BMW
MOTORRAD

RIDER'S MANUAL (US MODEL)

R 12 nineT



MAKE LIFE A RIDE

Vehicle data

Model

Vehicle identification number

Color number

First registration

License plate

Retailer data

Contact in Service

Ms./Mr.

Phone number

Retailer's address/Phone (company stamp)

YOUR BMW.

We are pleased that you have chosen a BMW Motorrad vehicle and welcome you to the family of BMW riders. Familiarize yourself with your new vehicle so that you can ride safely and confidently in all traffic situations.

About these operating instructions

Read this rider's manual before starting your new BMW. It contains important notes about operating the vehicle that will enable you to make full use of the technical assets of your BMW.

You will also obtain preventive maintenance and care instructions, which are beneficial to operating and road safety and help retain the value of your vehicle as much as possible.

If you should decide to sell your BMW one day, please remember to hand over this rider's manual as well. It is an important part of your vehicle.

We wish you many miles of safe and enjoyable riding with your BMW

BMW Motorrad.

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GENERAL INSTRUCTIONS

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4 GENERAL INSTRUCTIONS

QUICK & EASY REFERENCE

This rider's manual has been designed to provide quick and efficient orientation. The quickest way for you to find information on specific topics is to consult the comprehensive index at the end of the rider's manual. If you would like to start with a quick overview of your vehicle, this information has been provided in chapter 2. All preventive maintenance and repair procedures carried out on your motorcycle will be documented in the chapter "Service". Documentation of the maintenance work performed is a prerequisite for generous treatment of claims.

ABBREVIATIONS AND SYMBOLS

CAUTION Hazard with low risk. Failure to avoid this hazard can result in minor or moderate injury.

WARNING Hazard with moderate risk. Failure to avoid this hazard can result in death or serious injury.

DANGER Hazard with high risk. Failure to avoid this hazard results in death or serious injury.

ATTENTION Special instructions and precautionary measures. Non-compliance can cause damage to the vehicle or accessories and warranty claims may be denied as a result.

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

- • Instruction.
- » Result of a repair procedure.
- Reference to a page with more detailed information.
- ◁ Indicates the end of accessory or equipment-dependent information.
- Tightening torque.
- Technical data.
- OE Optional equipment. BMW Motorrad optional equipment is already completely installed during motorcycle production.

OA	Optional accessories. BMW Motorrad optional accessories can be purchased and retrofitted at your authorized BMW Motorrad dealer.
ABS	Anti-Lock Brake System.
DTC	Dynamic Traction Control.
DWA	Anti-theft alarm.
EWS	Electronic immobilizer.
HSC	Hill Start Control
MSR	Engine drag torque control.
TPC	Tire Pressure Control (TPC).

EQUIPMENT

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

TECHNICAL DATA

All dimensions, weights and performance data contained in this rider's manual refer to the German Institute for Standardization i.e. DIN (Deutsches Institut für Normung e. V.) and comply with their tolerance specifications.
The technical data and specifications in this rider's manual serve as points of reference. The vehicle-specific data may vary, for instance due to the selected optional equipment, national-market version or country-specific measuring procedures. Detailed values can be obtained from the registration documents or requested from your authorized BMW Motorrad dealer or other qualified service partner or repair shop. The information on the vehicle documents always takes precedence over the information in this rider's manual.

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CURRENTNESS OF THIS MANUAL

The high safety and quality levels of BMW motorcycles are maintained by constant development work on design, equipment and accessories. For this reason, some aspects of your vehicle may vary from the descriptions in this rider's manual. At the time of manufacturing of the motorcycle, the rider's manual is the most current source. Due to updates after the press date, there can be differences between the printed rider's manual and the online version.
Updated information is available at **bmw-motorrad.com/service**.

ADDITIONAL SOURCES OF INFORMATION

Authorized BMW Motorrad dealer

Your authorized BMW Motorrad dealer is always happy to answer any of your questions.

Internet

The rider's manual for your vehicle, the Owner's Manual and installation instructions for optional accessories and general BMW Motorrad information related to the technology or other features are available at **bmw-motorrad.com/manuals**.

CERTIFICATES AND OPERATING PERMITS

The certificates for the vehicle and the official operating permits for possible accessories are available at **bmw-motorrad.com/certification**.

DATA MEMORY

General information

Control units are installed in the vehicle. Control units process data received from vehicle sensors, self-generated data or data exchanged between control units, for example. Some control units are required for safe vehicle operation or provide riding assistance, such as rider assistance systems. Control units also make comfort and infotainment functions possible.
Information about the stored or exchanged data can be ob-

tained from the vehicle manufacturer, such as in the form of a separate booklet.

Personal references

Every vehicle is marked with a unique vehicle identification number. Depending on the country, the vehicle owner can be identified using the vehicle identification number and license plate and with the help of the relevant authorities. There are also other ways to trace data obtained from the vehicle back to the rider or vehicle owner, such as via the ConnectedDrive Account that was used.

Data privacy laws

In accordance with applicable data privacy laws, vehicle users have certain rights over the vehicle manufacturer or company that collects or processes personal data.

Vehicle users have the right to obtain comprehensive information without charge from the locations that store the vehicle user's personal data.

These locations may be:

–The vehicle manufacturer
–Qualified service partners
–Repair shops
–Service providers

Vehicle users may request information about the type of personal data that is stored, the purpose for which the data will be used and the source of the data. This information can only be obtained by a registered owner or a person with written proof authorizing use of the vehicle.

The right to information also includes information related to data transmitted to other companies or locations.

The vehicle manufacturer's website contains the appropriate privacy policy notices. The privacy policy notices contain information on the right to delete or correct data. The vehicle manufacturer also provides the manufacturer contact information and the contact information of the data security officer on the Internet.

The vehicle owner can have an authorized BMW Motorrad dealer or other qualified service partner or repair shop read out the data stored in the vehicle for a fee if required.

8 GENERAL INSTRUCTIONS

The vehicle data is read out via the vehicle's legally mandated diagnostic socket.

Operating data in the vehicle

Control units process data so that the vehicle can run.
Examples of this include:

- Status messages from the vehicle and its individual components, such as wheel speed, wheel centrifugal velocity and deceleration
- Ambient conditions, such as temperature
- Operating states of system components, such as fill levels and tire pressure
- Malfunctions and faults in key system components, such as lights and brakes
- Vehicle responses in specific riding situations, such as the activation of riding dynamics systems
- Information about events causing damage to the vehicle

The data is processed only in the vehicle itself and is usually temporary. The data is not stored beyond the period in which the vehicle is operating.
Electronic components such as control units contain components for storing technical information. This may be information about the vehicle's condition, component load, events or faults stored temporarily or permanently.
This information generally documents the condition of a component, module, system or the surrounding area; for example:

The data is necessary for providing control unit functions. In addition, it is used by the vehicle manufacturer to detect and eliminate malfunctions as well as to optimize vehicle functions.
The majority of this data is temporary and is processed only within the vehicle itself. Only a small amount of event-driven data is stored in the event data recorder and fault memory.
When a vehicle is serviced, such as for repairs, servicing processes, warranty cases and quality assurance measures, this technical information can be read out from the vehicle together with the vehicle identification number.
The information can be read out by an authorized

BMW Motorrad dealer or other qualified service partner or repair shop. The vehicle's legally mandated diagnostic socket is used to read out the data.
The data is collected, processed and used by the respective service network locations. The data documents the vehicle's technical states and helps with fault finding, compliance with warranty obligations and quality improvements.
The manufacturer also has product monitoring obligations arising from product liability law. The vehicle manufacturer requires technical data from the vehicle in order to fulfill these obligations. The data from the vehicle can also be used to verify customer warranty and guarantee claims.
The fault memory and event data recorder in the vehicle can be reset by an authorized BMW Motorrad dealer or other qualified service partner or repair shop as part of a repair or servicing.

Data input and data transfer in the vehicle

General information

Depending on the equipment, comfort settings and individualized settings in the vehicle can be saved and changed or reset at any time.
It is possible to introduce data into the vehicle entertainment and communication system via a smartphone, for instance. Depending on the individual equipment, this includes:
- Multimedia data, such as music for playback
- Address book data for use in combination with a communication system or integrated navigation system
- Entered destinations
- Data about the use of Internet services. This data can be stored locally in the vehicle or is on a device connected to the vehicle, such as a smartphone, USB stick or MP3 player. If this data is saved in the vehicle, it can be deleted at any time.

This data is transmitted to third parties only upon personal request as part of the use of online services. The data transmitted depends on the selected

settings when using the services.

Incorporating mobile end devices

Depending on the equipment, mobile end devices connected to the vehicle, such as smartphones, are controlled using the vehicle's operating elements.

This enables audio and visual output from mobile end devices through the multimedia system. At the same time, certain information is transmitted to the mobile end device. This includes, for instance, position data and other general vehicle information, depending on the type of incorporation,. and makes it possible to optimize the use of selected apps, such as those for navigation or audio playback.

The way the data is processed further is determined by the provider of the particular app used. The range of possible settings depends on the particular app and the operating system of the mobile end device.

Services

General information

If the vehicle has a mobile phone connection, this connection makes it possible to exchange data between the vehicle and other systems. The mobile phone connection is made possible through the vehicle's transmitter and receiver or via personally integrated mobile end devices such as smartphones. Online functions, as they are called, are used over this mobile phone connection. These include online services and apps provided by the vehicle manufacturer or other providers.

Vehicle manufacturer services

In the case of the vehicle manufacturer's online services, the particular functions are described at the appropriate location, such as in the rider's manual or on the manufacturer's website. The relevant legal information on data privacy is also provided there. Personal data may be used in order to provide online services. The data is exchanged over a secure connection, i.e. with the vehicle manufacturer's IT sys-

tems which are intended for this purpose.
Any collection, processing and use of personal data that goes beyond the provision of services take place only as permitted by law, on the basis of a contractual agreement or as a result of consent. It is also possible to have the entire data connection activated or deactivated. This is not the case for legally prescribed functions.

Services of other providers
When using the online services of other providers, these services are subject to the responsibility and the term of data protection and use of the respective provider. The vehicle manufacturer has no control over the content exchanged via these services. Information about the type, scope and purpose of collecting and using personal data as part of third-party services can be obtained from the particular service provider.

BLUETOOTH®

Bluetooth is a close-range wireless technology. Bluetooth devices are short-range devices (transmitting with a limited range) 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 license being required.
Although Bluetooth is designed for establishing robust connections over short distances, faults are possible as with any other wireless technology. Connections can be subject to interference, can be briefly interrupted or lost entirely. Especially when several devices are operated in one Bluetooth network, there is no guarantee for smooth operation in every situation.

Possible sources of interference:
- Interference fields due to transmission towers and similar.
- Devices with incorrectly implemented Bluetooth radio standard.
- By nearby Bluetooth-capable devices.

–Shielding by metals or bodies.

INTELLIGENT ASSIST SYSTEM

–with intelligent emergency call OE

Principle

The intelligent assist system makes it possible to place manual or automatic emergency calls in the event of an accident, for example.
The emergency calls are answered by an emergency call center authorized by the vehicle manufacturer.
For information on how to operate the intelligent assist system and its features, see (➠ 78).

Legal basis

The processing of personal data by way of the intelligent assist system complies with the following regulations:
–Protection of personal data: Directive 95/46/EC of the European Parliament and of the Council.

–Protection of personal data: Directive 2002/58/EC of the European Parliament and of the Council.

The legal basis for the activation and operation of the intelligent assist system are the signed ConnectedRide contract for this function, as well as the corresponding laws, regulations, and directives of the European Parliament and European Council.
The relevant regulations and directives govern the protection of individuals when processing personal data.
The processing of personal data by the intelligent assist system conforms to the European directive concerning personal data protection.
The intelligent assist system processes personal data only with the consent of the vehicle owner.
The intelligent assist system and other services with additional benefits may process personal data only with the express consent of the individual affected by the data processing, for example, the vehicle owner.

SIM card

The intelligent assist system is operated by way of mobile radio via the installed SIM card in the vehicle. The SIM card

is permanently registered to the mobile phone network to enable a fast connection setup. The data is sent to the vehicle manufacturer in the event of an emergency.

Quality improvement

The data transmitted in the event of an emergency call is also used by the vehicle manufacturer to improve the quality of products and services.

Geopositioning

The vehicle position can be determined exclusively by the mobile phone network provider based on their mobile phone cell towers. The network provider cannot link the vehicle identification number and phone number of the installed SIM card. Only the vehicle manufacturer can link the vehicle identification number and phone number of the installed SIM cards.

Emergency call log data

The emergency call log data is stored in the vehicle memory. The oldest log data is deleted regularly. The log data includes for example information about when and where an emergency call was initiated. The log data can be read out from the vehicle memory in exceptional cases. The log data is usually read out only by court order and can only be read out when the relevant devices are connected directly to the vehicle.

Automatic emergency call

The system is designed so that an emergency call is triggered automatically in the event of an accident of a particular severity detected by sensors in the vehicle.

Transmitted information

In the event of an emergency call by the intelligent assist system, the same information is forwarded to the authorized emergency call center as is forwarded by the assist system eCall to the public emergency operations center.
Moreover, through the intelligent assist system, the following additional information is sent to one of the emergency call centers authorized by the vehicle manufacturer and forwarded to the public safety answering point if necessary:

– Accident data, such as the direction of impact detected by the vehicle sensors in order to facilitate planning of the deployment of emergency services.
– Contact information, such as the phone number of the installed SIM card and that of the rider, if available, in order to expedite contact with the individuals involved in the accident.

Data storage

The data related to a triggered emergency call is stored in the vehicle. The data contains information about the emergency call, such as the emergency call location and time.
Audio recordings of emergency calls are stored at the emergency call center.
Customer audio recordings are stored for 24 hours in case the details of the emergency call need to be analyzed. The audio recordings are then deleted.
Emergency call center employee audio recordings are stored for 24 hours for quality assurance purposes.

Disclosure of personal data

The data processed as part of the intelligent emergency call is processed only for the purpose of providing the emergency call service. The vehicle manufacturer discloses information about the data that it processes or continues to store if necessary as part of its legal obligation.

Regional limitation

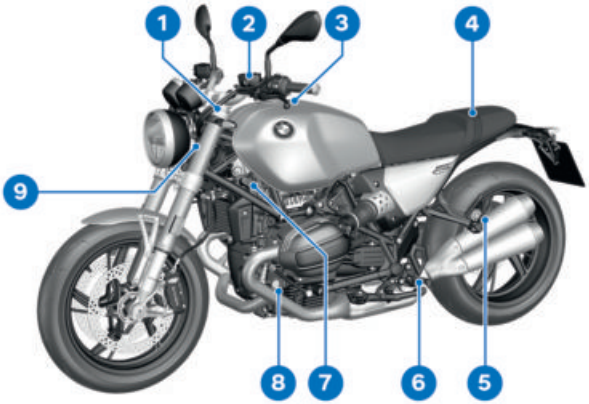
For the installed Intelligent Emergency Call system to function properly, the respective national-market vehicle must support the current region.
For more information on regional limitations:
support.bmw-motorrad.com

OVERVIEWS

02

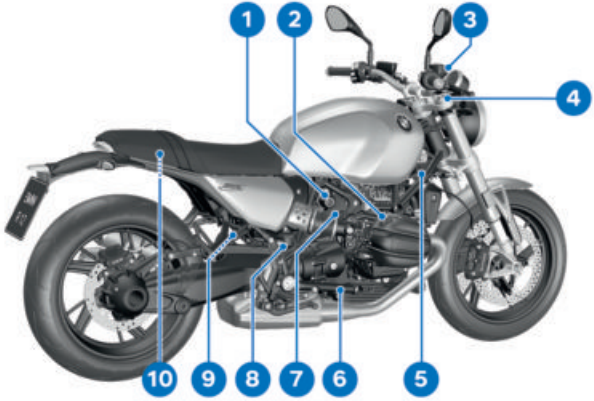
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OVERALL VIEW, LEFT SIDE



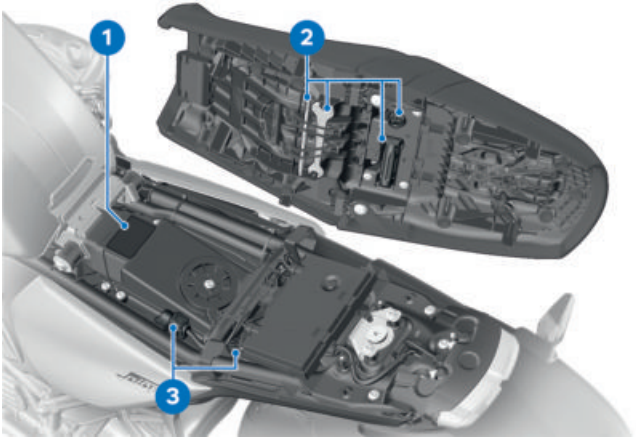
1 Damping at front wheel (➠ 109)
2 Clutch fluid reservoir (➠ 158)
3 Fuel filler opening (➠ 128)
4 Grab strap
5 Passenger footrest
6 Rider footrest
7 USB charging socket (➠ 183)
8 Engine oil indicator (➠ 152)
9 Nameplate (on the steering-head bearing)
Tire pressure table (➠ 159)

OVERALL VIEW, RIGHT SIDE



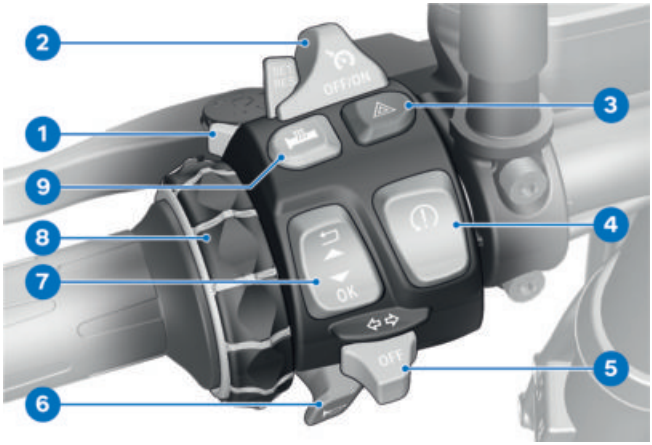
1 Spring preload on rear wheel (➠ 108)
2 Oil filler opening (➠ 153)
3 Brake fluid reservoir for front wheel brake (➠ 156)
4 Spring preload on front wheel (➠ 107)
5 Socket (➠ 173)
6 Vehicle identification number
7 Diagnostic connector (➠ 177)
Onboard toolkit (in cover of diagnostic connector) (➠ 151)
8 Brake fluid reservoir for rear wheel brake (➠ 157)
9 Damping at rear wheel (➠ 111)
10 Removing the seat (➠ 98)

UNDERNEATH THE SEAT



1 Payload table
2 Onboard vehicle tool kit (➠ 151)
3 Fuses (➠ 175)

MULTIFUNCTION SWITCH, LEFT



1 High beams and headlight flasher (➠ 81)
2 Cruise control (➠ 89)
3 Hazard warning system (➠ 83)
4 Traction control (DTC) (➠ 86)
Auxiliary headlights (➠ 82)
5 Turn signals (➠ 83)
6 Horn
7 Rocker button (➠ 58)
8 Multi-Controller (➠ 97)
9 Heated grip (➠ 94)

MULTIFUNCTION SWITCH, RIGHT



1 Ignition (➠ 74)
2 Riding mode (➠ 87)
3 Emergency-off switch (➠ 77)
4 Starter button (➠ 119)

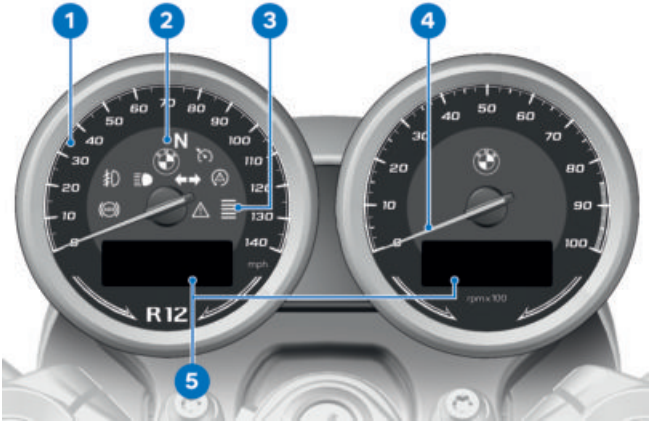
MULTIFUNCTION SWITCH, RIGHT

–with intelligent emergency call[OE]



1 Ignition (➠ 74)
2 Riding mode (➠ 87)
3 Emergency-off switch (➠ 77)
4 Starter button (➠ 119)
5 SOS button
Intelligent emergency call (➠ 78)

INSTRUMENT CLUSTER



1 Speedometer
2 Indicator and warning lights (➠ 28)
3 Photodiode for brightness control in the display DWA LED (➠ 83)
4 Tachometer
5 Displays (➠ 29)

INSTRUMENT CLUSTER DIGITAL DISPLAY

–with Digital Display[OE]



1 Display

2 Photodiode for brightness control in the display
DWA LED (➠ 83)
ABS indicator and warning light (➠ 134)

DISPLAYS

03

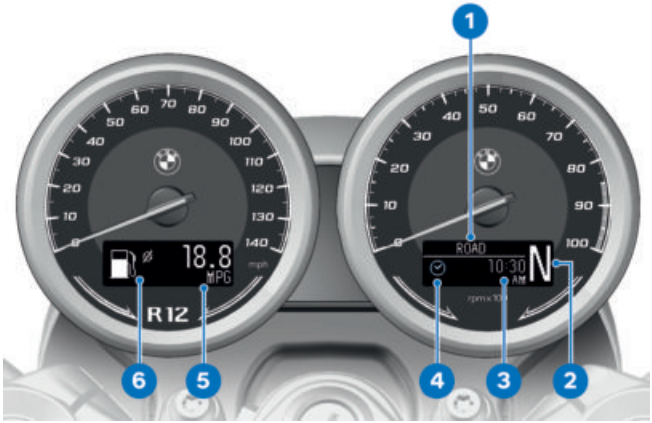
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INDICATOR AND WARNING LIGHT ON DIGITAL DISPLAY 30
DIGITAL DISPLAY HOME SCREEN 31
DIGITAL DISPLAY PURE RIDE 32
INDICATOR LIGHTS 33
SERVICE DISPLAY 54

INDICATOR AND WARNING LIGHTS



1 ABS (➠ 134)
2 Auxiliary headlights (➠ 82)
3 High beams (➠ 81)
4 Neutral indicator light
5 Cruise control (➠ 89)
6 Turn signals (➠ 83)
7 DTC (➠ 86)
8 General warning light
Display in combination with warning symbols in the display (➠ 33)

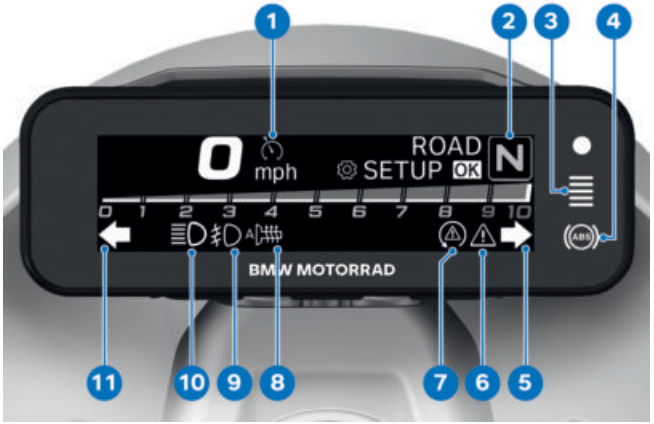
ROUND INSTRUMENT DISPLAY



1 Select riding mode (➠ 88)
2 Gear display
3 Unit of the selected display
4 Selecting displays in the rotational-speed sensor (➠ 66)
5 Unit of the selected display
6 Trip computer
Warning symbol (➠ 33)
Status

INDICATOR AND WARNING LIGHT ON DIGITAL DISPLAY

–with Digital Display[OE]



1 Cruise control (➠ 89)
2 Neutral indicator light
Gear display
3 Photodiode for brightness control in the display
DWA LED (➠ 83)
4 ABS (➠ 134)
5 Turn signal, right
6 General warning light
Display in combination with warning symbols in the display (➠ 33)
7 DTC (➠ 86)
8 Heated grip (➠ 94)
9 Auxiliary headlights (➠ 82)
10 High beams (➠ 81)
11 Turn signal, left

DIGITAL DISPLAY HOME SCREEN

–with Digital Display[OE]



1 Speedometer
2 Cruise control (➠ 89)
3 Go to PURE RIDE (➠ 32)
Calling up the on-board computer (➠ 62)
Go to SETUP (➠ 65)
4 Riding mode (➠ 87)
5 Gear display
6 Tachometer

DIGITAL DISPLAY PURE RIDE

–with Digital Display[OE]



1 Speedometer
2 Cruise control (➠ 89)
3 Riding mode (➠ 87)
4 Gear display

INDICATOR LIGHTS

Layout

Warnings are indicated by the corresponding warning light.
If two or more warnings occur at the same time, all the appropriate warning lights appear.
Warnings are displayed in alternation with warning symbols associated with them.
You will find an overview of the potential warnings on the following pages.



