 lights up yellow.  shows.	 ABS Pro failure!	ABS Pro failed (▣▣▣ 46)
 flashes irregularly.		ABS control at front wheel only (▣▣▣ 46)
 quick-flashes.		DTC intervention (▣▣▣ 46)
 slow-flashes.		DTC self-diagnosis not completed (▣▣▣ 47)
 lights up.	 Off!  Traction control deactivated.	DTC switched off (▣▣▣ 47)
 lights up yellow.	 Traction control failure!	DTC fault (▣▣▣ 47)
 lights up.		
 lights up yellow.	 Traction control limited!	DTC restricted (▣▣▣ 48)

## 36 STATUS INDICATORS

Indicator and warning lights	Display text	Meaning
 lights up.		DTC restricted (▶▶▶▶ 48)
	 Tank reserve level reached.	Fuel down to reserve (▶▶▶▶ 48)
	 shows green.	Hill Start Control active (▶▶▶▶ 49)
	 flashes yellow.	Hill Start Control automatically deactivated (▶▶▶▶ 49)
	 is displayed. HSC not available. Engine not running.	Hill Start Control cannot be activated (▶▶▶▶ 49)
	 flashes.	Gear not trained (▶▶▶▶ 49)
 flashes green.		Hazard warning lights system is switched on (▶▶▶▶ 50)
 flashes green.		
Shift light shows or flashes.	L-Con not available. Clutch too hot.	Launch Control not ready (▶▶▶▶ 50)
	 is displayed in white. Service due!	Service due (▶▶▶▶ 50)
 lights up yellow.	 is displayed in yellow. Service overdue!	Service-due date has passed (▶▶▶▶ 51)

### Voltage of the vehicle electrical system too low

 is displayed in yellow.

 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:


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

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

 lights up yellow.

 is displayed in 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. If you continue to ride the motorcycle the on-board electronics will drain the battery.

Possible cause:

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

- Switch off non-essential electrical consumers or disconnect them from the vehicle's electrical system.
- If the fault persists or occurs without electrical consumers connected, have the fault rectified as quickly as possible by a specialist work-


## 38 STATUS INDICATORS

shop, preferably an authorised BMW Motorrad retailer.

### Charging voltage critical

 flashes yellow.

 is displayed in 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. If you continue to ride the motorcycle the on-board electronics will drain the battery.


Possible cause:


Alternator or alternator drive 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


 lights up 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!

 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 the LED light source replaced as a complete unit by a specialist workshop, preferably an authorised BMW Motorrad retailer.

Possible cause:

Plug connection disconnected.

- Identify disconnected plug connection.
- Connect disconnected plug connection.

#### Light control failed



lights up 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.

## 40 STATUS INDICATORS

### Anti-theft alarm battery weak

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

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

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


Possible cause:


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

- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad Retailer.

### Anti-theft alarm battery flat

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

 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 integral battery in the anti-theft alarm has lost its entire original capacity. There is no assurance that the anti-theft alarm will be operational if the vehicle's battery is disconnected.

- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad Retailer.

### DWA failed

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

 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.

### Engine temperature high

 lights up 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.  
( 173)

If the coolant level is too low:

- Allow the engine to cool down.
- Top up coolant ( 174).
- Have the cooling system checked by a specialist workshop, preferably by a BMW Motorrad partner.

Possible cause:

The coolant temperature is too high.

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

**Engine overheated**

lights up red.



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.  
( 173)

If the coolant level is too low:

- Allow the engine to cool down.
- Top up coolant ( 174).
- Have the cooling system checked by a specialist workshop, preferably by a BMW Motorrad partner.

Possible cause:

Engine is overheated.

- Carefully bring the vehicle to a stop, switch off the engine and wait until the engine has cooled down.

## 42 STATUS INDICATORS

- 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 engine 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



lights up yellow.



lights up.



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.

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



### Engine in emergency-operation mode



lights up 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 engine 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 power or the full range of engine rpm 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 which may cause severe secondary 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 spe-

## 44 STATUS INDICATORS

cialist workshop, preferably an authorised BMW Motorrad Retailer.

### Malfunction, drop sensor


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

Possible cause:

The drop sensor is not available.

- Seek the advice of 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 drop sensor has detected a drop and has cut out the engine.

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

### Malfunction, side stand monitor

 lights up yellow.

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

Possible cause:



Side-stand switch or wiring damaged

The engine 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 motorcycle has to reach a defined minimum speed 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 deactivated



shows.



Off!



ABS deactivated.

Possible cause:

The rider has switched off the ABS system.

- Activate the ABS function. (▶▶▶▶▶ 142)

### ABS fault



lights up 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 integral braking function and the Dynamic Brake Control function have failed. 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 (▶▶▶▶▶ 150).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### ABS failed



lights up yellow.



shows.



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

## 46 STATUS INDICATORS

Possible cause:

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

- You can continue to ride.  
Bear in mind the more detailed information on certain situations that can lead to an ABS fault message (▣► 150).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### ABS Pro failed



lights up yellow.



shows.



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

Possible cause:

The ABS Pro control unit 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 (▣► 150).

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

### ABS control at front wheel only



flashes irregularly.

Possible cause:

ABS control for the rear wheel is switched off in the currently selected riding mode. The rear wheel brake can lock the rear wheel.

- Check the settings of the riding mode.
- For more information on setting up the riding modes, see the section entitled "Engineering details" (▣► 154).

### 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

 lights up.

 Off!


 Traction control deactivated.

Possible cause:


The rider has switched off the DTC system.

- Switch on DTC. (➡ 73)

### DTC fault

 lights up yellow.

 lights up.

 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 is not available.


## 48 STATUS INDICATORS

- You can continue to ride. Bear in mind the more detailed information on situations that can lead to a DTC fault (➡ 152).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

### DTC restricted

 lights up yellow.

 lights up.

 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 is restricted.
- You can continue to ride. Bear in mind the more detailed information on situations that can lead to a DTC fault (➡ 152).
- 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.



Fuel reserve

approx. 4 l

- Refuel. (▣▣▣ 119)

### Hill Start Control active



shows green.

Possible cause:

Hill Start Control (▣▣▣ 158) has been activated by the rider.

- Switch off Hill Start Control.
- Operate Hill Start Control Pro. (▣▣▣ 78)

### Hill Start Control automatically deactivated



flashes yellow.

Possible cause:

Hill Start Control has been automatically deactivated.

- Side stand has been extended.
  - » Hill Start Control is deactivated when the side stand is extended.
- Engine has been switched off.
  - » Hill Start Control is deactivated when the engine is switched off.
- Operate Hill Start Control Pro. (▣▣▣ 78)

### 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.

### Gear not trained



The gear indicator flashes. The Pro shift assistant is not available.

Possible cause:

The gearbox sensor is not fully trained.

- Engage neutral gear N and, with the vehicle at a standstill, let the engine run for at least 10 seconds to train the idle gear.
- Engage all gears with clutch actuation and ride at least 10 seconds with the engaged gear.
  - » The gear indicator starts to flash when the gearbox sensor has been trained successfully.
- The Gear Shift Assistant Pro operates as described (▣▣▣ 157) once the trans-

## 50 STATUS INDICATORS

mission sensor has been completely taught-in.

- If the training process was 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.

- Operate the hazard warning flashers. (▶▶▶ 71)

### Launch Control not ready

Shift light shows or flashes.

L-Con not available.

Clutch too hot.

Possible cause:

The number of racing starts possible with Launch Control has been exceeded.

- Allow the clutch to cool.
- Operate Launch Control. (▶▶▶ 130)

### Service-due indicator



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 the driving performance or the date.

- Have your motorcycle serviced regularly by a specialist workshop, preferably by an authorised BMW Motorrad Retailer.



- » The operational and road safety of the motorcycle remain intact.
- » The motorcycle's value is maintained as best as possible.

### **Service-due date has passed**



lights up 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 motorcycle serviced regularly by a specialist workshop, preferably by an authorised BMW Motorrad Retailer.
- » The operational and road safety of the motorcycle remain intact.
- » The motorcycle's value is maintained as best as possible.

# **INSTRUMENT CLUSTER**

**04**

---

<b>WARNINGS</b>	<b>54</b>
<b>CONTROLS</b>	<b>54</b>
<b>OPERATION</b>	<b>55</b>
<b>SETTINGS</b>	<b>58</b>
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## 54 INSTRUMENT CLUSTER

### WARNINGS



#### WARNING

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

Risk of accident

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



#### WARNING

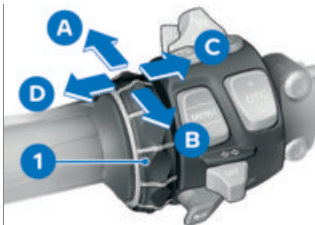
#### Distraction from the road and loss of control

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

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

### CONTROLS

#### Multi-Controller



- 1** Multi-Controller
- A** Move the cursor up in lists  
Increase volume
- B** Move the cursor down in lists  
Reducing volume
- C** Activate function in accordance with feedback  
Confirm selection/setting  
Scrolling through menu screens
- D** Activate function in accordance with feedback or go back  
Return to Menu view after making settings  
Change up one level in the hierarchy  
Scrolling through menu screens

## MENU rocker button



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

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

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

- In Menu view: Open the Pure Ride view.
- In Pure Ride view: Switch the operating focus to the Navigator.


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

- Change down a level.

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

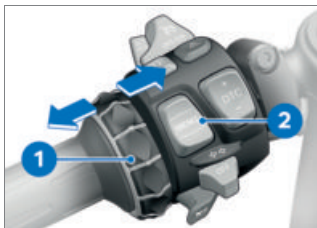
- Change back to the last menu after a previous menu change effected by long-pressing the

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.


## OPERATION

### Calling up menu



- Long-press the top section of MENU rocker button 2 to open the Pure Ride view.
- Short-press the bottom section of MENU rocker button 2.
- Repeatedly short-push Multi-Controller 1 to the right until the menu item you want is highlighted.
- Short-press the bottom section of MENU rocker button 2 to open the corresponding menu.

## 56 INSTRUMENT CLUSTER

 The Settings menu can only be called up when the vehicle is stationary.

### System status displays

The system status is displayed in the lower area of the menu if a function is switched on or off.



#### Example:

-DTC function **1** is switched on.

### Select the display of the top status line

#### Requirement

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

- Switch on the ignition. (→ 68)
- » 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. (→ 57)



- 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

-Intake air temp. INTAKE



Consumption 1 (Average)



Consumption 2 (Average)



Riding time 1



Riding time 2



Break 1



Break 2



Speed 1 (Average)



Speed 2 (Average)



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.

### 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.

### Reset the on-board computer

- Call up the on-board computer. (▣▣▣ 57)
- 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 (TRIP 1)
- Speed
- Consump.

### Call up the trip computer

- Call up the on-board computer. (▣▣▣ 57)
- Scroll to the right until the TRIP COMPUTER menu screen is displayed.

### Reset the trip computer

- Call up the trip computer. (▣▣▣ 57)
- 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.

## 58 INSTRUMENT CLUSTER

---

### SETTINGS

#### Adjusting volume

- Connect the rider's and passenger's helmets. (▶▶▶ 60)
- Increase volume: Turn the Multi-Controller up.
- Reduce volume: Turn the Multi-Controller down.
- Mute: Turn the Multi-Controller all the way down.

#### Changing system settings

- Switch on the ignition.  
(▶▶▶ 68)
- 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.

#### Reset all settings

- All the settings in the Settings menu can be reset to the factory settings.

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

The settings in the following menus are reset:

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


- » Existing Bluetooth connections are not deleted.

---

### 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 must be OFF (e.g. mobile phones and navigation systems).

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. (▮▮▮ 59)
- 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". (▮▮▮ 216)

## 60 INSTRUMENT CLUSTER

- » Depending on the mobile device, telephone data is transferred to the vehicle automatically.
- » Telephone data (☞ 64)
- » If the telephone book is not displayed, consult the troubleshooting chart in the section entitled "Technical data". (☞ 217)
- » If the Bluetooth connection does not work as expected, consult the troubleshooting chart in the section entitled "Technical data". (☞ 217)

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

- Perform pairing. (☞ 59)
- Select `Rider's helmet or Passenger helm. and confirm.`
- Make the helmet's communication system visible.
- Select `Pair new rider's helmet or Pair new passenger helmet` and confirm. Helmets are searched for.



flashes in the bottom status line during pairing.

Helmets found are displayed.

- Select and confirm helmet.
- » The connection is established and the connection status updated.

- » If the connection is not established, consult the troubleshooting chart in the section entitled "Technical data". (☞ 216)
- » If the Bluetooth connection does not work as expected, consult the troubleshooting chart in the section entitled "Technical data". (☞ 217)

### 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.


---

## 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.

### Enter the destination address

- Connect a mobile device. (▶▶▶ 59)
- Call up the BMW Motorrad Connected app and start the route guidance.
- In the instrument cluster, call up the Navigation menu.
  - » Active route guidance is displayed.
  - » If active route guidance is not displayed, consult the troubleshooting chart in the section entitled "Technical data". (▶▶▶ 217)

### 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 Connec-

ted 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

## 62 INSTRUMENT CLUSTER

- 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

- Navigate to `Navigation, Active route guidance`.
- Select `End route guidance` and confirm, or tilt the `Multi-Controller` to the left.

### Switch spoken instructions on or off

- Connect the rider's and passenger's helmets. (👉 60)
- The navigation can be read out by a computer voice. 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 permit-

ted 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.

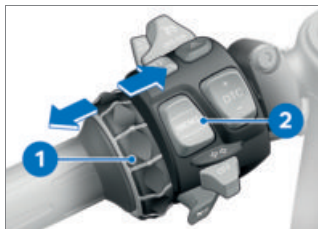
 *Speed Limit Info* is not available if a RACE PRO riding mode is activated.

## 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. (▶▶▶ 58)

- Next track: Short-tilt Multi-Controller **1** to the right.
- Preceding track or start of current track: Short-tilt Multi-Controller **1** to the left.
- Fast forward: Long-tilt Multi-Controller **1** to the right.
- Rewind: Long-tilt Multi-Controller **1** to the left.
- Call up context menu: Press the 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*.

The settings possible in the *Audio settings* submenu are as follows:

- Switch *Shuffle* on or off.
- Select *Repeat*: *Off*, *One* (current track) or *All*.

## 64 INSTRUMENT CLUSTER

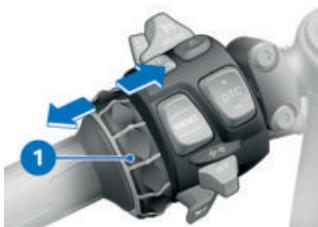
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### TELEPHONE

#### Precondition

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

#### Telephone calls



- Call up the Telephone menu.
- 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 (📶➔ 58) 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

---

### DISPLAY SOFTWARE VERSION

- Navigate to Settings, Information, Software version.

---

### DISPLAY LICENCE INFORMATION

- Navigate to Settings, Information, Licences.



**OPERATION**

**05**



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<b>IGNITION SWITCH/STEERING LOCK</b>	<b>68</b>
<b>EMERGENCY-OFF SWITCH (KILL SWITCH)</b>	<b>69</b>
<b>LIGHTING</b>	<b>70</b>
<b>DYNAMIC TRACTION CONTROL (DTC)</b>	<b>72</b>
<b>RIDING MODE</b>	<b>73</b>
<b>CRUISE CONTROL</b>	<b>75</b>
<b>HILL START CONTROL</b>	<b>78</b>
<b>SHIFT LIGHT</b>	<b>80</b>
<b>ANTI-THEFT ALARM (DWA)</b>	<b>80</b>
<b>HEATED GRIPS</b>	<b>82</b>
<b>FRONT AND REAR SEATS</b>	<b>83</b>

## 68 OPERATION

### IGNITION SWITCH/STEERING LOCK

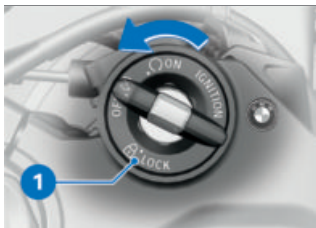
#### Keys

The motorcycle is supplied with two vehicle keys. Consult the information on the electronic immobiliser (EWS) (▮▮▮ 69) if a key is lost or mislaid.

Ignition switch/steering lock, fuel filler cap lock and lock for the tail-hump cover are all operated with the same key.

#### Engaging steering lock

- Turn the handlebars all the way to the left.



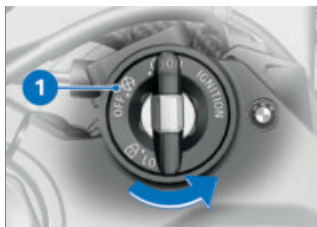
- Turn the vehicle key to position **1**, while moving the handlebars slightly.
  - » Ignition, lights and all function circuits switched off.
  - » Steering lock engaged.
  - » Vehicle key can be removed.

#### Switching on ignition



- Turn the ignition key to position **1**.
  - » Side lights and all function circuits switched on.
  - » Engine can be started.
  - » Pre-Ride-Check is performed. (▮▮▮ 110)
  - » ABS self-diagnosis is in progress. (▮▮▮ 111)
  - » DTC self-diagnosis is in progress. (▮▮▮ 112)

#### Switching off ignition




- Turn the ignition key to position **1**.
  - » Lights switched off.
  - » Handlebars not locked.

» Vehicle key can be removed.

### Electronic immobiliser (EWS)

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

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

Always keep the vehicle keys separate from each other.

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

If you wish to do this, you will need to bring all other keys for the vehicle with you. The electrical machine cannot be started by a barred key, but a key that has been barred can subsequently be reactivated.

You can obtain spare keys only through an authorised BMW Motorrad retailer. The keys are part of an integrated security system, so the retailer is under an obligation to check the legitimacy of all

applications for replacement/extra keys.

### 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.

## 70 OPERATION



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

### LIGHTING

#### Low-beam headlight


- Switch on the ignition.
- Start the engine.




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

#### Side light

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

 The side lights place a strain on the battery; leave the ignition switched on for a limited time only.

#### High-beam headlight and headlight flasher

- Switch on the ignition.  
( 68)



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

#### Headlight courtesy delay feature

- Switch off the ignition.



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

### Parking lights

- Switch off the ignition. (☛ 68)




- Immediately after switching off the ignition, push but-

ton **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.

### Hazard warning lights

- Switch on the ignition. (☛ 68)

 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.

## 72 OPERATION

### Turn indicators

- Switch on the ignition.  
(▶▶▶ 68)
- Navigate to **Settings**, **Vehicle settings** and select **Lights**.
- Switch **Comfort turn indicator** on or off.




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

---

### DYNAMIC TRACTION CONTROL (DTC)

#### Switching off DTC

- Switch on the ignition.

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



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

Immediately after button **1** is pressed, DTC system status **ON** is displayed.



lights up.

Possible DTC system status **OFF!** is displayed.

- Release button **1** once the status has changed.

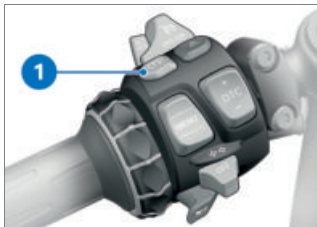
The new DTC system status **OFF!** appears briefly on the display.



remains lit.

» The DTC function is switched off.

### Switch on DTC



• Press and hold down button **1** until the DTC indicator light changes status.

Immediately after button **1** is pressed, DTC system status **OFF!** is displayed.



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

Possible DTC system status **ON** is displayed.

• Release button **1** once the status has changed.



remains off or continues to flash.

The new DTC system status **ON** appears briefly on the display.

» The DTC function is switched on.

• You also have the option of switching the ignition off and then on again.



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

min 5 km/h

• For more information on Dynamic Traction Control, see the section entitled "Engineering details" (152).

## RIDING MODE

### Using riding modes

BMW Motorrad has developed operational scenarios for the 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.
- RACE: Riding on race tracks with sport tyres or slicks.
- RACE PRO 1/2/3: Riding on race circuits with provision for the rider's custom settings.

## 74 OPERATION

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

### Riding-mode preselection


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

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

Factory setting:


RAIN, ROAD, DYNAMIC and RACE

### Configure riding-mode preselection

- Switch on the ignition.  
( 68)
- Navigate to Settings, Vehicle settings, Riding mode preselection.
- Activate or deactivate riding modes for riding mode preselection.
  - » The activated riding modes are available for subsequent selection.
  - » If fewer than two riding modes are preselected, this message is displayed: Action not possible. Min. number reached.

