BMW
MOTORRAD

RIDER'S MANUAL

R 18

MAKE LIFE A RIDE

Vehicle data

Model

Vehicle Identification Number

Colour code

Date of first registration

Registration number

Dealership details

Person to contact in Service department

Ms/Mr

Phone number

Dealership address/phone number (company stamp)

YOUR BMW.

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

About this rider's manual

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

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

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

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

BMW Motorrad.

GENERAL INSTRUCTIONS

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QUICK & EASY REFERENCE

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

ABBREVIATIONS AND SYMBOLS

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

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

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

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

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

- • Instruction.
- » Result of an activity.
- Reference to a page with more detailed information.
- ◁ Indicates the end of a passage relating to specific accessories or items of equipment.
- Tightening torque.
- Technical data.
- OE Optional equipment. The vehicles are assembled complete with all the BMW Motorrad optional equipment originally ordered.

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

EQUIPMENT

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

TECHNICAL DATA

All dimensions, weights and power ratings stated in the rider's manual are quoted to the standards and comply with the tolerance requirements of the Deutsches Institut für Normung e. V. (DIN).
Technical data and specifications in this rider's manual are guide values. The vehicle-specific data may deviate from these, for example, as a result of selected optional equipment, the national-market version or country-specific measuring procedures. Detailed values can be taken from the vehicle registration documents, or can be obtained from your authorised BMW Motorrad retailer or another qualified service partner or specialist workshop. The specifications in the vehicle documents always have priority over the information provided in this rider's manual.

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CURRENCY

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

ADDITIONAL SOURCES OF INFORMATION

Authorised BMW Motorrad retailer

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

Internet

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

CERTIFICATES AND OPERATING LICENCES

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

DATA MEMORY

General

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

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

Personal reference

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

Data protection rights

In accordance with applicable data protection laws, vehicle users have certain rights in relation to the manufacturer of the vehicle or in relation to companies which collect or process personal data.
Vehicle users have the right to obtain full information at no cost from persons or entities storing personal data of the vehicle user.
These entities may include:

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

Vehicle users have the right to request information on what personal data has been stored, for what purpose the data is used, and where the data comes from. To obtain this information, proof of ownership or use is required.
The right to information also includes information about data that has been shared with other companies or entities.
The website of the vehicle manufacturer contains the applicable data protection information. This data protection information includes information on the right to have data deleted or corrected.
The manufacturer of the vehicle also provides their contact details and those of the data protection officer on their website.
The registered keeper can also request an authorised BMW Motorrad Retailer or a specialist workshop to read out the data that is stored in the vehicle for a charge.

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

Legal requirements for the disclosure of data

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

Operating data in the vehicle

Control units process data to operate the vehicle.
This includes, for example:
– Status reports of the vehicle and its individual components, for example wheel speed, wheel circumferential velocity, deceleration
– Environmental factors, for example, temperature

The data is only processed in the vehicle itself and is generally non-permanent. The data is not stored beyond the operating period.
Electronic components, for example control units, contain components for storing technical information. Information can be temporarily or permanently stored on the vehicle condition, component loads, incidents or errors.
This information is generally used to document the condition of a component, a module, a system or the surrounding area, for example:
– Operating conditions of system components, for example filling levels, tyre pressure
– Malfunctions and faults in important system components, for example, light and brakes
– Response of the vehicle in special riding situations, for example engagement of the driving dynamics systems
– Information on incidents resulting in damage to the vehicle

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

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

Data input and data transfer in the vehicle

General

Depending on the equipment, comfort and customised settings can be stored in the vehicle and can be changed or reset at any time.
If required, data can be entered in the entertainment and communication system of the vehicle, for example using a smartphone.
Depending on the individual equipment, this includes:
- Multimedia data, such as music for playback
- Contacts data for use in connection with a communication system or an integrated navigation system
- Entered destinations
- Data on the use of internet services. This data can be