Warnings that do not have their own warning light are indicated as follows:
–General warning light **1**
–Fault ID **2**
–Warning symbol **3**

Using the following overview, you can determine the meaning and possible causes of the respective fault based on the fault ID **2**.



Confirming warnings

Warnings **2** must be confirmed by briefly pressing the rocker button **1** at the top or bottom.
The last active display will only be faded in after the warning **2** is confirmed.
If multiple warnings are present, go to the respective next warning and confirm it by pressing the rocker button **1 2**.



Go to active warnings

Press the rocker button **1** multiple times until warnings **2** are displayed.
Press the rocker button **1** again to go to the respective next warning **2**.

You can go back to the message as long as the fault is present.

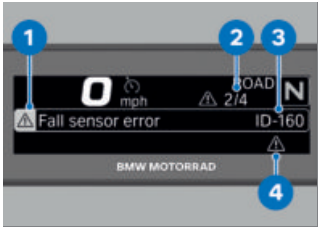
–with Digital Display[OE]

Layout of Digital Display

Warnings are indicated by the general warning light in combination with a dialog and an identification number in the instrument cluster. The general warning light lights up in either yellow or red, depending on the urgency of the warning.

The general warning light lights up for whichever warning is most urgent at the current time.

You will find an overview of the potential warnings on the following pages.



Digital Display in the Warnings view

The messages in the display are shown differently in the display. Different colors and characters are used depending on the priority:

–Yellow warning triangle **1**: warning message.
–Alternative: white circle with lowercase **i**: information, or red **STOP**: critical warning message, do not continue riding.
–Number of messages **2**.
–Fault ID **3**: for exact identification of the message.
–General warning light **4**: red or yellow, depending on the highest urgency of the message.

Active warnings are additionally appended dynamically as pop-up messages in the instrument cluster selection. You can go back to the message as long as the fault is present (➠ 62).

Overview of warning indicators

Indicator and warning lights	Display text	Meaning
	 is displayed.	External temperature warning (➠ 40)
 flashes regularly.		ABS self-diagnosis not completed (➠ 40)
 blinks slowly.		DTC self-diagnosis not completed (➠ 40)
 blinks rapidly.		DTC intervention (➠ 41)
 lights up yellow.	 EWS error ID030	Electronic immobilizer fault (➠ 41)
 lights up yellow.  lights up yellow.	 Traction control error ID040	DTC malfunction (➠ 41)
 lights up yellow.  lights up yellow.	 Traction control error ID041	DTC limited (➠ 42)
 lights up yellow.  lights up.	 ABS Pro error ID050	ABS Pro failure (➠ 42)

Indicator and warning lights	Display text	Meaning
 lights up yellow.  lights up.	 ABS error ID051	ABS failure (➠ 43)
 lights up yellow.  lights up.	ABS error ID052	ABS fault (➠ 43)
 lights up yellow.	 Remote key error ID060	Radio-operated key outside reception range (➠ 43)
 lights up yellow.	 Remote key error ID061	Keyless Ride malfunction (➠ 44)
 lights up yellow.	Remote key battery ID070  Remote key battery ID071	Replacing the battery of the radio-operated key (➠ 44)
 lights up yellow.	DWA battery error ID080	Anti-theft alarm system battery discharged (➠ 44)
	 Alarm system battery low ID081	Anti-theft alarm system battery is weak (➠ 45)
 lights up yellow.	 DWA error ID082	DWA malfunction (➠ 45)

Indicator and warning lights	Display text	Meaning
	 is displayed in white. Upcoming service ID090	Service due (➠ 45)
 lights up yellow.	 is displayed in yellow. Service overdue ID091	Service appointment overdue (➠ 45)
 lights up yellow.	 The faulty light source is displayed ID101–ID131	Light source faulty (➠ 46)
 lights up yellow.	 The malfunctioning vehicle lighting is displayed ID117/ID126	Light control unit failed (➠ 47)
 lights up yellow.	 Engine error ID140	Engine control fault (➠ 47)
 blinks red.	 Engine failure ID141	Serious fault in the engine control (➠ 47)
 lights up yellow.	 Fall sensor error ID160	Fall sensor faulty (➠ 48)
	 Fall sensor triggered ID161	Fall sensor triggered (➠ 48)
 lights up yellow.	 Side stand error ID170	Malfunction of side stand monitor (➠ 48)

Indicator and warning lights	Display text	Meaning
 lights up yellow.	 Emerg. call system error ID180	Emergency call function failed (➠ 48)
 lights up yellow.	 Emerg. call system error ID182	Emergency call function has limited availability (➠ 49)
 lights up yellow.	 Cruise control error ID211	Cruise control malfunctioned (➠ 49)
 lights up yellow.	 Vehicle voltage error ID250	Vehicle battery overheated (➠ 49)
 blinks red.	 Vehicle voltage failure ID251	Severe fault in the voltage supply (➠ 50)
 lights up yellow.	 Vehicle voltage critical. ID260	Voltage of the vehicle electrical system is critical (➠ 50)
 blinks yellow.	 Generator error ID270	Battery voltage is critical (➠ 50)
 lights up yellow.	 Error, engine too hot ID290	Engine temperature high (➠ 51)
 lights up red.	 Failure, engine too hot ID291	Engine overheated (➠ 51)

Indicator and warning lights	Display text	Meaning
 lights up yellow.	 Tire pressure ID301	Tire pressure is the limit range of approved tolerance (➠ 51)
 blinks red.	 Danger RDC ID302, ID303	Tire pressure is outside the approved tolerance range (➠ 52)
 lights up yellow.	 RDC error ID304	Tire Pressure Monitor (TPM) malfunction (➠ 53)
 lights up yellow.	 RDC battery error ID310	Battery of the tire pressure sensor weak (➠ 53)
 lights up yellow.	 is displayed in combination with odometer KM R or MI R.	Fuel has reached reserve volume (➠ 54)
 lights up yellow.	 Theft protection ID340	Anti-theft feature (➠ 54)

Outside temperature

The outside temperature is displayed in the instrument cluster of the micro TFT display.
Heat from the drive can lead to spurious measurement readings of the outside temperature when the vehicle is stationary.
If the effect of the heat from the drive becomes excessive, dashes are temporarily displayed instead of the value.


If the outside temperature falls below the limit value of approx. 37 °F (approx. 3 °C), there is a risk of black ice formation.
The first time the temperature drops below this value, the outside temperature display and ice crystal symbol will flash in the instrument cluster of the micro TFT display.

External temperature warning


is displayed.

Possible cause:

 The outside temperature measured on the vehicle is less than:
Approx. 37 °F (Approx. 3 °C)

⚠ WARNING

Risk of black ice, even above approx. 37 °F (approx. 3 °C)

Risk of accident

- At a low outside temperature, icy conditions must expected on bridges and in shady road areas.
- Use caution when riding.

ABS self-diagnosis not completed



blinks.

Possible cause:

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

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

DTC self-diagnosis not completed

blinks slowly.

Possible cause:

DTC self-diagnosis not completed
The DTC function is not available, as the self-diagnosis function has not been completed. (To check wheel speed sensors, the motorcycle must reach a minimum speed with engine running: min 3 mph (min 5 km/h))

- Ride off slowly. Note that the DTC function is only available after the self-diagnosis has been completed.

DTC intervention

 blinks rapidly.

Possible cause:

DTC has detected instability at the rear wheel and responded by reducing the torque.
The indicator and warning light flashes longer than the DTC intervention lasts. This provides the rider with visual feedback for the control action that was taken even after the critical riding situation has passed.

- You may continue riding. Use caution when riding.

Electronic immobilizer fault

 lights up yellow.

 `EWS error ID030`

Possible cause:

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

- Remove any other ignition keys that are also fastened to the bunch of keys.
- Use a second ignition key.
- It is best to have faulty ignition keys replaced by an authorized BMW Motorrad dealer.

DTC malfunction

 lights up yellow.

 lights up yellow.

 `Traction control error ID040`

Possible cause:

The engine control unit has detected a DTC fault.

ATTENTION

Damage to components
Damage to sensors, for example, with the resultant malfunctions
- Do not carry along any objects under the rider's or passenger's seat.
- Secure vehicle tools.

- Do not damage the angular rate sensor.
- It must be noted that the DTC function is not available at all or is limited.
- You may continue riding. Observe additional information on situations that can lead to a DTC fault (➠ 138).
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

DTC limited


lights up yellow.


lights up yellow.


`Traction control error ID041`

Possible cause:
The engine control unit has detected a DTC fault.

ATTENTION

Damage to components
Damage to sensors, for example, with the resultant malfunctions
- Do not carry along any objects under the rider's or passenger's seat.
- Secure vehicle tools.

- Do not damage the angular rate sensor.
- Note that the DTC function and other electronic stability control systems are available with limitations only.
- You may continue riding. Observe additional information on situations that can lead to a DTC fault (➠ 138).
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

ABS Pro failure


lights up yellow.



lights up.


ABS Pro error ID050

Possible cause:

The monitoring of the ABS Pro function has detected a fault. The ABS Pro function is not available. The ABS function remains available. ABS only supports braking in straight-ahead riding.

- You may continue riding. Observe additional information on special situations that can lead to a ABS Pro fault message (➠ 136).
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

ABS failure


lights up yellow.


lights up.


ABS error ID051

Possible cause:

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

- You may continue riding. Take note of additional information on special situations that can lead to an ABS fault message (➠ 136).
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

ABS fault


lights up yellow.


lights up.


ABS error ID052

Possible cause:

The ABS control unit has detected an error. The ABS function is limited.

- You may continue riding. Take note of additional information on special situations that can lead to an ABS fault message (➠ 136).
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Radio-operated key outside reception range


lights up yellow.


Remote key error
ID060

Possible cause:

The communication between the radio-operated key and the engine electronics is faulty.

- Check the battery in the radio-operated key.
- Replace the battery of the radio-operated key. (➠ 75)
- Use the spare key for further travel.
- Battery of radio-operated key is dead or radio-operated key is lost. (➠ 74)
- If the Check Control dialog appears while riding, remain calm. You can continue riding; the ride readiness will not turn off.
- Have any faulty radio-operated keys replaced by a BMW Motorrad dealer.

Keyless Ride malfunction


lights up yellow.


Remote key error
ID061

Possible cause:

The Keyless Ride control unit has diagnosed a communication fault.

- Do not shut off the engine. Visit a repair shop immediately if possible, ideally an authorized BMW Motorrad dealer.

» Engine start can no longer be turned on using Keyless Ride.
» DWA can no longer be activated.

Replacing the battery of the radio-operated key


lights up yellow.


Remote key battery
ID070


Remote key battery
ID071

Possible cause:

- The battery for the radio-operated key is no longer charged to full capacity. Operation of the radio-operated key is only ensured for a limited time.
- Replace the battery of the radio-operated key. (➠ 75)

Anti-theft alarm system battery discharged


lights up yellow.


DWA battery error
ID080


This fault message is only shown for a short time immediately following the Pre-Ride-Check.

Possible cause:

The DWA battery no longer has any charging capacity. Operation of the DWA is no longer guaranteed when the vehicle battery is disconnected.

- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

Anti-theft alarm system battery is weak



Alarm system battery low ID081

This fault message is only shown for a short time immediately following the Pre-Ride-Check.

Possible cause:

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

- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

DWA malfunction



lights up yellow.



DWA error ID082

Possible cause:

The DWA control unit has diagnosed a communication fault.

- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

» DWA can no longer be activated or deactivated.

» False alarm possible.

Service due



is displayed in white.

Upcoming service ID090

Possible cause:

Service is due because of the mileage or the date.

- Have service performed regularly by a repair shop, preferably an authorized BMW Motorrad dealer.

» The operating safety and road safety of the vehicle remains unchanged.

» The best-possible value retention of the vehicle is ensured.

Service appointment overdue



lights up yellow.



is displayed in yellow.

Service overdue ID091

Possible cause:

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

- Have service performed regularly by a repair shop, preferably an authorized BMW Motorrad dealer.

» The operating safety and road safety of the vehicle remains unchanged.

» The best-possible value retention of the vehicle is ensured.

Light source faulty

 lights up yellow.

 The faulty light source is displayed ID101–ID131:

–with LED additional headlight OA

–Additional headlight error (left) ID101◁

–with LED additional headlight OA

–Additional headlight error (right) ID102◁

–Parking lamp error ID110

–Low beam error ID112

–High beam error ID113

–Front turn signal error (left) ID115, Front turn signal error (right) ID116

–Rear light error ID121

–Brake light error ID122

–License plate light error ID123

–Rear turn signal error (left) ID124, Rear turn signal error (right) ID125

–with Headlight Pro OE

–Active headlamp error ID130, Active headlamp error ID131◁

WARNING

Overlooking the vehicle in road traffic due to failure of the lighting on the vehicle

Safety risk

- Replace defective lighting as soon as possible. Please contact a repair shop for this purpose, preferably an authorized BMW Motorrad dealer.

Possible cause:

Light source faulty

- Locate defective bulb with visual check.
- Have the LED light source replaced in full; for details please contact a repair shop, preferably an authorized BMW Motorrad retailer.

Light control unit failed

 lights up yellow.

 The malfunctioning vehicle lighting is displayed ID117/ID126:

–Front light error ID117
–Rear light error ID126

WARNING

Overlooking the vehicle in road traffic due to failure of the vehicle lighting

Safety risk

- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

The vehicle lighting has failed partially or completely.

Possible cause:

The light control unit has diagnosed a communication fault.

- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Engine control fault

 lights up yellow.

 Engine error ID140

Possible cause:

Communication with the engine control unit has malfunctioned.

- You may continue riding. Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Serious fault in the engine control

 blinks red.

 Engine failure ID141

WARNING

Damage to the engine during emergency operation

Risk of accident

- Drive slowly and refrain from accelerating quickly and overtaking other vehicles.
- If possible, have the vehicle picked up and let the malfunction be corrected at a repair shop, preferably an authorized BMW Motorrad dealer.

Possible cause:

The engine control unit has diagnosed a fault, which can lead to a severe consequential fault. The engine is in emergency operation.

- Continued riding is possible, however it is not recommended.
- Avoid high load and engine speed ranges if possible.
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Fall sensor faulty

 lights up yellow.

 `Fall sensor error ID160`

Possible cause:

The fall sensor is not functioning.

- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

Fall sensor triggered

 `Fall sensor triggered ID161`

Possible cause:

The fall sensor has detected a fall and turned off the engine.

- Raise the vehicle to upright position and check for possible damage.
- Turn ignition off and then on again or turn emergency-off switch on and then off again.

Malfunction of side stand monitor

 lights up yellow.

 `Side stand error ID170`

Possible cause:

 The side support switch or its wiring is damaged
The engine is turned off if the speed falls below the minimum limit. The journey cannot be continued.
min 3 mph (min 5 km/h)

- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

Emergency call function failed

–with intelligent emergency call[OE]

 lights up yellow.


Emerg. call system error ID180

Possible cause:

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

- Note that the emergency call cannot be placed.
- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

Emergency call function has limited availability

–with intelligent emergency call OE


lights up yellow.


Emerg. call system error ID182

Possible cause:

The emergency call cannot be established automatically or via BMW.

- Please refer to page (➠ 78) for information on using the intelligent emergency call.
- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

Cruise control malfunctioned

–with cruise control OE


lights up yellow.


Cruise control error ID211

Possible cause:

The control unit has detected a fault.

- Note that the cruise control is not available.
- You may continue riding. Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Vehicle battery overheated


lights up yellow.


Vehicle voltage error ID250

Possible cause:

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

- If possible, ride in the partial load range or shut off the engine to cool off the vehicle battery.
- If the vehicle battery temperature is frequently too high, have the fault rectified as quickly as possible by a repair

shop, preferably an authorized BMW Motorrad dealer.

Severe fault in the voltage supply


blinks red.


Vehicle voltage failure ID251

WARNING

Failure of vehicle systems
Accident hazard
• Do not continue riding.

Possible cause:
The temperature sensor has detected a critical temperature in the vehicle battery or the electrical system voltage is too high. The engine is about to be shut off.
- Stop the vehicle immediately.
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Voltage of the vehicle electrical system is critical


lights up yellow.


Vehicle voltage critical. ID260

The vehicle voltage is critical. The vehicle electronics will drain the battery.
Possible cause:
Electrical loads with high electrical consumption, e.g. heating vests, are in operation; too many electrical loads are in operation at the same time, or the battery is defective.
- Switch off electrical loads that are not needed or disconnect them from the electrical system.
- If the fault persists or occurs without any electrical loads connected, have the fault corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Battery voltage is critical


blinks yellow.


Generator error ID270

WARNING

Failure of vehicle systems
Accident hazard
• Do not continue riding.

The battery is not being charged. The vehicle electronics will drain the battery.

Possible cause:

Alternator is malfunctioning, battery is defective or fuse is burned through.

- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Engine temperature high


lights up yellow.


Error, engine too hot ID290

ATTENTION

Riding with overheated engine

Engine damage

- Be sure to observe the measures listed below.

Possible cause:

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

- Ride in the partial load range if possible to cool the engine.
- If the engine temperature is more frequently too high, have the fault rectified as quickly as possible by a repair shop, preferably an authorized BMW Motorrad retailer.

Engine overheated


lights up red.


Failure, engine too hot ID291

ATTENTION

Riding with overheated engine

Engine damage

- Be sure to observe the measures listed below.

Possible cause:

Engine is overheated.

- Carefully come to a stop and turn off the engine until it has cooled down.
- If the engine overheats more frequently, have the fault corrected as soon as possible by a repair shop, preferably an authorized BMW Motorrad dealer.

Tire pressure is the limit range of approved tolerance

–with tire pressure monitor (TPM) OE


lights up yellow.


Tire pressure ID301

Possible cause:
The measured tire pressure is within the limit range of the permissible tolerance.
- Correct the tire pressure.
- Before adjusting the tire pressure, check the information on temperature compensation and tire pressure adjustment in the chapter "Technology in detail":

» Temperature compensation (➠ 142)
» Tire pressure adjustment (➠ 143)
» The target tire pressures can be found in the following locations:
– On the back cover of the rider's manual
– Tire pressure table

Tire pressure is outside the approved tolerance range
– with tire pressure monitor (TPM) OE


blinks red.



Danger RDC ID302, ID303

WARNING

Tire pressure is outside the approved tolerance range.
Risk of accident, deterioration in the handling characteristics of the vehicle.
• Adjust the driving style.

Possible cause:
The measured tire pressure is outside of the permissible tolerance.
- Check tire for damage and ridability.

If the tire is still ridable:
- Correct the tire pressure at the next opportunity.
- Before adjusting the tire pressure, check the information on temperature compensation and tire pressure adjustment in the chapter "Technology in detail":

» Temperature compensation (➠ 142)
» Tire pressure adjustment (➠ 143)
» The target tire pressures can be found in the following locations:
– On the back cover of the rider's manual
– Tire pressure table
- Have the tire checked by a repair shop for damage,

preferably by an authorized BMW Motorrad dealer.

If you are unsure about the tire's ridability:

- Do not continue riding.
- Contact roadside service.

Tire Pressure Monitor (TPM) malfunction

–with tire pressure monitor (TPM) OE

 lights up yellow.

 RDC error ID304

Possible cause:

The TPM control unit has diagnosed a communication fault.

- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

» Tire pressure warnings not available.

Battery of the tire pressure sensor weak

–with tire pressure monitor (TPM) OE

 lights up yellow.

 RDC battery error ID310

 This fault message is only shown for a short time immediately following the Pre-Ride-Check.

Possible cause:

The battery for the tire pressure sensor is no longer charged to full capacity. Operation of the Tire Pressure Monitor is only ensured for a limited time.

- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

Fuel reserve

The fuel quantity in the fuel tank when the low-fuel warning light switches on depends on the riding dynamics. The more the fuel moves around in the fuel tank (due to frequent changes of leaning angle, frequent braking and acceleration), the harder it is to accurately determine the reserve volume. For this reason, the reserve volume cannot be indicated precisely.

 After the low-fuel warning light is switched on, the odometer for the fuel reserve KM R or MI R is displayed automatically.

The distance that can still be traveled with the reserve volume depends on the riding style (i.e. on fuel consumption) and on the fuel quantity that

was still available when the light switched on.
The trip distance recorder for the fuel reserve is reset when the fuel quantity after refueling is greater than the fuel reserve.

Fuel has reached reserve volume

lights up yellow.

is displayed in combination with odometer KM R or MI R.

WARNING

Rough engine running or switching off of the engine due to a fuel shortage
Accident hazard, damage to catalytic converter
- Do not drive to the extent that the fuel tank is completely empty.

Possible cause:
At most, the fuel tank contains only the reserve volume.

Fuel reserve
Approx. 0,92 gal (approx. 3,5 l)

- Refueling procedure. (➠ 128)

Anti-theft feature

lights up yellow.

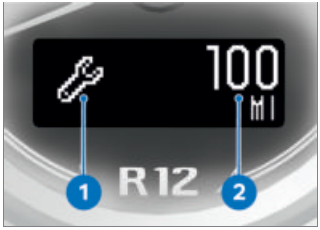
Theft protection ID340

Possible cause:
The serial number of the instrument cluster does not match the serial number stored in the control unit.
- Contact a repair shop, preferably an authorized BMW Motorrad dealer.

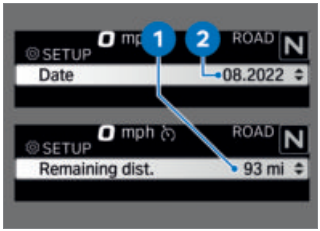
SERVICE DISPLAY



If service is due within a month, the icon for service **1** and the service date **2** are displayed.
You can access the service data also via the SETUP, SERVICE menu.



If service is due within 600 miles (1000 km), the icon for service **1** and the remaining distance **2** will be displayed and counted down in increments of 100 miles/km. You can access the service data also via the SETUP, SERVICE menu.



–with Digital Display[OE]
If service is due within a month or within 600 miles (1000 km), the service date **2** or the remaining distance **1** are displayed. You can access the service data also via the SETUP, SERVICE menu.◁

If the service display appears more than one month before the service date, the date stored in the instrument cluster must be set. This situation may occur if the battery is disconnected from the vehicle.

INSTRUMENT CLUSTER

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WARNINGS

WARNING

Operation of a smartphone while riding

Risk of accident

- Observe the valid road traffic regulations.
- Do not use any smartphone while riding. Applications that do not involve operation are exempt, such as phone calls using a hands-free system.

WARNING

Distraction from traffic conditions and loss of control

Risk of accident through the use of integrated information systems and communication devices during the journey

- Operate these systems or devices only if the traffic situation allows.
- If necessary, stop and operate the system or devices at a standstill.

OPERATING ELEMENTS

Rocker button



Briefly press the top of the rocker button 1:

–Return to the previous entry

–Making a setting

Press and hold the top of the 1 rocker button.

–Return to the previous hierarchy level

–with Digital Display[OE]

–Exit the PURE RIDE view

Briefly press the rocker button 1 at the bottom.

–Display next entry

–Making a setting

Press and hold the bottom of the 1 rocker button.

–Confirming the selection

–In the instrument cluster: Reset the value

– with Digital Display[OE]
– On start screen: Go to PURE RIDE view

OPERATION

SELECTING DISPLAYS IN THE SPEEDOMETER



- Turn on the ignition. (➠ 74)

» The trip computer is displayed.

- Repeatedly press the rocker button **1** briefly until desired value is displayed.

Possible displays:

TOTAL Odometer

1 TRIP Trip odometer 1

A TRIP The automatic trip odometer is automatically reset if at least 6 hours have passed since the ignition was turned off and the date has changed.

Average consumption

Average speed

Engine temperature

Voltage of the vehicle electrical system

–with tire pressure monitor (TPM) OE

Tire pressure◁

 RPM

 Outside temperature

 Time display

 Remaining distance until service, can only be selected if service is due within 600 mi (1000 km) or if service is overdue.

 Service date, can only be selected if service is due within one month, or if service is overdue.

» The content of the instrument cluster can be configured individually.

- Configure displays in the instrument cluster. (➠ 66)

SELECT THE DISPLAY

–with Digital Display[OE]



- Turn on the ignition. (➠ 74)

» The home view is displayed.

- Repeatedly press the rocker button **1** briefly until the desired value **2** is displayed.

Possible displays:

TOTAL Odometer

1 TRIP Trip odometer 1

A TRIP The automatic trip odometer is automatically reset if at least 6 hours have passed since the ignition was turned off and the date has changed.

Average consumption

Average speed

Engine temperature

Voltage of the vehicle electrical system

–with tire pressure monitor (TPM)[OE]

Tire pressure◁

Outside temperature

 Time display

 Remaining distance until service, can only be selected if service is due within 600 mi (1000 km) or if service is overdue.

 Service date, can only be selected if service is due within one month, or if service is overdue.

» The content of the instrument cluster can be configured individually.

- Configure displays in the instrument cluster. (➠ 66)

Resetting the on-board computer

- Turn on the ignition. (➠ 74)



- Repeatedly press the rocker button **1** briefly until the value to be reset is displayed.
- Press and hold the bottom of the **1** rocker button until the selected value is reset.