» The list of preselected riding modes is retained in memory, even after the ignition is switched off.

### Select the riding mode

- Switch on the ignition.  
( 68)



- 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.

 The intervention of riding dynamics control systems can be restricted, depending on which riding mode is selected and how the selected mode is configured.

Possible restrictions are indicated by a pop-up message, for example *Warning! ABS setting..*

The ABS indicator light flashes irregularly.

For more information on riding dynamics control systems such as ABS, see the section entitled "Engineering details".

- » The availability of the riding modes depends on the custom configuration of the riding modes preselection function.
- » With the motorcycle at a standstill, the selected

- mode is activated after approximately two seconds.
- » The following conditions must be satisfied for activation of a new riding mode while riding:
    - Throttle grip is in idle position.
    - Brake is not applied.
    - Cruise control is deactivated.

## 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.

## 76 OPERATION

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



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

### Switching on cruise control




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

### Setting road speed



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

 Adjustment range for cruise control (gear-dependent)

30...220 km/h

 shows.

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

### Accelerating



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

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


### Decelerating




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

### Deactivating cruise control

- 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.

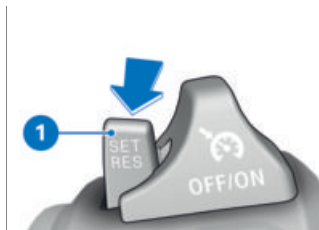
 For safety reasons, cruise control is automatically deactivated when Gear Shift Assistant Pro downshifts.

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




disappears.

### Resuming former cruising speed



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

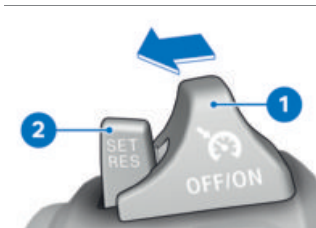
 Opening the throttle does not deactivate cruise control. If you release the twistgrip the motorcycle will decelerate only to the cruising speed saved in memory, even though you might have intended slowing to a lower speed.

## 78 OPERATION



shows.

### Switching off cruise control



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


### HILL START CONTROL

#### Display



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

#### Adjust Hill Start Control Pro

- Switch on the ignition.  
( 68)
- Navigate to *Settings*,  
*Vehicle settings*.

- Select *HSC Pro*.
- To switch off Hill Start Control Pro, select *Off*.
  - » Hill Start Control Pro is deactivated.
- To switch on manual Hill Start Control Pro, select *Manual*.
  - » Hill Start Control Pro can be activated by forcefully operating the handbrake or footbrake lever.
- To switch on automatic Hill Start Control Pro, select *Auto*.
  - » Hill Start Control Pro can be activated by forcefully operating the handbrake or footbrake lever.
  - » If the brake is actuated for approximately one second after the vehicle has come to a standstill and the motorcycle is on a gradient of at least 3%, Hill Start Control Pro is automatically activated.
  - » The selected setting remains stored even after the ignition is switched off.

#### Operating Hill Start Control Pro Requirement

Vehicle stationary and upright, engine running.

**ATTENTION****Failure of Hill Start Control**

Risk of accident

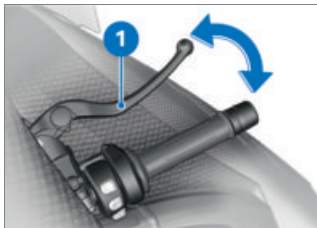
- Apply the brakes manually to hold the vehicle.



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



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



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



shows green.

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



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



disappears.

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



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



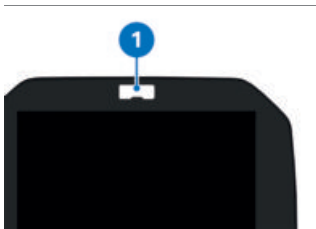
disappears as soon as the brake is fully released.

- » Hill Start Control Pro is deactivated.
- For more information on Hill Start Control Pro see the section headed "Engineering details" (158).


## 80 OPERATION

### SHIFT LIGHT

Switch the shift light on and off



- Navigate to Settings, Vehicle settings.
- Switch Shift light on or off.

 When the shift light flashes the secondary indicator flashes as well, even in the solid red rpm range.

#### Set the shift light

- Switch on the Shift light function.
- Navigate to Settings, Vehicle settings, Configuration (under Shift light).
  - » The following settings are available:
    - Start RPM
    - End RPM
    - Brightness

-Frequency. A flashing frequency of 0 Hz corresponds to steady light.

» Changes to brightness and the flashing frequency are demonstrated by the shift light with it briefly lighting up or flashing.

### ANTI-THEFT ALARM (DWA)

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

#### Activation

- Switch on the ignition. (▶▶▶ 68)
- Customise the anti-theft alarm settings. (▶▶▶ 81)
- Switch off the ignition. (▶▶▶ 68)
  - » If the alarm system is activated, then the alarm system will be automatically activated when the ignition is switched off.
  - » Activation takes approximately 30 seconds to complete.
  - » Turn indicators flash twice.
  - » Confirmation tone sounds twice (if programmed).
  - » Anti-theft alarm is active.

### Alarm signal

A DWA alarm can be triggered by:

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

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

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

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

LED then indicates the reason for the alarm for one minute.

### Light signals issued by the DWA LED:

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

### Deactivating anti-theft alarm system (DWA)

- Switch on the ignition. (▣▣▣▶ 68)
  - » Turn indicators flash once.
  - » Confirmation tone sounds once (if programmed).
  - » DWA is switched off.

### Customise the anti-theft alarm settings

- Switch on the ignition. (▣▣▣▶ 68)
- Navigate to Settings, Vehicle settings, Alarm system.
  - » The following adaptation settings are available:
    - Adapting Warning signal
    - Switch Tilt sensor on or off
    - Switch Arming tone on or off





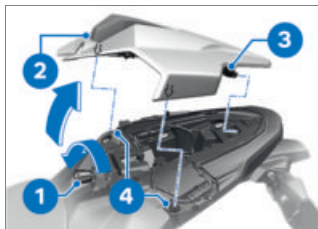
is advisable to switch back to a lower stage as soon as the grips are warm.

- » The selected heating stage will be saved if you allow a certain length of time to pass without making further changes.
- To switch off the heated grips, repeatedly press button **1** until heated grip symbol **3** disappears.

## FRONT AND REAR SEATS

### Remove the tail-hump cover

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



- Use ignition key **1** to unlock lock for tail-hump cover **2**.
- Disengage tail-hump cover **2** from grommets **4** and unhook fixing **3**.

### Install the tail-hump cover



- Lubricate grommets **3** if necessary.
- Position tail-hump cover **1**; hook in fixing **2** while doing so.
- Engage tail-hump cover **1** in grommets **3** and press down, applying uniform pressure.
- Press tail-hump cover **1** down in the middle.
- Lock tail-hump cover **1**.

### Removing passenger seat

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

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

## 84 OPERATION



- Use ignition key **1** to unlock lock for passenger seat **2**.
- Remove passenger seat **2**; to do so, unhook fixing **3**.
- Remove the ignition key from the lock and place the passenger seat, upholstered side down, on a clean surface.

### Installing passenger seat

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



- Position passenger seat **1**; hook in fixing **2** while doing so.
- Press passenger seat **1** downwards and lock.

### Removing rider's seat



- Push the rider's seat cover **1** forward slightly on the seat cushion surface and expose tab **2**.
- Remove screw **3**.
- Lift up the rider's seat **1** at the rear and unhook fixing **4**.
- Place the seat, upholstered side down, on a clean surface.

### Installing rider's seat



- Insert rider's seat **1** into the fixing **4** at the front and position it.
- Push the rider's seat cover **1** forward slightly on the seat cushion surface and expose tab **2**.

- Position and install bolt **3**.

# ADJUSTMENT

06

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<b>MIRRORS</b>	<b>88</b>
<b>HEADLIGHT</b>	<b>88</b>
<b>BRAKES</b>	<b>88</b>
<b>CLUTCH</b>	<b>89</b>
<b>FOOTREST SYSTEM</b>	<b>90</b>
<b>STEERING</b>	<b>92</b>
<b>SPRING PRELOAD</b>	<b>93</b>
<b>DAMPING</b>	<b>95</b>
<b>SWINGING ARM</b>	<b>98</b>
<b>RIDING HEIGHT</b>	<b>101</b>

## 88 ADJUSTMENT

### MIRRORS

#### Adjusting mirrors



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


### HEADLIGHT

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

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

#### Headlight beam throw and spring preload

The headlight beam throw generally remains constant by adjustment of the spring preload to the load status.

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

### BRAKES

#### Adjusting handbrake lever



#### WARNING


#### Adjusting the handbrake lever while riding

Risk of accident

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



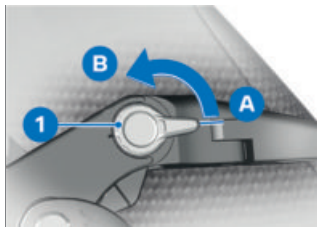
- Turn adjuster knob **1** to the desired position.

 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 6: Widest span between handlebar grip and handbrake lever

-with Billet pack<sup>OE</sup>



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

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

» Adjustment options:

- Position **A**: Narrowest span between handlebar grip and handbrake lever.
- In 5 steps toward position **B** to increase the span between handlebar grip and handbrake lever.◁

## CLUTCH

### Adjusting clutch lever



#### WARNING


#### Adjusting the clutch lever while riding

Risk of accident

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



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

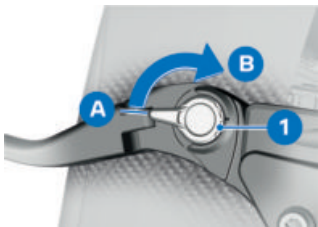
 The adjuster knob is easier to turn when the clutch lever is pushed slightly forward.

» Adjustment options:


- Position 1: Narrowest span between handlebar grip and clutch lever
- Position 5: Widest span between handlebar grip and clutch lever

## 90 ADJUSTMENT

–with Billet pack<sup>OE</sup>



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

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

» Adjustment options:

- Position **A**: Narrowest span between handlebar grip and clutch lever.
- In 5 steps toward position **B** to increase the span between handlebar grip and clutch lever.◀

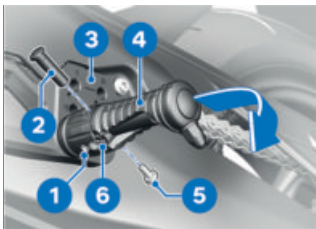
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### FOOTREST SYSTEM

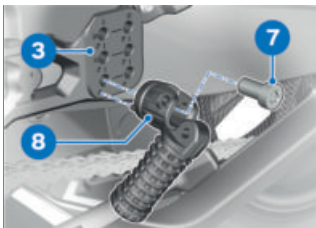
–with Billet pack<sup>OE</sup>

#### Adjusting rider footrest

- The procedure for adjusting the rider footrest is the same on left and right.
- The position of the rider must be the same on right and left.

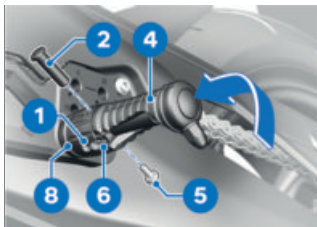


- Threaded bore holes **3** enable foot clearance and foot position to be set to six different positions.
- Remove grub screw **1**.
- Remove screw **5** and remove sleeve **2**.
- Leave spring coil **6** hooked in, carefully ease off footrest body **4** and push down.



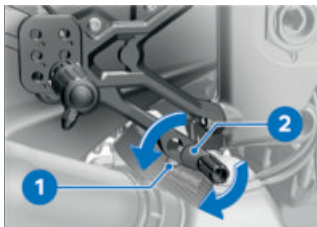
- Remove screw **7**.
- Install footrest joint **8** in threaded bore hole **3** of your choice and install and tighten screw **7**.





- Leave spring coil **6** hooked in, carefully ease footrest body **4** into position and insert it into footrest joint **8**.
- Install grub screw **1**.
- Insert sleeve **2** and install screw **5**.

### Adjust the footbrake lever peg



- Foot clearance and height relative to peg **2** can be adjusted by turning and positioning the peg.
- Slacken screw **1**.
- Insert peg **2** into the desired bore hole.
- Turn peg **2** to the desired position.

- Tighten screw **1**.



Peg to footbrake lever

M6 x 20

Thread-locking compound:  
micro-encapsulated

10 Nm

### Adjusting gearshift lever peg

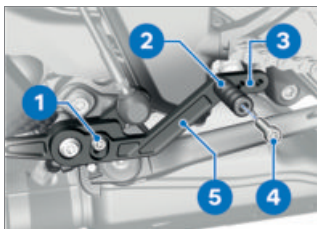


**ATTENTION**

#### Unintentional operation of the gearshift lever

Damage to the gearbox

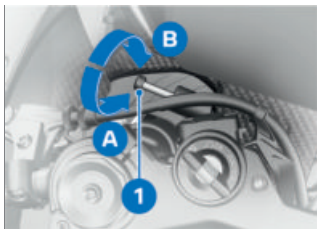
- Check that the gearshift lever is in the correct position.
- Make sure that the gearshift lever is under no load except when gearshifting is in progress.



- Foot clearance can be adjusted by moving gearshift lever **5** and positioning gearshift lever peg **2**.

## 92 ADJUSTMENT

- Slacken screw **1**.
- » Gearshift lever **5** can be repositioned along the transverse axis.
- Set the desired angle and tighten screw **1**.
- Remove screw **4**.
- Position gearshift lever peg **2** at one of the three tapped bore holes **3**.
- Install gearshift lever peg **2** with screw **4** in tapped bore hole **3**.



- To increase damping: Turn adjusting screw **1** in direction **A**.
- To reduce damping: Turn adjusting screw **1** in direction **B**.

### STEERING

#### Adjusting steering damper



#### WARNING

#### Adjusting the steering damper while riding.

Risk of accident

- Do not attempt to adjust the steering damper unless the motorcycle is at a standstill.



Steering damper basic setting

Turn adjusting screw to stop in direction **A**, then 6 clicks in direction **B** (Road operation)

Turn adjusting screw to stop in direction **A**, then 4 clicks in direction **B** (Racing operation)

## SPRING PRELOAD

### Adjustment



#### WARNING

**Incorrect spring-preload and spring-strut damping settings.**

Impaired handling.

- Adapt spring preload and spring strut damping to the payload carried by the motorcycle.

Spring preload has to be adjusted to suit the weight of rider, passenger and luggage. Increase spring preload for heavy loads, decrease spring preload for light loads.

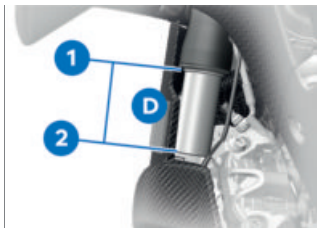
### Lifting the motorcycle

Adjusting spring preload as recommended by BMW Motorrad requires the use of an engine lifter. The procedure for use of this equipment is not detailed here.

As an alternative, spring preload can also be gauged by a test ride. If you are not sure whether this work is within your capability, contact a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Adjust the spring preload for front wheel

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Lift the motorcycle with an engine lifter until there is no load on the front wheel.



- Measure distance **D** between bottom edge **1** of the slider tube and front axle **2**.
- Remove the engine lifter.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Apply the rider's weight to the motorcycle.
- With the assistance of a second person, measure the distance **D** between the points **1** and **2** again and calculate the difference (compression) between the measured values.

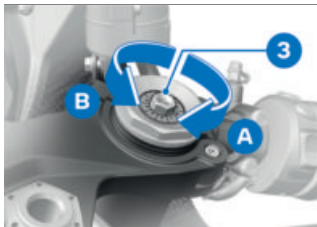
## 94 ADJUSTMENT



Load-dependent adjustment of spring preload

Negative spring displacement of front wheel

35 mm (with rider 85 kg)



### WARNING

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

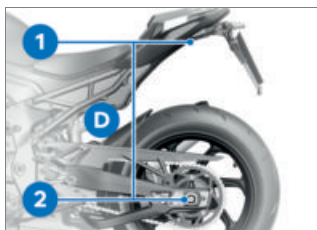
Impaired handling.

- Adjust spring-strut damping to suit spring preload.
- To reduce compression (increase spring preload), use the tool from the on-board toolkit to turn adjusting screw **3** in direction **A**. The toolkit includes an appropriate adapter that protects the screw from scratches.
- To increase compression (reduce spring preload), use the tool from the on-board toolkit to turn adjusting screw **3**

in direction **B**. The toolkit includes an appropriate adapter that protects the screw from scratches.

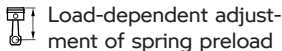
### Adjusting spring preload for rear wheel

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Use the engine lifter to raise the vehicle until the weight is completely off the rear wheel.



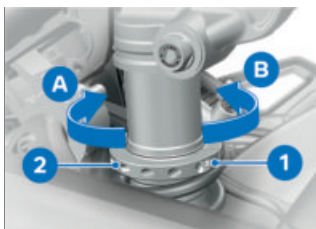
- Measure distance **D** between number plate carrier **1** and axle **2**.
- Remove the engine lifter.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Apply the rider's weight and possibly the weight of luggage to the motorcycle.
- With the assistance of a second person, measure the distance **D** between the points **1** and **2** again

and calculate the difference (compression) between the measured values.



Suspension compression at rear wheel

30 mm (with rider 85 kg)



### **WARNING**


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

Impaired handling.

- Adjust spring-strut damping to suit spring preload.
- Loosen screw **1** with toolkit.
- To reduce compression (increase spring preload), use the tool from the on-board toolkit to turn adjusting ring **2** in direction **A**.
- To increase compression (reduce spring preload), use the tool from the on-board toolkit

to turn adjusting ring **2** in direction **B**.

- Tighten screw **1** to the specified tightening torque.

 Screw in adjusting ring

M5 x 16

6 Nm

## **DAMPING**

### **Adjustment**

#### **WARNING**

**Incorrect spring-preload and spring-strut damping settings.**

Impaired handling.

- Adapt spring preload and spring strut damping to the payload carried by the motorcycle.

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

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

## 96 ADJUSTMENT


### Adjust the compression-stage damping for front wheel



- Adjust compression-stage damping using adjusting screw **1** and the yellow scale on the left fork leg.



- To increase damping: Use the tool from the on-board toolkit to turn the adjusting screw so that mark **2** points to a higher value on the scale.
- To reduce damping: Use the tool from the on-board toolkit to turn the adjusting screw so that mark **2** points to a lower value on the scale.

 Compression stage, basic setting, front

Position 5 (with rider 85 kg)

### Adjust the rebound-stage damping for front wheel



- Adjust rebound-stage damping using adjusting screw **1** and the red scale on the right fork leg.



- To increase damping: Use the tool from the on-board toolkit to turn the adjusting screw so that mark **2** points to a higher value on the scale.
- To reduce damping: Use the tool from the on-board toolkit to turn the adjusting screw so

that mark **2** points to a lower value on the scale.

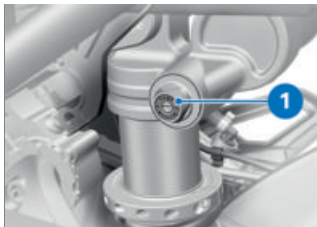


Rebound stage, basic setting, front

Position 5 (with rider 85 kg)

### Adjust the compression-stage damping for rear wheel

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



- Adjust compression-stage damping using adjusting screw **1**.



- To increase damping: Use the tool from the on-board toolkit

to turn the adjusting screw clockwise in the **+** direction.

- To reduce damping: Use the tool from the on-board toolkit to turn the adjusting screw counter-clockwise in the **-** direction.



Compression stage, basic setting, rear

Turn adjusting screw **1** to stop in direction **+**, then 5 clicks in direction **-** (With rider 85 kg)

### Adjust the rebound-stage damping for rear wheel



#### CAUTION

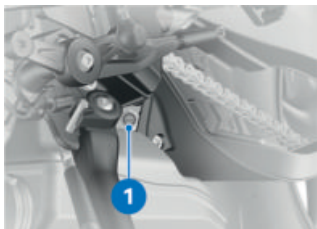
#### Hot exhaust system

Risk of burn injury

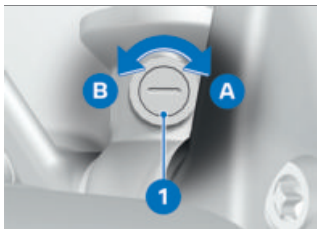
- Do not touch a hot exhaust system.