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

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

Incorporation of mobile devices

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

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

Services

General

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

Services of the vehicle manufacturer

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

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

Services from other providers

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

GENERAL VIEWS

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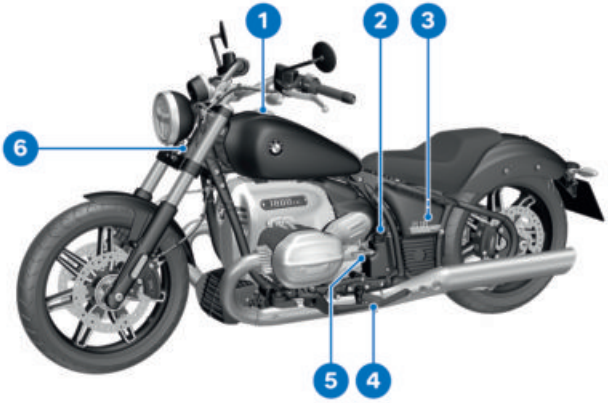
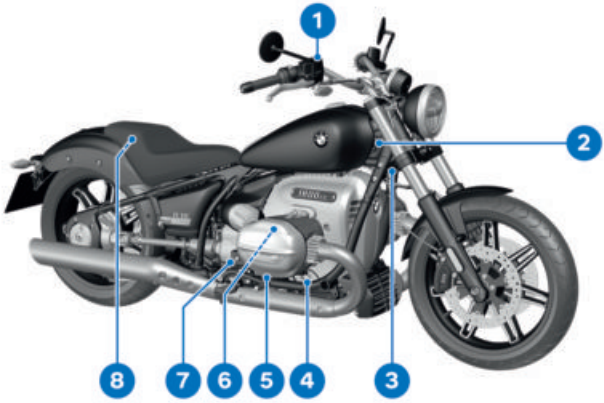
GENERAL VIEW, LEFT SIDE



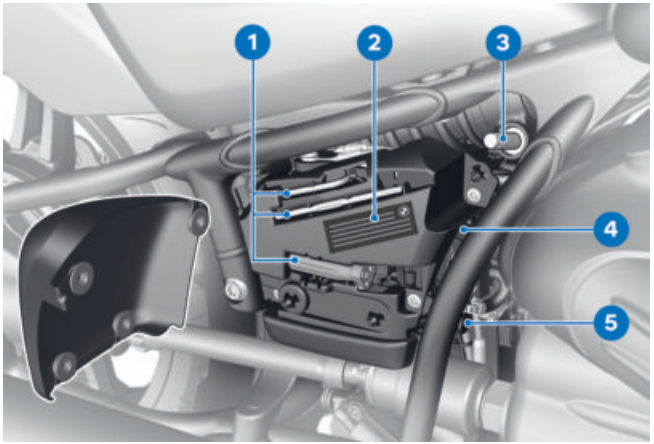
1 Fuel filler neck (➠ 98)
2 Power socket (➠ 152)
USB charging socket (➠ 153)
3 Tyre pressure table (behind the side trim panel) (➠ 121)
Disengage diagnostic socket (behind fairing bracket) (➠ 147)
4 Rider footrest
5 Reverser (➠ 73)
6 Type plate

GENERAL VIEW, RIGHT SIDE



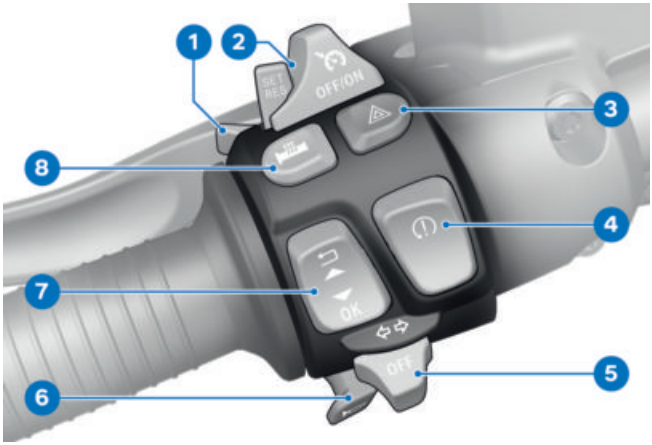
1 Brake-fluid reservoir, front (➠ 129)
2 Steering lock (➠ 56)
3 Vehicle Identification Number
4 Engine oil level indicator (➠ 124)
5 Remote ground terminal (➠ 139)
6 Oil filler opening (under the cylinder head cover) (➠ 125)
7 Brake-fluid reservoir, rear (➠ 130)
8 Seat unlocking (➠ 75)