» The following values can be reset:

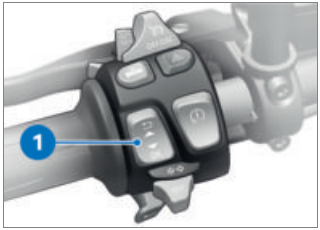
–Trip distance
–Average consumption
–Average speed

SETUP

Select the SETUP

Requirement

The vehicle is stationary.



- Press the rocker button **1** repeatedly until SETUP is displayed.
- Press and hold the bottom of the rocker button **1** to go to SETUP.
- Press the rocker button **1** each time to select the following menus:

–VEHICLE
–SYSTEM
–DISPLAY
–SERVICE
–RESET
–BACK

- Press and hold the bottom of the rocker button **1** to go to the desired menu.

Exit SETUP



- Press and hold the top of the **1** rocker button.

» SETUP is displayed.
» Settings have been saved.

- Alternative: Press the rocker button **1** repeatedly until BACK is displayed.
- Press and hold the bottom of the **1** rocker button.

» SETUP is displayed.
» Settings have been saved.

- Alternative: turn the ignition off and on again.

» SETUP ends without saving the settings.

- Alternative: Ride off.

Speed for using SETUP
max 6 mph (max 10 km/h)

» When the permissible speed for operation is exceeded, SETUP ends without saving the settings.

Resetting SETUP

- Turn on the ignition.
- Select SETUP. (➠ 65)



- Press the rocker button **1** briefly each time until RESET is displayed.
- Press and hold the bottom of the rocker button **1** to reset SETUP.

The SETUP RESET function also resets the date and time to their default values.

- Exit SETUP. (➠ 65)

DISPLAY

Selecting displays in the rotational-speed sensor

–without Digital Display OE

- Turn on the ignition. (➠ 74)

» The riding mode and the gear display are shown in the rotational-speed sensor.

- Go to the SETUP, DISPLAY menu, then select the RPM INFO menu item.
- Select display.

Possible displays:

–EMPTY: Only the riding mode and gear display are displayed
–TOTAL: Odometer
–TRIP 1: Trip odometer 1
–TRIP A: The automatic trip odometer is automatically reset if at least 6 hours have passed since the ignition was turned off and the date has changed.
–CONSUMP: Average consumption
–AVERAGE: Average speed
–ENGINE: Engine temperature
–VOLTAGE: Voltage of the vehicle electrical system
–with tire pressure monitor (TPM) OE
–RDC: Tire pressure◁
–TEMP.: Outside temperature
–CLOCK: Time display

» The selected display is shown in addition to riding mode and gear display in the rotational-speed sensor.

Configuring displays in the instrument cluster

Requirement

The vehicle is stationary.

- Turn on the ignition. (➠ 74)

–without Digital Display OE
- Go to the SETUP, DISPLAY menu, then select the OBC menu item.

The following displays can be deactivated:
–TOTAL: Odometer
–TRIP 1: Trip odometer 1
–TRIP A: The automatic trip odometer is automatically reset if at least 6 hours have passed since the ignition was turned off and the date has changed.
–CONSUMP: Average consumption
–AVERAGE: Average speed
–ENGINE: Engine temperature
–VOLTAGE: Voltage of the vehicle electrical system
–with tire pressure monitor (TPM) OE
–RDC: Tire pressure◁
–RPM: RPM
–TEMP.: Outside temperature
–CLOCK: Time display◁

–with Digital Display OE
- Go to the SETUP, DISPLAY menu, then select the ON-BOARD COMP. menu item.

The following displays can be deactivated:
–Trip 1: Trip odometer 1
–Trip A: The automatic trip odometer is automatically reset if at least 6 hours have passed since the ignition was turned off and the date has changed.
–Consumption: Average consumption
–Speed: Average speed
–Coolant temperature
–Vehicle voltage
–with tire pressure monitor (TPM) OE
–Tire pressure: Tire pressure◁
–Ambient temperature
–Time◁

Adjusting the display brightness
- Turn on the ignition. (➠ 74)
- Go to the SETUP, DISPLAY menu, then select the BRIGHTNESS menu item.
- Adjust the display brightness.

SETTINGS

Configuring system settings
- Turn on the ignition. (➠ 74)
- Call up menu SETUP, SYSTEM.
- Select system setting.

–without Digital Display OE
» The following system settings can be configured:
–DATE+TIME: Set time and date.
–LANGUAGE: Set the language.
–UNITS: Set units.◁

– without Digital Display[OE]
– with ConnectedRide Control[OE]
» In addition:
– CONN.: Turn Bluetooth on or off.◁
– with Digital Display[OE]
» The following system settings can be configured:
– DATE & TIME: Set time and date.
– LANGUAGE: Set the language.
– UNITS: Set units.◁
– with Digital Display[OE]
– with ConnectedRide Control[OE]
» In addition:
– Connections: Turn Bluetooth on or off.◁

OPERATION

05

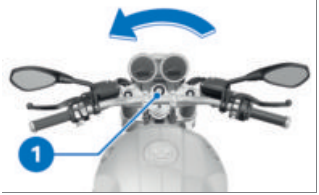
STEERING LOCK	72
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EMERGENCY-OFF SWITCH	77
INTELLIGENT EMERGENCY CALL	78
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HILL START CONTROL PRO (HSC PRO)	92
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HEATED GRIPS	94
CONNECTEDRIDE CONTROL	95
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STEERING LOCK

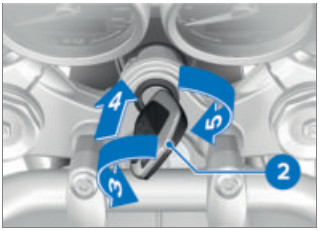
Locking the steering lock

WARNING

Reduced steering angle due to locked steering column
Accident hazard
- Unlock the steering lock before every journey.
- Remove the ignition key from the steering lock before every journey.



- Turn the handlebars to the left and put the ignition key into the steering lock **1**.

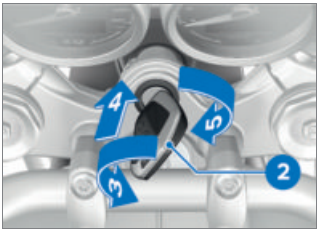


- Turn the ignition key **2** in the steering lock counterclockwise **3**.
- Push in the steering lock using the ignition key **2** **4** and hold it.
- Turn the ignition key **2** clockwise **5**.

» The steering lock is locked.

- Pull out the ignition key **2**.

Unlocking the steering lock



- Push the ignition key **2** into the steering lock **4** and turn it counterclockwise **3**.

» Steering lock is unlocked.

- Turn the ignition key **2** clockwise **5**.
- Pull out the ignition key **2**.

IGNITION

Radio-operated key

The motorcycle is shipped with one radio-operated key and one replacement key. If you lose your keys, observe the notes regarding the electronic immobilizer (EWS) (➠ 76). The ignition and, where appropriate, anti-theft alarm system are activated with the radio-operated key. The steering lock and fuel cap are manually operated.

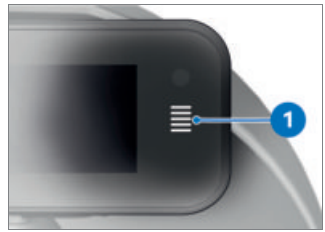
If the range of the radio-operated key is exceeded, the vehicle cannot be started. If the radio-operated key continues to be missing, the ignition will be turned off after approx. 90 seconds to protect the battery.

Range of Keyless Ride radio-operated key
Approx. 3.3 ft (Approx. 1 m)

The connection status is indicated by an indicator light in the instrument cluster after the ignition is turned on (➠ 74).



–with Digital Display[OE]



◁

–Indicator light **1** is flashing: Radio-operated key is being searched for.
–Indicator light **1** is lit: Radio-operated key or spare key has not been detected.
–Indicator light **1** is flashing slowly: Radio-operated key has not been enabled. Move the radio-operated key and turn on the ignition again (➠ 74).
–Indicator light **1** goes out: Radio-operated key or spare key detected and enabled.

Turning on the ignition
Requirement
Radio-operated key is enabled.



- Press button **1**.

Parking lights and all function circuits are turned on.

- Engine can be started.

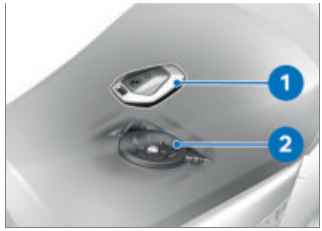
Turning off the ignition
Requirement
Radio-operated key is enabled.



- Press button **1**.

» Lights and all electrical circuits are switched off.

Battery of radio-operated key is dead or radio-operated key is lost



- If you lose your keys, refer to the notes regarding the electronic immobilizer (EWS).
- If you lose the radio-operated key while riding, you can start the vehicle by using the spare key.
- If the radio-operated key battery is dead, you can start the vehicle simply by inserting the folded-in key into the ring antenna under the vehicle's seat.
- Remove the seat. (➠ 98)
- Insert spare key or the dead, folded-in radio-operated key **1** into the ring antenna **2**.

The spare key or dead, folded-in, radio-operated key must be **inserted** into the opening of the ring antenna.

Period in which the engine must be started. Then unlocking must be repeated.	
30 s	

» Pre-Ride-Check is carried out.
–Key has been detected.
–Engine can be started.
• Start engine. (➠ 119)
• Install the seat. (➠ 99)

Checking the battery voltage of the radio-operated key



The battery voltage of the radio-operated key is indicated by the color of the LED **2**.
• Press button **1**.
» LED is lit green: Battery voltage is normal
» LED is lit orange: Low battery voltage
» LED is lit red: Battery voltage is critical

If the LED is lit red, the battery of the radio-operated key must be replaced.
• Replace the battery of the radio-operated key. (➠ 75)

Replacing the battery of the radio-operated key

If the radio-operated key does not respond when a button is pressed for a short or long time:
• The battery for the radio-operated key no longer has full capacity.

is displayed.

DANGER

Swallowing a battery

Risk of injury or death
• An ignition key contains a button cell as a battery. Batteries or button cells can be swallowed and cause severe or fatal injuries within two hours, e.g. due to internal burns or chemical burns.
• Keep ignition keys and batteries out of the reach (range) of children.
• If it is suspected that a battery or button cell has been swallowed or is inside a body part, seek medical attention immediately.

- Change battery.



- Press button **1**.
» Key bit folds open.
- Press battery cover **2** upward.
- Remove battery **3**.
- Dispose of the old battery in accordance with legal regulations. Do not dispose of the battery in the household waste.

ATTENTION

Unsuitable or improperly inserted batteries
Component damage
- Use a battery compliant with the manufacturer's specifications.
- When inserting the battery, make sure that the polarity is correct.

- Insert the new battery with the positive terminal facing up.

Battery type
For Keyless Ride radio-operated key
CR 2032

- Install battery cover **2**.
» The indicator light in the instrument cluster blinks.
» The radio-operated key is working again.

Electronic immobilizer (EWS)

The motorcycle's electronics monitor the data stored in the ignition key through a ring antenna incorporated in the ignition switch / steering lock. The engine control unit does not enable engine start until this radio-operated key has been recognized as "authorized" for your motorcycle.

An additional ignition key fastened to the same ring as the ignition key used to start the engine could "irritate" the electronics, in which case the enabling signal for an engine start is not issued. The warning is displayed in the display with the key symbol.
Always store additional ignition keys separately from the ignition key used for starting the vehicle.

If you lose an ignition key, you can have it disabled by your authorized BMW Motorrad dealer. For this purpose, you must bring all of the motorcycle's remaining ignition keys with you. The engine can no longer be started by a disabled vehicle key; however, a disabled vehicle key can be enabled again. Ignition keys can only be obtained from an authorized BMW Motorrad dealer. The vehicle keys are part of an integrated safety system, so the dealer is under obligation to check the legitimacy of all applications for spare keys.

EMERGENCY-OFF SWITCH



1 Emergency-off switch

WARNING

Operation of the emergency ON/OFF switch when riding

Danger of falling due to blocking of rear wheel

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

The engine can be turned off easily and quickly using the emergency-off switch.



A Engine turned off

B Operating position

The engine can only be started in the operating position.

INTELLIGENT EMERGENCY CALL

–with intelligent emergency call OE

Emergency call via BMW

Only press the SOS button in an emergency.

Emergency call cannot be ensured if the conditions are unfavorable for technical reasons, e.g. in regions where there is no cellphone reception.

During an emergency call, the position of the vehicle, the selected language and any accident data are transmitted to BMW (➠ 12). Under unfavorable conditions, data transfer can be limited or delayed. This can lead to delayed processing of the emergency call.

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

Language for emergency call

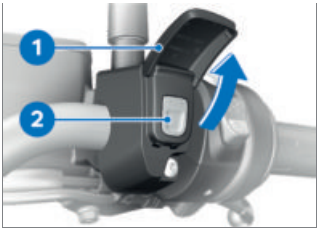
Each vehicle is assigned a language depending on the market for which it was intended. The BMW Call Center responds in this language.

Only your authorized BMW Motorrad dealer is able to change the language for the emergency call. This language assignment to the vehicle differs from the display languages that the rider is able to select in the instrument cluster.

Manual emergency call

Requirement

An emergency has arisen. The vehicle is stationary. The ignition is turned on.



- Open cover **1**.
- Briefly press SOS button **2**.



–with Digital Display OE



◁

» The time until an emergency call is placed is displayed. The emergency call can be aborted during this time.

- Cancel emergency call: Press and hold the SOS button **2** for two seconds or turn off the ignition.
- Press the emergency-off switch to stop the engine.
- Remove your helmet.

» Once the timer has expired, a voice connection will be established with the BMW Call Center.

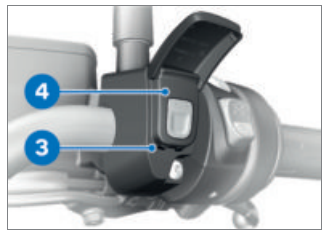


The connection has been established.

–with Digital Display OE



The connection has been established.◁



- Use the microphone **3** and speaker **4** to relay information to the rescue services.

Automatic emergency call

The intelligent emergency call is automatically active once the ignition is switched on and will react if you are involved in a fall.

Emergency call in the event of a minor fall

- A minor fall or crash has been detected.

» An acoustic signal is emitted.



–with Digital Display[OE]



◁

» The time until an emergency call is placed is displayed. The emergency call can be aborted during this time.

- Cancel emergency call: Press and hold the SOS button for two seconds or turn off the ignition.
- If possible, remove helmet and stop the engine.

» Voice contact to the BMW Call Center is established.

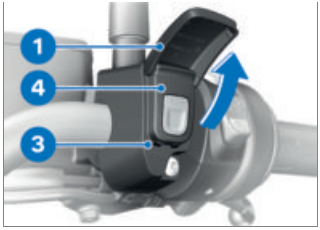


The connection has been established.

–with Digital Display[OE]



The connection has been established.◁



- Open cover **1**.
- Use the microphone **3** and speaker **4** to relay information to the rescue services.

Emergency call in the event of a heavy fall

- A heavy fall or crash has been detected.

» The emergency call is sent automatically without delay.

LIGHTING

Parking lights

The parking lights turn on automatically when the ignition is turned on.

The parking lights are a strain on the battery. Only turn on the ignition briefly.

Low beams

- Turn on the ignition. (➠ 74)
- Start engine. (➠ 119)



- Alternative: With the ignition turned on, pull the switch **1**.

High beams and headlight flasher

- Turn on the ignition. (➠ 74)



- Press switch **1** forward to turn on high beams.
- Pull switch **1** toward rear to actuate headlight flasher.

Headlight courtesy delay feature

- Turn off the ignition. (➠ 74)



- Immediately after turning off the ignition, pull switch **1** back and hold until the headlight courtesy delay feature turns on.

» The vehicle lighting lights up for one minute and then turns off automatically.

– This can be used, for example, to light the path to your front door after the vehicle is parked.

Roadside parking lights

- Turn off the ignition. (➠ 74)



- Immediately after turning off the ignition, press button **1** to the left and hold it until the roadside parking lights turn on.
- Turn ignition on and then off again to turn off the roadside parking lights.

Auxiliary headlights

– with LED additional headlight OA

Requirement

The auxiliary headlights are only active if the low beams are active.

The auxiliary headlights are permitted as fog lamps and may only be used in poor weather conditions. Comply with the country-specific road traffic regulations.

- Start engine. (➠ 119)



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

The indicator light for the additional headlights lights up.

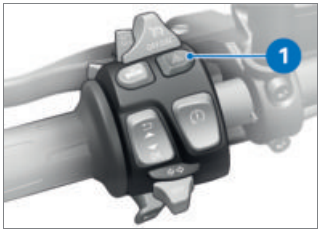
- Press button **1** again to turn off the auxiliary headlights.

Hazard warning system

The hazard warning system places a load on the battery. Only switch the hazard warning lights system on briefly.

If a turn indicator button is pressed when hazard warning lights are on, the turn indicator function replaces the hazard warning lights function for the duration of turn indicator actuation. Once the turn indicator button is no longer being pressed, the hazard warning light function will resume.

- Turn on the ignition. (➠ 74)



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

» Ignition can be turned off.

- To turn off the hazard warning system, turn on the ignition and press button **1** again.

Turn signals

- Turn on the ignition. (➠ 74)



- Press button **1** to the left or right to turn on the turn signals.

» The turn signals automatically switch off when the distance covered has been reached.

- Alternative: Press button **1** to turn off the turn signals.

ANTI-THEFT ALARM SYSTEM (DWA)

–with anti-theft alarm system (DWA) OE

Activate the DWA

- Turn on the ignition. (➠ 74)
- Adjust DWA. (➠ 85)
- Turn off the ignition. (➠ 74)

» If the DWA is activated, the DWA will automatically be activated after the ignition is turned off.

» Activation takes approximately 30 seconds to complete.

–Turn signals flash twice.

» Confirmation tone sounds twice (if programmed).
» DWA is armed.



- Turn off the ignition. (➠ 74)
- Press button **1** on the radio-operated key twice.

» Activation takes approximately 30 seconds to complete.
» Turn signals flash twice.
» Confirmation tone sounds twice (if programmed).
» Anti-theft alarm system is active.



- To deactivate the tilt sensor (for example, if the motorcycle is being transported on a train and the train's strong movements could trigger the alarm signal), press the button **1** on the radio-operated key again during the activation phase.

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

Alarm signal

The DWA alarm signal can be triggered by:
– Tilt alarm sensor
– Turning on the ignition with an unauthorized ignition key.
– Disconnecting the DWA from the vehicle battery (DWA battery takes over the power supply—only alarm tone, the turn signals do not light up).

If the radio-operated key is within the reception range, any alarm triggered by the tilt alarm sensor is suppressed.

If the DWA battery is discharged, all functions remain operational; the only difference is that the alarm cannot be triggered if the system is disconnected from the vehicle battery.

The duration of the alarm signal is approx. 28 seconds. During the DWA alarm, an alarm tone sounds and the turn signals flash. The type of alarm tone can be set by an authorized BMW Motorrad dealer.



You can cancel a triggered alarm signal at any time by pressing the button **1** of the radio-operated key without deactivating the DWA.

If a DWA alarm signal has been triggered while the motorcycle is unattended, the rider is notified accordingly by an alarm tone sounding once when the ignition is turned on. Then the DWA LED indicates the reason for the DWA alarm for one minute.

Light signals on indicator light:

– 1x flash: Tilt sensor 1
– 2x flashes: Tilt sensor 2
– 3x flashes: Ignition is turned on using an unauthorized ignition key
– 4x flashes: DWA disconnected from vehicle battery
– 5x flashes: Tilt sensor 3

Deactivating the DWA

• Turn on the ignition. (➠ 74)



• Briefly press button **1**.
» Turn signals flash once.
» Confirmation tone sounds once (if programmed).
» DWA is turned off.

Adjust the DWA

• Go to menu SETUP, VEHICLE, Alarm system.
– without Digital Display[OE]
» The following settings are available:
– Turning TRANSPORT on and off
– Turning SIGNAL on and off

–Turning AUTO on and off
–Adapting ALARM◁
–with Digital Display[OE]
» The following settings are available:
–Turning Transport mode on and off
–Turning Signal on and off
–Turning Auto on and off
–Adapting Alarm tone◁
» Possible settings (➠ 86)

Possible settings

–without Digital Display[OE]

ALARM: Set increasing and decreasing or intermittent alarm tone.

TRANSPORT: Activate the tilt sensor to monitor the inclination of the vehicle. The anti-theft alarm system responds, for example, in the event of attempted wheel theft or towing away.

Deactivate the tilt sensor when transporting the vehicle to avoid triggering the DWA.

SIGNAL: Confirmation alarm tone after activating/deactivating the DWA in addition to flashing turn signals.

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

–with Digital Display[OE]

Alarm tone: Set increasing and decreasing or intermittent alarm tone.

Transport mode: Activate the tilt sensor to monitor the inclination of the vehicle. The anti-theft alarm system responds, for example, in the event of attempted wheel theft or towing away.

Deactivate the tilt sensor when transporting the vehicle to avoid triggering the DWA.

Signal: Confirmation alarm tone after activating/deactivating the DWA in addition to flashing turn signals.

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

DYNAMIC TRACTION CONTROL (DTC)

Turning off DTC function

• Turn on the ignition. (➠ 74)

The Dynamic Traction Control (DTC) can also be turned off while riding.



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


starts to light up.

» The DTC function is switched off.

Turning on the DTC function



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


extinguishes, and if self-diagnosis has not been completed, it begins to blink.

» The DTC function is switched on.

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


If the DTC indicator light lights up after turning the ignition off and on and then continuing to ride at the following minimum speed, a DTC fault has occurred.

min 3 mph (min 5 km/h)

- For more information on DTC traction control, see chapter "Technology in detail" (➠ 137).

RIDING MODE

Use of the riding modes

BMW Motorrad has developed riding scenarios for your vehicle from which you can select the one matching your situation:
–RAIN: Riding on wet roads.
–ROAD: Riding on dry roads.
–DYNAMIC: Brisk riding on dry roads.

The optimum interaction between engine characteristics, ABS control and DTC control is provided for each of these scenarios.
More detailed information about the riding modes can be

found in the "Technology in detail" chapter (➠ 139).

Select riding mode

- Turn on the ignition. (➠ 74)



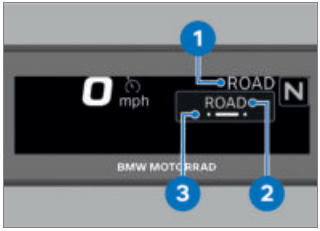
- Press button **1**.

–without Digital Display[OE]



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

–with Digital Display[OE]



The active riding mode **1** fades into the background and is displayed in pop-up **2**. The guide **3** shows how many riding modes are available.◁



- Press button **1** repeatedly until the desired riding mode is displayed.

» When the vehicle is at a standstill, the selected riding mode is activated after approx. 2 seconds.

» The new riding mode is activated while the vehicle is in motion under the following conditions:

–The throttle grip is in idle position.
–Brake is not engaged.
–with cruise control[OE]
» In addition:
–Cruise control is deactivated.◁
» The riding mode selected and its associated adaptations of engine characteristics, ABS control and DTC control are retained even after the ignition has been turned off.

CRUISE CONTROL

–with cruise control[OE]

Turning on cruise control

WARNING

Use of the cruise control in unfavorable road conditions
Accident hazard
- Do not use the cruise control in unfavorable road conditions, e.g. in snow, on ice, in torrential rain, in off-road use and on slippery surfaces.
- Do not use cruise control on roads with many curves.



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

Saving the speed



- Briefly press button **1** forward.

Adjustment range of cruise control (gear-dependent)
19…112 mph (30…180 km/h)

lights up.

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

Accelerating



- Briefly press button **1** forward.
» The speed is increased by 1 mph (1.6 km/h) each time the button is pressed.
- Press button **1** forward and hold.
» The speed increases continuously.
» If button **1** is no longer pressed, the speed reached is maintained and saved.

Decelerating



- Briefly press button **1** backward.
» The speed is decreased by 1 mph (1.6 km/h) each time the button is pressed.
- Press button **1** back and hold.
» The speed is reduced continuously.
» If button **1** is no longer pressed, the speed reached is maintained and saved.

Deactivating cruise control

- Actuate the brakes or ease the throttle grip beyond the basic setting to deactivate cruise control.

If the clutch remains pulled for more than 1.5 seconds, cruise control is deactivated.

During ABS or DTC interventions, the cruise control is automatically deactivated for safety reasons. If the rider deactivates DTC, the cruise control is also deactivated.

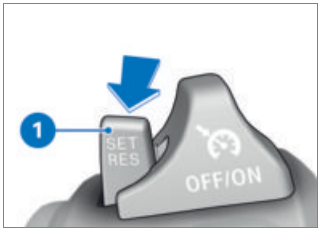
is hidden.

Automatic deactivation

Cruise control is deactivated automatically in the following situations:

–When dropping below the minimum speed (stalling protection).
–After several seconds when driving at the maximum engine speed.
–In case of ABS or DTC intervention.
–In case of a system error.

Resuming previous cruising speed



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

Cruise control is not deactivated by accelerating, it only overrules it for a short time. Once the throttle grip is released, the speed falls to the stored value. If further deceleration is desired, the cruise control must be deactivated, e.g. by braking.

lights up.

Turning off cruise control



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

» The system is turned off.
» Button **1** is locked.