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

## 98 ADJUSTMENT



- Adjust rebound-stage damping using adjusting screw **1**.



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



Rebound stage, basic setting, rear

Turn adjuster knob to stop in direction **A**, then 5 clicks in direction **B** (With rider 85 kg)

### SWINGING ARM

#### Adjusting swinging arm

The swinging arm pivot point can be adjusted to any of five stages. Additional tools such as an engine lifter or footrest stand are required, however, they will not be dealt with in detail here. If you are not sure whether this work is within your capability, contact a specialist workshop, preferably an authorised BMW Motorrad retailer.

#### Adjusting swinging arm pivot point



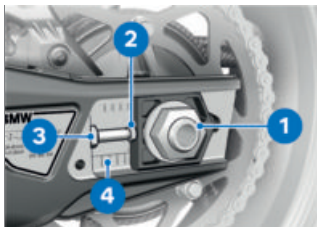
#### ATTENTION

#### Vehicle toppling to side

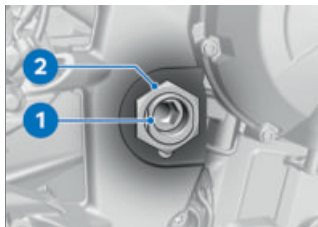
Risk of damage to parts if vehicle topples

- Make sure that the vehicle is secured so that it cannot topple sideways.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Lift motorcycle with an engine lifter or another suitable jack, so that there is no load on the rear wheel swinging arm.

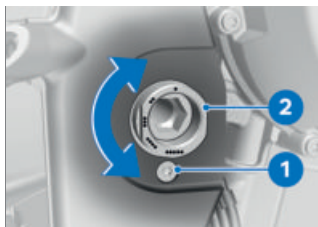




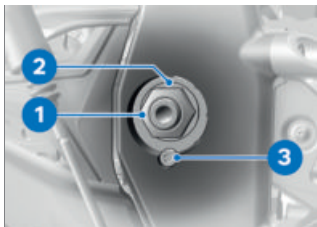
- Loosen quick-release axle nut **1**.
- Loosen lock nuts **3** on left and right.
- Use the adjusting screws **2** on left and right to significantly increase chain sag.
- Make sure that scale readings **4** are the same on left and right.




- Loosen swinging arm axle **1**.
- Remove nut **2**.



- Remove fixing screw **1**.
- Alternately turn right bush **2** and left bush in steps of no more than 90° until the desired position is reached.
- Install fixing screw **1**.



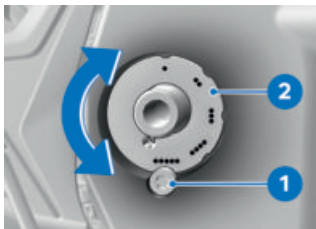
- Remove nut **1** and washer **2**.
- Remove fixing screw **3**.

 Positioning of swinging arm pivot point bush in main frame, right


M6 x 26.7

5 Nm

## 100 ADJUSTMENT

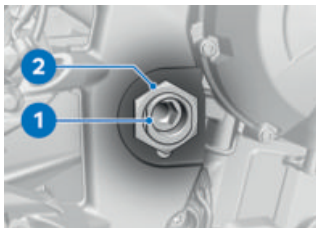


- Alternately turn left bush **2** and right bush in steps of no more than 90° until the desired position is reached.
- Ensure that the left **2** and right bushes are fixed in the same position (**mark**).
- Install fixing screw **1**.


 Positioning of swinging arm pivot point bush in main frame, left

M6 x 12

8 Nm



- Install nut **2** and tighten to the specified tightening torque.


 Nut for swinging arm pivot point bush to frame

M36 x 0.75

Thread-locking compound:  
Loctite 270, High strength

70 Nm

- Tighten swinging arm axle **1** to the specified torque.

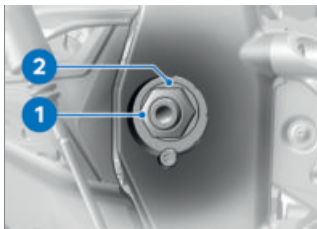
 Swinging arm axle to frame

M27 x 1.25


15 Nm (Tightening torque)

120° (Loosen)

5 Nm (Tightening torque)




- Install nut **1** with washer **2** and tighten to specified torque, while counter-holding the swinging arm axle.

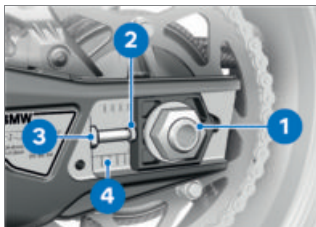
 Nut on swinging arm axle

M18 x 1.5


Thread-locking compound:  
mechanical

 Nut on swinging arm axle

100 Nm



- Use the adjusting screws **2** on left and right to adjust chain sag. (▮▮▮ 185)
- Check chain sag. (▮▮▮ 185)
- Make sure that scale readings **4** are the same on left and right.
- Tighten lock nuts **3** on left and right to the specified tightening torque.

 Locknut of the final-drive chain tensioning screw


M8

19 Nm

- Tighten quick-release axle nut **1** to the specified tightening torque.

 Rear quick-release axle in swinging arm

M24 x 1.5

 Rear quick-release axle in swinging arm

Thread-locking compound: mechanical

125 Nm

- Check chain sag. (▮▮▮ 185)
- Remove the engine lifter.
- After the swinging arm pivot point has been changed, the ride height has to be corrected at the eccentric strut.
- Adjust the ride height to swinging arm pivot point setting. (▮▮ 102)

## RIDING HEIGHT

### Adjusting the riding height

Ride height at the rear suspension can be adjusted by means of the eccentric strut. When adjusting the ride height, bear in mind that with certain setting combinations, the clearances to different components cannot be guaranteed. Therefore, after making changes, the clearance to the rear wheel swinging arm and rear wheel must always be checked. Additional tools such as an engine lifter or footrest stand are required for adjusting the riding height; however, they will not be dealt with in detail here. If you are not sure whether this

## 102 ADJUSTMENT

work is within your capability, contact a specialist workshop, preferably an authorised BMW Motorrad retailer.

### Adjust the ride height to swinging arm pivot point setting



#### ATTENTION

#### Vehicle toppling to side

Risk of damage to parts if vehicle topples

- Make sure that the vehicle is secured so that it cannot topple sideways.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Lift the motorcycle with an engine lifter, so that there is no load on the rear wheel swinging arm.



- Loosen clamping screw **1**.
- Remove fixing screw **2**.

- Turn eccentric **3** to the desired position (notch).



Setting of eccentric strut to compensate for swinging-arm pivot point adjustment

Swinging arm pivot point basic setting position 5: (Eccentric position: -1)

Swinging arm pivot point position 4: (Eccentric position: 0)

Swinging arm pivot point position 3/2/1: (Eccentric position: +3)

- Install fixing screw **2**.



Positioning, eccentric

M6 x 12

8 Nm

- Tighten clamping screw **1**.



Clamp, eccentric

M8 x 40

10 Nm

- Remove the engine lifter.
- Check chain sag. (👉 185)



**RIDING**

**07**

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<b>SAFETY INFORMATION</b>	<b>106</b>
<b>REGULAR CHECK</b>	<b>109</b>
<b>STARTING</b>	<b>110</b>
<b>RUNNING IN</b>	<b>113</b>
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<b>PARKING YOUR MOTORCYCLE</b>	<b>117</b>
<b>REFUELLING</b>	<b>118</b>
<b>SECURING MOTORCYCLE FOR TRANSPORTATION</b>	<b>120</b>

## SAFETY INFORMATION

### Rider's equipment

Do not ride without the correct clothing! Always wear

- Helmet
- Suit
- Gloves
- Boots

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



### WARNING

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

Risk of accident

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

## Load



### WARNING

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

Risk of falling

- Do not exceed the permissible gross weight and be sure to comply with the instructions on loading.
- Adjusting spring preload setting and damping to the total weight.

### Speed

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

- Settings of the spring-strut and shock-absorber system
- Imbalanced load
- Loose clothing
- Insufficient tyre pressure
- Poor tyre tread
- Etc.



## Parts removed



### ATTENTION

#### Riding on public roads without vehicle parts that were removed for racetrack use

Risk of accident, voiding of homologation for riding on public roads

- Install all vehicle parts required by law for operation on public roads.

## Carbon wheels

The material properties of carbon differ considerably from those of metallic materials, for example in terms of rigidity and weight.

Structural damage to carbon wheels is not always visible to the naked eye. If damage is suspected, for example after a fall or a significant influence on the carbon structure (e.g. riding through a pothole), carbon wheels must be evaluated by a specialist workshop with the relevant expertise, preferably an authorised BMW Motorrad retailer.



### WARNING

#### Unnoticed structural damage

Risk of accident

- After a fall or a significant impact effect (e.g. riding through a pothole), have carbon wheels checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

#### 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 fluid and plastics.
- Use the vehicle only outdoors.

## Risk of burning



### CAUTION

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

Risk of burn injury

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



### WARNING

#### Opening radiator cap

Risk of burning

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

## Catalytic converter

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

The following guidelines must be observed:

- Do not run the fuel tank dry.
- Do not attempt to start or run the engine with a spark-plug cap disconnected.

- Stop the engine immediately if it misfires.
- Use only unleaded fuel.
- Comply with all specified maintenance intervals.



### ATTENTION

#### Unburned fuel in catalytic converter

Damage to catalytic converter

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

## Risk of overheating



### ATTENTION

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

Overheating due to insufficient cooling; in extreme cases vehicle fire

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

## Tampering



### ATTENTION

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

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

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

## REGULAR CHECK

### Comply with checklist

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

### When load status changes:

- Adjust the spring preload for front wheel (▣▣▣ 93).
- Adjust the spring preload for the rear wheel (▣▣▣ 94).
- Adjust the damping (▣▣▣ 96).

### Always before riding off

- Check operation of the brake system (▣▣▣ 167).
- Check operation of the lights and signalling equipment.
- Check operation of the clutch (▣▣▣ 172).
- Check the tyre tread depth (▣▣▣ 175).

- Check the tyre pressures (▣▣▣ 174).
- In race-track sessions: Check the engine oil level (▣▣▣ 165).



### ATTENTION

**Luggage securing not in compliance with correct procedure**

Component damage

- Do not use openings in the rear trim panel for lashing luggage to the vehicle.

- Check security of luggage.

### Every 3rd refuelling stop


- Check the engine oil level (▣▣▣ 165).
- Check the brake pad thickness, front brakes (▣▣▣ 167).
- Check the brake pad thickness, rear brakes (▣▣▣ 168).
- Check the brake-fluid level, front brakes (▣▣▣ 169).
- Check the brake-fluid level, rear brakes (▣▣▣ 170).
- Check the coolant level (▣▣▣ 173).
- Check chain sag (▣▣▣ 185).
- Check chain wear (▣▣▣ 188).
- Lubricate the chain as necessary (▣▣▣ 187).


# 110 RIDING

## STARTING

### Starting engine

- Switch on the ignition.
  - » Pre-Ride-Check is performed. (▣▣▣ 110)
  - » ABS self-diagnosis is in progress. (▣▣▣ 111)
  - » DTC self-diagnosis is in progress. (▣▣▣ 112)
- Select neutral or, if a gear is engaged, pull the clutch lever.


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

 To ensure rapid operational readiness of the catalytic converter, idle speed is increased for a short time after engine start.

- Cold starts and low temperatures: Pull the clutch lever.
  - » Low temperatures can impact on the starting response. Repeated, brief application of load on the battery causes battery temperature to rise, so more battery power is available for starting the engine.



- 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. (▣▣▣ 216)

### Pre-Ride-Check

The instrument cluster runs a test of the instruments and the indicator and warning lights when the ignition is switched on. This test is known as the Pre-Ride-Check. The test is aborted if you start the engine before it completes.

**Phase 1**

All indicator and warning lights are switched on.

After a longer vehicle standstill period, an animation is displayed when the system starts up.

**Phase 2**

The 'General' warning light changes from red to yellow.


**Phase 3**

All the indicator and warning lights switched on beforehand are switched off.

The malfunction indicator lamp (MIL) does not go out until 15 seconds have elapsed.

If one of the indicator and warning lights did not switch on:

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

 The intervention of riding dynamics control systems can be restricted, depending on which riding mode is selected and how the selected mode is configured.

Possible restrictions are indicated by a pop-up message, for

example Warning! ABS setting..

The ABS indicator light flashes irregularly.

For more information on riding dynamics control systems such as ABS, see the section entitled "Engineering details".

**ABS self-diagnosis**

BMW Motorrad Integral ABS performs self-diagnosis to ensure its operability. Self-diagnosis starts automatically when you switch on the ignition.

**Phase 1**

» Test of the diagnosis-compatible system components with the vehicle at a standstill.



flashes.

**Phase 2**

» Test of the wheel-speed sensors as the vehicle pulls away from rest.



flashes.

**ABS self-diagnosis completed**

» The ABS indicator and warning light goes out.



ABS self-diagnosis not completed

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

If an indicator showing an ABS fault appears when ABS self-diagnosis completes:

- You can continue to ride. Bear in mind that neither the ABS function nor the integral braking function is available.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad Retailer.

## DTC self-diagnosis

BMW Motorrad DTC performs self-diagnosis to ensure its operability. Self-diagnosis is performed automatically when you switch on the ignition.

### Phase 1

» Test of the diagnosis-compatible system components with the vehicle at a standstill.



slow-flashes.

### Phase 2

» Pullaway test of the system components with diagnostic capability.



slow-flashes.

## DTC self-diagnosis completed

» The DTC symbol no longer shows.

- Check all the indicator and warning lights.



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)


If an indicator showing an DTC fault appears when DTC self-diagnosis completes:

- You can continue to ride. Bear in mind that the DTC function is not available or the functionality might be subject to certain restrictions.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad Retailer.


## RUNNING IN

### Engine

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

	Running-in speed
	<7000 min <sup>-1</sup> (Odometer reading 0...300 km)
	<9000 min <sup>-1</sup> (Odometer reading 500...1000 km)
	No full load (Odometer reading 0...1000 km)

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

	Mileage until the running-in check
	500...1200 km

### Brake pads

New brake pads have to be run in before they can achieve their optimum friction levels. The reduced braking effect can be compensated for by greater pressure on the brake lever.



#### 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

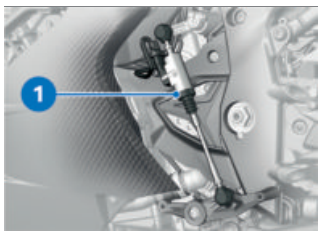
- Ride carefully and avoid extremely sharp inclines.

## SHIFTING GEAR

### Gear Shift Assistant Pro

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

 For safety reasons, cruise control is automatically deactivated when Gear Shift Assistant Pro downshifts.



- You select the gear in the usual way by means of the foot-operated shift lever.
- » The sensor **1** on the gearshift rod registers the gearshift request and triggers shift assistance.
- » When you are riding at constant speed or in overrun in a low gear with the engine revving high, shifting gear without disengaging the clutch can cause a severe reaction to the load change. BMW Motorrad recommends disengaging the clutch for

shifts in these circumstances. 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:
  - With clutch lever pulled.
  - Gearshift lever not in its initial position
  - After a gearshift, the shift lever has to be fully released before another gearshift with the shift assistant can take place.

### Shift light



- Shift light **1** indicates that the engine speed at which the rider should upshift is approaching.
- Shift light flashes at preset frequency: Approaching upshift rpm
  - Shift light goes out: Engine revving at upshift rpm



The engine-speed thresholds and the way in which the shift light indicates the various states can be customised by navigating to **Settings**, **Vehicle settings**; also see the section on operation (▣ 80).

---

## BRAKES

### How can stopping distance be minimised?

Each time the brakes are applied, a load distribution shift takes place with the load shifting forward from the rear to the front wheel. The sharper the motorcycle decelerates, the more load is shifted to the front wheel. The higher the wheel load, the more braking force can be transmitted.

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.

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

In the "emergency braking situations" that are trained so fre-

quently, 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. In the absence of load on the wheel the ABS has to intervene to prevent the front wheel from locking even if the brakes are applied only very lightly. This leads to a reduced braking effect.

### 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.

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## Descending mountain passes

### **WARNING**

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

Brake fade, destruction of the brakes due to overheating

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

- 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.

## 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:

## 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 activated in RAIN, ROAD and DYNAMIC riding modes. In RACE PRO riding mode, ABS Pro can be parametrised to suit the rider's individual needs and preferences.

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

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

### **Use on public roads**

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

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

---

## **PARKING YOUR MOTORCYCLE**

### **Side stand**

- Switch off the ignition. (🔌▶ 68)
- On a gradient, the motorcycle should always face uphill; select 1st gear.



### **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.
- Extend the side stand and prop the motorcycle on the stand.

## 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.

- If the camber of the roadway permits, turn the handlebars all the way to the left.

## 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 ad-

visable to use fuel additives when the engine is operated with low-grade fuel or if the vehicle is to be out of use for a lengthy period of time. More information is available from your authorised BMW Motorrad retailer.



Recommended fuel grade



Premium, unleaded  
(max. 5 % ethanol, E5)  
98 ROZ/RON  
93 AKI



Alternative fuel grade



Premium unleaded  
(power- and consumption-related restrictions)  
(max 10 % ethanol, E10)  
95 ROZ/RON  
90 AKI



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



## Refuelling



### WARNING

#### Fuel is highly flammable

Risk of fire and explosion

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



### WARNING

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

Risk of falling

- Do not overfill the fuel tank.



### ATTENTION

#### 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 side stand.



- Open protective flap **1**.
- Unlock cap **2** of the fuel tank by turning the vehicle key clockwise in the lock and pop the cap open.




- 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.

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 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. 16.5 l



Fuel reserve

approx. 4 l

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

### SECURING MOTORCYCLE FOR TRANSPORTATION

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



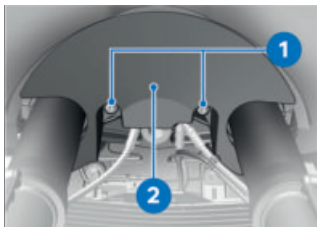
### ATTENTION

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

Risk of damage to parts if vehicle topples

- Secure the vehicle to prevent it toppling, preferably with the assistance of a second person.

- Push the motorcycle onto the transportation flat and hold it in position: do not place it on the side stand.



- Remove bolts **1** and fork partition **2**.



### ATTENTION

#### Trapping of components

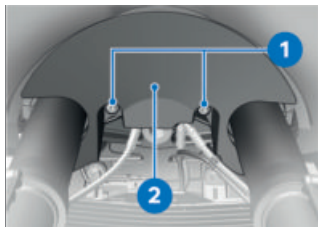
Component damage

- Do not trap components such as brake lines or cable legs.
- At the front, loop a strap over the bottom fork bridge on each side.
- Pull the straps down and tight.



- At the rear, secure the straps to the rear frame on both sides and tighten the straps.
- Tighten all the straps uniformly; the vehicle's

suspension should be compressed as tightly as possible front and rear.



- After transport, position fork partition **2** and install bolts **1**.