BEHIND THE SIDE TRIM PANEL, RIGHT



1 Toolkit (➠ 121)
2 Payload table
3 Adjusting spring preload for rear wheel (➠ 83)
4 Replacing fuses (➠ 146)
5 Remote positive terminal (➠ 139)

MULTIFUNCTION SWITCH, LEFT



1 High-beam headlight and headlight flasher (➠ 61)
2 Cruise control (➠ 69)
3 Hazard warning lights (➠ 63)
4 ASC (➠ 67)
5 Turn indicators (➠ 64)
6 Horn
7 Rocker button (➠ 46)
8 Heated grips (➠ 74)

MULTIFUNCTION SWITCH, RIGHT

1 Ignition (➠ 57)
2 Riding mode (➠ 68)
3 Emergency-off switch (kill switch) (➠ 60)
4 Starter button (➠ 93)
–with reverser[OE]
Reverser (➠ 73)

INSTRUMENT CLUSTER

1 Speedometer

2 Indicator and warning lights (➠ 22)

3 Photosensor (for adapting the brightness of the instrument lighting)
Indicator light
DWA (➠ 64)
Keyless Ride (➠ 57)

4 Multifunction display (➠ 23)

STATUS INDICATORS

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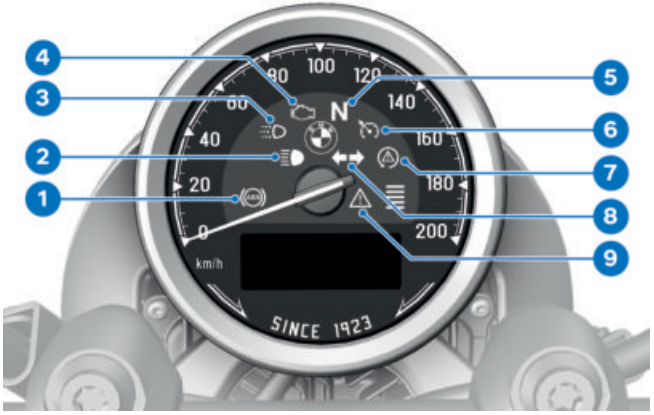
22 STATUS INDICATORS

INDICATOR AND WARNING LIGHTS



1 ABS (➠ 33)
2 High-beam headlight (➠ 61)
3 Daytime riding light (➠ 62)
4 Warning light, drive malfunction (➠ 31)
5 Neutral indicator light
6 Cruise control (➠ 69)
7 ASC (➠ 33)
8 Turn indicators (➠ 64)
9 General warning light
Displayed in combination with warning symbols in the multifunction display (➠ 24)

MULTIFUNCTION DISPLAY

1 Value
2 Riding mode (➠ 68)
3 Unit
On-board computer (➠ 46)
4 Gear indicator
Status
Warning symbol
Displayed in combination with the 'General' warning light (➠ 24)

WARNING INDICATORS

Mode of presentation

Warnings are indicated by the corresponding warning lights. If two or more warnings occur at the same time, all the appropriate warning lights and warning symbols appear.
The possible warnings are listed on the next pages.

Warnings that do not have warning lights of their own are indicated by a warning symbol **1** appearing in the multifunction display in combination with 'General' warning light **2**. The 'General' warning light either shows steadily or flashes, depending on the urgency of the warning.

Acknowledging warnings

Warnings **2** have to be acknowledged by pressing the top or bottom section of button **1**.
The display that was active beforehand does not reappear until warning **2** has been acknowledged.
If two or more warnings are present, button **1** has to be pressed to proceed to and acknowledge each warning **2** in turn.

Calling up active warnings

Repeatedly short-press button **1** until WARN is displayed. Along with the warning **4**, the number of warnings **3** is displayed as well.