Configuring the character of the cruise control

- Turn on the ignition. (➠ 74)

–without Digital Display[OE]

- Go to the SETUP, VEHICLE menu, then select the CC SETUP menu item.
- Select desired setting.

» The following settings for the acceleration and deceleration behavior are possible:

–COMFORT: Smooth acceleration and deceleration of the vehicle.
–DYNAMIC: More pronounced acceleration and deceleration for more dynamic riding style. ◁

–with Digital Display[OE]

- Go to the SETUP, VEHICLE menu, then select the CRUISE CONTROL menu item.
- Select desired setting.

» The following settings for the acceleration and deceleration behavior are possible:
– Comfortable: Smooth acceleration and deceleration of the vehicle.
– Dynamic: More pronounced acceleration and deceleration for more dynamic riding style. ◁

HILL START CONTROL PRO (HSC PRO)

– with Hill Start Control OE

Adjusting Hill Start Control Pro

• Turn on the ignition. (➠ 74)
– without Digital Display OE
• Call up menu SETUP, VEHICLE.
• Select HSC PRO.
• To turn off Hill Start Control Pro, select OFF.
» Hill Start Control Pro is deactivated.
• To turn on manual Hill Start Control Pro, select ON.
» Hill Start Control Pro can be activated by firmly applying the handbrake or footbrake lever.
• To turn on automatic Hill Start Control Pro, select AUTO.
» Hill Start Control Pro can be activated by firmly applying the handbrake or footbrake lever.
» During brake actuation for approximately one second after the vehicle has come to a standstill and on a slope with at least a 3% gradient, Hill Start Control Pro is activated automatically.
» The selected setting is retained even after the ignition is turned off.◁

– with Digital Display OE
• Call up menu SETUP, VEHICLE.
• Select HSC PRO.
• To turn off Hill Start Control Pro, select Off.
» Hill Start Control Pro is deactivated.
• To turn on manual Hill Start Control Pro, select On.
» Hill Start Control Pro can be activated by firmly applying the handbrake or footbrake lever.
• To turn on automatic Hill Start Control Pro, select Auto.
» Hill Start Control Pro can be activated by firmly applying the handbrake or footbrake lever.
» During brake actuation for approximately one second after the vehicle has come to a standstill and on a slope with at least a 3% gradient, Hill

Start Control Pro is activated automatically.
» The selected setting is retained even after the ignition is turned off.◁

Operating Hill Start Control Pro

Requirement

Vehicle is at a standstill with the engine running.

ATTENTION

Failure of the Hill Start Control

Risk of accident
- Secure the vehicle through manual braking.

Hill Start Control Pro is only a comfort system to make driving off on hills easier and should therefore not be confused with a parking brake.

Hill Start Control Pro should not be used for gradients of more than 40%.



- Apply brake lever **1** or footbrake lever firmly and then release again.
- Alternatively, apply the brake for about one second after the vehicle has come to a standstill, with a gradient of at least 3%.

is briefly shown.

–with Digital Display[OE]

is displayed.◁

» Hill Start Control Pro has been activated.
- To turn off Hill Start Control Pro, activate the brake lever **1** or footbrake lever again.

If Hill Start Control Pro was deactivated using the brake lever, then automatic Hill Start Control is deactivated for the next 13.1 ft (4 m).

blinks briefly.

–with Digital Display[OE]

 is hidden.◁

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

For driving off with Hill Start Control Pro, the throttle grip must be actuated as the motorcycle starts driving off.

 continues flashing after the brake has been released completely.

–with Digital Display[OE]

 disappears after the brake has been released completely.◁

» Hill Start Control Pro is deactivated.

- More information about the Hill Start Control Pro can be found in the chapter "Technology in detail" (➠ 144).

TIRE PRESSURE MONITOR (TPM)

–with tire pressure monitor (TPM)[OE]

Switching setpoint pressure warning on or off

- If the minimum tire pressure is reached, a target pressure warning can be displayed.

–without Digital Display[OE]

- Call up menu SETUP, VEHICLE.
- Turn RDC WARN. on or off.◁

–with Digital Display[OE]

- Call up menu SETUP, VEHICLE.
- Turn RDC warning on or off. ◁

HEATED GRIPS

–with heated grips[OE]

Operating heated grips

The heated grips option can only be activated when the engine is running.

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

- Start engine. (➠ 119)



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

–without Digital Display OE

The following settings are available:

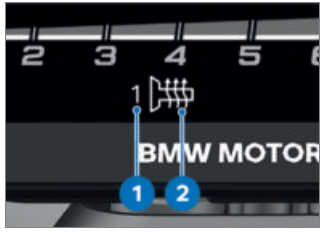
Heating off

Low heater output

Medium heater output

High heater output

–with Digital Display OE



The selected heating level **1** and the heated-grip icon **2** are shown in the display.◁

» High heater output is used for fast heating of the grips; the switch should then be switched back to a lower heater output.

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

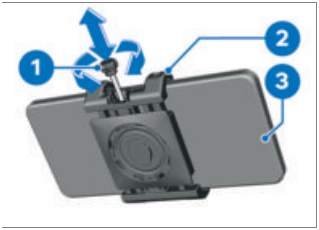
CONNECTEDRIDE CONTROL

–with ConnectedRide Control OE

Securing a smartphone in the holder

ATTENTION

Vibrations during riding
Damage to stored mobile phones
- Make sure that the stored mobile phone is suitable for use on the vehicle. To do so, ask the manufacturer about limits of use and observe them.

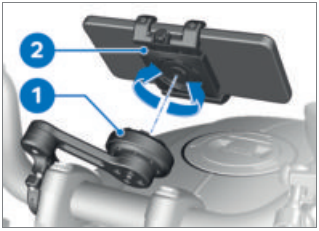


- Pull the adjustment wheel **1** out of the holder **2**.
- Turn the adjustment wheel **1** counterclockwise to open the holder **2**.
- Insert the smartphone **3** so it is centered in the holder **2**.
- Turn the adjustment wheel **1** clockwise to close the holder **2**.

» The smartphone is securely in the holder.

- Push the adjustment wheel **1** into the holder **2**.

Attaching the smartphone holder



- Insert the smartphone holder **2** into the base plate **1**.
- Turn the smartphone holder **2** 90°.

» The smartphone holder snaps into the base plate.

- Observe the notices for charging with the USB charging interface (➠ 183).

Connecting a mobile end device

Requirement

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

- Turn on the ignition. (➠ 74)
- Call up menu SETUP, SYSTEM.

–without Digital Display[OE]

- Call up CONN. and turn on BLUETOOTH.
- Select TO PAIR.

» The remaining time for connecting the mobile end device is displayed.◁

–with Digital Display OE

- Call up Connections and turn on Bluetooth.
- Select Connect new device.

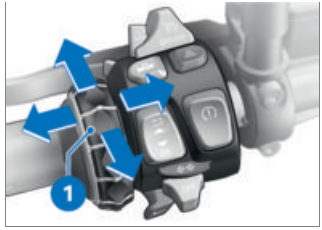
» The remaining time for connecting the mobile end device is displayed.◁

- Activate the Bluetooth function of the mobile end device (see operating instructions for the mobile end device).
- Call up the BMW Motorrad Connected app.
- Set up the Bluetooth connection to the vehicle.
- Select the BMW_LIN2BTLE device and pair it.

» The Bluetooth connection is established.

- The BMW Motorrad Connected app can be operated via the Multi-Controller (➠ 97).

Multi-Controller



Prerequisite

The vehicle is connected to a compatible mobile end device via Bluetooth.
The BMW Motorrad Connected app is installed on the connected mobile terminal.

Scroll Multi-Controller 1 upwards

–Move the cursor up in lists

Scroll Multi-Controller 1 downwards

–Move the cursor down in lists

Tilt the Multi-Controller 1 to the right.

–Activate the function according to the feedback
–Confirm selection/setting
–Browsing through menu screens

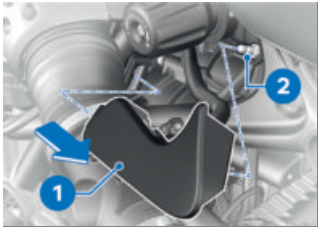
Tilt the Multi-Controller 1 to the left.

–Activate or deactivate the function according to the feedback

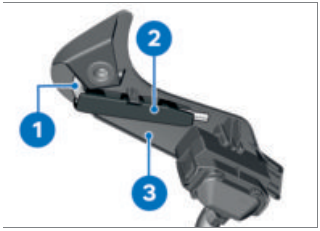
–Change one hierarchy level up
–Browsing through menu screens

SEAT

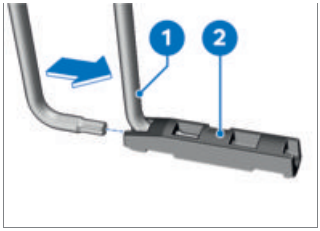
Removing the seat



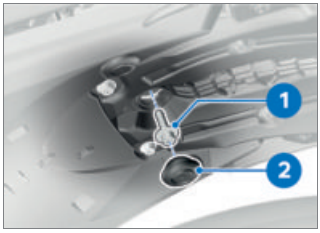
- Detach the cover **1** from the bracket **2** and take off in arrow direction; when doing so, pay attention to the wiring of the diagnostic connector.



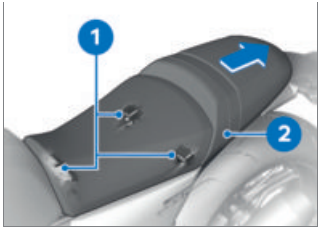
- Remove the Torx wrench **1** with extension **2** from the cover **3**.



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

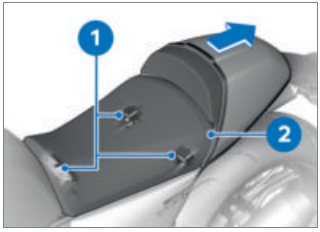


- Remove the rubber plug **2**.
- Remove the bolt **1** using the Torx wrench and extension.



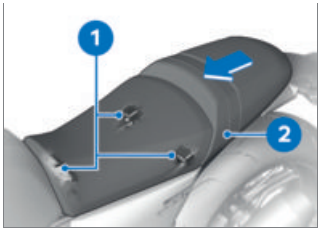
- Pull the seat **2** out of its lugs **1** and remove it.

–with Option 719 aluminum OE



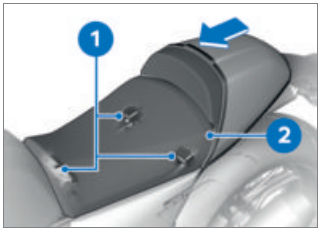
- Pull the seat **2** out of its lugs **1** and remove it.◁

Installing the seat

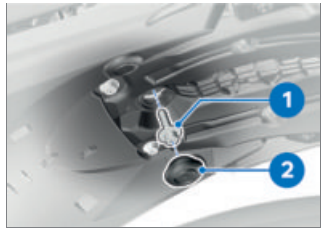


- Position the seat **2** and insert it into the lugs **1**.

–with Option 719 aluminum OE



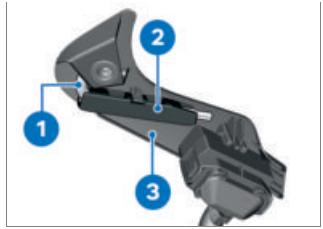
- Position the seat **2** and insert it into the lugs **1**.◁



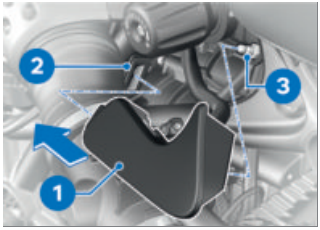
- Install the bolt **1** using the Torx wrench and extension.

	Seat lock on the rear frame
M6 x 16	
4 lb/ft (6 Nm)	

- Install the rubber plug **2**.



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



- Press on the cover **1** in arrow direction into the bracket **2** and press on the bracket **3**; when doing so, pay attention to wiring of the diagnostic connector.

SETTING

06

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GEARSHIFT LEVER 112

MIRRORS

Adjusting the mirrors



- Move mirror into desired position by twisting.

–with Option 719 Billet pack Shadow II[OE]



DANGER

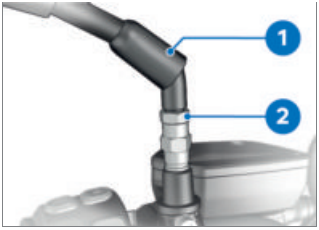
Functional impairment due to incorrect installation position

Risk of a fall or accident

- Do not change the installation position of the mirror.

- Move mirror body into desired position by twisting it.◁

Adjusting the mirror arm



- Slide the protective cap **1** upwards over the threaded connection on the mirror arm.
- Loosen nut **2**.
- Turn the mirror arm into the desired position.
- Tighten the nut to the specified torque while holding the mirror arm in place.

Mirror (lock nut) on adapter
M10 x 1.25
16 lb/ft (22 Nm) (Left-hand thread)

- Slide protective cap **1** over threaded connection.

HEADLIGHTS

Headlight adjustment, right-hand/left-hand traffic

This motorcycle's headlight features a symmetrical low beam. No special measures are required prior to operating the motorcycle in a country where traffic travels on the side of the

road opposite to that of your home country (left-hand drive to right-hand drive or vice versa).

Headlight range and spring preload

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

If there are doubts as to the correct headlight range, have the setting checked by a repair shop, preferably by an authorized BMW Motorrad dealer.

CLUTCH

Adjusting the clutch lever

WARNING

Modified position of the clutch fluid reservoir

Air in the clutch system

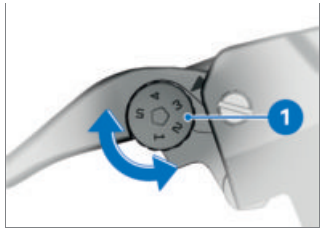
- Do not twist the handlebar fitting or the handlebars.

WARNING

Adjusting the clutch lever while driving

Accident hazard

- Adjust the clutch lever when the motorcycle is stationary.



- Turn the adjustment screw **1** into the desired position by applying gentle pressure from the rear.

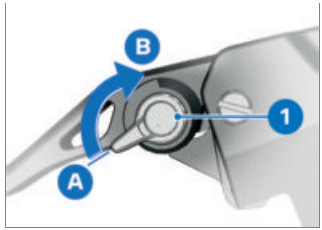
The adjusting screw is easier to turn when the clutch lever is pressed forward.

» Adjustment options:

–From position 1: Shortest distance between handlebar grip and clutch lever

–To position 5: Longest distance between handlebar grip and clutch lever

–with Option 719 Billet pack Shadow II[OE]



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

» Adjustment options:
– From position **A**: Shortest distance between handlebar grip and clutch lever.
– Five steps toward position **B** to increase the distance between the handlebar grip and the clutch lever.◁

BRAKES

Setting the brake lever

WARNING

Modified position of the brake fluid reservoir
Air in the brake system
• Do not twist the handlebar fitting or the handlebars.

WARNING

Adjusting the brake lever while driving
Risk of accident
• Only adjust the brake lever when the vehicle is stationary.

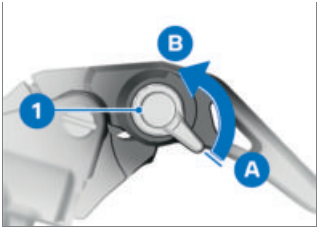


• Turn the adjustment screw **1** into the desired position by applying gentle pressure from the rear.

The adjustment screw is easier to turn when the brake lever is pressed forward.

» Adjustment options:
– From position 1: Shortest distance between handlebar grip and brake lever
– To position 5: Longest distance between handlebar grip and brake lever

– with Option 719 Billet pack Shadow II OE



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

» Adjustment options:
– From position **A**: Shortest distance between handlebar grip and brake lever.
– Five steps toward position **B** to increase the distance between the handlebar grip and the brake lever.◁

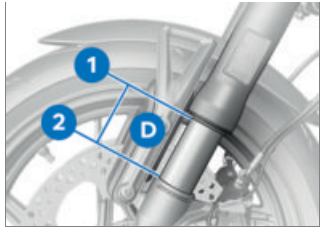
SPRING PRELOAD

Setting adjustment to front wheel

The spring preload on the front wheel must be adapted to the weight of the rider. Higher weight requires a higher spring preload, lower weight requires a lower spring preload.

Adjusting the spring preload on the front wheel

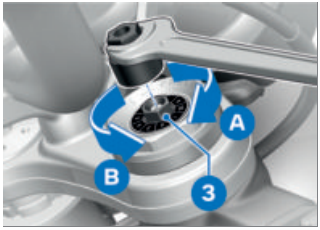
- Park the motorcycle, making sure the ground is level and firm.
- Lift the motorcycle using the engine jack until the front wheel has been fully relieved.



- Measure the distance **D** between the points **1** and **2**.
- Remove the engine jack.
- Park the motorcycle, making sure the ground is level and firm.
- Load motorcycle with rider.
- With the assistance of a helper, measure the distance **D** between points **1** and **2** again and calculate the difference (compression) between the measured values.

Adjustment of spring preload dependent on loading
Compressing front wheel
1.3 in (32 mm) (With rider 209 lbs (95 kg))

Base setting of front spring preload
Rotate counterclockwise up to the stop, then 5 rotations clockwise (filled up with fuel, with driver weighing approx. 95 kg)



WARNING

Settings for spring preload and spring strut damping that have not been coordinated.

Worse handling.

- Adapt the spring strut damping to the spring preload.

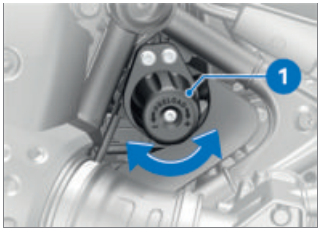
- To reduce the compression (increase the spring preload), turn the adjustment screw **3** in direction **A** using a tool from the onboard tool kit. A suitable adapter to protect the screw against scratches is included in the onboard tool kit.
- To increase the spring compression (reduce the spring preload), turn the adjustment screw **3** in direction **B** using a tool from the onboard tool kit. A suitable adapter to protect the screw against scratches is included in the onboard tool kit.

Adjustment on rear wheel

It is essential to set the spring preload at the rear wheel to suit the load carried by the motorcycle. Increase spring preload if the payload increases and reduce spring preload accordingly if the payload decreases.

Adjusting the spring preload at the rear wheel

- Park the motorcycle, making sure the ground is level and firm.



WARNING

Settings for spring preload and spring strut damping that have not been coordinated.

Worse handling.

- Adapt the spring strut damping to the spring preload.

- To increase spring preload, turn adjustment wheel **1** clockwise.
- To decrease spring preload, turn adjustment wheel **1** counterclockwise.

Basic setting of spring preload, rear
Rotate counterclockwise up to the stop, then 6 rotations clockwise (filled up with fuel, with driver weighing approx. 95 kg)

Basic setting of spring preload, rear
Rotate counterclockwise up to the stop, then 12 rotations clockwise (One-up with vehicle load approx. 105 kg)
Rotate counterclockwise up to the stop, then 22 rotations clockwise (Two-up mode with vehicle load approx. 165 kg)

- Adjust the damping to the changed spring preload.

A recommendation on the suspension settings is provided in the "Technical Data" chapter under "Chassis".

- Adjust damping at the rear wheel. (➠ 111)

DAMPING

Setting

Damping must be adjusted to the road condition and the spring preload.

–A rough road requires softer damping than a smooth road.

–An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting the compression damping on the front wheel



- Prepare the onboard toolkit screwdriver. (➠ 151)
- Adjust compression damping with adjustment screw **1** on the left-side fork leg.



- For increasing the damping: Turn the adjustment screw with tool from onboard toolkit so that the mark **1** points to a higher scale value.
- For reducing the damping: Turn the adjustment screw with tool from onboard toolkit so that the mark **1** points to a lower scale value.

Compression stage, basic setting, front
Position 1 (comfortable setting with rider 209 lbs (95 kg))
Position 5 (standard setting with rider 209 lbs (95 kg))
Position 8 (sport-oriented setting with rider 209 lbs (95 kg))

Adjusting the rebound-stage damping on the front wheel



- Prepare the onboard toolkit screwdriver. (➠ 151)
- Adjust rebound-stage damping by means of the adjustment screw **1** on the right-side fork leg.



- For increasing the damping: Turn the adjustment screw with tool from onboard toolkit so that the mark **1** points to a higher scale value.
- For reducing the damping: Turn the adjustment screw with tool from onboard toolkit so that the mark **1** points to a lower scale value.

Rebound stage, basic setting, front
Position 1 (comfortable setting with rider 209 lbs (95 kg))
Position 5 (standard setting with rider 209 lbs (95 kg))
Position 8 (sport-oriented setting with rider 209 lbs (95 kg))

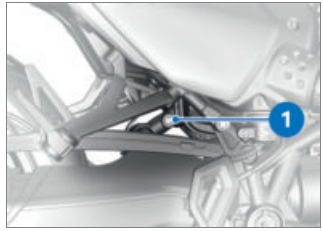
Setting the factory settings at the front wheel

- Use following specification data to adjust to factory settings.

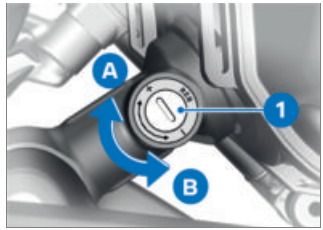
Factory settings for jounce/rebound at front
Position 5

Adjusting damping at the rear wheel

- Park the motorcycle, making sure the ground is level and firm.



- Prepare the onboard toolkit screwdriver. (➠ 151)
- Use onboard toolkit to adjust damping via the adjustment screw **1**.



- For increasing the damping: Use the onboard vehicle tool

kit to turn the adjustment screw **1** in **A** direction.
- For reducing the damping: Use the onboard vehicle tool kit to turn the adjustment screw **1** in **B** direction.

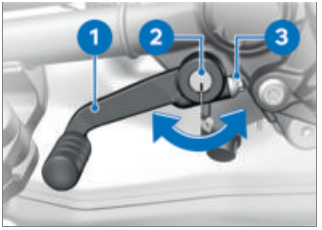
Basic setting of rear wheel damping
Turn adjustment screw clockwise up to stop, then turn back by 6 turns (One-up)
Turn adjustment screw up to stop, then turn back 4 turn (One-up with load)
Turn adjustment screw up to stop, then turn back 4 turn (Two-up mode)
Turn adjustment screw up to stop, then turn back 2 turn (Two-up mode with load)

GEARSHIFT LEVER

ATTENTION

Unintentional actuation of the gearshift lever

Damage to the transmission
- Check for the correct setting of the gearshift lever.
- Ensure that the gearshift lever bears no load when not in the process of gear shifting.



- Remove screw **3**.
- Pull the gearshift lever **1** off the gearshift shaft **2**.
- Align the gearshift lever **1** in the desired position and slide it onto the gearshift shaft **2**.
- Install screw **3**.

Gearshift lever on gearshift shaft
M6 x 25
6 lb/ft (8 Nm)

RIDING

07

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SHIFTING 124
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PARKING THE MOTORCYCLE 127
REFUELING 128
FASTENING MOTORCYCLE IN PLACE FOR TRANS-
PORTATION 130

SAFETY INSTRUCTIONS

Rider's equipment

Do not ride without the correct clothing! Always wear
–Helmet
–Rider's suit
–Gloves
–Boots

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

WARNING

Seizure of loose textile fabrics, luggage items or straps in open running rotating vehicle parts (wheels, prop shaft)
Risk of accident
- Make sure that no loosely worn textile fabrics can get caught in open, running and rotating vehicle parts.
- Keep luggage items as well as tension belts and lashing straps away from open, running and rotating vehicle parts.

Vehicle load

WARNING

Reduced riding stability caused by overloading and uneven loading
Accident hazard
- Do not exceed the gross weight limit and observe the loading information.

- Set spring preload, suspension damping rate settings and tire pressures for the current gross vehicle weight.
- Adapt the tire pressure to the gross vehicle weight.
- Pack heavy pieces of luggage and cargo as low and as close to the center of the motorcycle as possible.

–with tank bag OA
- Observe the maximum payload of the tank bag. (➠ 184)◁

–with rear bag OA
- Observe the maximum payload of the rear bag (➠ 184).◁

Speed

If you ride at high speed, always bear in mind that various boundary conditions can negatively affect the vehicle handling of your motorcycle. These include, but are not limited to, the following:

– Incorrect settings of spring-strut and shock absorber system
– Unevenly distributed load
– Loose clothing
– Insufficient tire pressure
– Tire tread in poor condition
– Attached luggage systems, such as a tank bag or rear bag.

Maximum speed

DANGER

Maximum speed of the motorcycle is higher than the permissible maximum speed of the tires

Risk of accident due to tire damage at high speed

- Observe the maximum speed applicable to the tires.

With winter tires, the maximum permissible speed for the tires must be observed.

Attach a sticker specifying the maximum speed permitted within the field of view of the instrument cluster.

Risk of poisoning

Exhaust gas contains carbon monoxide, which is colorless and odorless but highly toxic.

WARNING

Harmful exhaust gas

Danger of suffocation

- Do not inhale exhaust fumes.
- Do not run the engine in closed rooms.

WARNING

Inhalation of vapors that are harmful to health

Damage to health

- Do not inhale vapors from operating fluids and plastics.
- Only use the vehicle outdoors.