Fork partition to fork bridge, bottom

M5 x 14

Thread-locking compound:  
micro-encapsulated

2 Nm

# ON THE RACE TRACK

08



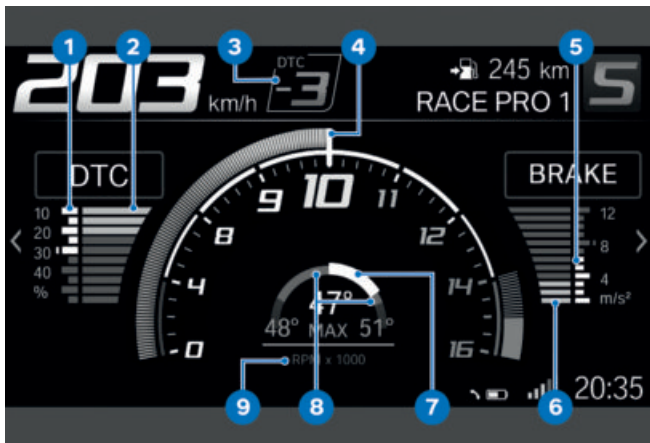
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<b>STATUS INDICATORS FOR RACING</b>	<b>124</b>
<b>LAPTIMER</b>	<b>127</b>
<b>RACE PRO RIDING MODES</b>	<b>128</b>
<b>LAUNCH CONTROL</b>	<b>130</b>
<b>PIT LANE LIMITER</b>	<b>131</b>
<b>DTC</b>	<b>132</b>
<b>MIRRORS</b>	<b>134</b>
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# 124 ON THE RACE TRACK

## STATUS INDICATORS FOR RACING

### SPORT 1 DISPLAY



- 1 Maximum DTC torque reduction
- 2 Current DTC torque reduction
- 3 DTC control value
- 4 Rev. counter
- 5 Maximum braking deceleration
- 6 Current braking deceleration
- 7 Current lean angle
- 8 Maximum lean angle
- 9 Unit for engine speed display: 1000 revolutions per minute

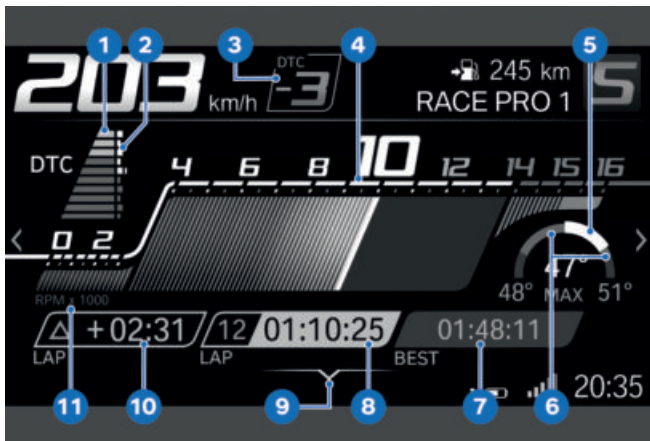
## SPORT 2 DISPLAY



- |   |   |
|---|---|
| <p><b>1</b> Maximum DTC torque reduction</p> <p><b>2</b> Current DTC torque reduction</p> <p><b>3</b> DTC control value</p> <p><b>4</b> Rev. counter</p> <p><b>5</b> Difference between the last lap time and reference time or difference between current lap time and reference time</p> <p><b>6</b> Reference time: Fastest of the currently saved laps or all-time fastest saved lap (▶▶▶ 127)</p> <p><b>7</b> Current lap time</p> | <p><b>8</b> Unit for engine speed display: 1000 revolutions per minute</p> <p><b>9</b> Operating help</p> |
|---|---|

# 126 ON THE RACE TRACK

## SPORT 3 DISPLAY



- |   |   |
|---|---|
| <b>1</b> Current DTC torque reduction   | <b>10</b> Difference between the last lap time and reference time or difference between current lap time and reference time |
| <b>2</b> Maximum DTC torque reduction   | <b>11</b> Unit for engine speed display: 1000 revolutions per minute  |
| <b>3</b> DTC control value  |   |
| <b>4</b> Rev. counter   |   |
| <b>5</b> Current lean angle   |   |
| <b>6</b> Maximum lean angle   |   |
| <b>7</b> Reference time: Fastest of the currently saved laps or all-time fastest saved lap (►► 127) |   |
| <b>8</b> Current lap time   |   |
| <b>9</b> Operating help   |   |

## LAPTIMER

### Start the timing

- Call up the `Sport` menu and change to the `Sport 2` or `Sport 3` display.
- Start the engine.



- Press button **1**.
  - » Time recording is running.
- Every time you cross the start/finish line, press button **1** again to start recording for the next lap.
  - » The data of the preceding lap are written into memory.
  - » The time for the current lap starts again from `00:00:00`.
  - » The stopped time for a lap is displayed for an adjustable `Disp. duration` time before the display switches to elapsed time for the current lap.
  - » Recording continues even if you exit the display mode during recording.

### Ending time recording and managing times

#### Requirement

`Sport 2` or `Sport 3` display is shown.

- Press down the `MENU` rocker button.
  - » The `LAPTIMER` menu is displayed.
  - Timing in progress can be ended with `Stop recording`.
  - You can go to the current lap times and riding data by using `Laps`. 99 laps can be saved. If the laps have not been deleted in the meantime, additional laps overwrite the first laps.
  - All laps can be deleted with `Delete all laps`.
  - You can use `Reset Best Ever` to reset the all-time best lap (`Best Ever`).

#### Set up the laptimer

- Navigate to `Settings`, `Vehicle settings`, `Laptimer`. The following settings are available:
  - » `Debounce time`: If the headlight flasher has been actuated, the headlight flasher can be actuated again within this time without affecting lap time measurement.

## 128 ON THE RACE TRACK

- with M GPS-Laptrigger<sup>OE</sup>
- » **Trigger:** Change of actuation. **Manual:** Actuation by headlight flasher. **External:** Actuation by M GPS-Laptrigger. Automatic signalling of each new lap and evaluation of the logged data require the optional M Datalogger accessory including GPS-Laptrigger.◁
- » **Disp. duration:** Within this time, the stopped lap time is displayed before the current lap time is shown.
- » **Reference:** Selection of which best time is displayed as a reference. **Best:** Best time of the current recording session or **Best Ever:** Best-ever measured time.
- » **Best lap in progress:** When this function is activated, the difference between the current lap time and the reference time is displayed instead of the difference between the last lap time and the reference time.

### Best-ever lap

The best-ever lap (**Best Ever**) is the fastest of all recorded laps and is updated once a faster lap has been recorded.

The best-ever lap remains stored in memory even if the recorded laps are deleted. This means that other races can subsequently be timed and the lap times of those races compared with the best-ever lap from earlier races.

The best-ever lap can be deleted in the **LAPTIMER** menu. If the best-ever lap is from a saved recording, it is accompanied on the display by the relevant lap number. If the best-ever lap shows without a lap number, this means that it comes from a recording that has been deleted.

---

## RACE PRO RIDING MODES

### Configuration for the race track

The RACE PRO riding modes enable pro-rider tweaks to be made to the ride-dynamics control systems. This means that individual rider requests, track characteristics and weather conditions can be taken into account.

The following parameters can be adjusted:

- Engine
- Engine Brake
- Traction (DTC)
- Wheelie (DTC)
- ABS

For more information on the parameters, see the section entitled "Engineering details" (▮▮▮ 154).

Three RACE PRO riding modes can be configured.

One RACE PRO riding mode can also be selected by pressing the MODE button (▮▮▮ 73).

### Configuring RACE PRO riding modes

- Navigate to Settings, Vehicle settings and select Riding mode preselection.
- Activate at least one RACE PRO riding mode.
- Select Configuration.
- » The current configurations are shown as an overview.



- Select a configuration.



- Select a parameter.
- » The current setting is displayed graphically and numerically. In addition, explanatory texts are displayed for the relevant setting.
- If a setting is also saved in a standard riding mode, this riding mode is specified.
- Change the setting as desired.

### Restore the factory defaults

- Select a configuration.
- Scroll down the list of parameters and select the last entry Reset.

# 130 ON THE RACE TRACK

## LAUNCH CONTROL

### Racing start with Launch Control

Launch Control assists the rider by revving the engine to the ideal speed for a racing start.



Engine speed after activating Launch Control at full throttle

9000 min<sup>-1</sup>

When Launch Control is active engine torque is reduced so that forward propulsion is maximised on the flat with the front wheel just starting to lift off the ground. Torque is temporarily reduced slightly when the electronics detect front-wheel lift.

Launch Control is switched off in the following circumstances:

- Third gear is engaged.
- Bank angle is greater than 30°.
- The engine or the ignition is switched off.

The number of consecutive starts using Launch Control is limited in order to protect the clutch. The number of possible starts remaining appears on the display, e.g. Launch

Control: 3 starts still avail..

### Operating Launch Control



#### CAUTION

**Launch Control permits maximum acceleration, so unfamiliar riding situations can occur.**

Risk of accident through increased acceleration.

- Use Launch Control only on race tracks.
- Bring vehicle to starting position.
- » Vehicle is stationary, engine is running.



- Press and hold down starter button **1** until the display shows the number of starts with Launch Control still permitted.
- » If no more starts are possible, L-Con not available.



Clutch too hot. is displayed.

- Allow the clutch to cool.



Clutch cooling time

approx. 3 min (With engine running)

approx. 20 min (With engine stopped)

- Proceed in the normal way when starting; open the throttle only as far as necessary to reach the rpm limit.
- After engaging the clutch, open the throttle completely.
  - » Shift light shows or flashes.
  - » Launch Control controls optimum torque at the rear wheel.
- Keep the throttle twistgrip fully open.
  - » As soon as rpm limitation ceases, engine rpm increases because the throttle twistgrip is in the full-throttle position.
  - » Throttle-twistgrip reaction is normal again.
  - » If in third gear or leaning further than 30°, the shift light disappears.
  - » The racing start with Launch Control is concluded.

## PIT LANE LIMITER

### Limiting speed with Pit Lane Limiter

The Pit Lane Limiter is an assistance system for complying with a speed limit, for example in the pit lane. To do so, a maximum rpm is specified for the engine when riding in 1st gear.



The speed resulting from the maximum rotational speed is dependent on the ratio and tyre size.

### Range of values

-3500...8000 min<sup>-1</sup>

### Setting up Pit Lane Limiter

- Navigate to **Settings**, **Vehicle settings** and activate **Pit Lane Limiter**.
- Select **Configuration**.
- Set up **RPM**.

### Operating Pit Lane Limiter



- Ride in 1st gear.

## 132 ON THE RACE TRACK

- Press and hold down starter button **1**.
- Open throttle grip until the set maximum rpm has been reached.
  - » Engine speed is limited to the set rpm.



### WARNING

**As soon as the starter button is released the vehicle accelerates in accordance with the position of the throttle twistgrip.**

Risk of crashing due to severe jerk forward if throttle twistgrip in full load position.

- Do not fully open the throttle twistgrip; instead, turn it only to the position at which the engine reaches its speed-limit rpm.

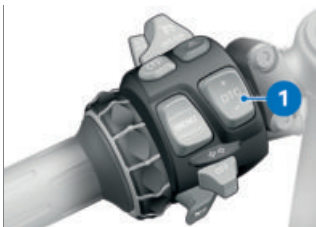
- Release starter button **1**.
  - » The vehicle accelerates at the maximum rate.

### DTC

#### DTC setting

The DTC controls permissible rear-wheel slip in accordance with your selected riding mode. Control can be fine-tuned in the configuration of the RACE PRO riding modes.

Configuring RACE PRO riding modes (➔ 129)



You can use the DTC rocker button **1** on the left handlebar fitting to change the DTC setting while riding.

#### Adapt DTC

- Configure the RACE PRO riding modes. (➔ 129)
- Select the desired RACE PRO riding mode.

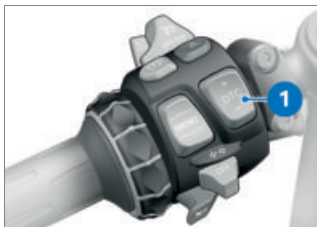


DTC while the motorcycle is on the move.



If RACE PRO riding mode is activated, Speed Limit Info **1** is hidden and DTC

control value **2** is displayed instead.



- Short-press the top section of rocker button **1** to increase DTC control.



### WARNING

#### Loss of stability because of rear wheel spinning when DTC control is reduced.

Risk of falling


- Reduce DTC for riding on racing circuits only.
  - Only change DTC control by one level at a time and carefully test the effects on drivability.
- Short-press bottom section of DTC rocker button **1** to reduce DTC control.
    - » The set value is shown in the display and is between  $-7$  and  $7$ :
    - »  $1 \dots 7$ : Reduce slip at the rear wheel in a maximum of seven stages.  $7$  is the value cor-

responding to earliest DTC intervention.

- »  $-1 \dots -7$ : Increase slip at the rear wheel in a maximum of seven steps.  $-7$  is the value corresponding to latest DTC intervention.
- »  $0$ : Works default setting
- » DTC indicator not showing: DTC is switched off.

### DTC shutdown

On very loose surfaces (for example in a gravel trap of a race track) the DTC's attempts to control propulsive power might reduce drive to the extent that the machine cannot propel itself forward. Under these circumstances, BMW Motorrad recommends temporarily switching off DTC. Bear in mind that the rear wheel will spin on the loose surface and close the throttle in good time before you reach a firm surface.

Switching off DTC also deactivates traction control and wheelie suppression. Switch DTC on again (  73).

## 134 ON THE RACE TRACK

### MIRRORS

#### Remove the mirrors



#### ATTENTION

#### Removal of the mirrors

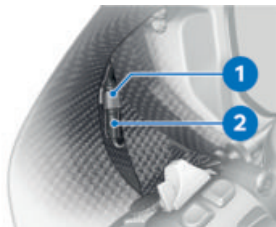
Voiding of homologation for riding on public roads

- Do not ride on public roads without mirrors and turn indicators correctly installed.



The procedure described here for the left mirror applies by analogy for the right mirror as well.

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

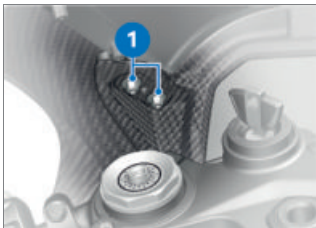


- Grip between the trim panels and disengage connector for turn indicator **2** from holder **1**.
- Disconnect connector for turn indicator **2**.
- Prevent moisture from making its way into open plug

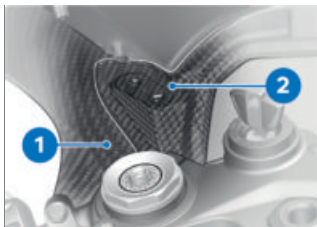
connections, preferably by inserting the corresponding blanking plugs from the BMW Motorrad M Cover Kit.




If the mirrors with integrated turn indicators are removed in preparation for a race-track session, the electronics interpret this as a defective light and the corresponding warning appears on the display. Deactivating the **Light warnings** function in the **Lights** menu suppresses this warning message.



- Remove nuts **1** on left and right and remove the mirrors.
- Carefully thread out cable.

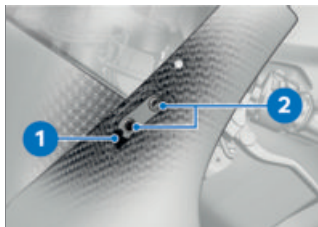


- Secure fairing **1** at the left and right fairing bracket **2**. If cable ties are used, affix adhesive tape as protection at the points where chafing might occur.

 The M Cover Kit includes blanking plugs for open plug connections to prevent moisture from making its way into the vehicle electrical system.

### Install the mirrors

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the trim panel fasteners.



- Carefully work the cable for the turn indicator through gland **1**.
- Insert the mirror into mounts **2**.



- Install nuts **1** on the rear of the trim panel and tighten to specified torque.



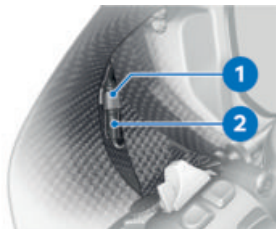
Mirror to front panel carrier

M6

Thread-locking compound:  
mechanical

8 Nm

## 136 ON THE RACE TRACK



- Connect connector for turn indicator **2**.
- Seat connector for turn indicator **2** in holder **1**.
- Check operation of the turn indicators.

### NUMBER PLATE CARRIER

#### Remove the number plate carrier



#### ATTENTION

#### Removal of the number plate carrier

Voiding of homologation for riding on public roads

- With the number-plate carrier removed, do not ride the motorcycle on public roads.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- with two-up riding package<sup>OE</sup>
- Remove the rear seat. (▣▣▣ 83)

- Remove the tail section for passenger seat. (▣▣▣ 139)◀
- Remove the tail-hump cover. (▣▣▣ 83)



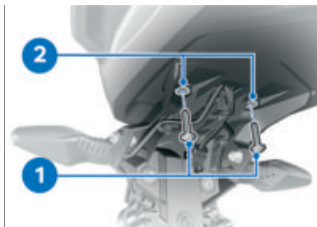
- Remove cable strap **1**.
- Disconnect connector for right turn indicator **2** and connector for number plate light **3**.



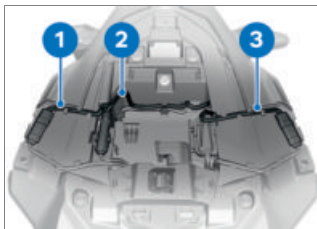
If the license-plate carrier is removed in preparation for a race-track session, the electronics interpret this as a defective light and the corresponding warning appears on the display. Deactivating the Light warnings function in the Lights menu suppresses this warning message.



- Remove cable strap **1**.
- Disconnect connector for left turn indicator **2**.




- Remove screws **1**, noting collared bushes **2**.



- Work cables for right turn indicator **1**, number plate light **2** and left turn indicator **3** clear.



- Unhook number plate carrier **1** and remove downwards.
- Carefully thread out cable.
- Prevent moisture from making its way into open plug connections, preferably by inserting the corresponding blanking plugs from the BMW Motorrad M Cover Kit.

 The M Cover Kit includes blanking plugs for open plug connections to prevent moisture from making its way

## 138 ON THE RACE TRACK

into the vehicle electrical system.

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

- Install the tail section for passenger seat. (►► 140)
- Install the passenger seat. (►► 84)◁
- Install the tail-hump cover. (►► 83)

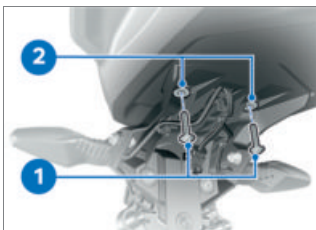
### Install the number plate carrier

—with M Cover Kit<sup>OA</sup>

- Remove the M Cover Kit. (►► 141)◁
- Make sure the ground is level and firm and place the motorcycle on its stand.
- with two-up riding package<sup>OE</sup>
- Remove the rear seat. (►► 83)
- Remove the tail section for passenger seat. (►► 139)◁
- Remove the tail-hump cover. (►► 83)



- Position number plate carrier **1** and carefully thread in cable.
- Hook in number plate carrier **1**.



- Install screws **1** through collared bushes **2**.

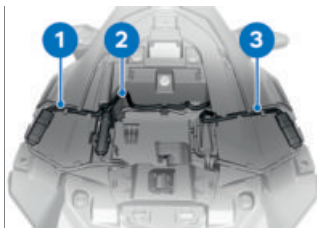


Number-plate carrier to rear frame

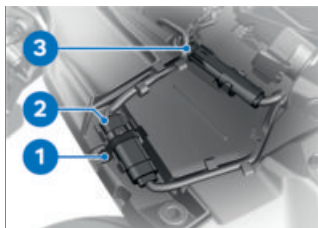
M5 x 25

2 Nm





- Work cable for right turn indicator **1** into position.
- Work cables for number plate light **2** and left turn indicator **3** into position.



- Connect connector for right turn indicator **2** and connector for number plate light **3**.
- Install cable strap **1**.
  - » The cable-tie latch is seated in the recess provided for the purpose.
- Check operation of the light and the turn indicators.



- Connect connector for left turn indicator **1**.
- Install cable strap **1**.
  - » The cable-tie latch is seated in the recess provided for the purpose.

- with two-up riding package<sup>OE</sup>
- Install the tail section for passenger seat. (▣▣▣▶ 140)
- Install the passenger seat. (▣▣▣▶ 84)◀
- Install the tail-hump cover. (▣▣▣▶ 83)

## **TAIL-HUMP COVER**

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

### **Removing tail section for passenger seat**

- Remove the rear seat. (▣▣▣▶ 83)

## 140 ON THE RACE TRACK



- Remove screw **3**.
- Disengage tail section **2** from grommets **1** and remove.
- Install the tail-hump cover. (▣▣▣ 83)

### Installing tail section for passenger seat

- Remove the tail-hump cover. (▣▣▣ 83)



- Lubricate grommets **1** if necessary.
- Engage tail section **2** in grommets **1**.
- Install screw **3**.
- Install the passenger seat. (▣▣▣ 84)

### M COVER KIT

—with M Cover Kit<sup>OA</sup>

#### Covering body openings Requirement

The M Cover Kit is used to professionally mount the front trim panel and to cover the body openings if the mirrors and number plate carrier have been removed.

- Remove the mirrors. (▣▣▣ 134)
- Remove the number plate carrier. (▣▣▣ 136)

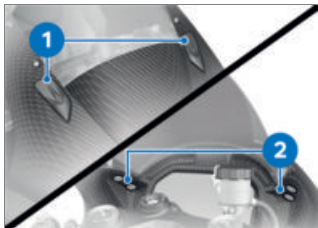
—with M Cover Kit<sup>OA</sup>

- Install the M Cover Kit. (▣▣▣ 140)




Comply with the installation instructions supplied with the optional accessory or racing accessory.

#### Installing M Cover Kit



- Insert mirror mount cover **1**.
- Install screws **2**.

 Cover for mounting of mirror

M6 x 25


3 Nm



- Hook in and position number plate carrier cover **1**.



- Install screws **1**.

 Number-plate carrier to rear frame

M5 x 25

2 Nm

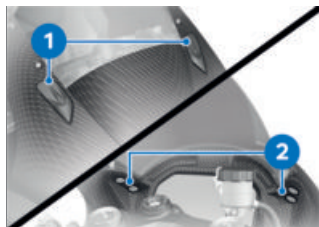
## Removing M Cover Kit



- Remove screws **1**.



- Unhook number plate carrier cover **1** and remove downwards.
- Install the number-plate carrier. (▣▣▣ 138)



- Remove screws **2**.

## 142 ON THE RACE TRACK


- Remove mirror mount cover **1**.
- Install the mirrors. (▣▣▣▣ 135)

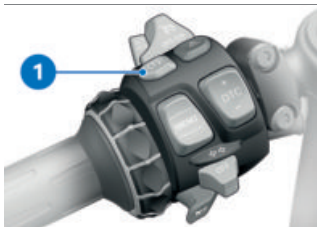
### SWITCHING OFF ABS WHEN RIDING ON THE RACE TRACK

#### Switch off the ABS function Requirement

Number plate carrier is removed.

- Switch on the ignition. (▣▣▣▣ 68)

 You have the option of deactivating the ABS function while the motorcycle is on the move.



- Press button **1** for at least three seconds.

 shows.

- » The ABS function is switched off.
- » The integral function is switched off.

- » Hill Start Control is still activated.
- » Dynamic Brake Control is also switched off when the ABS function is switched off.
- » When the RACE PRO riding modes are active, even after the ignition has been switched off and on again the ABS remains off in RACE PRO and RACE riding modes.
- For more information on brake systems with BMW Motorrad Integral ABS, see the section entitled "Engineering details":
  - » Partially integral brakes (▣▣▣▣ 148)
  - » Hill Start Control function (▣▣▣▣ 158)
  - » How Dynamic Brake Control works (▣▣▣▣ 156)

#### Switch on the ABS function



- Press button **1** for at least three seconds.



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

» The ABS function is switched on.

- If menu **Riding mode preselection** has no activated **RACE PRO riding mode**, switching the ignition off and then on again also reactivates ABS.



If the ABS indicator and warning light remains on even though the vehicle has accelerated past the minimum speed after the ignition was switched off and then on again, an ABS fault has occurred.

min 10 km/h

## GEARSHIFT-PATTERN REVERSER

### Shift pattern for racing

The shift pattern can be reversed for racing by changing the position of the selector rod. Reversing the shift pattern means that the gearshift lever is lifted up for 1st gear and pressed down for all the other gears. This is the reverse of the arrangement for riding on public roads.

## Reversing the shift pattern

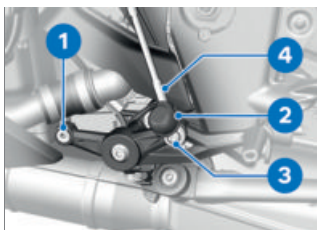


### ATTENTION

#### Riding with shift pattern reversal on public roads

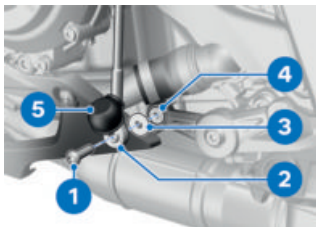
Voiding of homologation for riding on public roads

- Do not install the gearshift-pattern reverser for riding on public roads.



- Clean thread **1**.
- Pull off protective cap **2** and slide on the gearshift rod **4**.
- Remove screw **3** with the washer.
- Transfer the gearshift rod **4** to the thread for the inverted gearshift pattern **1**.

## 144 ON THE RACE TRACK



[2d-datarecording.com/en/m-gps-laptrigger](http://2d-datarecording.com/en/m-gps-laptrigger).

- Insert bolt **1** through ball joint **2** and washer **3**.
- Install bolt **1** in thread for inverted gearshift pattern **4**.



Selector rod to gearshift lever

M6 x 20

Thread-locking compound:  
micro-encapsulated

8 Nm

- Install protective cap **5**.
- » The gearshift-pattern reverser for racing is set up.

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### DATA RECORDING AND 2D SOFTWARE

—with M GPS-Laptrigger<sup>OE</sup>

#### Data recording and 2D software

You can receive all the information and support for dealing with the 2D software, reading out and evaluating recorded driving data under:



# ENGINEERING DETAILS

09



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<b>GENERAL NOTES</b>	<b>148</b>
<b>ANTILOCK BRAKE SYSTEM (ABS)</b>	<b>148</b>
<b>DYNAMIC TRACTION CONTROL (DTC)</b>	<b>152</b>
<b>DYNAMIC ENGINE BRAKE CONTROL</b>	<b>153</b>
<b>RIDING MODE</b>	<b>154</b>
<b>DYNAMIC BRAKE CONTROL</b>	<b>156</b>
<b>GEAR SHIFT ASSISTANT</b>	<b>157</b>
<b>HILL START CONTROL (HILL START CONTROL PRO)</b>	<b>158</b>

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## GENERAL NOTES

To find out more about engineering, go to [bmw-motorrad.com/technik](http://bmw-motorrad.com/technik).

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## ANTILOCK BRAKE SYSTEM (ABS)

### Partially integral brakes

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



### ATTENTION

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

Damage to rear brake and clutch

- Do not attempt a burn-out unless the vehicle is at a complete standstill. A burn-out is not use of the vehicle as intended by the manufacturer and can, therefore, lead to fault memory entries.

### How does ABS work?

The amount of braking force that can be transferred to the road depends on factors that include the coefficient of friction of the road surface. Loose stones, ice and snow or a wet road all have much lower coefficients of friction than a clean, dry asphalt surface. The lower the coefficient of friction, the longer the braking 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 motorcycle 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, so the wheels continue to turn and directional stability is maintained irrespective of the condition of the road surface.

### What are the effects of surface irregularities?

Humps and surface irregularities can cause the wheels to lose contact temporarily with the road surface; if this happens the braking force that can be transmitted to the road

can drop to zero. If the 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. Up to this point, BMW Motorrad Integral ABS assumes an extremely low coefficient of friction (gravel, ice, snow) so that the road wheels turn in every conceivable situation and so ensure driving stability. As soon as it registers the actual circumstances, the system reacts instantly and adjusts braking force accordingly to achieve optimum braking.

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

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

When the brake 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 brake lever is pulled, the brake pressure built up beforehand is perceptible as counter-pressure sooner than is the case when the brake pedal is de-

pressed either before or at the same time as the brake lever is pulled.

### **Rear wheel lift**

Where there is a high level of adhesion between the tyres and road, the front wheel is only blocked very late or not at all even when the brakes are applied forcefully. Consequently, ABS does not intervene until very late, if at all. Under these circumstances the rear wheel can lift off the ground, and the outcome can be a highsidings 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.

# 150 ENGINEERING DETAILS

## What is the design baseline for ABS?

Within the limits imposed by physics, the ABS ensures directional stability on any surface. The system is not optimised for special requirements that apply under extreme competitive situations on the track. The driving behaviour should be adapted to actual driving skills and the road conditions.

## Special situations

The speeds of the front and rear wheels are compared as one means of detecting a wheel's incipient tendency to lock. If the system registers implausible values for a lengthy period the ABS function is deactivated for safety reasons and an ABS fault message is issued. Self-diagnosis has to complete before fault messages can be issued.

In addition to problems with the BMW Motorrad ABS Pro, exceptional riding conditions can lead to a fault message being issued.

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

## Exceptional riding conditions:

- Heating up with the motor-cycle on an auxiliary stand, in neutral or with a gear engaged.
- Rear wheel locked by the engine brake for a lengthy period, for example while descending steep gradients.

## What significance devolves on regular servicing?



### WARNING

#### Brake system not regularly serviced

Risk of accident

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

## Safety reserves

The potentially shorter braking distances which ABS permits must not be used as an excuse for careless riding. It is primarily there to provide a safety reserve for emergency situations.



## WARNING

### Braking when cornering

Risk of accident despite ABS

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

### ABS Pro

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

### ABS intervention

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

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

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

### Advantages for the rider

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



ABS Pro is activated in RAIN, ROAD and DYNAMIC riding modes. In RACE PRO riding mode, ABS Pro can be parametrised to suit the rider's individual needs and preferences.

## DYNAMIC TRACTION CONTROL (DTC)

### How does Dynamic 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. DTC takes the vehicle's bank angle into account, controls comfortably and is suitable for improving lap times on the race track.

DTC can assist only within the limits imposed by physics. The physical limits are strongly dependent on the road surface, road temperatures, tyre choice and tyre temperature. There is the danger of overheating when using unsuitable tyres on the race track.



### 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 (burn-out).
- Heating up with the motorcycle on an auxiliary 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 and bank-angle-dependent regulated slip.

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

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

In the same way as DTC traction control, dynamic engine brake control compares the wheel circumferential velocities of the front and rear wheels. Additional information on the bank angle enables dynamic engine brake control to calculate slip and the reserve of stability at the rear wheel. If slip overshoots the applicable limit, the throttle valves are opened very slightly to increase engine torque. Slip is reduced and the vehicle is stabilised.

---

## 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
- RACE
- RACE PRO 1
- RACE PRO 2
- RACE PRO 3

A maximum of four riding modes can be preselected by means of the riding mode preselection function.

There are matched settings for the Engine, Engine Brake, Traction (DTC), Wheelie (DTC) and ABS systems in each riding mode.

In RACE PRO riding modes, the settings for the Engine, Engine Brake, Traction (DTC), Wheelie (DTC) and ABS systems can be individually adjusted.

### Torque and throttle response

- In RAIN riding mode: Gentle throttle response, reduced torque in low gears.
- In ROAD and DYNAMIC riding modes: Optimum throttle response, reduced torque in low gears.
- In RACE riding mode: Optimum throttle response, maximum torque.
- In RACE PRO riding modes additionally: Gentle or direct throttle response, maximum torque.

### Braking effect of the engine and engine drag torque control

- In RAIN and ROAD riding modes: Maximum braking effect of the engine. Maximum stability.
- In DYNAMIC and RACE riding modes: Reduced braking effect of the engine. High stability.
- In RACE PRO riding modes additionally: Minimal braking effect of the engine. Reduced stability.



### **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. Acceleration on dry roads might be slightly reduced.
- In DYNAMIC riding mode: High performance on dry roads. If road conditions are poor, optimum stability cannot be ensured.
- In RACE riding mode: Maximum performance. On a poor road surface or with unsuitable tyres such as touring tyres for example, stability might be impaired. In RACE PRO riding modes, traction control can be finely adjusted using the DTC rocker button while riding to ensure optimum performance.

### **Wheelie (DTC) - front wheel lifted clear of the ground**

- In RAIN riding mode: Maximum stability. Efforts are made to suppress a Wheelie.
- In ROAD, DYNAMIC and RACE riding modes: Shallow Wheelie possible, optimum drive.

- In RACE PRO riding modes with setting 1: High Wheelie possible. The rider has to control the speed of the rear wheel to prevent the Wheelie. The system only intervenes late.
- In RACE PRO riding modes with setting 0: The system is deactivated.

### **ABS**

- The rear wheel lift-off assistant is active in the RAIN, ROAD and DYNAMIC riding modes.
- In RAIN, ROAD and DYNAMIC riding modes, ABS is set up for on-road riding.
- In RACE riding mode, ABS is set up for race-track riding.
- In RACE PRO riding modes: The deployment of ABS can be adjusted individually.

### **Mode changes**

The riding mode can be changed while the vehicle is stationary with the ignition on. It is possible to change it while driving under the following conditions:

## 156 ENGINEERING DETAILS

- 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 adaptive cruise control.

The desired riding mode is initially preselected. The mode change does not take place until the systems in question are all in the appropriate state. The selection menu does not disappear from the display until the mode change has taken place.

---

### DYNAMIC BRAKE CONTROL

#### How Dynamic Brake Control works

 The Dynamic Brake Control function is active in all riding modes. It can be deactivated in the RACE PRO riding modes only, by custom parametrisation of the ABS.

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

#### Detection of emergency braking

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

#### Behaviour in emergency braking

- If emergency braking occurs at a speed in excess of min 10 km/h, the ABS function is further assisted by Dynamic Brake Control.
- When partially integral braking at a high brake pressure gradient is initiated, Dynamic Brake Control increases the integral brake pressure at the rear wheel. The stopping distance shortens and controlled braking is possible.

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

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

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



When ABS is switched off, the Dynamic Brake Control function is switched off as well.

---

## GEAR SHIFT ASSISTANT

### Gear Shift Assistant Pro

Your vehicle is equipped with a shift assistant, a system originally developed for racing and now adapted for riding on public roads. It permits upshifts and downshifts without de-clutching or closing the throttle in virtually all load and rpm ranges.

#### Advantages

- 70-80 % of all gearshifts on a trip can be done 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 valve when shifting under acceleration.
- When braking and downshifting (throttle valve closed), engine speed is adjusted by blipping the throttle.
- Shift time is shorter than a gearshift with clutch actuation.

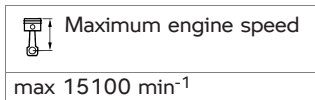
In order for the system to identify a request for a gearshift, the rider has to move the shift lever from its idle position in the desired direction against the force of the spring through a certain "overtravel" at ordinary speed or rapidly and keep the shift lever in this position until the gearshift is completed. It is not necessary to increase the force applied to the gearshift lever while shifting is in progress. Once the gearshift has completed the shift lever has to be fully released before another gearshift with the Pro shift assistant can take place. When shifting gears with the Gear Shift Assistant Pro, the rider has to keep load state (throttle twistgrip position) constant

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before and during the gearshift. A change in the position of the throttle twistgrip during a gearshift can cause the function to abort and/or lead to a missed shift. Gear Shift Assistant Pro provides no assistance for the gearshift if the rider declutches.

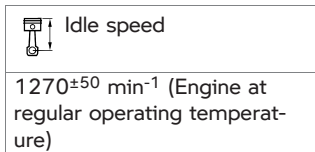
## Downshifting

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



## Upshifting

–The shift assistant provides no assistance if engine speed drops below idle during an upshift.



---

## HILL START CONTROL (HILL START CONTROL PRO)

### Hill Start Control function

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

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

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

–If the motorcycle is stopped on a gentle incline, only low brake pressure is built up. In this case, the brakes are quickly released when driving off. The motorcycle can be moved off more gently. It is not necessary to turn the throttle grip again.

–If the motorcycle is stopped on a steep incline, high brake pressure is built up. In this case, the brakes take longer

to release when driving off. More torque is required for driving off which also requires the rider to turn the throttle grip again.

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

- If the vehicle starts to roll while Hill Start Control Pro is active, brake pressure is increased.
- If the rear wheel locks up, the brake is released again after approx. 1 m. This prevents the vehicle slipping with a locked rear wheel, for example.

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

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

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

### **Brake warning jolt**

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



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

**MAINTENANCE**

**10**

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## GENERAL NOTES

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

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

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

### Microencapsulated screws

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

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

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

### Non-reusable cable ties

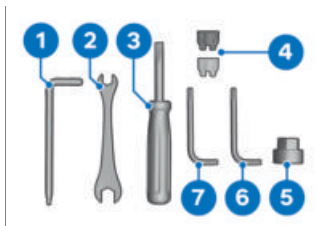
Non-reusable cable ties are used at some points to secure cables and lines. To prevent damage to cables and lines when these items are being removed, it is essential to use a suitable tool, for example diagonal cutting pliers, for their removal.

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

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



---

**TOOLKIT**


- 1** Lever
- Adjust the spring pre-load for the rear wheel. (▣▣▣ 94)
  - Adjust the ride height to swinging arm pivot point setting. (▣▣▣ 102)
- 2** Open-ended spanner  
Width across flats 10/13 mm
- Removing battery (▣▣▣ 195).
  - Adjust the spring pre-load for front wheel. (▣▣▣ 93)
- 3** Reversible screwdriver blade  
Slotted bit and Torx T25
- Removing and installing trim panel components.
  - Remove the front seat. (▣▣▣ 84)
  - Adjust compression-stage damping at front wheel. (▣▣▣ 96)
- 3**
- Adjust rebound-stage damping for front wheel. (▣▣▣ 96)
  - Adjust rebound-stage damping for rear wheel. (▣▣▣ 97)
  - Adjust the compression-stage damping for the rear wheel. (▣▣▣ 97)
- 4** Replacement fuses
- 7.5 A
  - 15 A
- 5** Plastic cap
- Adjust the spring pre-load for front wheel. (▣▣▣ 93)
- 6** Torx wrench, T20
- Removing and installing tail-hump trim panel.
- 7** Torx wrench, T30
- Removing and installing trim panel components.

# 164 MAINTENANCE

## FRONT-WHEEL STAND

### Install the front-wheel stand

#### ATTENTION

**Use of the BMW Motorrad front wheel stand without accompanying use of centre stand or auxiliary stand**

Risk of damage to parts if vehicle topples

- Place the motorcycle on its centre stand or another auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.
- Make sure the motorcycle is standing firmly.
- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (→ 164)



- 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

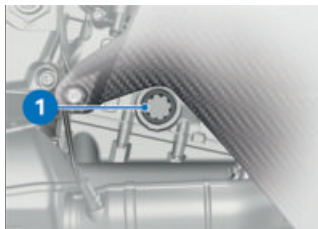
#### ATTENTION

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

Engine damage

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

 As a contribution to reducing environmental impact, BMW Motorrad recommends checking the engine oil on occasion after a trip of at least min 50 km.

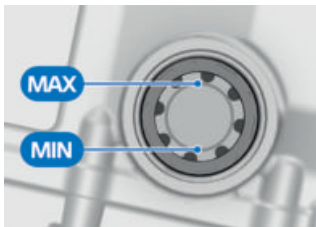


#### ATTENTION

#### **Vehicle toppling sideways**

Risk of damage to parts if vehicle topples

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



Engine oil, specified level

Between **MIN** and **MAX** mark (Engine at operating temperature, vehicle is in vertical position)

If the oil level is below the minimum mark:

- Topping up the engine oil. (▮▮▮▮▶ 166)

If the oil level is above the maximum mark:

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

### Topping up engine oil

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Wipe the area around the oil filler opening clean.

- Remove cap **1** of the oil filler opening.



### ATTENTION

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

Engine damage

- Always make sure that the oil level is correct.

- Top up the engine oil to the specified level.



Engine oil, quantity for topping up

max 1.3 l (Difference between **MIN** and **MAX**)

- Check the engine oil level. (▮▮▮▮▶ 165)
- Install cap of oil filler opening **1**.

## BRAKE SYSTEM

### Check operation of the brakes

- Operate the brake 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.
  - Turn the handlebars to the full-lock position.



- Visually inspect the left and right brake pads to ascertain their thickness. Viewing direction: from the rear toward brake pads **1**.



Brake-pad wear limit, front

min 1 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.

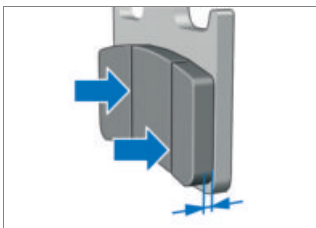
- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad retailer.


### **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 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-fluid level, front brakes**

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



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



Wear of the brake pads causes the brake fluid level in the reservoir to sink.



Brake fluid level, front

Brake fluid, DOT4

The brake fluid level may not drop below the **MIN** mark. (Brake-fluid reservoir horizontal)

## 170 MAINTENANCE

If the brake fluid level drops below the permitted level:

### **WARNING**

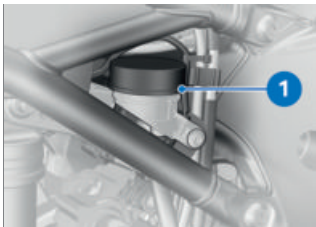
#### **Not enough brake fluid in brake fluid reservoir, or contaminants in brake fluid**

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

### **Checking brake-fluid level, rear brakes**

- Make sure the ground is level and firm and hold the motor-cycle upright.