Risk of burning

CAUTION

Intense heating up of the engine and exhaust system while driving
Risk of burning
- Always wear a helmet, riding suit, gloves and boots.
- While driving and after parking the motorcycle, make sure that no persons or objects come into contact with the engine and exhaust system.

Catalytic converter

ATTENTION

Unburned fuel in the catalytic converter
Damage to catalytic converter
- Note the points listed for protection of the catalytic converter.

There is a danger of overheating and damage if misfiring causes unburned fuel to enter the catalytic converter.
The following must be observed:

–Do not run the fuel tank dry.
–Do not run the engine with the spark plug connector removed.
–Stop the engine immediately if it misfires.
–Use unleaded fuel only.
–Comply with all specified maintenance intervals.

Danger of overheating

ATTENTION

Engine idling for a lengthy period while at a standstill
Overheating due to insufficient cooling; in extreme cases vehicle fire
- Do not allow the engine to idle unnecessarily.
- After starting, ride off immediately.

Modifications

ATTENTION

Modifications to the motorcycle (e.g. engine control unit, throttle valves, clutch)
Damage to the affected parts, failure of safety-relevant functions, expiration of warranty
- Do not make any modifications.

REGULAR CHECK

Observe checklist

Use the following checklist to check your motorcycle at regular intervals.

Always before riding off

– Check operation of the brake system (➠ 154).
– Check operation of the lighting and signal system.
– Check clutch function (➠ 158).
– Check tire tread depth (➠ 159).
– Check tire pressure (➠ 159).
– Check that luggage is securely held in place.

At every third refueling stop

– Check engine oil level (➠ 152).
– Check front brake pad thickness (➠ 154).
– Check rear brake pad thickness (➠ 155).
– Check front brake fluid level (➠ 156).
– Check rear brake fluid level (➠ 157).

STARTING

Starting the engine

- Turn on the ignition. (➠ 74)

» Pre-Ride-Check is carried out. (➠ 120)
» ABS self-diagnosis is performed. (➠ 121)
» DTC self-diagnosis is performed. (➠ 122)

- Engage Neutral, or pull back the clutch lever if a gear is engaged.

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

To ensure rapid operational readiness of the catalytic converter, the idle speed is briefly increased after the engine starts.

- For cold start and at low temperatures:

» Pull clutch.



- Press and hold the starter button **1** until the engine starts.

The starting attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you attempt to start the engine again, or use jumper cables and a donor battery to start.
For more details, see the "Preventive maintenance" chapter under "Jump starting".

» Consult the troubleshooting chart if the engine refuses to start. (➠ 196)

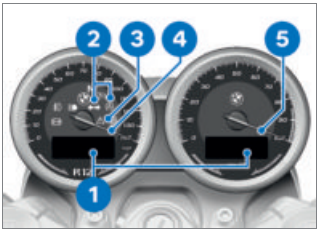
Recharge the battery before you attempt to start the engine again, or get a jump start:
- Charge battery. (➠ 173)
- Jump-starting. (➠ 170)

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

Pre-Ride-Check

After the ignition is turned on, the instrument cluster performs a test on the instrument dials, the warning and indicator lights, and the display. This is known as the Pre-Ride-Check. Starting the engine before the test is completed will cancel the remainder of the test.

Phase 1



All segments are displayed in the displays **1**.
At the same time, all indicator and warning lights **2** are switched on.

Phase 2

The general warning light **3** changes from being continuously lit to blinking.
The needle **4** for the speedometer moves to maximum speed.
The needle **5** for the RPM moves to maximum RPM.

Phase 3

The needle **4** for the speedometer moves to zero.
The needle **5** for the RPM drops to zero.
The indicator and warning lights go out or adopt their functions for operation.

The display reverts to the standard format. The trip computer is displayed.

If the needles did not move, an indicator and warning light was not turned on, or segments are missing in the display:

- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

Pre-Ride-Check

–with Digital Display[OE]

After the ignition is turned on, the instrument cluster performs a test of the indicator and warning lights – what we call the "Pre-Ride-Check". Starting the engine before the test is completed will cancel the remainder of the test.

Phase 1

All indicator and warning lights are turned on.
After a longer standstill of the vehicle, an animation is displayed during the system start.

Phase 2

The general warning light changes from red to yellow.

Phase 3

All of the indicator and warning lights that have been turned on are turned off in reverse order.

If one of the indicator and warning lights was not turned on:

- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

ABS self-diagnosis

The operational readiness of the BMW Motorrad ABS is checked through self-diagnosis. The self-diagnosis starts automatically when you turn on the ignition.

Phase 1

» Checking system components capable of diagnosis while vehicle is at a standstill.

 blinks.

Phase 2

» Check the wheel speed sensors while riding off.

 blinks.

ABS self-diagnosis completed

» The ABS indicator and warning light goes out.

 ABS self-diagnosis not completed
The ABS is not available as the self-diagnosis routine has not been completed. (The motorcycle must reach a specified minimum speed before the system can check operation of the wheel speed sensors: 3 mph (5 km/h))

If an ABS error is displayed after the ABS self-diagnosis is completed:

- You may continue riding. Note that the ABS function is not available.
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

DTC self-diagnosis

The operational readiness of the BMW Motorrad DTC is checked through self-diagnosis. The self-diagnosis runs automatically when you turn on the ignition.

Phase 1

» Checking system components capable of diagnosis while vehicle is at a standstill.

 blinks slowly.

Phase 2

» Checking system components capable of diagnosis when riding off.

 blinks slowly.

DTC self-diagnosis completed

» The DTC icon is no longer displayed.

- Check the display of all indicator and warning lights.

 DTC self-diagnosis not completed
The DTC function is not available, as the self-diagnosis function has not been completed. (To check wheel speed sensors, the motorcycle must reach a minimum speed with engine running: min 3 mph (min 5 km/h))

If an DTC error is displayed after the DTC self-diagnosis is completed:

- You may continue riding. Bear in mind that the DTC function is not available at all or is limited.
- Have the malfunction corrected as soon as possible at a repair shop, preferably an authorized BMW Motorrad dealer.

BREAKING IN

Engine

- Up to the first break-in inspection, vary the throttle opening and engine-speed range frequently; avoid riding for long periods at a constant speed.
- Choose curvy, slightly hilly routes if possible.
- Observe the engine run-in speeds.

 Engine run-in speed
<5000 min^{-1} (Odometer reading 0…621 miles (0…1000 km))

- Observe mileage, after which the break-in inspection should be performed.

 Mileage until first running-in check
311…746 miles (500…1200 km)

Brake pads

WARNING

New brake pads
Extension of the braking distance, accident hazard
• Brake early.

New brake pads have to be broken in before they can achieve their optimum frictional force. This reduction in braking effect can be compensated for by exerting greater pressure on the brake levers.

Tires

WARNING

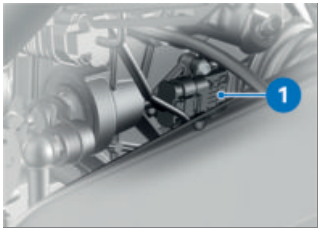
Loss of adhesion of new tires on wet roads and at extreme angles
Accident hazard
- Always think well ahead and avoid extreme angles.

New tires have a smooth surface. They must be roughened by riding in a restrained manner at varying lean angles until the tires are run in. This breaking-in procedure is essential if the tire tread is to achieve maximum grip.

SHIFTING

–with Gearshift Assistant Pro OE

Gear Shift Assistant Pro



- Engage the gears as usual with the foot-operated gearshift lever.

» The Gear Shift Assistant provides assistance for upshifts and downshifts, without the rider having to actuate the clutch or throttle grip.

–This is not an automatic gearshift system.
–The rider is an essential part of the system and decides when to shift gears.
–The sensor **1** on the gearshift shaft detects the intent to shift gears and triggers the shift assistance.

» If you are riding at a constant speed and in coasting overrun in a low gear at high RPMs, shifting gears without clutch control can cause strong power-off reactions. BMW Motorrad recommends shifting gears with clutch control in these driving situations.

» Shift assistance is not available in the following situations:

–With clutch actuated.
–Gearshift lever not in its initial position

- After a gearshift, you must fully release the gearshift lever before another gear shift with the Gear Shift Assistant Pro can take place.
- Further information on the Gear Shift Assistant Pro can be found in the chapter "Technology in detail" (➠ 143).

BRAKES

How do you achieve the shortest braking distance?

The dynamic load distribution between the front and rear wheel changes during braking. The more pressure you apply to the brake, the greater the load transfer to the front wheel. Increases in the load on an individual wheel are accompanied by a rise in the effective brake force that the wheel can provide.

To achieve the shortest possible braking distance, the front wheel brake must be applied quickly and with progressively greater levels of force. This procedure provides ideal utilization of the dynamic load increase to the front wheel. The clutch should also be engaged at the same time. When the rider uses the (frequently practiced) extreme emergency braking in which the brake pressure is generated as quickly as possible and with great force, dynamic load distribution lags behind the progressive increase in deceleration rate and the brake force cannot be completely transferred to the road.

Locking up of the front wheel is prevented by BMW Motorrad Integral ABS Pro.

WARNING

Lifting off of the rear wheel due to heavy braking

Accident hazard

- When braking heavily, bear in mind that the ABS control cannot always be relied on to prevent the rear wheel from lifting off the ground.

Descending mountain passes

WARNING

Braking should be done predominantly using the rear wheel brake when riding on downhill routes

Loss of braking effect, destruction of the brakes due to overheating

- Apply the front and rear wheel brake and use the engine brake.

DANGER

Driving with overheated brakes
Risk of accident due to brake failure
- Adapt driving style.
- Use the engine brake to avoid frequent braking.

WARNING

Failure to observe maintenance intervals
Accident hazard
- Comply with the maintenance intervals applicable for the brakes.

Wet, soiled brakes

WARNING

Decreased braking effect due to moisture and dirt
Risk of accident
- Dry brakes or clean them through braking; if necessary, clean them manually.
- Brake early until the tires have reached their full braking effect again.

Moisture and dirt on the brake discs and the brake pads result in a decrease in the braking effect.
Delayed or decreased braking effect must be expected in the following situations:
– When riding in the rain and through puddles.
– After washing the vehicle.
– When riding on salted roads.
– After working on the brakes due to oil or grease residues.
– When riding on soiled roads or offroad.

ABS Pro
Physical riding limits

WARNING

Braking in curves
Danger of falling despite ABS Pro
- The rider is always responsible for adapting his/her driving style.
- Do not reduce the system's extra safety margin with careless riding or unnecessary risks.

Falling cannot be excluded
Although ABS Pro and Dynamic Brake Control represent valuable support and an enormous safety advantage for the rider when braking in an inclined po-

sition, they by no means redefine the physical riding limits. It is still possible to exceed those limits through misjudgments or riding errors. In extreme cases this my result in a fall.

Use on public roads

On public roads, ABS Pro and Dynamic Brake Control help make riding your motorcycle even safer. When braking due to unexpected hazards in curves, ABS Pro prevents blocking and slipping of the wheels within the scope of the physical riding limits. In the event of emergency braking, Dynamic Brake Control enhances the braking effect and intervenes if the throttle grip is accidentally actuated during braking.

ABS Pro was not developed to increase the individual braking performance in the inclined position.

PARKING THE MOTORCYCLE

Side stand

- Turn off engine.

ATTENTION

Poor ground conditions in area of stand

Component damage cause by tipping over

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

ATTENTION

Loading of the side stand with additional weight

Component damage cause by tipping over

- Do not sit on the motorcycle when it is parked on the side stands.

- Fold out side stand and park motorcycle.
- If the slope of the road permits, turn the handlebars to the left.
- On slopes point the motorcycle uphill and engage 1st gear.

REFUELING

Fuel quality

Requirement

For optimal fuel consumption, the fuel should be sulfur-free or very low in sulfur content.

ATTENTION

Refueling with leaded fuel

Damage to catalytic converter

- Do not refuel with leaded gasoline or gasoline with metallic additives, e.g. manganese or iron.

ATTENTION

Use of Ethanol E85 as fuel

Damage to the engine and fuel supply

- Do not refuel with E85, i.e. fuel with an ethanol content of 85 %, or with Flex Fuel.

- Observe the maximum ethanol content of the fuel.

Fuel additives clean the fuel injection system and the combustion area. Fuel additives should be used when refueling with low-quality fuels or during longer stationary periods. Your authorized BMW Motorrad dealer can provide you with more detailed information.

Recommended fuel quality
Premium unleaded (max. 15% ethanol, E15) 89 AKI (95 ROZ/RON) 90 AKI

Alternative fuel quality
Regular unleaded (max. 15% ethanol, E15) 87 AKI (91 ROZ/RON) 87 AKI

Refueling procedure

WARNING

Fuel is highly flammable

Fire and explosion hazard

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

WARNING

Escaping of fuel due to expansion under exposure to heat with overfilled fuel tank

Accident hazard

- Do not overfill the fuel tank.

ATTENTION

Component damage
Component damage due to overfilled fuel tank
- If the fuel tank is overfilled, the excess fuel will flow into the carbon canister and lead to component damage there.
- Only fill the fuel tank to the lower edge of the fuel filler neck.

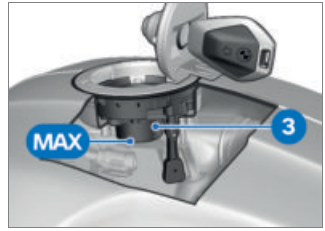
ATTENTION

Contact of fuel and plastic surfaces
Damage to surfaces (become unattractive or cloudy)
- Immediately clean plastic surfaces after contact with fuel.

- Park the motorcycle, making sure the ground is level and firm.



- Open the protective flap **2**.
- Unlock the sealing cap of the fuel tank **1** in a clockwise direction using the ignition key and fold it up.



- Refuel with a fuel meeting the specifications listed above until the maximum fuel level is the lower edge of filler neck **3**.

If refueling is carried out after running on fuel reserve, the resulting filling capacity must be greater than the fuel reserve so that the new fill level is detected and the fuel reserve indicator light is switched off.

The "usable fuel quantity" specified in the technical data is the fuel quantity, which can be refueled if the fuel tank was completely emptied, i.e., if the engine dies off due to lack of fuel.

Usable fuel quantity
Approx. 4.2 gal (Approx. 16 l)
Reserve fuel quantity
Approx. 3.7 quarts (Approx. 3.5 l)

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

FASTENING MOTORCYCLE IN PLACE FOR TRANSPORTATION

- Protect all components from being scratched where tensioning belts are routed, for example, by using adhesive tape or soft cloths.



ATTENTION

Motorcycle tips to the side when raising

Component damage cause by tipping over

- Secure the motorcycle against tipping to the side, preferably with the assistance of a second person.

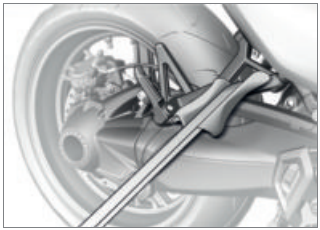
- Push the motorcycle onto the transport surface, and do not prop it on its side stand.
- Secure the motorcycle from tipping with support from a second person.



ATTENTION

Pinching of components
Component damage
- Do not pinch components, e.g. brake lines or wiring harnesses.

- Fasten the front tensioning straps on both sides of the fork bridge at the bottom.



- Fasten rear straps on both sides to the brackets of the passenger footrests and then tighten them.
- Tighten all tensioning belts evenly.

» The vehicle is lashed down securely (suspension is compressed).

TECHNOLOGY IN DETAIL

08

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GENERAL NOTES

More information on the topic of technology is available at:
bmw-motorrad.com/technik

ANTILOCK BRAKING SYSTEM (ABS)

Partially integral brake

Your motorcycle is equipped with a partially integral brake configuration. In this brake system, both front and rear wheel brakes are applied simultaneously when you pull the brake lever. The footbrake lever acts only on the rear wheel brake.

ATTENTION

Attempt at a burn-out despite integral function
Damage to rear-wheel brake and clutch
• Do not perform burn-out.

How does ABS work?

The maximum braking force that can be transferred to the road is partially dependent on the coefficient of friction of the road surface. Gravel, ice, snow and wet roads offer a considerably lower coefficient of friction than a dry, clean asphalt surface. The lower the coefficient of friction of the road is, the longer the braking distance will be.
If the maximum transferable brake force is exceeded when the rider increases the brake pressure, the wheels begin to lock and riding stability is lost: A fall can result. Before this situation occurs, ABS is activated and the brake pressure is adjusted to the maximum transferable braking force. This enables the wheels to continue to turn and maintains riding stability regardless of the road condition.

What happens when rough roads are encountered?

Rough roads can briefly lead to a loss of contact between the tires and the road surface. The transferable braking force is then reduced to zero. If braking is carried out in this situation, ABS must reduce the brake pressure to ensure riding stability when restoring contact with the road. At this point in time, ABS must assume extremely low coefficients of friction (gravel, ice, snow) so that the wheels turn in every imaginable case and riding stability is ensured. After detecting the actual conditions, the sys-

tem adjusts the optimum brake pressure.

In what ways is the BMW Motorrad Integral ABS noticeable to the rider?

If the ABS system has to reduce the braking force due to the conditions described above, then a pulsation can be felt through the brake lever.
If the brake lever is pulled, then brake pressure is built up at the rear wheel with the integral function. If the footbrake lever is not actuated until after this, the brake pressure already built up can be felt as counter-pressure earlier than when the footbrake lever is actuated before or together with the brake lever.

Lifting off rear wheel

In the event of a very strong and rapid deceleration, it is possible that the BMW Motorrad ABS cannot prevent the rear wheel from lifting off. In these cases, the motorcycle can also flip end over end.

WARNING

Lifting off of the rear wheel due to heavy braking
Accident hazard
- When braking heavily, bear in mind that the ABS control cannot always be relied on to prevent the rear wheel from lifting off the ground.

What are the design features of the BMW Motorrad ABS?

The BMW Motorrad ABS ensures riding stability on any surface within the limits of riding physics.

At speeds greater than min 2 mph (min 4 km/h), the BMW Motorrad ABS can ensure riding stability on any surface within the limits of riding physics. At lower speeds, the BMW Motorrad ABS cannot provide optimal support on all surfaces due to system limitations.

The system is not optimized for the special requirements encountered under the extreme conditions of competitive off-road and racetrack use.

Special situations

To detect the tendency of the wheels to lock up, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ABS function is switched off for safety reasons, and an ABS fault is displayed. A self-diagnosis must be completed before the fault message can be displayed.

In addition to problems at the BMW Motorrad ABS, unusual riding conditions can also result in a fault message:

– Riding on the rear wheel (wheelie) for an extended period.
– Rear wheel spinning in place with front wheel brake engaged (burn out).
– Warm-up on the center or auxiliary stand in neutral or with gear engaged.
– Locked-up rear wheel for a longer period of time, e.g. when riding downhill offroad.

Should a fault memory entry occur due to an unusual riding condition, the ABS function can be reactivated by turning the ignition off and then on again.

How important is regular maintenance?

WARNING

Brake system not regularly serviced

Accident hazard

- To ensure that the BMW Motorrad ABS is in a properly maintained condition, it is vital that the specified service intervals are kept to.

Reserves for safety

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

WARNING

Braking in curves

Risk of accident despite ABS

- The rider is always responsible for adapting his/her driving style.
- Do not reduce the additional safety function with careless riding or unnecessary risks.

ABS Pro

ABS Pro increases safety, particularly for braking processes in curves. ABS Pro prevents the wheels from locking up, even in the event that the brakes are applied quickly. ABS Pro reduces abrupt changes in steering forces, especially during shock braking, and therefore decreases the risk of the occurrence of inadvertent lift-off of the vehicle.

ABS control

From a technical standpoint, ABS Pro adjusts the ABS control to the angle of inclination of the motorcycle based on the respective riding situation. Signals for the roll and yaw rate and the lateral acceleration are used to determine the inclination of the vehicle. The signals come from the angular rate sensor, which is already used for Dynamic Traction Control (DTC).

With an increasing inclination, the brake pressure gradient is increasingly limited at the start of braking. This results in a slower pressure buildup. In addition, the pressure modulation in the range of the ABS control is more uniform.

Advantages for the rider

The advantages of ABS Pro for the rider are sensitive response and high braking and riding stability with the best possible deceleration, even around curves.

DYNAMIC TRACTION CONTROL (DTC)

How does traction control work?

The traction control compares the wheel centrifugal velocities of the front and rear wheels. The slip, and with it the stability reserves at the rear wheel, are determined from the speed difference. The engine control adapts the engine torque when the slip limit is exceeded. The Dynamic Traction Control (DTC) takes into account the angle and provides more fine-tuned and convenient control using the inclined position and acceleration information.

BMW Motorrad DTC is designed as an assistance system for the rider and for riding on public roads. The extent to which the rider affects DTC control can be considerable (weight shifts when cornering, loose luggage on the motorcycle), especially when approach-

ing the limits imposed by the laws of physics.
The system is not optimized for the special requirements encountered under the extreme conditions of competitive off-road and racetrack use. The BMW Motorrad DTC can be switched off in such instances.

WARNING

Risky riding style
Risk of accident despite DTC
- The rider is always responsible for adapting his/her driving style.
- Do not reduce the system's extra safety margin with careless riding or unnecessary risks.

Special situations
As the angle of inclination increases, the capacity to accelerate is more and more limited in accordance with the laws of physics. This can result in reduced acceleration when coming out of very tight curves.

If the values for the lean angle are detected to be implausible for a long period, a substitute value is used for the angle, or the DTC function is turned off. In these cases, a DTC fault is displayed. A self-diagnosis must be completed before the fault message can be displayed.
Under the following unusual riding conditions, the traction control may be turned off automatically.

Unusual riding conditions:
– Riding on the rear wheel (wheelie) for an extended period.
– Rear wheel spinning in place with front wheel brake engaged (burn out).
– Warming up the engine on an auxiliary stand in neutral or with gear engaged.

If the front wheel loses contact with the ground under extreme acceleration, the DTC reduces the engine torque depending on the riding mode or the DTC setting, until the front wheel is touching the ground again.
BMW Motorrad recommends that you respond to the front wheel lifting off by letting off on the throttle grip somewhat to return to a stable riding state as quickly as possible.

ENGINE DRAG TORQUE CONTROL

How does engine drag torque control work?

The purpose of the engine drag torque control is to safely prevent unstable riding conditions that are related to excess drag torque at the rear wheel. Depending on the road condition and riding dynamics, excess drag torque can make the slip at the rear wheel increase severely and impede riding stability. The engine drag torque control reduces slip at the rear wheel to a safe, setpoint slip that is dependent on the mode.

Causes of excess slip at the rear wheel:

–Riding in coasting overrun on a road with low coefficient of friction (e.g. wet leaves).
–Hopping when shifting gears down.
–Hard brake onset in sporty riding style.

Like the DTC traction control, the dynamic engine brake control compares the wheel circumferential velocities of the front and rear wheel. With the aid of more information on the angle, the dynamic engine brake control can determine the slip or the stability reserve at the rear wheel.
If the slip exceeds the respective limit value, the engine torque is increased by slightly opening the throttle valves. The slip is reduced, and the vehicle is stabilized.

RIDING MODE

Selection

To adjust the motorcycle to the road condition and the desired riding experience, you can select from the following riding modes:
–RAIN
–ROAD
–DYNAMIC

For each of these riding modes, a setting designed to complement the systems DTC, ABS and MSR as well as for the engine characteristics is available.

DTC can be switched off in any riding mode. The following explanations always refer to the riding safety systems that are turned on.

Throttle response

–In RAIN riding mode: Restrained
–In ROAD riding mode: Optimum

– In DYNAMIC riding mode: Direct

ABS

– In the ROAD and DYNAMIC riding modes, the ABS setting corresponds to the respective riding mode.
– In the RAIN riding mode, the ABS setting corresponds to the ROAD riding mode.

Rear wheel lift-off detection

– In the RAIN and ROAD riding modes, the rider is given maximum support by the rear wheel lift-off detection.
– In the DYNAMIC riding mode, the rear wheel lift-off detection offers reduced support and permits gentle lift-off of the rear wheel.

ABS Pro

– In the RAIN, ROAD and DYNAMIC riding modes, the ABS Pro is available to its full capacity.
– In the DYNAMIC riding mode, the support of ABS Pro is reduced compared to RAIN and ROAD.

Brake force distribution
Actuating the front wheel brake

– In the RAIN and ROAD riding modes, the brake force is maximally distributed to the rear wheel.
– In the DYNAMIC riding mode, the distribution of the brake force to the rear wheel is reduced in comparison to RAIN and ROAD.

DTC
Riding stability

– In the DTC setting RAIN, DTC intervenes early enough to ensure that maximum riding stability is achieved.
– In the DTC setting ROAD, the intervention of the DTC occurs earlier than in the RAIN riding mode. Rear wheel spinning without traction is avoided wherever possible.
– In the RAIN and ROAD DTC settings, the front wheel is prevented from lifting off.
– In the DTC setting DYNAMIC, the DTC intervenes later than in the DTC setting ROAD, which enables minor drifts at the end of curves and brief wheelies.

Effect of the engine drag torque control

–In the RAIN and ROAD riding modes: Maximum stability.
–In DYNAMIC riding mode: High stability.