### **ATTENTION**

#### **Vehicle toppling sideways**

Risk of damage to parts if vehicle topples

- Secure the vehicle, preferably with the assistance of a second person, so that it cannot topple sideways.
- 
- Check the brake fluid level in brake fluid reservoir for rear wheel brake **1**.



Wear of the brake pads causes the brake fluid level in the reservoir to sink.





Brake fluid level, rear

Brake fluid, DOT4

The brake fluid level may not drop below the **MIN** mark (Brake-fluid reservoir horizontal)

If the brake fluid level drops below the permitted level:



## 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.
- Have the condition corrected as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

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## CLUTCH

### Checking operation of the clutch

- Pull the clutch lever.
- » An increase in force with increasing actuation must be perceptible.

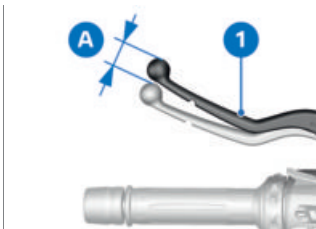
If no increase in force with increasing actuation is perceptible:

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

### Check the clutch-lever play Requirement

Engine is cold.

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



- Repeatedly pull clutch lever **1** tight against the grip.
- Pull clutch lever **1** gently until resistance is perceptible, observing the clutch play **A**.



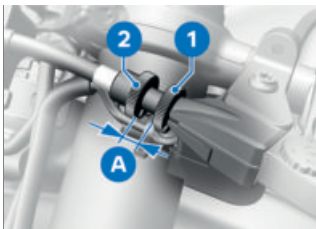
Clutch-lever play

3...5 mm (measured on outer clutch lever, handlebars in straight-ahead position, with cold engine)

Clutch play is out of tolerance:


- Adjust the clutch play. (▮▮▮ 172)


### Adjust the clutch play




- Loosen lock nut **1**.

- To increase clutch play:  
Tighten adjusting screw **2** into the handlebar fitting.
- » Clearance **A** is reduced.
- To reduce clutch play: Back off adjusting screw **2** in the handlebar fitting.
- » Clearance **A** is increased.
- Note clearance **A** between adjusting screw and handlebar fitting.

 If it is not possible to adjust clutch play within the stated intervals consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

 Distance between adjusting screw and handlebar fitting (clutch-cable setting)

$8 \pm 1.5$  mm

- Check the clutch-lever play. ( 172)
- Tighten lock nut **1** while holding adjusting screw **2**.

## COOLANT

### Check the coolant level


- Make sure the ground is level and firm and place the motorcycle on its stand.
- Allow the engine to cool down.

- Turn the handlebars all the way to the left.



- Check the coolant level in expansion tank **1**. Viewing direction: From in front toward the inside of the right side panel.



 Coolant, specified level

Between **MIN** and **MAX** mark on the expansion tank (cold engine)

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If the coolant drops below the permitted level:

- Top up the coolant.

## Top up coolant

### **WARNING**

#### Opening radiator cap

Risk of burning

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



- Open cap **1** of the expansion tank.
- Top up coolant to the specified level using a suitable funnel.



Coolant full quantity

0.15 l (Difference between **MIN** and **MAX**)

2.4 l (Coolant system, total)

FROSTOX HT-12 (Coolant)

- Check the coolant level. (→ 173)
- Close cap **1** of the expansion tank.

## TYRES

### Check the 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 to open by themselves at high riding speeds


Sudden loss of tyre pressure

- Install valve caps fitted with rubber sealing rings and tighten firmly.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Check tyre pressures against the data below.



Tyre pressure, front

2.5 bar (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 damage.



#### WARNING

#### Unnoticed structural damage

Risk of accident

- After a fall or a significant impact effect (e.g. riding through a pothole), have carbon wheels checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.
- If damage is suspected, have the 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 as a parameter for the suspension control systems. In particular, the diameter and the width of a vehicle's wheels are programmed into the control unit and are fundamental to all calculations. Any change in these influencing variables, caused for example by a switch to wheels other than those installed ex-works, can have serious effects on the performance of the control systems.

The sensor rings are essential for correct road-speed calculation, and they too must match the motorcycle's control systems and consequently cannot be changed.

If you decide that you would like to fit non-standard wheels to your motorcycle, it is very important to consult a specialist workshop beforehand, preferably an authorised BMW Motorrad retailer. In these cases, the data programmed into the control units has to be changed to suit the new wheel sizes.

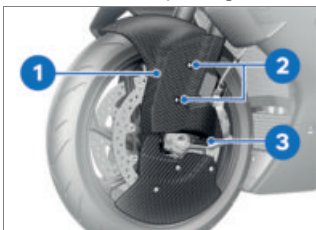
### Removing front wheel

—without M carbon package<sup>OE</sup>



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

—with M carbon package<sup>OE</sup>





- Remove screws **2** on left and right.
- Pull front-wheel cover **1** out of holder **3** and work it forward to remove.◁

–with M carbon package<sup>OE</sup>



- Remove screws **2**.

 The steps described here for the left front wheel trim apply by analogy for the right-hand side.

- Remove front-wheel trim **1**. 
- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (▶▶▶ 164)



### ATTENTION

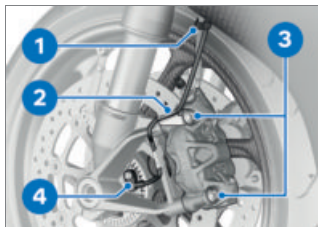
#### Use of hard or sharp-edged objects in proximity to component

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.



- Disengage the cable for the wheel speed sensor from holding clips **1** and **2**.
- Remove screw **4** and remove the wheel speed sensor from its bore.



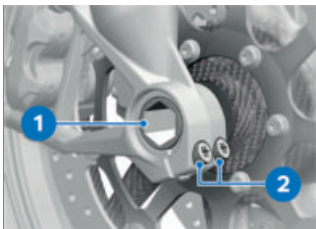
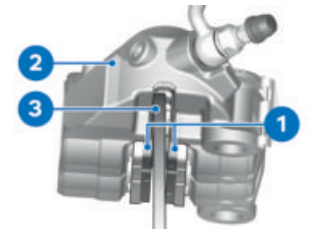
### ATTENTION


#### Unwanted inward movement of the brake pads

Component damage on attempt to install the brake caliper or because brake pads have to be forced apart

- Do not operate the brakes with a brake caliper not correctly secured.
- Remove mounting bolts **3** of the left and right brake calipers.

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- Force brake pads **1** slightly apart by rocking brake caliper **2** back and forth against brake disc **3**.
- Carefully ease brake calipers **2** back and out until clear of the brake discs.
- Lift the front of the motorcycle until the front wheel is clear of the ground, preferably using a BMW Motorrad front-wheel stand.
- Install the front-wheel stand.  
( 164)



### ATTENTION

**Incorrect gap between sensor ring and wheel speed sensor due to misaligned threaded bush in front suspension**

Damage to wheel speed sensor. ABS malfunction

- Left clamp locates the threaded bush; do not loosen or remove this clamp.

- Loosen clamping screws **2**.
- Support the wheel and remove quick-release axle **1**.
- Roll the front wheel forward to remove.



## 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.

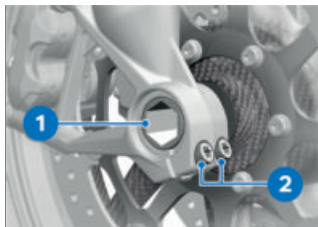
### ATTENTION

#### 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

Optimoly TA

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

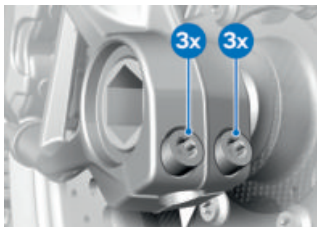
 Quick-release axle in threaded bush


M24 x 1.5

50 Nm

- Tighten clamping screws **2** to the specified tightening torque.


## 180 MAINTENANCE



 Radial brake caliper on wheel axle clamp

M10 x 65

38 Nm

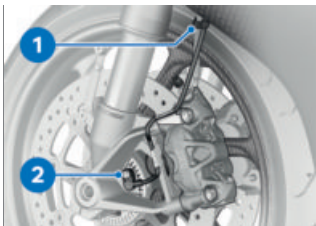
 Clamping screws in axle holder

Tightening sequence: Tighten screws six times in alternate sequence


M8 x 35

19 Nm

- Ease the brake calipers on to the brake discs.



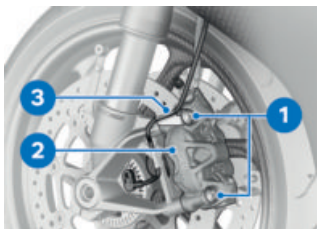
- Secure cable for wheel speed sensor in holder **1**.
- Insert wheel speed sensor in the bore hole and secure with bolt **2**.

 Wheel-speed sensor, front to forkleg

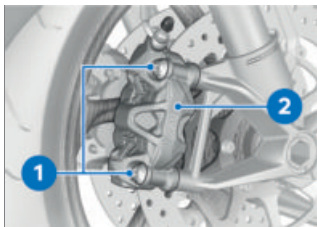
M6 x 16

Thread-locking compound: micro-encapsulated

8 Nm



- Place brake caliper **2** on left and position cable routing **3**.
- Install bolts **1** and tighten to the specified torque.



- Place brake caliper **2** on the right and install bolts **1** to specified torque.



Radial brake caliper on wheel axle clamp

M10 x 65

38 Nm

- Remove the adhesive tape from the wheel rim.



### WARNING

#### Brake pads not lying against the brake disc

Risk of accident due to delayed braking effect.

- Before driving, check that the brakes respond without delay.
- Firmly pull the brake lever until the pressure point is perceptible, and repeat this operation several times.
- Remove the front-wheel stand and the auxiliary stand.

—with M carbon package<sup>OE</sup>

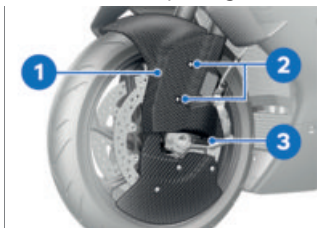


- Hold front-wheel trim **1** in position.
- Install screws **2**.



The steps described here for the left front wheel trim apply by analogy for the right-hand side.◁

—with M carbon package<sup>OE</sup>



- From above, insert front wheel cover **1** to holder **3**.
- Install screws **2** on left and right.◁

## 182 MAINTENANCE

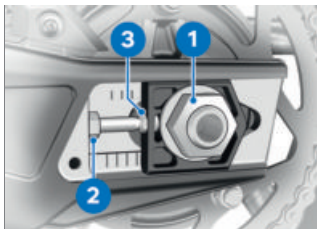
—without M carbon package<sup>OE</sup>



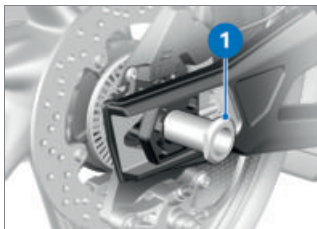
- Hold front wheel cover **1** in position.
- Install screws **2** on left and right.◁

### Removing rear wheel

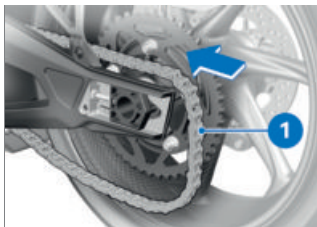
- Lift the motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand. (▶▶ 164)
- Position a wooden block or similar underneath the rear wheel so that the wheel cannot drop while being removed.




- Remove axle nut **1** with washer.
- Loosen lock nuts **2** on left and right.
- Loosen adjusting screws **3** on left and right.
- Push the axle forward as far as it will go to slacken the chain.



- Remove quick-release axle **1**.



- Roll the rear wheel as far forward as possible and disengage chain **1** from the chain sprocket.
- Roll the rear wheel back until it is clear of the swinging arm.

 The chain sprocket and the spacer bushes on left and right are loose fits in the wheel. Make sure that these parts are not damaged or get lost on removal.

### Installing rear wheel

#### ATTENTION

##### Change in tyre size

Effect on control systems

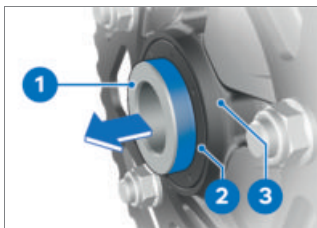
- Have the new parameters encoded by a specialist workshop, preferably by an authorised BMW Motorrad Retailer.

#### 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.



- Pull spacer bush **1** out slightly.
- Insofar as it is accessible, clean dirt and old lubricant off the friction face between spacer bush **1** and radial shaft seal **2** on chain sprocket carrier **3**.
- Lubricate friction face between spacer bush **1** and radial shaft seal **2** and push spacer bush **1** in slightly.

## 184 MAINTENANCE




Lubricant

Unirex N3



- Check judder damping elements **2** for damage, deformation and wear; replace if necessary.

 The adaptation values have to be reset with the BMW Motorrad diagnostic system after replacement of the judder-damper elements. Consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

- Lubricate judder damping elements **2** and install.



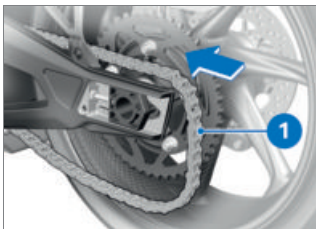
Installation tool

Silicone spray

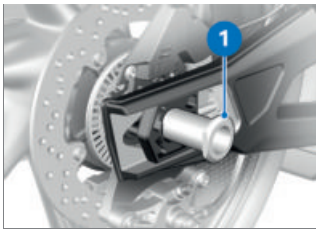
- Install chain sprocket carrier **1**.



- Roll rear wheel on the support into the swinging arm.



- Roll the rear wheel as far forward as possible and loop chain **1** over the chain sprocket.



- Lubricate quick-release axle **1**.



Lubricant

Optimoly TA

- Lift the rear wheel and work quick-release axle **1** through the adjustment plate into the rear wheel.
- Make sure that the quick-release axle fits into the recess for the flats.



- Install axle nut **1** with washer, but do not tighten it at this point.
- Remove the rear-wheel stand.

**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.

- Adjust the chain sag. (▶ 186)

**CHAIN****Check chain sag**

- Push the motorcycle to turn the rear wheel and find the position at which chain sag is at its minimum.
- Make sure the ground is level and firm and place the motorcycle on its stand.



- Use a screwdriver to push the chain up at a point midway between the pinion and sprocket and measure difference **A**.



- For race-track sessions, BMW Motorrad recommends adjusting chain sag to a value close to the stated maximum and checking at shorter intervals.

# 186 MAINTENANCE



Chain deflection

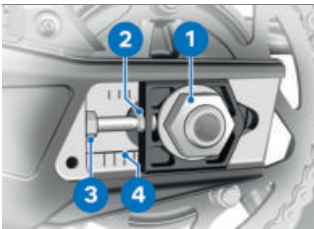
45...50 mm (Motorcycle with no weight applied, supported on its side stand)

If measured value is outside permitted tolerance:

- Adjust the chain sag. (▮▮▮▮▶ 186)

## Adjust the chain sag

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



- Loosen quick-release axle nut **1**.
- Loosen lock nuts **3** on left and right.
- Use the adjusting screws **2** on left and right to adjust chain sag.



## ATTENTION

**Rear wheel skewed at a slight angle because tensioning screws not adjusted to same setting**

Accelerated wear at rear wheel and chain drive

- Make sure that the rear wheel is aligned to track correctly (same scale reading on both sides of the rear wheel swinging arm).
- Make sure that scale readings **4** are the same on left and right.
- Check chain sag. (▮▮▮▮▶ 185)
- Tighten lock nuts **3** on left and right to the specified tightening torque.



Locknut of the final-drive chain tensioning screw

M8

19 Nm



Rear quick-release axle nut in swinging arm

M24 x 1.5

Thread-locking compound: mechanical





Rear quick-release axle  
in swinging arm

125 Nm

- Check chain sag. (▶▶▶▶▶ 185)

### Lubricate the chain

- Switch the ignition off and select neutral.
- Clean the drive chain with a suitable cleaning product, dry it and apply chain lubricant.
- Apply chain lubricant also to the sealing rings between chain rollers and chain links.



### ATTENTION

#### Inadequate cleaning and lubrication of the drive chain

Accelerated wear

- Clean and lubricate the drive chain at regular intervals.
- Lubricate the chain more frequently if the motorcycle is ridden in wet, dusty or dirty conditions.



Lubricate the drive chain  
at regular intervals.

min 800 km

- To prolong chain life, BMW Motorrad recommends the use of BMW Motorrad chain lubricant or:



Lubricant

Chain spray, O-ring compatible

- Wipe off excess lubricant.

### Lubricating and caring for low-maintenance chain

–with M Endurance chain<sup>OE</sup>



### ATTENTION

#### Inadequate cleaning and lubrication of the drive chain

Accelerated wear

- Clean and lubricate the drive chain at regular intervals.




The low-maintenance drive chain is cleaned and lubricated as part of the annual service. For optimum durability, the low-maintenance chain can also be lubricated at intervals by application of a chain lubricant suitable for low-maintenance chains. If riding involves above-average wear and tear due to exposure to salt or dust and dirt, carry out lubrication at correspondingly more frequent intervals.

- Switch the ignition off and select neutral.
- Clean the drive chain with a suitable cleaning product,

## 188 MAINTENANCE

dry it and apply chain lubricant. To prolong chain life, BMW Motorrad recommends the use of BMW Motorrad chain lubricant or:

 Lubricant

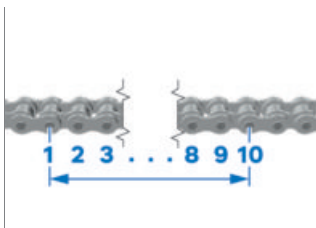
Chain spray, O-ring compatible

- Wipe off excess lubricant.

### Check the chain wear Requirement

Chain tension is set correctly.

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Engage 1st gear.
- Turn the rear wheel in the normal direction of travel until the chain is tensioned.
- At three different positions, measure the length of the chain over the centres of 10 rivets below the rear wheel swinging arm.

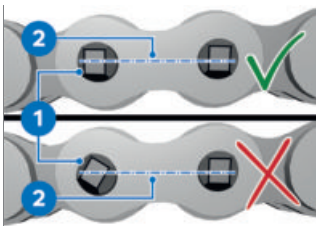


 Permissible chain length

max 144 mm (measured **centre to centre** over 10 pins, chain pulled taut)

If the chain has stretched to the maximum permissible length:

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



- Check whether a rivet head **1** has twisted out of line.

Rivet heads are parallel to the chain centreline **2**.

- Chain riveting is OK.

If one or more rivet heads have twisted out of line:

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

## 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 LED light sources are faulty consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

## TRIM PANEL COMPONENTS

### Removing fairing side panel with engine spoiler



The procedure described here for the right side panel applies by analogy to the left side as well.

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

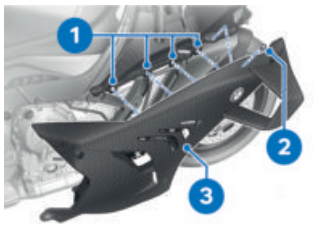


- Remove screws **1**.
- Remove screws **2**.



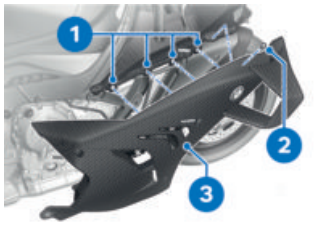
- Remove screws **1**.

## 190 MAINTENANCE



- Remove screw **2**.
- Disengage fairing side panel with engine spoiler **3** from grommets **1** and remove.

### Installing fairing side panel with engine spoiler



- Engage fairing side panel with engine spoiler **3** in grommets **1**.
- Install screw **2**.



- Install screws **1**.



- Install screws **1**.
- Install screws **2**.

### Removing tail-hump trim panel

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

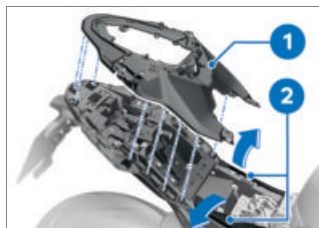
- Remove the rear seat. (▶▶▶▶▶ 83)  
◁
- Remove the front seat.  
(▶▶▶▶▶ 84)
- Remove the tail-hump cover.  
(▶▶▶▶▶ 83)

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

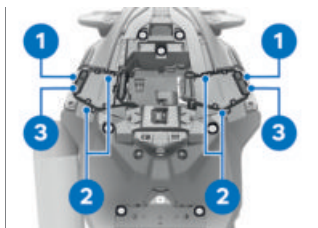


- Remove screw **3**.
- Disengage tail section **2** from grommets **1** and remove. ◀

- Remove screws **5** (6 mm with collar).
- Remove screws **6** (3 mm with collar).

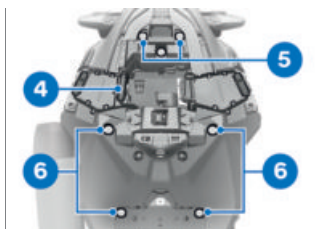


- Carefully unclip panels **2** in the **direction of arrow**.
- Unclip and remove tail-hump cover **1**.



- Remove cable strap **1**.
- Work plug connection with cable **3** clear of holder **2**.

### Installing tail-hump trim panel

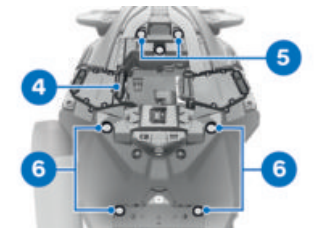


- Unclip plug connection **4**.

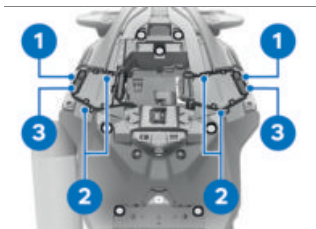


- Hold tail-hump trim panel **1** in place and, starting at the rear and working forward, carefully clip it into position.
- Carefully clip trim panels **2** into position in the **direction of the arrow**.

## 192 MAINTENANCE



- Install screws **5** (6 mm with collar).
- Install screws **6** (3 mm with collar).
- Clip plug connection **4** into position.



- Work plug connection with cable **3** into holder **2**.
  - Position plug connection **3** correctly and install cable tie **1**.
- » The cable-tie latch is seated in the recess provided for the purpose.

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



- Lubricate grommets **1** if necessary.
- Engage tail section **2** in grommets **1**.
- Install screw **3**. ◀

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

- Install the passenger seat. (▶▶▶ 84) ◀
- Install the tail-hump cover. (▶▶▶ 83)
- Install the rider's seat. (▶▶▶ 84)

### 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****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 does not exceed a voltage of 12 V.

- When jump-starting the engine, do not disconnect the battery from the on-board electrical system.
- Remove the front seat. (▣▣▣ 84)
- 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.



Do not use proprietary start-assist sprays or other products to start the engine.

- Allow both engines to idle for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from the negative terminals first, then disconnect the second lead from the positive terminals.
- Install the rider's seat. (▣▣▣ 84)

**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.

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

- Keep the surface of the battery clean and dry.
- Do not open the battery.
- Do not top up with water.
- Be sure to read and comply with the instructions for charging the battery on the following pages.
- Do not turn the battery upside down.



### 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.

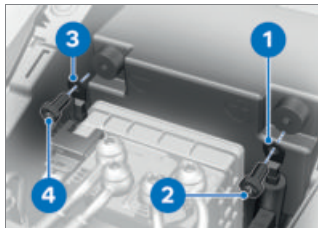


BMW Motorrad has developed a float charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, the battery can be kept charged during long periods of disuse, without having to be disconnected from the vehicle's on-board systems. For

more information, consult an authorised BMW Motorrad retailer.

#### Disconnecting battery from motorcycle

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the front seat.  
( 84)
- with anti-theft alarm (DWA)<sup>OE</sup>
- If applicable, switch off the DWA.◀



### ATTENTION

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

Risk of short-circuit

- Always proceed in compliance with the specified disconnection sequence.
- Remove bolt **4** and wiring harness negative terminal **3**, then push forward.



- Remove bolt **2** and wiring harness positive terminal **1**.

### Connecting battery to motorcycle



#### ATTENTION

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

Risk of short-circuit

- Always proceed in compliance with specified installation sequence.

- Position wiring harness positive terminal **1** and install bolt **2**.
  - Position wiring harness negative terminal **3** and install bolt **4**.
  - Install the rider's seat. (▮▮▮ 84)
- with anti-theft alarm (DWA)<sup>OE</sup>
- Switch on DWA if necessary.<

### Recharging battery

- Disconnect the battery from the motorcycle. (▮▮▮ 194)
- 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. (▮▮▮ 195)

### Removing battery

- Remove the front seat. (▮▮▮ 84)
- Disconnect the battery from the motorcycle. (▮▮▮ 194)
- Lift the battery up and out; work it slightly back and forth if it is difficult to remove.

### Installing battery



If the vehicle has been disconnected from the battery for a significant time, the current date will have to

## 196 MAINTENANCE

be reset to guarantee correct operation of the service display.

- Place the battery in the battery compartment; positive terminal on the left in the direction of travel.
- Connect the battery to the motorcycle. (▣▣▣ 195)
- Change the system settings. (▣▣▣ 58)

### FUSES

#### Replacing fuses

- Switch off the ignition.
- Remove the front seat. (▣▣▣ 84)




#### ATTENTION

#### Jumpering of blown fuses

Risk of short-circuit and fire

- Never attempt to jumper a blown fuse.
  - Always replace a defective fuse with a new fuse of the same amperage.
- Replace faulty fuse in accordance with the fuse allocation diagram.



- Remove the faulty fuse **2** upwards out of the slot.
  - To replace the two fuses in fuse box **1**, pull the fuse box up and out of its holder. To do so, squeeze the retaining lugs on the left and right of the fuse box inward.
-  If fuse defects recur frequently have the electric circuits checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.
- Install fuse box **1** in the holder.
  - Install the rider's seat. (▣▣▣ 84)

## Fuse assignment



- |          |   |
|----------|---|
| <b>1</b> | 15 A<br>Instrument cluster<br>Anti-theft alarm<br>Ignition switch<br>Diagnostic connector |
| <b>2</b> | 7.5 A<br>Multifunction switch, left   |
| <b>3</b> | 40 A<br>Alternator regulator  |

## DIAGNOSTIC CONNECTOR

### Disengaging diagnostic socket



#### CAUTION

#### Incorrect disconnection of the diagnostic socket for on-board diagnosis

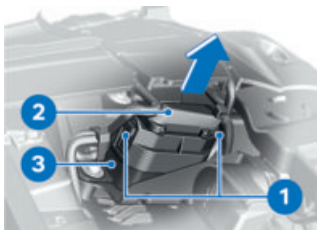
Malfunctions of the vehicle

- 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.

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

- Remove the rear seat. (▮▮▮ 83)
- Remove the tail-hump cover. (▮▮▮ 83)

## 198 MAINTENANCE

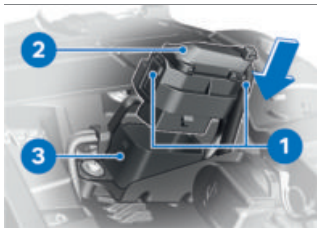


- Install the tail-hump cover.  
( 83)

- Press locks **1**.
- Disengage diagnostic socket **2** from holder **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 holder **3**.
- » The locks **1** engage.
- with two-up riding package<sup>OE</sup>
- Install the passenger seat.  
( 84)



# ACCESSORIES

11

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<b>GENERAL NOTES</b>	<b>202</b>
<b>CONNECTOR FOR OPTIONAL ACCESSORIES</b>	<b>202</b>
<b>USB CHARGING SOCKET</b>	<b>204</b>

## 202 ACCESSORIES

### GENERAL NOTES



#### CAUTION

##### Use of other-make products

###### Safety risk

- BMW Motorrad cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW vehicles without constituting a safety hazard. Country-specific official authorisation does not suffice as assurance. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW vehicles and, consequently, they are not sufficient in some circumstances.
- Use only parts and accessories approved by BMW for your vehicle.

BMW has conducted extensive testing of the parts and accessory products to establish that they are safe, functional and suitable. Consequently, BMW accepts responsibility for the products. BMW accepts no liability whatsoever for parts and accessories that it has not approved.

All modifications must be in compliance with legal requirements. Make sure that the vehicle does not infringe the national road-vehicle construction and use regulations applicable in your country. Your authorised BMW Motorrad retailer can offer expert advice on the choice of genuine BMW parts, accessories and other products. To find out more about accessories go to:

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

### CONNECTOR FOR OPTIONAL ACCESSORIES

#### Equipment

The vehicle is fitted with the following plugs for optional accessories and racing accessories:

- Spring-travel sensor
- M data logger
- Optional accessory

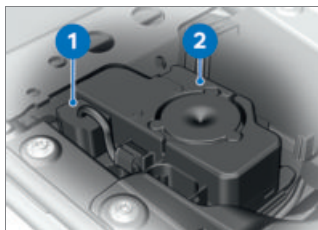


**Underneath the left side panel**

- 1 Plug for optional accessories and racing accessories:  
Voltage supply and LIN Spring travel sensor for front forks (racing accessory)

**Under the tail-hump trim panel**

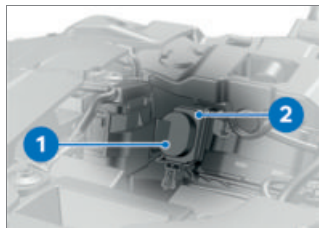
—with anti-theft alarm (DWA)<sup>OE</sup>



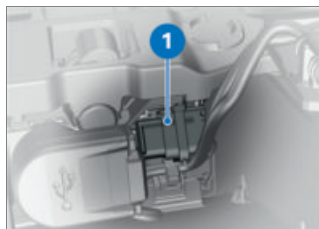
- 1 Connector for DWA and M data logger
- 2 DWA

**Under the tail-hump cover**

—without anti-theft alarm (DWA)<sup>OE</sup>



- 1 Terminating resistor
- 2 Connector for DWA and M data logger

**Under the tail-hump cover**

- 1 Connector for optional accessories, rear

## 204 ACCESSORIES

### Connect the optional accessories and racing accessories

#### Requirement

Remove the side panel, rear seat or tail-hump cover, as applicable, to gain access to the plugs.

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

- Remove the rear seat. (▶▶▶ 83)



- Remove the fairing side panel with engine spoiler. (▶▶▶ 189)
- Remove the tail-hump cover. (▶▶▶ 83)
- Remove the tail-hump trim panel. (▶▶▶ 190)
- Unlock the protective cap or terminating resistor, as applicable, and disconnect it from the plug.
- Connect the optional accessory or racing accessory, as applicable.



Comply with the installation instructions supplied with the optional accessory or racing accessory.



Tightening the cable ties has to be the last step in the process; this is in order to ensure that the wiring harness can be positioned correctly and

that there is no strain on the cable legs with plugs.



#### ATTENTION

#### Dirt and damp penetrating inside open connectors

Malfunctions

- Reinstall the cap or terminating resistor, as applicable, after removing the plug.
  - After removing accessories: Reinstall the cover cap or terminating resistor, as applicable.
  - Install the fairing side panel with engine spoiler. (▶▶▶ 190)
  - Install the tail-hump cover. (▶▶▶ 83)
  - Install the tail-hump trim panel. (▶▶▶ 191)
- with two-up riding package<sup>OE</sup>
- Install the passenger seat. (▶▶▶ 84)◀

### USB CHARGING SOCKET

Notes on use

#### Charge current

This is a 5 V USB charging interface that provides a maximum charge current of 2.4 A.

**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.

**Connection of electrical devices**

You can start using electrical devices connected to the USB charging socket only when the ignition is switched on. The power supply to the USB charging sockets is switched off 60 seconds after the ignition is switched off, in order to prevent overloading of the on-board electrics

BMW Motorrad recommends using the BMW Motorrad pouch for smartphone to protect your smartphone against water and vibration.

To prevent dirtying, keep the protective cover of the USB charging interface closed when no device is connected.

**Cable routing**

Make sure that cables are routed in such a way that they cannot be trapped.

**CARE**

**12**

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<b>CARE PRODUCTS</b>	<b>208</b>
<b>WASHING THE VEHICLE</b>	<b>208</b>
<b>CLEANING EASILY DAMAGED COMPONENTS</b>	<b>210</b>
<b>CARE OF PAINTWORK</b>	<b>211</b>
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<b>LAYING UP MOTORCYCLE</b>	<b>212</b>
<b>RESTORING MOTORCYCLE TO USE</b>	<b>212</b>

## CARE PRODUCTS

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.



### 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.

## WASHING THE VEHICLE

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.

**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.

**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.

## 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.

#### Carbon parts

Clean Carbon parts with water and a microfibre cloth.

#### Instrument cluster

Clean the instrument cluster with warm water and washing-up liquid. Then dry it with a clean cloth, e.g. a paper towel.

#### Chrome

Carefully clean chrome parts with plenty of water and motorcycle cleaner from the BMW Care Products range. This is particularly important to counter the effects of salt. Use BMW Motorrad metal polish for additional treatment.

#### Radiator

Clean the radiator at regular intervals to prevent overheating of the engine due to inadequate cooling.

Use a garden hose with low water pressure, for example, for this purpose.



#### ATTENTION

#### Bending of radiator fins

Damage to radiator fins

- Take care not to bend the radiator fins when cleaning.



## Rubber

Treat rubber components with water or BMW rubber-care products.



### ATTENTION

#### Application of silicone sprays to rubber seals

Damage to the rubber seals

- Do not use silicone sprays or care products that contain silicon.

## CARE OF PAINTWORK

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 motorcycle 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.



### ATTENTION

#### Damage to paintwork due to metal polish

Risk of damage

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

## 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.





# TECHNICAL DATA

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<b>TROUBLESHOOTING CHART</b>	<b>216</b>
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## 216 TECHNICAL DATA

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### TROUBLESHOOTING CHART

Engine does not start or is difficult to start.

Possible cause	Rectification
Side stand extended and gear engaged	Fold in side stand.
Gear engaged and clutch not pressed	Select neutral or pull the clutch lever.
No fuel in tank	Refuel. (▶▶▶ 119)
Battery flat	Recharge the battery. (▶▶▶ 195)
Overheating protection for starter motor has been activated. Starter motor can only be operated for a limited period of time.	Allow the starter motor to cool down for approx. 1 minute before using it 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.

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Bluetooth connection is interrupted.

Possible cause	Rectification
The Bluetooth connection to the mobile end device is interrupted.	Switch off energy saving mode.
The Bluetooth connection to the helmet is interrupted.	Switch off the helmet's communication system and reconnect it after a minute or two.
The volume in the helmet cannot be adjusted.	Switch off the helmet's communication system and reconnect it after a minute or two.

The telephone book is not displayed in the TFT display.

Possible cause	Rectification
The phone book was not transmitted to the vehicle.	Confirm transmission of the phone data (  64) when pairing on the mobile end device.

Active route guidance is not displayed in the TFT display.

Possible cause	Rectification
Navigation from the BMW Motorrad Connected App was not transmitted.	The BMW Motorrad Connected App is opened on the connected mobile end device prior to departure.
The route guidance cannot be started.	Secure the mobile device's data connection and check the map data on the mobile end device.

## 218 TECHNICAL DATA

### THREADED FASTENERS

Frame	Value	Valid
<b>Positioning of swinging arm pivot point bush in main frame, right</b>		
M6 x 26.7	5 Nm	
<b>Positioning of swinging arm pivot point bush in main frame, left</b>		
M6 x 12	8 Nm	
<b>Nut for swinging arm pivot point bush to frame</b>		
M36 x 0.75, Replace nut Loctite 270, High strength	70 Nm	
<b>Swinging arm axle to frame</b>		
M27 x 1.25	Tightening torque, 15 Nm	
	Loosen, 120°	
	Tightening torque, 5 Nm	
<b>Nut on swinging arm axle</b>		
M18 x 1.5, Replace nut mechanical	100 Nm	



Front wheel	Value	Valid
<b>Quick-release axle in threaded bush</b>		
M24 x 1.5	50 Nm	
<b>Clamping screws in axle holder</b>		
M8 x 35	<b>Tightening sequence: Tighten screws six times in alternate sequence</b>	
	19 Nm	
<b>Radial brake caliper on wheel axle clamp</b>		
M10 x 65	38 Nm	
<b>Wheel-speed sensor, front to forkleg</b>		
M6 x 16, Renew screw micro-encapsulated	8 Nm	

Rear wheel	Value	Valid
<b>Locknut of the final-drive chain tensioning screw</b>		
M8	19 Nm	
<b>Rear quick-release axle in swinging arm</b>		
M24 x 1.5 mechanical	125 Nm	
<b>Swinging-arm adapter to rear wheel swinging arm</b>		
M8 x 30	20 Nm	

## 220 TECHNICAL DATA

Rear wheel	Value	Valid
<b>Screw in adjusting ring</b>		
M5 x 16	6 Nm	
<b>Spring strut at deflection lever</b>		
M12 x 75 - 10.9 micro-encapsulated	100 Nm	

Mirrors	Value	Valid
<b>Mirror to front panel carrier</b>		
M6, Replace nut mechanical	8 Nm	
<b>Cover for mounting of mirror</b>		
M6 x 25	3 Nm	

Footrest system	Value	Valid
<b>Screw connection for footrest adjustment</b>		
M8 x 40 mechanical	20 Nm	—with Billet pack <sup>OE</sup>
<b>Clamping bolt for rider footrest</b>		
M8 x 25 mechanical	20 Nm	—with Billet pack <sup>OE</sup>
<b>Peg to footbrake lever</b>		
M6 x 20 micro-encapsulated	10 Nm	—with Billet pack <sup>OE</sup>




<b>Footrest system</b>	<b>Value</b>	<b>Valid</b>
<b>Folding peg</b>		
M6 x 16	10 Nm	-with Billet pack <sup>OE</sup>

<b>Number plate carrier on rear frame</b>	<b>Value</b>	<b>Valid</b>
<b>Number-plate carrier to rear frame</b>		
M5 x 25, without collar	2 Nm	

<b>Selector rod to gear-shift lever</b>	<b>Value</b>	<b>Valid</b>
<b>Selector rod to gear-shift lever</b>		
M6 x 20, Replace screw micro-encapsulated	8 Nm	

## 222 TECHNICAL DATA

### FUEL

Recommended fuel grade	 Premium, unleaded (max. 5 % ethanol, E5) 98 ROZ/RON 93 AKI
Alternative fuel grade	 Premium unleaded (power- and consumption-related restrictions)  (max 10 % ethanol, E10) 95 ROZ/RON 90 AKI
Usable fuel capacity	approx. 16.5 l
Fuel reserve	approx. 4 l
Fuel consumption	6.5 l/100 km, in accordance with WMTC
CO2 emission	151 g/km, according to WMTC
Exhaust emissions standard	EU 5
-with Canada export <sup>NV</sup>	TIER 2, measured in accordance with FTP75

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**ENGINE OIL**

Engine oil, capacity	approx. 4.0 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 1.3 l, Difference between <b>MIN</b> and <b>MAX</b>

**BMW recommends** **ADVANTEC**  
ORIGINAL BMW ENGINE OIL

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**COOLANT**

Coolant full quantity	0.15 l, Difference between <b>MIN</b> and <b>MAX</b> 2.4 l, Coolant system, total FROSTOX HT-12, Coolant
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**ENGINE**

Engine number location	Crankcase, bottom part, right
Engine type	A12A10A
Engine design	Oil-/water-cooled four-stroke inline four, with four valves per cylinder
Displacement	999 cm <sup>3</sup>
Cylinder bore	80 mm
Piston stroke	49.7 mm
Compression ratio	13.5:1

## 224 TECHNICAL DATA

Nominal capacity	156 kW, at rpm: 14500 min <sup>-1</sup>
-with Canada export <sup>NV</sup> -with Torque optimized calibration <sup>OE</sup>	132 kW, at rpm: 11500 min <sup>-1</sup>
Torque	113 Nm, at engine speed: 11000 min <sup>-1</sup>
Maximum engine speed	max 15100 min <sup>-1</sup>
Idle speed	1270 <sup>±50</sup> min <sup>-1</sup> , Engine at regular operating temperature

### CLUTCH

Clutch type	Multi-plate oil-bath (anti-hopping)
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### TRANSMISSION