Switchover

Riding modes can be changed when the vehicle is at a standstill with the ignition turned on. A changeover while riding is possible under the following conditions:
–No drive torque at rear wheel.
–No brake pressure in the braking system.

For a changeover while riding, the following steps must be carried out:
–Turn back throttle grip.
–Do not actuate brake lever.

–with cruise control[OE]
–Deactivate the cruise control.

First, the desired riding mode is preselected. The switchover does not take place until the affected systems are in the required state.
The Selection menu does not disappear from the display until the riding mode has been switched over.

DYNAMIC BRAKE CONTROL

Dynamic Brake Control function

The Dynamic Brake Control function helps the rider in the event of emergency braking.

Detection of emergency braking

–Emergency braking is detected when the front wheel brake is applied quickly and with force.

Behavior during emergency braking

–If hazard braking is applied at a speed of more than min 6 mph (min 10 km/h), in addition to the ABS function, the Dynamic Brake Control function will also be activated.

Behavior in the event of accidental activation of the throttle grip

–If the throttle grip is accidentally actuated during emergency braking (throttle position >5%), the intended braking effect is ensured by the Dynamic Brake Control ignoring the opening process of the throttle grip. This ensures the effectiveness of emergency braking.
–If the gas is shut off (throttle position <5%) during the

intervention of the Dynamic Brake Control, the engine torque required by the ABS brake system will be restored.
–If hazard braking is stopped and the throttle grip is still under actuation, the Dynamic Brake Control adjusts the engine torque back to the rider's choice.

TIRE PRESSURE MONITOR (RDC)

–with tire pressure monitor (TPM) OE

Function

A sensor located in each tire monitors the air temperature and the tire pressure and transmits this information to the control unit.
The sensors are equipped with a centrifugal controller, which does not enable the transmission of the measured values until the minimum speed is exceeded for the first time.

 Minimum speed for the transmission of the TPC measured values:
min 19 mph (min 30 km/h)

Before initial reception of the tire pressure, –– is shown in the display for each tire. The sensors continue to transmit the measured values for some time after the vehicle comes to a stop.

 Transmission time of the measured values after vehicle standstill:
min 15 min

If an RDC control unit is installed but the wheels have no sensors, a fault message is generated.

Tire inflation pressure ranges

The TPC/RDC control unit distinguishes between three inflation pressure ranges matched to the motorcycle:
–Tire pressure within the permissible tolerance.
–Tire pressure at the limit range of the permissible tolerance.
–Tire pressure outside the permissible tolerance.

Temperature compensation

The tire pressure is temperature dependent, i.e. it increases or decreases together with the tire air temperature. The tire temperature is dependent on the outside temperature, the riding style and the length of the journey.
The tire pressures are shown in the display with temperature compensation and are always

based on a tire air temperature of 68 °F (20 °C).
Tire pressure gauges at filling stations do not compensate for temperature; the tire pressure that is measured depends on the tire air temperature. As a result, in most cases the values displayed there do not match the values shown in the display.

Tire pressure adjustment

Compare the RDC value in the instrument cluster with the value on the back cover of the rider's manual. The difference between the two values must be compensated with the tire pressure gauge at the filling station.

 Example
According to the rider's manual, the tire pressure should have the following value:
36.3 psi (2.5 bar)
The following value is displayed in the TFT display:
33.4 psi (2.3 bar)
The shortfall is thus:
2.9 psi (0.2 bar)
The tester at the filling station shows:
34.8 psi (2.4 bar)

 Example
To produce the correct tire pressure, this must be increased to the following value:
37.7 psi (2.6 bar)

GEAR SHIFT ASSISTANT

–with Gearshift Assistant Pro OE

Gear Shift Assistant Pro

Your motorcycle is equipped with the Gear Shift Assistant Pro originally developed for racing but now specially adapted for touring use.
It allows you upshift and downshift under almost any load conditions and in virtually all engine-speed ranges without operating the clutch or accelerator.
The engine control supports the gear change depending on:
–the desired, required gear
–engine speed
–the position of the throttle grip

The decision about using the Gearshift Assistant lies with the rider, who must take into account the driving situation as well as aspects of safety and comfort.

Benefits

–Most of the gear shifts can be done without the clutch.
–Less movement between rider and passenger due to shorter gear-change intervals.
–The throttle grip does not have to be closed during acceleration.
–During downshifting (throttle grip closed), double-clutching is used to change the RPM.
–Shifting times are faster than when the clutch is used to shift gears.

For a gearshift request to be detected, the rider has to move the previously unused gearshift lever at a medium to fast speed in the desired direction and up to the mechanical stop of the shift control. After the gear change is completed, the gearshift lever must be fully released before the Gear Shift Assistant Pro can execute a new gear change. To achieve optimum shift quality with the Gearshift Assistant Pro, the respective load condition (throttle position) must be kept constant before and during the gear shift. In the case of gear shifting with clutch control, there is no support from the Gearshift Assistant Pro.

Downshifts

–Downshifts are assisted up to the speed at which the engine reaches maximum rpm in the gear to be engaged. Over-revving is thus prevented.

 Maximum engine speed
max 8500 min^{-1}

Upshifts

–Upshifting is supported until the idle speed is undershot in the required gear. This prevents the idle speed from being undershot.
–In the case of upshifting during overrun, particularly in low gears, loss of comfort and stronger power-off reactions can result due to the functional principle.

HILL START CONTROL PRO (HSC PRO)

–with Hill Start Control OE

Hill Start Control function

The Hill Start Control Pro drive-off assistant function prevents uncontrolled rolling back on slopes by means of targeted intervention in the partial integral ABS brake system, without the rider having to operate the brake lever continuously. When

Hill Start Control Pro is activated, pressure builds in the rear brake system so that the motorcycle remains stationary on a sloping surface (➠ 92). The brake pressure in the brake system depends on the gradient.

Influence of gradient on brake pressure and starting behavior

–Stopping on a slight incline builds up only a small amount of brake pressure. The brake is released quickly when riding off,.
–Stopping on a steeper slope increases the amount of brake pressure built up. The brake is a bit slower to release when riding off. More torque is required to ride off, making additional turning of the throttle grip necessary.

Behavior when the vehicle is rolling back or slipping

–The brake pressure increases when the vehicle is rolling back with the Hill Start Control Pro activated.
–If the rear wheel is blocked, the brake is released again after approx. 3.3 ft (approx. 1 m). This prevents the vehicle from slipping with a locked rear wheel, for example.

Releasing the brake when switching off the engine or during timeout

Hill Start Control Pro is deactivated when the engine is shut off with the emergency-off switch, when the side stand is folded out, or after ten minutes have passed.
In addition to indicator and warning lights, the following vehicle behavior should make the rider aware that the Hill Start Control Pro is deactivated:

Brake warning jerk

–The brake is released briefly and is immediately reactivated.
–This causes a jerking behavior that the rider can feel.
–The partial integral ABS brake system sets a speed of approx. 1...1 mph (approx. 1...2 km/h).
–The rider must brake the vehicle manually.
–After two minutes, or if the brake is actuated, the partial integral ABS brake system ends the speed adjustment.

When the ignition is switched off, the holding pressure is built up

immediately and without brake warning jerk.

ADAPTIVE HEADLIGHT

–with Headlight Pro[OE]

Function

In addition to the low-beam headlight, high-beam headlight and, where appropriate, daytime driving lights or parking lights, the main headlight is equipped with separate LED segments for the adaptive headlight. Depending on the lean angle, the LED segments are also turned on for the low-beam headlight to improve illumination of the inner area of the curve. The headlights are optimized for slight to moderate lean angles.
The adaptive headlights are activated under the following conditions:
–Riding at slight to moderate lean angle.
–The speed is min 6 mph (min 10 km/h).
–The low beams are switched on.

MAINTENANCE

09

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GENERAL NOTES

The "Preventive maintenance" chapter describes work involving the checking and replacement of wearing parts that can be performed with a minimum of effort.
If specific tightening torques are to be taken into account for installation, these are listed. An overview of all required tightening torques is contained in the "Technical data" chapter.

Special tools and thorough specialized knowledge are required to carry out some of the work described here. If in doubt, contact a repair shop, preferably an authorized BMW Motorrad dealer.

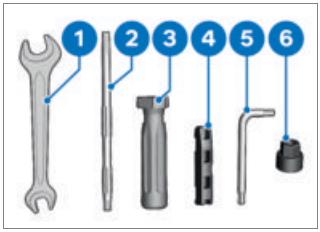
Microencapsulated screws

The microencapsulation is a chemical threadlocker. An adhesive is used to create a solid connection between screw and nut or component. Microencapsulated screws, therefore, are suitable for single use only. Regardless of the removal or installation, the hole must always be cleaned. After removal, the internal thread must be cleaned to remove adhesive. During installation, a new microencapsulated screw must be used. Before removal, make sure that you have suitable tools for cleaning the thread and a replacement screw. If you carry out the work improperly, the locking function of the screw might no longer be guaranteed, which puts you in danger!

Disposable cable ties

Occasionally cables and wires are secured with disposable cable ties. To prevent cables and wires from getting damaged during removal, a suitable tool must be used, e.g. diagonal cutting pliers.
For reinstallation, cables and wires that were cut free must be secured with new disposable cable ties.
Protrusions should be cut off with cable tie pliers.

ONBOARD VEHICLE TOOL KIT



1 Open-ended wrench
Key range: 10/14
–Adjust the mirror arm. (➠ 104)
–Adjust the spring preload on the front wheel. (➠ 107)

2 Reversible screwdriver insert
Slotted blade and T25 torx
–Adjusting the rebound-stage damping on the front wheel. (➠ 110)
–Adjusting the compression damping on the front wheel. (➠ 110)
–Adjust damping at the rear wheel. (➠ 111)

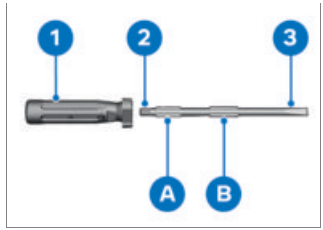
3 Screwdriver handle
–Top up engine oil. (➠ 153)
–Use with open-end wrench

4 Extension for Torx wrench
–Remove the seat. (➠ 98)

5 Torx wrench T30
–Remove the seat. (➠ 98)
–Use with extension

6 Plastic top part
–Adjust the spring preload on the front wheel. (➠ 107)

PREPARING THE ONBOARD TOOLKIT SCREWDRIVER



- Insert the Torx T25 **2** or slotted blade **3** into the screwdriver handle **1**.
- The length of the slotted blade **3** can be adapted by inserting it into the position **A** (long) or **B** (short).

FRONT WHEEL STAND

Attaching the front wheel stand

ATTENTION

Use of the front wheel stand without an additional auxiliary stand

Component damage caused by tipping over

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

- Ensure that the motorcycle is standing securely.
- Place the motorcycle on an auxiliary stand.
- Attach the rear-wheel stand. (➠ 152)
- For a description of the correct installation, please refer to the instructions for the front wheel stand.

REAR-WHEEL STAND

Attaching the rear-wheel stand

- For a description of the correct installation, please refer to the instructions for the rear-wheel stand.

ENGINE OIL

Checking the engine oil level

To prevent unnecessary pollution of the environment, BMW Motorrad recommends checking the engine oil after riding min 31 miles (min 50 km).

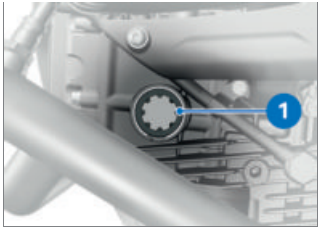
ATTENTION

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

Engine damage from incorrect filling

- Only check the oil level after an extended ride or when the engine is warm.

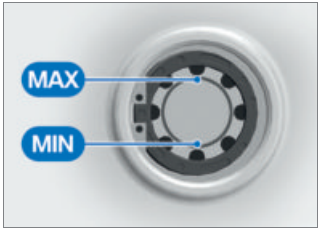
- Turn off engine at operating temperature.
- Wait five minutes to allow oil to drain into the oil pan.



ATTENTION

Lateral tipping of the vehicle
Component damage cause by tipping over
- Secure the vehicle from tipping over laterally, preferably with the support of a second person.

- Position the motorcycle vertically, making sure that the ground is firm and level.
- Read oil level on the display **1**.

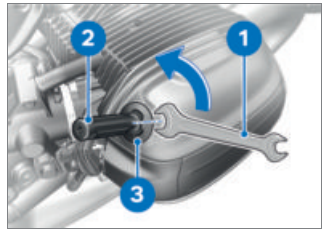


Specified level of engine oil	
Between the **MIN** and **MAX** marks	

If the oil level is below the **MIN** mark:
- Top up engine oil. (➠ 153)

If the oil level is above the **MAX** mark:
- Have the oil level corrected at a repair shop, preferably an authorized BMW Motorrad dealer.

Topping up the engine oil
- Park the motorcycle, making sure the ground is level and firm.



- Clean the area around the oil filler opening.
- For easier power transmission, apply the open-end wrench **1** to the screwdriver handle **2** (onboard toolkit).
- Place the screwdriver handle **2** on top of the oil filler plug **3** and turn counterclockwise.
- Remove the oil filler plug **3**.

ATTENTION

Use of too little or too much engine oil

Engine damage from incorrect filling

- Always make sure that the oil level is correct.

- Top up the engine oil to the specified level.

Engine oil, top-up quantity
max 0.5 quarts (max 0.5 l) (Difference between **MIN** and **MAX**)

- Check engine oil level. (➠ 152)
- Install the oil filler plug **3**.

BRAKE SYSTEM

Checking brake function

- Actuate the brake lever.

» The resistance point must be clearly perceptible.

- Press the footbrake lever.

» The resistance point must be clearly perceptible.

If resistance points are not clearly perceptible:

ATTENTION

Improper working on the brake system

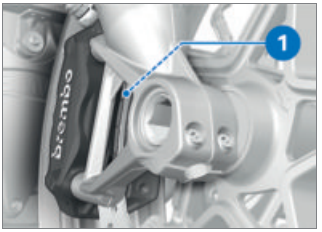
Endangering of the operating safety of the brake system

- Have all work on the brake system carried out by experts.

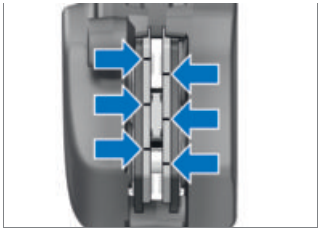
- Have the brakes checked by a repair shop, preferably an authorized BMW Motorrad dealer.

Checking the front brake pad thickness

- Park the motorcycle, making sure the ground is level and firm.



- Visually inspect the left and right brake pads to ascertain their thickness. Direction of view: between wheel and front suspension toward brake pads **1**.



Front brake-pad wear limit
0.04 in (1.0 mm) (Only friction material without carrier plate. The wear marks (grooves) must be clearly visible.)

If the wear marks are no longer visible:

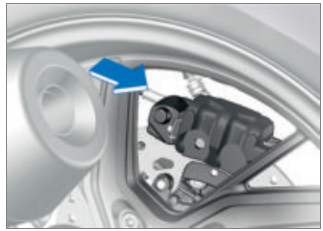
WARNING

Dropping below the minimum pad thickness
Reduced braking action, damage to the brake
- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.

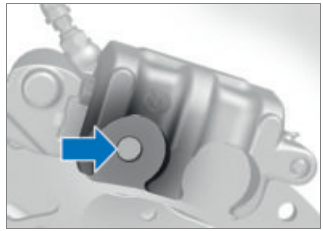
- Have brake pads renewed at a repair shop, preferably an authorized BMW Motorrad dealer.

Checking the rear brake pad thickness

- Park the motorcycle, making sure the ground is level and firm.



- Conduct a visual inspection of the brake pad thickness. Viewing direction: From left onto brake caliper.



Rear brake-pad wear limit
0.04 in (1.0 mm) (Only friction material without carrier plate. Brake disc must not be visible through the drilled hole in the inner brake pad.)

If the brake disc is visible:

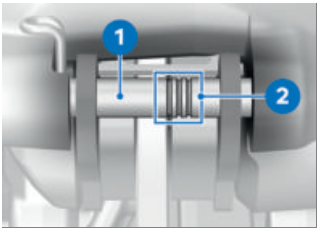
WARNING

Dropping below the minimum pad thickness
Reduced braking action, damage to the brake
- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.

- Have brake pads renewed at a repair shop, preferably an authorized BMW Motorrad dealer.

Brake pad wear

The rear wheel brake has a brake pad wear indicator.



The axle **1** with the three ring marks **2** is located between the brake pads.

How to interpret the marks:
- 3 rings visible: at least 75% brake pad thickness
- 2 rings visible: at least 50% brake pad thickness
- 1 rings visible: at least 25% brake pad thickness
- No ring visible: Wear limit has been reached, check as described earlier

Checking the front brake fluid level

WARNING

Insufficient or contaminated brake fluid in the brake fluid reservoir
Considerably reduced braking power caused by air, dirt or water in the brake system
- Stop riding immediately until fault is rectified.
- Check brake fluid level regularly.
- Make sure that the lid of the brake fluid reservoir is cleaned before opening.
- Make sure that brake fluid is used from a sealed container only.

- Park the motorcycle, making sure the ground is level and firm.



- Align the handlebars so that the brake fluid reservoir is positioned horizontally.
- Check the brake fluid level in the sight glass **1**.

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



Front brake fluid level
Brake fluid, DOT4
The brake fluid level must not fall below the **MIN** mark (Brake fluid reservoir horizontal, vehicle standing upright.)

If the brake fluid level falls below the approved level:

- Have the fault rectified as soon as possible by a repair shop, preferably an authorized BMW Motorrad dealer.

Checking the rear brake fluid level

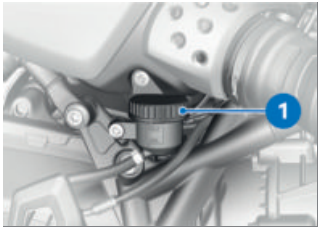
WARNING

Insufficient or contaminated brake fluid in the brake fluid reservoir

Considerably reduced braking power caused by air, dirt or water in the brake system

- Stop riding immediately until fault is rectified.
- Check brake fluid level regularly.
- Make sure that the lid of the brake fluid reservoir is cleaned before opening.
- Make sure that brake fluid is used from a sealed container only.

- Position the motorcycle vertically, making sure that the ground is firm and level.



ATTENTION

Lateral tipping of the vehicle
Component damage cause by tipping over
- Secure the vehicle from tipping over laterally, preferably with the support of a second person.

- Check the brake fluid level at the brake fluid reservoir for rear wheel brake **1**.

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



Rear brake fluid level
Brake fluid, DOT4
The brake fluid level must not fall below the **MIN** mark. (Brake fluid reservoir horizontal)

If the brake fluid level falls below the approved level:
- Have the fault rectified as soon as possible by a repair shop, preferably an authorized BMW Motorrad dealer.

CLUTCH

Checking the clutch function
- Pull the clutch lever.

» The resistance point must be clearly perceptible.

If no clear resistance point can be felt:
- Have the clutch checked by a repair shop, preferably an authorized BMW Motorrad dealer.

TIRES

Checking tire pressure

WARNING

Incorrect tire pressure
Worse handling characteristics of the motorcycle, reduction in the service life of the tires
• Ensure correct tire pressure.

WARNING

Automatic opening of vertically installed valve inserts at high speeds
Sudden loss of tire inflation pressure
• Use valve caps with rubber sealing ring and screw on firmly.

- Park the motorcycle, making sure the ground is level and firm.
- Check tire pressure against data below.

 Front tire pressure
36.3 psi (2.5 bar) (with tire cold)

 Rear tire pressure
39.2 psi (2.7 bar) (One-up mode, with cold tires)
42.1 psi (2.9 bar) (Two-up and cargo, with cold tires)

If tire pressure incorrect:
- Correct the tire pressure.

Checking tire tread depth

WARNING

Riding with heavily worn tires
Risk of accident due to poorer rideability
• If necessary, replace the tires before the legally specified minimum tread depth is reached.

- Park the motorcycle, making sure the ground is level and firm.
- Measure tire tread depth in main tread grooves with wear marks.

Wear marks are integrated into the main grooves on every tire. If the tire tread has worn down to the level of the marks, the tire is completely worn. The locations of the marks are indicated on

the edge of the tire, e.g. by the letters TI, TWI or by an arrow.

When the minimum tread depth is reached:

- Replace the worn tire.

RIMS

Checking rims

- Park the motorcycle, making sure the ground is level and firm.
- Visually inspect rims for defects.
- Have damaged rims checked and, if necessary, renewed by a repair shop, preferably an authorized BMW Motorrad dealer.

Checking spokes

–with Option 719 wheel Classic [OE]

- Park the motorcycle, making sure the ground is level and firm.
- Run the handle of a screwdriver or similar object over the spokes and listen to the sound pattern.

If the sound pattern is uneven:

- Have spokes checked by a repair shop, preferably by an authorized BMW Motorrad dealer.

WHEELS

Effect of wheel sizes on suspension control systems

The wheel sizes play an important role with suspension control systems such as ABS. The diameter and width of the wheels stored in the control unit have particular significance as the basis for all necessary calculations. A change in these sizes resulting from conversion to wheels not installed as standard equipment can seriously affect the control convenience of these systems.

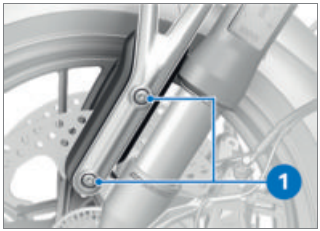
The sensor rings required for wheel speed detection must also match the installed control systems and must not be replaced.

If you want to convert your motorcycle to different wheels, please contact a repair shop, preferably an authorized BMW Motorrad dealer. In some cases the data stored in the control units must be adapted to the new wheel sizes.

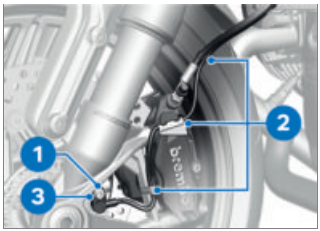
Removing the front wheel

To simplify removal/installation of the front wheel, the front wheel cover must be loosened on one side.

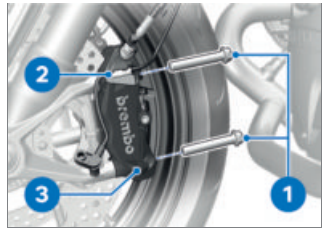
- Place the motorcycle on an auxiliary stand.
- Attach the rear-wheel stand. (➠ 152)
- Raise front of motorcycle until the front wheel can turn freely.
- Attach the front wheel stand. (➠ 152)



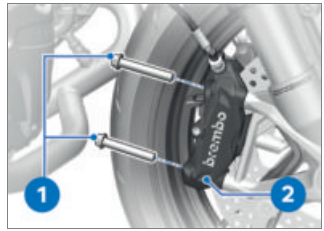
- Remove screws **1**.



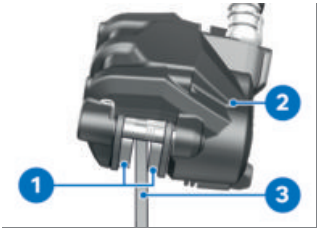
- Detach the sensor cable from the brackets **2**.
- Remove the screw **1** and remove the wheel speed sensor **3** from the hole.



- Remove the screws **1** on the left.
- Loosen the bracket **2** for the sensor cable and brake caliper **3**.



- Remove the screws **1** on the right and loosen the brake caliper **2**.



- Push the brake pads **1** apart slightly by turning the brake caliper **2** against the brake disc **3**.

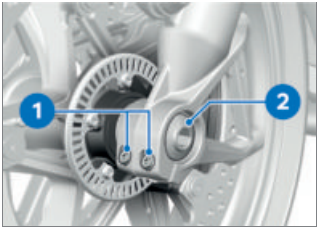
ATTENTION

Unintentional pressing together of brake pads
Component damage when mounting the brake caliper or when pressing the brake pads apart
- Do not actuate the brakes with the brake caliper removed.

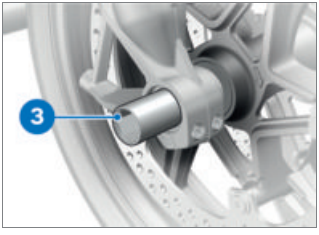
ATTENTION

Using hard or sharp-edged objects near the component
Component damage
- Do not scratch components, if necessary tape off or cover.

- Mask off areas of the wheel rim that could get scratched in the process of removing the brake calipers.
- Carefully pull the brake calipers back and outward to remove them from the brake disks.

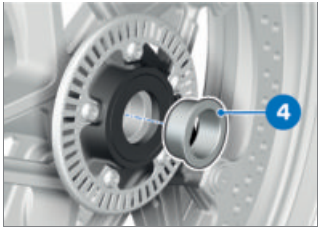


- Slacken the screw **2** but **do not remove it**.
- Loosen the clamping bolts **1** on the left and right.
- Press the quick-release axle with screw **2** inward a little to get a better grip on the right side.
- Remove screw **2**.



- Pull out the quick-release axle **3** while supporting the front wheel.

- Place front wheel down and roll it forward out of the front suspension.



- Remove spacer bushing **4** from front wheel hub.

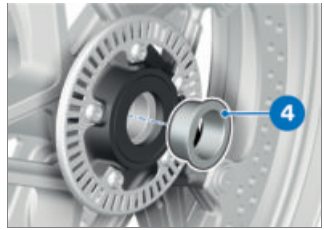
Installing the front wheel

WARNING

Use of a wheel which does not comply with series specifications
Malfunctions during control interventions by ABS and DTC
- Please see the information on the effect of wheel sizes on the ABS and DTC chassis control systems at the beginning of this chapter.

ATTENTION

Tightening screw connections with incorrect tightening torque
Damage to or loosening of screw connections
- Have the tightening torques checked by a repair shop, preferably by an authorized BMW Motorrad dealer.



- Lubricate the contact surface on the spacer bushing **4**.

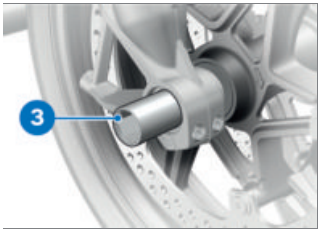
	Lubricant
Unirex N3	

- Insert the spacer bushing **4** into the wheel hub on the left side with the seat facing outwards.

ATTENTION

Front wheel installation opposite the running direction
Accident hazard
- Observe running direction arrows on tire or rim.

- Roll the front wheel into the front suspension.



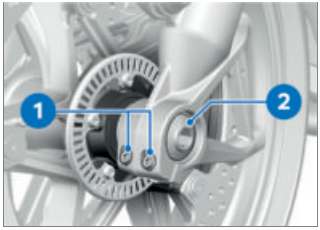
- Lubricate the quick-release axle **3**.

Lubricant
Unirex N3

WARNING

Improper installation of quick-release axle
Loosening of the front wheel
- After the brake caliper is fastened and the spring fork is relaxed, tighten the quick-release axle and axle clamping with the specified torque.

- Lift the front wheel and install the quick-release axle **3**.
- Remove front wheel stand and firmly compress front forks. Do not actuate brake lever at the same time.
- Attach the front wheel stand. (➠ 152)

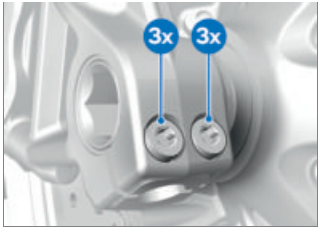


- Install screw **2**. Brace quick-release axle on the right side at the same time.

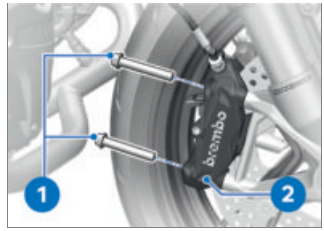
Screw on quick-release axle
M20 x 1.5

Screw on quick-release axle
37 lb/ft (50 Nm)

- Tighten the clamping bolts **1** on the left and right to the specified torque.

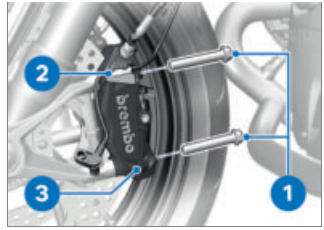


Clamping bolts in subframe
Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time
M6 x 30
9 lb/ft (12 Nm)



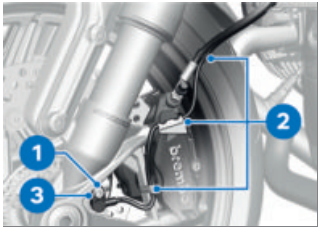
- Position brake caliper **2** on right and install screws **1**.

Brake caliper on telescopic forks
M10 x 65
28 lb/ft (38 Nm)



- Align left brake caliper **3** and holder for sensor cable **2**.
- Install screws **1**.

Brake caliper on telescopic forks
M10 x 65
28 lb/ft (38 Nm)



- Insert the wheel speed sensor **3** into the drilled hole and install the screw **1**.

Wheel speed sensor on fork
M6 x 20
6 lb/ft (8 Nm)

- Insert the sensor cable into the brackets **2**.

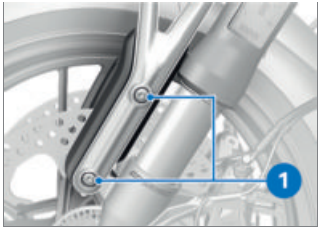
WARNING

Brake pads do not contact the brake disc

Risk of accident due to delayed braking effect.

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

- Engage the brakes repeatedly until the brake pads make contact with the discs.
- Remove the adhesive tape from the rim.



- Tighten screws **1**.

Front wheel cover on fork
M5 x 20
4 lb/ft (5 Nm)

- Remove the front wheel stand.
- Fold out the side stand.
- Remove the rear-wheel stand.
- Put the motorcycle on its side stand.

Removing the rear wheel

- Place the motorcycle on an auxiliary stand.
- Attach the rear-wheel stand. (➠ 152)

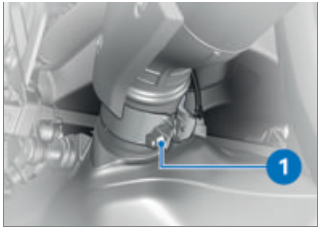
CAUTION

Hot exhaust system

Burn hazard

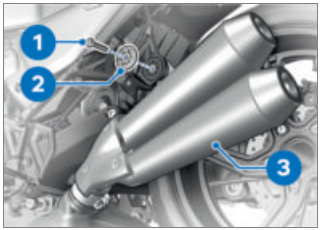
- Do not touch hot exhaust system.

- Let the end muffler cool down.



- Loosen the nut **1** of the clamp and slide the clamp toward the rear.

The clamp is suitable only for one-time use and must be renewed before installation of the muffler.



- Remove the screw **1** and lock washer **2** of the muffler bracket from the passenger foot peg.
- Pull off the muffler **3** toward the rear and place it on a soft underlay.



- Shift into first gear.
- Remove the screws **1** while supporting the wheel.
- Tilt the rear wheel out to the side.

Installing the rear wheel

WARNING

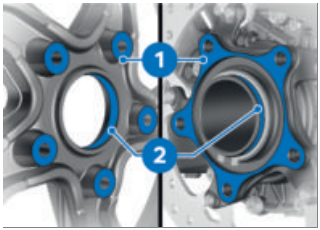
Use of a wheel which does not comply with series specifications

Malfunctions during control interventions by ABS and DTC

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

ATTENTION

Tightening screw connections with incorrect tightening torque
Damage to or loosening of screw connections
- Have the tightening torques checked by a repair shop, preferably by an authorized BMW Motorrad dealer.



- Clean contact surfaces of the wheel hub **1** and wheel centering device **2**.

ATTENTION

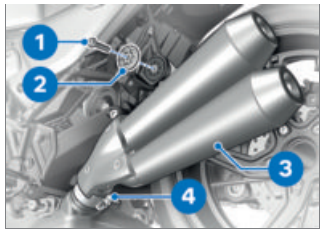
Using hard or sharp-edged objects near the component
Component damage
- Do not scratch components, if necessary tape off or cover.

- Place rear wheel on rear wheel support.



- Install the screws **1** with the appropriate torque.

Rear wheel on wheel carrier
Tightening sequence: Tighten crosswise
M10 x 53 x 1.25
44 lb/ft (60 Nm)

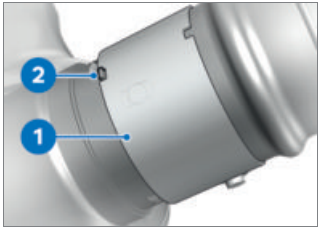


- Lightly lubricate the inside of the new clamp **4**.

Lubricant
Optimoly TA

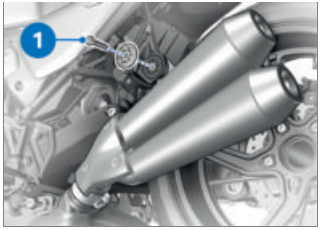
- Slide the new clamp **4** onto the muffler **3**.

- Plug the muffler **3** onto the pipe at the exhaust flap.
- Align muffler **3**, fit lock washer **2** and install screw **1**, but do not tighten yet.



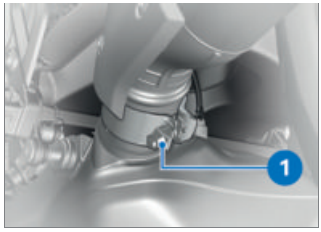
- Align the new clamp with recess **1** on the retaining lug **2**.

» Snap-in lug engages in the recess of the clamp.



- Tighten screw **1**.

Muffler at the passenger foot peg bracket
M8 x 40
14 lb/ft (19 Nm)



- Tighten the nut **1** of the clamp.

Clamp on silencer and exhaust manifold
Joint compound: Lubricate inside of clamp, Optimoly TA
21 lb/ft (28 Nm)

- Fold out the side stand.
- Remove the rear-wheel stand.
- Put the motorcycle on its side stand.

LIGHT SOURCES

Replacing the LED light source

WARNING

Overlooking the vehicle in road traffic due to failure of the lighting on the vehicle
Safety risk
- Replace defective lighting as soon as possible. Please contact a repair shop for this purpose, preferably an authorized BMW Motorrad dealer.

All light sources on the vehicle are LED light sources. The service life of the LED light sources is longer than the assumed service life of the vehicle. If an LED light source is faulty, please contact a repair shop, preferably an authorized BMW Motorrad dealer.

JUMP-STARTING

CAUTION

Touching live parts of the ignition system when the engine is running
Electrocution
- Do not touch parts of the ignition system when the engine is running.

ATTENTION

Current too high when jump-starting the motorcycle
Cable fire or damage to the motorcycle electronics
- Do not jump-start the motorcycle using the power socket, only via the battery terminal.

ATTENTION

Contact between crocodile clips of jump leads and motorcycle
Danger of short circuit
- Use jump leads fitted with fully insulated crocodile clips at both ends.

ATTENTION

Contact between positive battery connection point and vehicle

Risk of short circuit

- Remove the protective cap only when using the positive battery connection point and then refasten it afterwards.

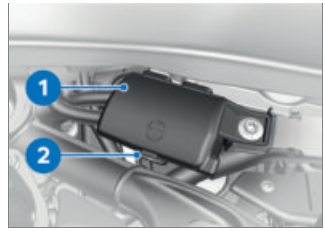
ATTENTION

Jump-starting with a voltage higher than 12 V

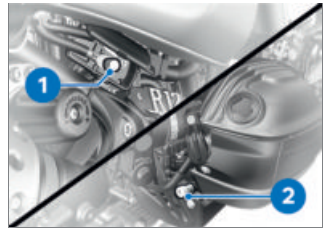
Damage to the motorcycle's electronics

- The battery of the donor motorcycle must have a voltage of 12 V.

- Park the motorcycle, making sure the ground is level and firm.
- Do not disconnect the battery from the electrical system for an external start.



- Unclip the protective cap **1** from its lock **2** and remove.

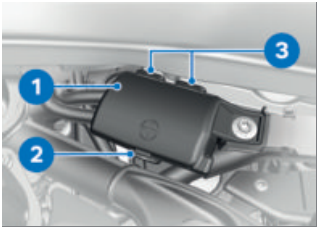


- First, use the red jumper cable to connect the positive battery connection point **1** to the positive terminal of the second battery.
- Use the black jumper cable to connect the ground support point **2** on your vehicle to the negative terminal of the second battery.
- Run engine of donor vehicle during jump-starting procedure.
- Start the engine of the vehicle with the empty battery in the usual way; if the engine does

not start, wait a few minutes before repeating the attempt to protect the starter motor and the donor battery.

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

- Allow both engines to idle for a few minutes before disconnecting jumper cables.
- First, disconnect the jumper cable from the ground support point **2** and then from the remote positive battery connection point **1**.



- Insert the protective cap **1** into the holder **3** and clip into the lock **2**.

» The protective cap **1** snaps in audibly.

BATTERY

Maintenance instructions

Proper care, charging and storage extend the battery's service life and are required for any warranty claims.

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

–Keep the surface of the battery clean and dry.
–Do not open the battery.
–Do not top up with water.
–Be sure to read and comply with the instructions for charging the battery on the following pages.
–Do not turn the battery upside down.

Battery design
AGM (Absorbent Glass Mat) battery

ATTENTION

Discharging of the connected battery by the vehicle electronics (e.g. clock)
Total discharge of battery leading to a rejection of warranty claims
- During riding breaks of more than 4 weeks, connect a trickle-charger to the battery.

BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of the motorcycle. This device can be used to keep the battery charged during long periods when the motorcycle is not being used even while the battery is connected to the motorcycle. For more information, contact an authorized BMW Motorrad dealer.

Charging the battery

ATTENTION

Charging a fully discharged battery via the power socket or additional onboard socket
Damage to the vehicle electronics
- A fully discharged battery (battery voltage less than 12 V, indicator lights and multifunction display remain off when ignition is turned on) must always be charged at the positive battery and ground support points.

ATTENTION

Improper battery chargers connected to a socket
Damage to battery charger and vehicle electronics
- Use suitable BMW battery chargers. You can obtain the right charger from your authorized BMW Motorrad dealer.

- Charge connected battery via the socket.

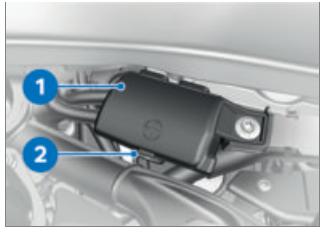
The vehicle electronics detect when the battery is fully charged. The onboard

socket is switched off when this happens.

- Comply with operating instructions of charger.

If you are unable to charge the battery via the onboard power socket, you may be using a charger that is not compatible with your motorcycle's electronics. In this case, charge the battery using the positive battery connection point and ground support point.

- Charge battery via positive battery connection point and ground support point.
- Turn off the ignition. (➠ 74)



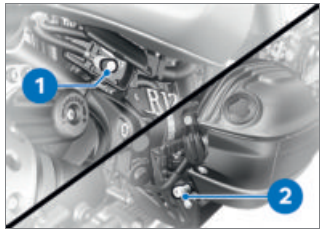
ATTENTION

Contact between positive battery connection point and vehicle

Risk of short circuit

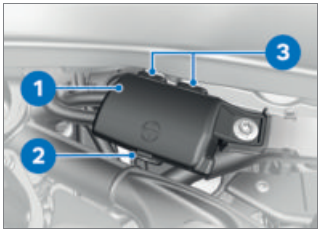
- Remove the protective cap only when using the positive battery connection point and then refasten it afterwards.

- Unclip the protective cap **1** from its lock **2** and remove.



- Connect the positive battery connection point **1** with the positive terminal of the battery charger.

- Connect the ground support point **2** to the negative terminal of the battery charger.
- After the end of the charging process, disconnect the battery charger first from the ground support point **2** and then from the positive battery connection point **1**.



- Insert the protective cap **1** into the holder **3** and clip into the lock **2**.

» The protective cap **1** snaps in audibly.

Replacing the battery

In the event that the battery is faulty, contact a repair shop, preferably an authorized BMW Motorrad dealer.

FUSES

Replacing fuses

ATTENTION

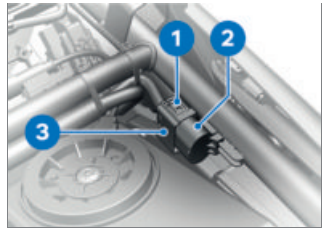
Bypassing defective fuses

Risk of short circuit and fire

- Do not bypass defective fuses.
- Replace defective fuses with new fuses.

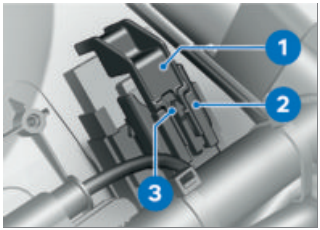
If the fuses are faulty frequently, have the electrical system checked by a repair shop, preferably an authorized BMW Motorrad dealer.

- Turn off the ignition.
- Park the motorcycle, making sure the ground is level and firm.
- Remove the seat. (➠ 98)



- For **fuse layout I** press the locking device **1** on both sides and pull the fuse box **3** out of the holder **2**.

- Replace defective fuse in accordance with following fuse assignment diagram.
- Reinsert the fuse box **3** into the holder **2**. Make sure that the lock **1** snaps in.

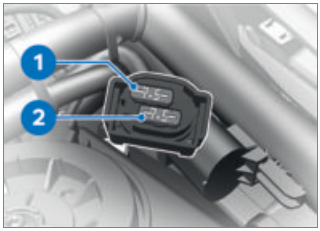


- For **fuse layout II**, detach the locking device **3** using the slotted blade from the on-board toolkit and remove the cover **1** upwards.
- Replace defective fuse in accordance with following fuse assignment diagram.
- Reinsert the cover **1** into the holder **2**.

» The lock **3** engages.

- Install the seat. (➠ 99)

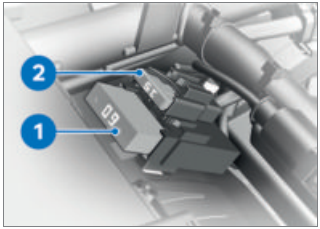
Fuse layout I



1 7.5 A
Instrument cluster
Anti-theft alarm system
Diagnostic socket

2 7.5 A
Keyless Ride

Fuse layout II



1 60 A
Main fuse

2 15 A
Multifunction switch
Instrument cluster
CCP

DIAGNOSTIC CONNECTOR

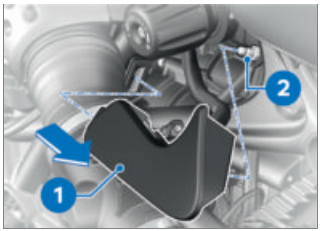
Detaching the diagnostic connector

CAUTION

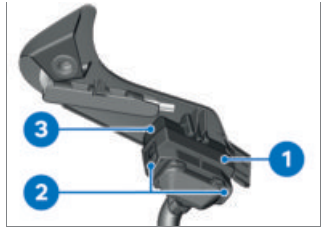
Incorrect procedure when disconnecting the diagnostic socket for onboard diagnosis

Vehicle experiences malfunctions

- Do not have the diagnostic socket disconnected except during BMW Motorrad service by a repair shop or other authorized persons.
- Have work carried out by appropriately trained personnel.
- Observe the specifications of the vehicle manufacturer.



- Detach the cover **1** from the holder **2** and take off in arrow direction; when doing so, pay attention to the wiring of the diagnostic connector.



- Slightly press the diagnostic connector **1** into the bracket **3**; press the locking devices **2** on the diagnostic connector **1** at the same time.
- Detach the diagnostic socket **1** from the holder **3**.

» The interface for the diagnostics and information system can be connected to the diagnostic connector **1**.

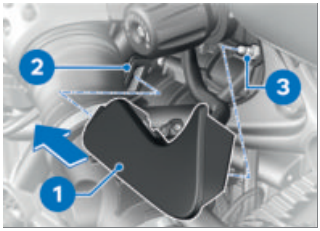
Fastening the diagnostic connector

- Disconnect the interface for the diagnostics and information system.



- Insert the diagnostic socket **1** into the holder **3**.

» The locks **2** snap in.



- Press on the cover **1** in arrow direction into the bracket **2** and press on the bracket **3**; when doing so, pay attention to wiring of the diagnostic connector.

ACCESSORIES

10

GENERAL NOTES 182
SOCKETS 182
USB CHARGING SOCKET 183
LUGGAGE 184
OPTIONAL ACCESSORIES 185

GENERAL NOTES

CAUTION

Use of products from other manufacturers
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 motorcycles without constituting a safety hazard. Nor is this guarantee provided when the official approval of a specific country has been granted. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances.
- Use only parts and accessories approved by BMW for your motorcycle.

The safety, function and suitability of the parts and accessory products have been thoroughly tested by BMW. Therefore, BMW assumes responsibility for these products. BMW shall not be held liable for unapproved parts and accessory products of any kind.
Comply with the legal requirements for any modifications. Consult the road traffic licensing regulations of your country.
Your authorized BMW Motorrad dealer offers you qualified advice for choosing original BMW parts, accessories and other products.
More information on the topic of accessories is available at: **bmw-motorrad.com/equipment**

SOCKETS

Connecting electrical devices
– The ignition must be turned on before electrical devices connected to the onboard power sockets can be put into operation.

Cable layout
– The cables from the on-board sockets to the auxiliary devices must be routed in such a way that they do not impede the rider.
– Cable layout must not restrict the steering angle and the handling characteristics.
– Cables must not be trapped.

Automatic shutoff

–The onboard sockets are automatically switched off during the starting procedure.
–For relief of the electrical system, the sockets are switched off 60 seconds after the ignition has been turned off. Accessories with low electrical consumption might not be detected by the vehicle electronics. In these cases, onboard sockets are already turned off shortly after the ignition is turned off.
–In case of insufficient battery voltage, the onboard sockets are switched off to maintain the starting capability of the vehicle.
–If the maximum loadability specified in the technical data is exceeded, the onboard sockets are switched off.

USB CHARGING SOCKET

Notes about use

WARNING

Obstruction of the steering angle and risk of fire due to improperly laid cables

Driving safety is impaired

- Do not wrap cables around the handlebars, make sure that the handlebars can be moved freely.
- When laying the cable, make sure that the cable does not come into contact with any hot components.

ATTENTION

Vibrations during riding

Damage to stored mobile phones

- Make sure that the stored mobile phone is suitable for use on the vehicle. To do so, ask the manufacturer about limits of use and observe them.

Automatic shutoff

The USB charging sockets are automatically switched off under the following conditions:

–If the battery voltage is too low to retain the starting capability of the vehicle.
–If the maximum load capacity specified in the technical data is exceeded.
–During the starting procedure.

Connecting electrical devices

The ignition must be switched on before electrical devices connected to USB charging sockets can be operated. To relieve the electrical system, the USB high-voltage charging sockets are switched off 60 seconds ignition has been turned off.

To protect the connected device, the device should be unplugged when riding in rain. When no device is connected, the cover should be closed to prevent soiling.

Cable layout

Observe the following when routing cables from USB charging sockets to additional devices:

–Cables must not impede the rider.
–Cables must not restrict the steering angle and handling characteristics.
–Cables must not become trapped.

LUGGAGE

Securing luggage on the motorcycle

WARNING

Reduced riding stability caused by overloading and uneven loading

Accident hazard

- Do not exceed the gross weight limit and observe the loading information.

- Vehicle load. (➠ 116)
- Stow luggage in original BMW Motorrad accessories.

» Additional information on the luggage system and its attachment is available from your authorized BMW Motorrad dealer.

Maximum payload and maximum speed

–with rear bag OA

or

–with tank bag OA

Observe maximum payload and maximum speed. Load the luggage in a way that ensures the roll stability of the motorcycle. The following values apply to the combination described here:

–with rear bag OA

Payload of rear bag
max 22 lbs (max 10 kg)
Capacity of rear bag
Approx. 10.6 gal (Approx. 40 l)
Maximum speed for riding with rear bag
max 112 mph (max 180 km/h)

–with tank bag OA

Payload of tank bag
≤11 lbs (≤5 kg)
Maximum speed when riding with loaded tank bag
≤99 mph (≤160 km/h)

OPTIONAL ACCESSORIES

Available optional accessories



Your authorized BMW Motorrad dealer offers you qualified advice in choosing genuine BMW parts, accessories and other products such as aluminum humps or covers for the rear frame. You can find all optional accessories from BMW Motorrad on our website: **bmw-motorrad.com**.

CARE

11

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CARE PRODUCTS

ATTENTION

Use of unsuitable cleaning and care agents
Damage to motorcycle parts
- Do not use any solvents such as nitro thinners, cold cleaners, fuel or similar, and do not use cleaning agents that contain alcohol.

ATTENTION

Use of highly acidic or alkaline cleaning agents
Damage to motorcycle parts
- Observe the dilution ratio on the packaging of the cleaning agents.
- Do not use highly acidic or alkaline cleaning agents.

BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad dealer. BMW Motorrad Care Products have been materials tested, lab-tested, and field tested and provide optimum vehicle care and protection for the materials used in your vehicle.

WASHING THE VEHICLE

WARNING

Wet brake disks and brake pads after washing the vehicle, after water passages or in rain
Decreased braking effect, risk of accident
- Brake early until the brake disks and brake pads have dried off on their own or through braking.

ATTENTION

Damage caused by high water pressure from high-pressure cleaners or steam-jet devices
Corrosion or short circuit, damage to labels, to seals, to hydraulic brake system, to the electrical system and the seat
- Exercise caution when using high-pressure or steam-jet devices.

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

To prevent stains, do not wash the vehicle immediately after it has been exposed to bright sunlight and do not wash it in the sun.
Regularly clean the fork tubes of contamination.
Make sure that the vehicle is washed more frequently, especially during the winter months and when riding on salted roads.

ATTENTION

Increased effect of salt caused by warm water
Corrosion
- Only use cold water to remove salt deposits.

To remove salt deposits, clean the vehicle and any add-on parts with cold water immediately after completion of every trip.

After rides in the rain, in high humidity and after the vehicle is washed, condensation can form inside the headlight. During this process, the headlight can become foggy for a while. If moisture accumulates in the headlight on an ongoing basis, contact a repair shop, preferably an authorized BMW Motorrad dealer.