Type of transmission	Claw-shift 6-speed gearbox, integrated into engine block
Gearbox transmission ratios	1.652 (76:46 teeth), Primary transmission ratio 2.647 (45:17 teeth), 1st gear 2.091 (46:22 teeth), 2nd gear 1.727 (38:22 teeth), 3rd gear 1.500 (33:22 teeth), 4th gear 1.360 (34:25 teeth), 5th gear 1.261 (29:23 teeth), 6th gear

**FINAL DRIVE**

Type of final drive	Chain drive
Chain deflection	45...50 mm, Motorcycle with no weight applied, supported on its side stand
Permissible chain length	max 144 mm, measured <b>centre to centre</b> over 10 pins, chain pulled taut
Number of teeth, rear-wheel drive (Pinion / sprocket)	17:46
Secondary transmission ratio	2.706

**FRAME**

Frame type	Aluminium composite bridge frame, load-bearing engine
Type plate location	Frame, front right on steering head
Position of the vehicle identification number	Frame, front right on steering head

**CHASSIS AND SUSPENSION****Front wheel**

Type of front suspension	Upside-down telescopic forks, diameter 45 mm, spring pre-load, rebound and compression stages adjustable
Spring travel, front	120 mm, at front wheel

## 226 TECHNICAL DATA

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### Rear wheel

Type of rear suspension	Two-arm aluminium swinging arm
Design of the rear-wheel suspension	Central spring strut with coil spring, adjustable rebound-stage and compression-stage damping and spring preload
Spring travel, rear	118 mm, at rear wheel

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### BRAKES

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#### 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 mm, When new min 4.5 mm, Wear limit
Free travel of brake controls (Front wheel brake lever)	5.2...15.2 mm, at the outer-most end of the stock handle-bar lever

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#### Rear wheel

Type of rear brake	Single disc brake, diameter 220 mm, 2-piston fixed caliper
Brake-pad material, rear	Organic material
Brake disc thickness, rear	5 mm, When new min 4.5 mm, Wear limit

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## WHEELS AND TYRES

Recommended tyre combinations	An overview of currently approved tyres is available from your authorised BMW Motorrad retailer.
Speed category, front/rear tyres	(W)

### Front wheel

Front-wheel type	Carbon wheel
–with M forged wheels <sup>OE</sup>	Forged aluminium wheels
Front-wheel rim size	3.50" x 17"
Tyre designation, front	120/70 ZR 17
Load index, front tyre	min. 58
Permissible front-wheel imbalance	max 5 g

### Rear wheel

Rear-wheel type	Carbon wheel
–with M forged wheels <sup>OE</sup>	Forged aluminium wheels
Rear wheel rim size	6.00" x 17"
Tyre designation, rear	200/55 ZR 17
Load index, rear tyre	min. 78
Permissible rear-wheel imbalance	max 5 g

### Tyre pressure

Tyre pressure, front	2.5 bar, tyre cold
Tyre pressure, rear	2.9 bar, tyre cold

## 228 TECHNICAL DATA

### ELECTRICAL SYSTEM

#### Fuses

Main fuse	40 A, Alternator regulator
Fuse 1	15 A, Instrument cluster, anti-theft alarm system (DWA) ignition switch, diagnostic socket, isolating relay
Fuse 2	7.5 A, Multifunction switch left, RDC control unit, sensor box

#### Battery

Battery type	Lithium-ion, maintenance-free
Battery rated voltage	12 V
Battery rated capacity	5 Ah

#### Spark plugs

Spark plugs, manufacturer and designation	NGK LMAR9FI-10G
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#### Lighting

All light sources	LED
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### ANTI-THEFT ALARM

Activation time on arming	approx. 30 s
Alarm duration	approx. 26 s

### DIMENSIONS

Length of motorcycle	2085 mm, over rear wheel
Height of motorcycle	1224 mm, over windscreen, at DIN unladen weight
Width of motorcycle	899 mm, with mirrors 737 mm, without mounted parts

Height of rider's seat	832 mm, without rider, at DIN vehicle kerb weight
Rider's inside-leg arc, heel to heel	1845 mm, without rider, at DIN vehicle kerb weight

## **WEIGHTS**

Vehicle kerb weight	193 kg, DIN unladen weight, ready for road, 90 % load of fuel, without optional extras (OE)
Permissible gross vehicle weight	407 kg
Maximum payload	214 kg

## **PERFORMANCE FIGURES**

Top speed	>200 km/h
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**SERVICE**

**14**

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<b>RECYCLING</b>	<b>233</b>
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### REPORTING SAFETY-RELEVANT DEFECTS

—with Canada export<sup>NV</sup>

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

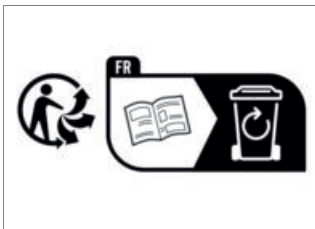
If the NHTSA receives other, similar complaints, it may open an investigation. If it finds that a safety defect exists in a group of vehicles, the NHTSA it may order a recall and remedy campaign. However, the NHTSA cannot become involved in individual problems between you, your retailer, or BMW of North America, LLC. You can contact the NHTSA by calling the Vehicle Safety Hotline on 1-888-327-4236 (teletypewriter TTY for the hearing impaired: 1-800-424-9153) toll-free, by visiting the website at [http:// www.safercar.gov](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](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](http://www.tc.gc.ca/roadsafety).

## RECYCLING

–with France export<sup>NV</sup>

### Disposal of the rider's manual



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

## BMW MOTORRAD SERVICE

BMW Motorrad has an extensive network of retailers in place to look after you and your motorcycle in more than 100 countries. Authorised BMW Motorrad retailers have the technical information and the technical know-how to carry out reliably all preventive maintenance and repair work on your BMW.

You can locate the nearest authorised BMW Motorrad retailer by visiting our website:

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

## WARNING

### Maintenance and repair work not in compliance with correct procedure

Risk of accident due to consequential damage

- BMW Motorrad recommends having work of this nature carried out on the vehicle by a specialist workshop, preferably an authorised BMW Motorrad dealer.

In order to help ensure that your BMW is always in optimum condition, BMW Motorrad recommends compliance with the maintenance intervals specified for your motorcycle.

Have all maintenance and repair work carried out confirmed in the "Service" chapter in this manual. Evidence of regular preventive maintenance is essential for generous treatment of claims submitted after the warranty period has expired.

## 234 SERVICE

You can inquire about the content of BMW Motorrad services at your authorised BMW Motorrad retailer.

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### **BMW MOTORRAD SERVICE HISTORY**

#### **Entries**

Maintenance work that has been carried out is entered in the proof of maintenance. The entries are like a Service Booklet and provide proof of regular maintenance.

When an entry is made in the electronic service booklet of the vehicle, service-relevant data is saved in the central IT systems accessible through BMW.

If there is a change in vehicle ownership, the data saved in the electronic service booklet can also be viewed by the new vehicle owner. An authorised BMW Motorrad retailer or a specialist workshop can also view data that is stored in the electronic service booklet.

#### **Objection**

The vehicle owner can object to entries being made by the authorised BMW Motorrad retailer or a specialist workshop in the electronic service

booklet along with the corresponding storage of data in the vehicle and transfer of data to the vehicle manufacturer for the period of time that they are the vehicle owner. In this instance, no entry is made in the electronic service booklet of the vehicle.

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### **BMW MOTORRAD MOBILITY SERVICES**

As 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).

Your authorised BMW Motorrad retailer will be happy to provide information about the mobility services available to you.

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### **MAINTENANCE WORK**

#### **BMW pre-delivery check**

The BMW pre-delivery check is performed by your authorised BMW Motorrad retailer before the vehicle is handed over to you.



**BMW Running-in check**

The BMW running-in check has to be performed when the vehicle has covered between 500 km and 1200 km.

**BMW Motorrad Service**

The BMW Motorrad Service is carried out once a year; the extent of servicing can vary, depending on the age of the vehicle and the distance it has covered. Your authorised BMW Motorrad retailer confirms that the service work has been carried out and enters the date when the next service will be due.

Riders who cover long distances in a year might have to bring in their vehicles for service before the next scheduled date. It is to allow for these cases that a maximum odometer reading is entered as well in the confirmation of service. Servicing has to be brought forward if this odometer reading is reached before the next scheduled date for the service.

The service-due indicator in the display reminds you about one month or 1000 km in advance when the time for a service is approaching.

To find out more about service go to:

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

The maintenance tasks necessary for your vehicle are set out in the maintenance schedule below. The tasks listed are due either when the vehicle has covered the stated distances, or periodically at the stated times.

## MAINTENANCE SCHEDULE

	500 -1200 km 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 <sup>a</sup>	
3		X	X	X	X	X	X	X	X	X	X	X <sup>a</sup>	
4				X			X			X			
5				X			X			X			
6				X			X			X			
7		X	X	X	X	X	X	X	X	X	X		
8				X			X			X			
9				X <sup>b</sup>			X <sup>b</sup>			X <sup>b</sup>			
10							X						
11		X	X	X	X	X	X	X	X	X	X	X <sup>a</sup>	

- 1 BMW Motorrad running-in check (including oil change and oil filter change)
- 2 BMW Motorrad Service, standard scope
- 3 Engine-oil change, with filter
- 4 Engine service
- 5 Check valve clearances
- 6 Replace all spark plugs
- 7 Replace air-filter element
- 8 Oil change in the telescopic forks
- 9 Replace disc set and driver outer section

- 10 Replace clutch cage
- 11 Change brake fluid, entire system
  - <sup>a</sup> annually or every 10000 km (whichever comes first)
  - <sup>b</sup> when indicated by BMW Motorrad diagnostic system or every 30000 km (whichever comes first)

---

## **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 with BMW Motorrad diagnostic system
- Deleting running-in rpm limitation with BMW Motorrad diagnostic system
- Performing vehicle test with BMW Motorrad diagnostic system
- Engine-oil change, with filter
- Check the clutch cable and clutch-lever play
- Check the brake-fluid level, front wheel brake
- Check the brake-fluid level, rear wheel brake
- Check the coolant level
- Check chain sag
- Check the tyre pressures and tread depth
- Checking lighting and signalling system
- Function test, engine start suppression
- Final inspection and check for road safety
- Performing vehicle test with BMW Motorrad diagnostic system
- Confirm the BMW service in the on-board literature

---

### MAINTENANCE CONFIRMATIONS

#### **BMW Motorrad Service standard scope**

The tasks included in the BMW Motorrad Service standard scope are listed below. The actual scope of maintenance work applicable for your vehicle may vary.

- Performing vehicle test with BMW Motorrad diagnostic system
- Checking clutch wear with BMW Motorrad diagnostic system
- Visual inspection of the brake lines, brake hoses and connections
- Check the front brake pads and brake discs for wear
- Check the brake-fluid level, front wheel brake
- Check the rear brake pads and brake disc for wear
- Check the brake-fluid level, rear wheel brake
- Checking steering-head bearing
- Check the coolant level
- Check the clutch cable and clutch-lever play
- Check clutch operation
- Checking and lubricating the chain drive
- Check the tyre pressures and tread depth
- Check the carbon wheels
- Check the side stand's ease of movement
- Checking lighting and signalling system
- Function test, engine start suppression
- Final inspection and check of roadworthiness
- 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

## 240 SERVICE

### **BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

### Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature

**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature

## 242 SERVICE

### **BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature



**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature

## 244 SERVICE

### **BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature

**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature

## 246 SERVICE

### **BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature

**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature

## 248 SERVICE

### **BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature

**BMW Motorrad service**

carried out

on \_\_\_\_\_

odometer reading \_\_\_\_\_

Next service

at the latest

on \_\_\_\_\_

or, when reached earlier

odometer reading \_\_\_\_\_

## Work performed

	Yes	No
BMW Motorrad service	<input type="checkbox"/>	<input type="checkbox"/>
Engine oil change with filter	<input type="checkbox"/>	<input type="checkbox"/>
Motor service	<input type="checkbox"/>	<input type="checkbox"/>
Checking valve clearance	<input type="checkbox"/>	<input type="checkbox"/>
Renewing all spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Replacing the air filter element	<input type="checkbox"/>	<input type="checkbox"/>
Changing the oil in the telescopic fork	<input type="checkbox"/>	<input type="checkbox"/>
Replacing disc set and driver (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Replacing clutch basket (during service)	<input type="checkbox"/>	<input type="checkbox"/>
Changing the brake fluid in the entire system	<input type="checkbox"/>	<input type="checkbox"/>

Notes

Stamp, signature







<b>DECLARATION OF CONFORMITY</b>	<b>253</b>
<b>CERTIFICATE FOR ELECTRONIC IMMOBILISER</b>	<b>256</b>
<b>CERTIFICATE FOR TYRE PRESSURE MONITORING TPM (REIFENDRUCK-CONTROL, RDC)</b>	<b>259</b>
<b>CERTIFICATE FOR INSTRUMENT CLUSTER</b>	<b>260</b>

**DECLARATION OF CONFORMITY****Manufacturer**

Bayerische Motoren Werke Aktiengesellschaft  
Petuelring 130, 80809 Munich, Germany

Hereby, BMW AG declares that the radio equipment components listed below are in compliance with Directive 2014/53/EU and with Radio Equipment Regulations 2017 of the United Kingdom. The full text of the EU/UK declarations of conformity are available at the following internet address:  
**[bmw-motorrad.com/certification](http://bmw-motorrad.com/certification)**



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



**Simplified EU Declaration of Conformity according to EU RED (2014/53/EU).**

## 254 APPENDIX

### Technical information

Radio equipment	Component	Frequency band	Output/Transmission Power
EWS4	EWS	134 kHz	50 dB $\mu$ V/m
HUF5794	Keyless Ride	433,92 MHz	10 mW
HUF8485	Keyless Ride	134,45 kHz	42 dB $\mu$ V/m
ZB001	Keyless Ride	134.5 kHz	allowed 66 dB $\mu$ A/ m@ 10m
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.
MC24MA4	RDC		
WCA Motorrad-Ladestafach	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
ICC10in	Instrument Cluster	Bluetooth: 2402 MHz - 2480 MHz WLAN: 2402 MHz - 2472 MHz	Bluetooth: < 4 dBm WLAN: < 14 dBm

<b>Radio equipment</b>	<b>Component</b>	<b>Frequency band</b>	<b>Output/Transmission Power</b>
MRR e14FCR	ACC	76 - 77 GHz	Peak max. 32 dBm Nom max. 27 dBm
TL1P22	Intelligent emergency call	832 MHz - 862 MHz 880 MHz - 915 MHz 1710 MHz - 1785 MHz 1920 MHz - 1980 MHz 2500 MHz - 2570 MHz 2570 MHz - 2620 MHz GNSS: 1559 MHz- 1610 MHz	23 dBm 33 dBm 30 dBm 24 dBm 23 dBm 23 dBm
MCR001	Audio system		

# Declaration of Conformity

## Radio equipment electronic immobiliser (EWS4)

For all countries without EU

### Technical information

Frequency Band: 134 kHz  
(Transponder: TMS37145 /  
Type DST80, TMS3705  
Transponder Base Station IC)  
Output Power: 50 dB $\mu$ V/m

### Manufacturer and Address

Manufacturer:  
BECOM Electronics GmbH  
Address: Technikerstraße 1,  
A-7442 Hochstraß

## Argentina

 **RAMATEL**

H-25246

## Australia/New Zealand



R-NZ

## Brunei



TA No: DTA-007061

## United Arab Emirates

TRA  
REGISTERED No:  
ER89926/20

DEALER No:  
DA96133I20

## Philippiens



**NTC**

Type Approved  
No.: ESD-RCE-2023298

## South Africa



TA-2020/6131

APPROVED

## India

ETA-SD-20200905860

## Belarus



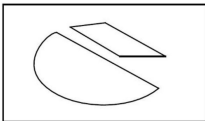
## Indonesia

72790/SDPPI/2021  
13349



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

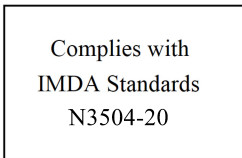
## Paraguay



**CONATEL**

NR: 2020-11-I-0834

## Singapore



## 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。

## Malaysia



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

## Israel

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

## United States (USA)

Contains FCC ID:

ODE-MREWS5012

FCC § 15.19 Labelling requirements

This device complies with part 15 of the FCC Rules and Industry Canada's licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC § 15.21 Information to user

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Requirements

To comply with FCC RF exposure compliance requirements, the device must be installed to provide a separation distance of at least 20 cm from all persons.

## Serbia



P1620118300

## Canada

Contains IC:

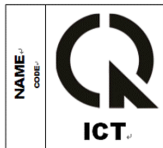
10430A-MREWS5012

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.

## Vietnam



A1109091120AF04A3



# Certification Tire Pressure Control (TPC)

FCC ID: MRXBC54MA4  
IC: 2546A-BC54MA4

FCC ID: MRXBC5A4  
IC: 2546A-BC5A4

This device complies with Part 15 of the FCC Rules and with Industry Canada license-exempt RSS standard(s).

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.

**WARNING:** Changes or modifications not expressly 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.

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 expressly 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.

# Declaration of Conformity

## Radio equipment TFT instrument cluster

For all Countries without EU

### Technical information

BT operating frq. Range:  
2402 – 2480 MHz  
BT version: 4.2 (no BTLE)  
BT output power: < 4 dBm  
WLAN operating frq. Range:  
2412 – 2462 MHz  
WLAN standards:  
IEEE 802.11 b/g/n  
WLAN output power: < 20 dBm

### Manufacturer and Address

Manufacturer:  
Robert Bosch GmbH  
Address: Robert Bosch Str. 200,  
31139 Hildesheim, Germany

### Turkey

Robert Bosch GmbH, ICC6.5in  
tipi telsiz sisteminin 2014/53/EU  
nolu yönetmeliğe uygun  
olduğunu beyan eder. AB  
Uygunluk Beyanı'nın tam metni,  
aşağıdaki internet adresinden  
görülebilir: <http://cert.bosch-carmultimedia.net>

## Argentina

**R** RAMATEL

C-24711

## Brazil

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

## Canada

This device complies with Industry Canada's licence-exempt RSSs and part 15 of the FCC Rules. 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### **Korea**

적합성평가에 관한 고시

R-CMM-RBR-ICC65IN

상호 : Robert Bosch GmbH 모델

명 : ICC6.5in

기자재명칭 : 특정소출력 무선기기  
(무선데이터통신시스템용 무선기기)

제조사 및 제조국가 : Robert

Bosch GmbH / 포르투갈

제조년월 : 제조년월로 표기

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

### **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.

### **Taiwan, Republic of**

根據 NCC 低功率電波輻射性電機管理辦法 規定: 第十二條

經型式認證合格之低功率射頻電機, 非經許可, 公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

#### **第十四條**

低功率射頻電機之使用不得影響飛航安全及干擾合法通信; 經發現有干擾現象時, 應立即停用, 並改善至無干擾時方得繼續使用。

前項合法通信,

指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## **Thailand**

เครื่องโทรคมนาคมและอุปกรณ์ นี้

มีความสอดคล้องตามข้อกำหนดของ กทช.

(This telecommunication equipments is in compliance with NTC requirements)

## **United States (USA)**

This device complies with Industry Canada's licence-exempt RSSs and part 15 of the FCC Rules. 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



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Details described or illustrated in this booklet may differ from the vehicle's actual specification as purchased, the accessories fitted or the national-market specification. No claims will be entertained as a result of such discrepancies.

Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.

The right to modify designs, equipment and accessories is reserved.

Errors and omissions excepted.

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Werke Aktiengesellschaft  
80788 Munich, Germany

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Original rider's manual, printed in Germany.

## Important data for refuelling:

### Fuel

Recommended fuel grade	<b>E5</b> Premium, unleaded (max. 5% ethanol, E5) 98 ROZ/RON 93 AKI
Alternative fuel grade	<b>E5</b> Premium unleaded (power- and consumption-related re- strictions) (max 10 % eth- anol, E10) <b>E10</b> 95 ROZ/RON 90 AKI
Usable fuel capacity	approx. 16.5 l
Fuel reserve	approx. 4 l
<b>Tyre pressure</b>	
Tyre pressure, front	2.5 bar, tyre cold
Tyre pressure, rear	2.9 bar, tyre cold

For further information on all aspects of your vehicle, visit: [bmw-motorrad.com](https://www.bmw-motorrad.com)