CLEANING SENSITIVE VEHICLE PARTS

Plastics

ATTENTION

Use of unsuitable cleaning agents
Damage to plastic surfaces
- Do not use abrasive cleaners or cleaners containing alcohol or solvents.
- Do not use insect sponges or sponges with a hard surface.

Clean plastic components with water and BMW plastic care emulsion. This includes in particular:
–Windshields and wind deflectors
–Headlight diffusers made of plastic
–Glass cover of the instrument cluster
–Black, unpainted parts

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

Chrome

Carefully clean chrome parts with plenty of water and motorcycle cleaner of the BMW Care Products series. This is particularly important in case of exposure to salt.
For additional treatment, use BMW Motorrad metal polish.

Radiator

ATTENTION

Bending of radiator fins
Damage to radiator fins
- When cleaning, ensure that the cooler fins are not bent.

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

Rubber

ATTENTION

Use of silicone sprays for care of rubber seals
Damage to rubber seals
- Do not use silicone sprays or care products that contain silicone.

Treat rubber parts with water or BMW rubber care product.

CARE OF PAINTWORK

ATTENTION

Paint damage from metal polish
Risk of damage
- Do not treat paints and chrome lacquers with metal polish.

Washing the vehicle regularly will help counteract the long-term effects of substances that damage the paint, especially if your vehicle is ridden in areas with high air pollution or natural sources of dirt, such as tree resin or pollen.
However, remove particularly aggressive substances immediately; otherwise changes in the paint or discoloration may occur. These include spilled fuel, oil, grease and brake fluid as well as bird droppings.
It is recommended to use BMW Motorrad solvent cleaner and then apply BMW Motorrad high-gloss polish to preserve the paint.
Contaminants on the paint surface are particularly easy to see after washing the vehicle. Remove this type of dirt immediately with cleaning benzene or

ethyl alcohol on a clean cloth or cotton ball. BMW Motorrad recommends removing tar stains with BMW tar remover. Then add a protective wax coating to the paint at these locations.

PAINT PRESERVATION

Apply a preservative when water fails to bead up on the painted surface.
BMW Motorrad recommends BMW Motorrad high gloss polish or agents that contain carnauba or synthetic wax for paint preservation.

Chrome lacquer must not be preserved with chrome polish.
Only use the agents recommended by BMW Motorrad.

STORING THE MOTORCYCLE

- Completely fill the motorcycle's fuel tank.

Fuel additives clean the fuel injection system and the combustion area. Fuel additives should be used when refueling with low-quality fuels or during longer stationary periods. Your authorized BMW Motorrad dealer can provide you with more detailed information.

- Clean the motorcycle.
- Spray the brake lever bearing and clutch lever bearing with a suitable lubricant.
- Coat bare metal and chrome-plated parts with an acid-free grease (petroleum jelly).
- Park motorcycle in a dry room, raising it to relieve weight from both wheels (preferably using the front-wheel and rear-wheel stands offered by BMW Motorrad).
- Connect battery charger if necessary.

BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of the motorcycle. This device can be used to keep the battery charged during long periods when the motorcycle is not being used even while the battery is connected to the motorcycle. For more information, contact an authorized BMW Motorrad dealer.

PUTTING THE MOTORCYCLE INTO OPERATION

- Remove the protective wax coating.
- Clean the motorcycle.

- Charge battery if necessary.
- Observe checklist (➠ 119).

TECHNICAL DATA

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TROUBLESHOOTING CHART

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

Possible cause	Remedy
Emergency on/off switch actuated.	Emergency-off switch in operating position.
Side stand is extended and gear is engaged.	Fold in side stand.
Gear is engaged and clutch is not operated.	Shift transmission to neutral or disengage clutch.
Fuel tank is empty.	Refueling procedure. (➠ 128)
Battery is drained.	Charge battery. (➠ 173)
Overheating protection for starter motor has triggered. Starter motor can only be actuated for a limited period.	Leave the starter motor to cool down for around 1 minute until it becomes available again.

THREADED CONNECTIONS

Front wheel	Value	Valid
Brake caliper on telescopic forks		
M10 x 65	28 lb/ft (38 Nm)	
Clamping bolts in subframe		
M6 x 30	**Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time**	
	9 lb/ft (12 Nm)	
Screw on quick-release axle		
M20 x 1.5	37 lb/ft (50 Nm)	
Wheel speed sensor on fork		
M6 x 20	6 lb/ft (8 Nm)	

Rear wheel	Value	Valid
Rear wheel on wheel carrier		
M10 x 53 x 1.25	**Tightening sequence: Tighten crosswise**	
	44 lb/ft (60 Nm)	

Mirror arm	Value	Valid
Mirror (lock nut) on adapter		
M10 x 1.25	Left-hand thread, 16 lb/ft (22 Nm)	

Front wheel cover	Value	Valid
Front wheel cover on fork		
M5 x 20	4 lb/ft (5 Nm)	

Gearshift shaft	Value	Valid
Gearshift lever on gearshift shaft		
M6 x 25	6 lb/ft (8 Nm)	

Frame	Value	Valid
Seat lock on the rear frame		
M6 x 16	4 lb/ft (6 Nm)	

Exhaust system	Value	Valid
Clamp on silencer and exhaust manifold		
Renew clamp Lubricate inside of clamp, Optimoly TA	21 lb/ft (28 Nm)	
Muffler at the passenger foot peg bracket		
M8 x 40	14 lb/ft (19 Nm)	

FUEL	
Recommended fuel quality	Premium unleaded (max. 15% ethanol, E15) 89 AKI (95 ROZ/RON) 90 AKI
Alternative fuel quality	Regular unleaded (max. 15% ethanol, E15) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 4.2 gal (Approx. 16 l)
Reserve fuel quantity	Approx. 3.7 quarts (Approx. 3.5 l)
Fuel consumption	46 mpg (5.1 l/100 km), In accordance with WMTC
CO2 emissions	119 g/km, In accordance with WMTC
Emission standard	TIER 2, measured in accordance with FTP75

ENGINE OIL	
Engine oil, filling capacity	max 1 gal (max 3.95 l), with filter exchange
Specification	SAE 15W-50, API SJ/ JASO MA2, Additives (for instance, molybdenum-based substances) are prohibited, because they would attack the coatings on engine components, BMW Motorrad recommends BMW Motorrad ADVANTEC Pro Oil

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Engine oil, top-up quantity	max 0.5 quarts (max 0.5 l), Difference between **MIN** and **MAX**

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

ENGINE

Engine number location	On crankcase at lower right, below starter motor
Engine type	A72B12B
Engine design	Air-/oil-cooled two-cylinder four-stroke opposed-twin engine.
Displacement	1170 cc (1170 cm^3)
Cylinder bore	4 in (101 mm)
Piston stroke	2.9 in (73 mm)
Compression ratio	12:1
Nominal capacity	107 hp (80 kW), at RPM: 7000 min^{-1}
Torque	85 lb/ft (115 Nm), at RPM: 6500 min^{-1}
Maximum engine speed	max 8500 min^{-1}
Idle speed	$1150^{\pm 50}$ min^{-1}, Engine at operating temperature

CLUTCH

Clutch design	Single-plate dry clutch

TRANSMISSION

Transmission design	Claw-shift 6-gear transmission in separate transmission housing
Transmission gear ratios	1.737, Primary gear ratio 2.375 (38:16 teeth), 1st gear 1.696 (39:23 teeth), 2nd gear 1.296 (35:27 teeth), 3rd gear 1.065 (33:31 teeth), 4th gear 0.939 (31:33 teeth), 5th gear 0.848 (28:33 teeth), 6th gear

REAR-WHEEL DRIVE

Type of final drive	Cardan shaft drive with bevel gears
Type of rear-wheel guide	Cast aluminum single-sided swinging arm with BMW Motorrad Paralever
Gear ratio of rear-wheel drive	2.909
Rear axle differential oil	FUCHS Titan EG 4218 SAE 70W-80

FRAME

Frame design	Lattice-tube frame
Location of type plate	Frame at front left on steering head
Location of the vehicle identification number	Main frame front bottom right

RUNNING GEAR	
Front wheel	
Type of front suspension	Upside-down telescopic forks
Spring travel, front	4.7 in (120 mm), on wheel
Rear wheel	
Design of rear-wheel suspension	Central spring strut with coil spring, adjustable rebound-stage damping and spring preload
Spring travel on the rear wheel	4.7 in (120 mm), on wheel

BRAKES	
Front wheel	
Type of front wheel brake	Twin disc brake with 4-piston fixed caliper
Front brake pad material	Sintered metal
Front brake disc thickness	min 0.16 in (min 4.0 mm), Wear limit
Rear wheel	
Type of rear wheel brake	Single-disc brake with 2-piston floating caliper
Rear brake pad material	Organic
Rear brake disc thickness	min 0.18 in (min 4.5 mm), Wear limit

WHEELS AND TIRES	
Recommended tire combinations	An overview of the current tire approvals is available from your authorized BMW Motorrad dealer.
Speed category of front/rear tires	W, minimum requirement: 168 mph (270 km/h)
Front wheel	
Front wheel design	Aluminum cast wheel
–with Option 719 wheel Classic OE	Spoked wheel
Front-wheel rim size	3.50" x 17"
Front tire designation	120/70 ZR 17
Load index for front tire	At least 58
Permitted front wheel imbalance	max 0.2 oz (max 5 g)
Rear wheel	
Rear wheel design	Aluminum cast wheel
–with Option 719 wheel Classic OE	Spoked wheel
Rear-wheel rim size	5.50" x 17"
Rear tire designation	180/55 ZR 17
Load index for rear tire	At least 73
Permitted rear wheel imbalance	max 0.2 oz (max 5 g)

Tire pressures	
Front tire pressure	36.3 psi (2.5 bar), with tire cold
Rear tire pressure	39.2 psi (2.7 bar), One-up mode, with cold tires 42.1 psi (2.9 bar), Two-up and cargo, with cold tires

ELECTRICAL SYSTEM	
Fuses	
Fuse 1	60 A, Main fuse (alternator, CCP, Wave, fuse boxes)
Fuse 2	7.5 A, Anti-theft alarm system, diagnostic socket, instrument cluster
Fuse 3	7.5 A, Keyless Ride
Fuse 4	15 A, Multifunction switch, rotational-speed sensor, CCP
Battery	
Battery design	AGM (Absorbent Glass Mat) battery
Battery voltage	12 V
Battery capacity	14 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK MAR8AI-10DS
Light sources	
All light sources	LED

ANTI-THEFT ALARM SYSTEM	
Activation time	1 s
Alarm duration	28 s
Battery type (For Keyless Ride radio-operated key)	CR 2032

DIMENSIONS	
Motorcycle length	83.9 in (2130 mm), measured over rear wheel, at DIN unloaded vehicle weight
Motorcycle height	42.1 in (1070 mm), Without mirror, with DIN unloaded weight
Motorcycle width	32.3 in (820 mm), without installed parts 34.3 in (870 mm), using handlebar levers
Front-seat height	31.1...31.3 in (789...795 mm), without rider, at DIN unloaded vehicle weight
Rider's inside-leg arc, heel to heel	69.5 in (1765 mm), without rider, at DIN unloaded vehicle weight

WEIGHTS	
Unloaded vehicle weight	485 lbs (220 kg), DIN unloaded vehicle weight, ready for road, fuel tank 90% full, without OE
Gross vehicle weight	948 lbs (430 kg)
Maximum payload	465 lbs (211 kg)

PERFORMANCE DATA	
Maximum speed	>124 mph (>200 km/h)

SERVICE

13

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REPORTING SAFETY DEFECTS

If you think that your vehicle has a fault which may cause an accident, injury or death, you must inform the NHTSA (National Highway Traffic Safety Administration) immediately and 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 may order the manufacturer to perform a recall and remedy campaign. However, the NHTSA cannot become involved in individual problems between you, your authorized BMW Motorrad dealer or BMW of North America, LLC.

You can contact the NHTSA by calling 1–888–327–4236 to reach the Vehicle Safety Hotline (Teletypewriter TTY for the hearing impaired: 1–800–424–9153) for free, by visiting the website at http://www.safercar.gov or by writing to Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. Further information on vehicle safety is available at the following website: http://www.safercar.gov.

Canadian customers who wish to report a safety-related defect to Transport Canada, Defect Investigations and Recalls may call the toll-free hotline 1–800–333–0510. You can also obtain other information about vehicle safety from http://www.tc.gc.ca/roadsafety.

BMW MOTORRAD SERVICE

With its worldwide dealer network, BMW Motorrad can attend to you and your motorcycle in over 100 countries around the globe. Authorized BMW Motorrad dealers have the technical information and expertise needed to reliably conduct all preventive maintenance and repair procedures on your BMW.
You will find the nearest authorized BMW Motorrad dealer at our website:
bmw-motorrad.com

WARNING

Improperly performed preventive maintenance and repair procedures
Risk of accident due to subsequent damage
- BMW Motorrad recommends having corresponding work performed on the motorcycle by a repair shop, preferably by an authorized BMW Motorrad dealer.

To ensure that your BMW is always in optimum condition, BMW Motorrad recommends that you comply with the maintenance intervals specified for your motorcycle.
Have all preventive maintenance and repair procedures confirmed in the Service chapter in this manual. Documented proof of scheduled preventive maintenance is essential for generous treatment of claims submitted after the warranty period has expired (goodwill).

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

BMW MOTORRAD SERVICE HISTORY

Entries

Maintenance work that has been performed is recorded in the diagnostics and information system. Like a Service Booklet, these entries provide proof of regular preventive maintenance. If an entry is made in the vehicle's service history, service-related data is stored on the central IT systems that can be accessed via BMW.

When there is a change in vehicle owner, the data entered in the electronic Service History can also be viewed by the new vehicle owner. An authorized BMW Motorrad dealer or repair shop can view the data entered in the service history.

Objection

At an authorized BMW Motorrad dealer or repair shop, the vehicle owner can object to the entry of data in the service history with the related storage of data in the vehicle and the transfer of data to the vehicle manufacturer during his time as the vehicle owner. In this case, no entry is made in the vehicle's electronic Service History.

BMW MOTORRAD MOBILITY SERVICES

BMW Motorrad Mobility Services furnish you and your new BMW motorcycle with extra security by offering a wide array of assistance services in the event of a breakdown (mobile service, breakdown assistance, vehicle recovery and retrieval, etc.).

Contact your authorized BMW Motorrad dealer for additional information on available mobility services.

MAINTENANCE WORK

BMW pre-delivery check

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

BMW break-in service

The BMW break-in service must be performed when the motorcycle has been driven between 300 mi and 750 mi (500 km and 1200 km).

BMW Motorrad Service

BMW Motorrad service is carried out once a year.

The scope of the services performed may be dependent on the age of the vehicle and the distance covered. Your authorized BMW Motorrad dealer confirms that the service has been performed and enters the date for the next service.

For riders with a high annual distance traveled, it may be necessary to come in for service before the entered date. In these cases, a corresponding maximum distance covered will also be entered in the confirmation of service. If this distance covered is

reached before the next service appointment, service must be performed sooner.

The service display in the display reminds you of the approaching service appointment approx. one month or 620 mi (1000 km) before the entered values.

More information on the topic of service is available at:
bmw-motorrad.com/service

The required scope of maintenance work for your vehicle can be found in the following maintenance schedule. The listed repair procedures are due at the respective specified mileage levels or the specified time intervals.

MAINTENANCE SCHEDULE

	500 - 1200 km 300 - 750 mls	10 000 km 6 000 mls	20 000 km 12 000 mls	30 000 km 18 000 mls	40 000 km 24 000 mls	50 000 km 30 000 mls	60 000 km 36 000 mls	70 000 km 42 000 mls	80 000 km 48 000 mls	90 000 km 54 000 mls	100 000 km 60 000 mls	12 months	24 months
1	X												
2		X	X	X	X	X	X	X	X	X	X	X[a]	
3		X	X	X	X	X	X	X	X	X	X	X[a]	
4			X		X		X		X		X		X[b]
5		X	X	X	X	X	X	X	X	X	X		
6					X				X			X[c]	X[c]
7			X		X		X		X		X		
8			X		X		X		X		X		
9					X[d]				X[d]				
10				X			X			X			
11				X[f]			X[f]			X[f]			
12									X[f]				
13												X[e]	X[e]

1 BMW Motorrad break-in inspection (including oil and oil filter change)

2 Standard scope of BMW Motorrad service

3 Engine oil change with filter

4 Oil change in the bevel gears

5 Check valve clearance

6 Change transmission oil

7 Replace all spark plugs

8 Replace the air filter insert

9 Replace the alternator belt

10 Oil change in the telescopic forks

11 Visually inspect and lubricate the universal shaft

12 Replace the universal shaft

13 Change brake fluid in the entire system

a Annually or every 6000 mi (10000 km) (whichever comes first)

b Every two years or every 12000 mi (20000 km) (whichever comes first)

c For the first time after one year, then every two years or 24000 mi (40000 km) (whichever comes first)

[d] Every six years or every 24000 mi (40000 km) (whichever comes first)

[e] At first after one year, then every two years

[f] Relative to the service life of the component

BMW MOTORRAD BREAK-IN SERVICE

BMW Motorrad break-in service

The BMW Motorrad break-in service repair procedures are listed below. The actual scope of maintenance required for your vehicle may differ.

–Setting the service date and remaining distance
–Performing the vehicle test using the BMW Motorrad diagnostic system
–Engine oil change with filter
–Change oil in the angular gearbox
–Checking the front wheel brake fluid level
–Checking the rear wheel brake fluid level
–Check the tire tread depth and tire pressure
–Check the tension of the spokes and tighten as needed
–Checking the lighting and signal system
–Functional check for engine starting suppression
–Final inspection and road safety check
–Performing the vehicle test using the BMW Motorrad diagnostic system
–Confirming the BMW service in the vehicle literature

MAINTENANCE CONFIRMATIONS

BMW Motorrad Service standard scope

The repair procedures belonging to the BMW Motorrad Service standard package are listed below. The actual maintenance work applicable for your vehicle may differ.

- Performing the vehicle test using the BMW Motorrad diagnostic system
- Visual inspection of the clutch system
- Checking steering-head bearing
- Visual inspection of the brake lines, brake hoses and connections
- Checking the front brake pads and brake discs for wear
- Checking the front wheel brake fluid level
- Checking the rear brake pads and brake disc for wear
- Checking the rear wheel brake fluid level
- Checking the tire pressure and tread depth
- Checking side stand for ease of movement
- Check the tension of the spokes and tighten as needed
- Draining condensate from intake silencer
- Checking the lighting and signal system
- Functional check for engine starting suppression
- Final inspection and road safety check
- Performing the vehicle test using the BMW Motorrad diagnostic system
- Set the service date and remaining distance using the BMW Motorrad diagnostic system
- Checking charging state of battery
- Confirming the BMW Motorrad service in the vehicle literature

BMW Motorrad pre-delivery check

performed

on_____

Stamp, signature

BMW Motorrad break-in service

performed

on_____

at km_____

Next service

latest

on_____

or, if reached earlier

at km_____

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service

performed

on_____

at km_____

Next service

latest

on_____

or, if reached earlier

at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

BMW Motorrad Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

Work performed

	Yes	No
BMW Motorrad Service	☐	☐
Oil change in engine with filter	☐	☐
Oil change in bevel gears	☐	☐
Checking valve clearance	☐	☐
Changing gear oil	☐	☐
Replacing all spark plugs	☐	☐
Replacing air filter insert	☐	☐
Replacing alternator drive belt	☐	☐
Oil change in telescopic fork	☐	☐
Visual inspection and lubricate universal shaft (during preventive maintenance)	☐	☐
Replace universal shaft (during preventive maintenance)	☐	☐
Changing front brake fluid	☐	☐
Changing brake fluid, rear	☐	☐

Notes

Stamp, signature

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RADIO EQUIPMENT TFT INSTRUMENT CLUSTER

For all Countries without EU

Model name: LIN2BTLE Gateway
Manufacturer
Bury Sp. z o.o.
ul. Wojska Polskiego 4, 39-300 Mielec, Poland

Technical Information
BTLE: 2400 MHz - 2483,5 MHz
Output power: < - 3 dBm

Country

Canada
IC: 5927A-LIN2BTLE
This device complies with Part 15 of the FCC Rules and with RSS-247 and RSS-Gen of the Industry Canada Rules. Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference received, including interference that may cause 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.
NOTICE
Changes or modifications made to this equipment not expressly approved by Bury Sp. z o. o.may void the FCC authorization to operate this equipment
NOTE
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur

in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

United States (USA)

FCC ID: QZ9-LIN2BTLE
This device complies with Part 15 of the FCC Rules and with RSS-247 and RSS-Gen of the Industry Canada Rules. Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
NOTICE
Changes or modifications made to this equipment not expressly approved by Bury Sp. z o. o.may void the FCC authorization to operate this equipment
NOTE
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by

one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

KEYLESS RIDE SYSTEM MAIN UNIT

For all countries without EU

Model name: ZB005
Manufacturer
ZADI S.p.A.
Via Carlo Marx 138, 41012 Carpi (MO), Italy

Technical Information
Nominal voltage:
13,5 V
Operating voltage:
6,7 - 16 V
Operating temperature:
-20 °C - +60 °C
Operating frequency LF:
134,5 kHz
Operating frequency HF:
433,92 MHz
RF power:
< 66 dBµA/m
IP grade:
IP5K6K

Country

Canada
IC: 22239-KLRMZB005
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.
This Class B digital device complies with Canadian ICES-003.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil numerique classe B est conforme à la norme Canadien NMB-003.

United States (USA)

FCC ID: VFZKLRMZB005
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.
RF Radiation Exposure
This product complies with FCC and ISED radiation exposure limits set forth for an uncontrolled environment. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body.

KEYLESS RIDE SYSTEM ACTIVE KEY

For all countries without EU

Model name: ZB006
Manufacturer
ZADI S.p.A.
Via Carlo Marx 138, 41012 Carpi (MO), Italy

Technical Information
Battery type
CR2032
Nominal voltage:
3 V
Operating voltage:
2,5 - 3,16 V
Operating temperature:
-20 °C - +60 °C
Operating frequency LF:
134,5 kHz
Operating frequency HF:
433,92 MHz
RF power:
< 10 mW e.r.p.
IP grade:
IP5K7

Country

Canada
IC: 22239-KLRKZB006
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.
This Class B digital device complies with Canadian ICES-003.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
Cet appareil numerique classe B est conforme à la norme Canadien NMB-003.

United States (USA)
FCC ID: VFZKLRKZB006
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.
Changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.
RF Radiation Exposure
This product complies with FCC and ISED radiation exposure limits set forth for an uncontrolled environment. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body.

RADIO EQUIPMENT INTELLIGENT EMERGENCY CALL

For all countries without EU

Model name: TL1M23NE
Manufacturer
LG ELECTRONICS INC.
10, Magokjungang 10-ro, Gangseo-gu Seoul, Republic of Korea

Country

Canada

IC: US0186.2022.000413
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 3.5 cm between the radiator & your body. Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.
The manufacturer is not responsible for any radio or tv interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.
Avis d'Industrie Canada sur l'exposition aux rayonnements
Cet appareil est conforme aux limites d'exposition aux rayonnements d'Industrie Canada pour un environment non contrôlé. Il doit être installé de façon à garder une distance minimale de 3.5 centimétres entre la source de rayonnements et votre corps.
L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
Le fabricant n'est pas responsable des interférences radioélectriques causées par des modifications non autorisées apportées à cet appareil. de telles modifications pourrait annuler l'autorisation accordée à l'utilisateur de faire fonctionner l'appareil.

United States (USA)

FCC ID: BEJTM04ANNABM2
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However,

there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.
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.
This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 3.5 cm between the radiating element of this device and the user.

RADIO EQUIPMENT TYRE PRESSURE CONTROL (RDC)

For all countries without EU

Model name:
Wus moto gen 3
Manufacturer
LDL Technology S.A.S.
Parc Technologique du Canal, 3 rue Giotto, 31520 Ramonville, France

Technical information

Frequency band: 433,92 MHz
Maximum effective radiated power: 16,75 dBm

Country

United States (USA)

This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

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The descriptions and illustrations in this manual may vary from your own motorcycle's actual equipment, depending upon its equipment level and accessories as well as your specific national version. 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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WARNING

Harmful substances
Operating and preventive maintenance of a passenger vehicle or off-road vehicle can expose you to substances such as exhaust gases, carbon monoxide, phthalates and lead, which are known to the State of California to be carcinogenic as well as detrimental to childbirth and reproduction.
- To minimize exposure, avoid breathing exhaust gases, do not put the engine in Neutral except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle.
- Further information is available at: **www.P65Warnings.ca.gov/passenger-vehicle**

Important data for refueling stop:

Fuel	
Recommended fuel quality	Premium unleaded (max. 15% ethanol, E15) 89 AKI (95 ROZ/RON) 90 AKI
Usable fuel quantity	Approx. 4.2 gal (Approx. 16 l)
Reserve fuel quantity	Approx. 3.7 quarts (Approx. 3.5 l)
Tire pressures	
Front tire pressure	36.3 psi (2.5 bar), with tire cold
Rear tire pressure	39.2 psi (2.7 bar), One-up mode, with cold tires 42.1 psi (2.9 bar), Two-up and cargo, with cold tires

You can find further information on all aspects of your vehicle at:
bmw-motorrad.com

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