Press button **1** to call up the next warning **4** in the sequence.

Press button **2** to go back to preceding warning **4**.

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Warnings, overview

Indicator and warning lights	Display text	Meaning
 lights up.	 is displayed.	Electronic immobiliser active (➠ 29)
 lights up.	 is displayed.	Radio-operated key out of range (➠ 29)
 lights up.	 is displayed.	Replace battery of radio-operated key (➠ 29)
 flashes.	 is displayed.	Engine temperature too high (➠ 29)
 lights up.	 is displayed.	Engine in emergency-operation mode (➠ 30)
 flashes.	 is displayed.	Engine warning (➠ 31)
 lights up.		Drive malfunction (➠ 31)
 flashes.  flashes.	 is displayed.	Serious drive malfunction (➠ 31)
 lights up.	 is displayed.	Voltage of the vehicle electrical system too low (➠ 32)

Indicator and warning lights	Display text	Meaning
 lights up.	 is displayed.	Voltage of the vehicle electrical system critical (➠ 32)
 lights up.	 is displayed.	Bulb faulty (➠ 32)
 flashes.		ABS self-diagnosis not completed (➠ 33)
 lights up.		ABS fault (➠ 33)
 quick-flashes.		ASC intervention (➠ 33)
 flashes.		ASC self-diagnosis not completed (➠ 34)
 lights up.		ASC switched off (➠ 34)
 lights up.		ASC fault (➠ 34)
	 is displayed.	Anti-theft alarm battery weak (➠ 34)
 lights up.	 is displayed.	DWA battery empty or DWA failed (➠ 35)
 lights up.	 is displayed. The critical tyre pressure flashes.	Tyre pressure close to limit of permitted tolerance (➠ 36)

28 STATUS INDICATORS

Indicator and warning lights	Display text	Meaning
 flashes.	 is displayed. The critical tyre pressure flashes.	Tyre pressure outside permitted tolerance (➠ 36)
 lights up.	 is displayed.	Battery for tyre pressure sensor weak (➠ 37)
 lights up.	 is displayed in combination with distance counter for reserve fuel KM R or, as applicable, MI R.	Fuel down to reserve (➠ 37)
	 is displayed.	Hill Start Control active (➠ 38)
 lights up.	 flashes.	Hill Start Control automatically deactivated (➠ 38)
	 flashes.	Hill Start Control cannot be activated (➠ 39)
	 is displayed.	Service due (➠ 39)
 lights up.	 is displayed.	Service overdue (➠ 39)

Electronic immobiliser active

 lights up.

 is displayed.

Possible cause:

The ignition key being used is not authorised for starting, or communication between key and engine electronics is disrupted.

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

Radio-operated key out of range

 lights up.

 is displayed.

Possible cause:

Communication between radio-operated key and engine electronics is disrupted.

- Check the battery in the radio-operated key.
- Replace the battery of the radio-operated key. (➠ 58)
- Use the spare key to continue your journey.
- Battery of the radio-operated key is empty or loss of the radio-operated key. (➠ 58)
- Remain calm if the warning symbol appears while you are riding. You can continue your journey, the engine will not switch off.
- Have the faulty radio-operated key replaced by an authorised BMW Motorrad retailer.

Replace battery of radio-operated key

 lights up.

 is displayed.

Possible cause:

- The integral battery in the radio-operated key has lost a significant proportion of its original capacity. There is no assurance of how long the radio-operated key can remain operational.
- Replace the battery of the radio-operated key. (➠ 58)

Engine temperature too high

 flashes.

 is displayed.

ATTENTION

Riding with overheated engine

Engine damage

- Compliance with the information set out below is essential.

Possible cause:

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

- If possible, ride in the part-load range to cool down the engine.

» Available engine output is reduced.

» If engine temperature is very high when the vehicle is at a standstill, after approximately five minutes the engine shuts down automatically to prevent overheating. The engine can be restarted after the automatic shutdown. The engine is shut down under the following preconditions:

– Side stand is extended.
– Brake is not applied.
– Throttle grip is in idle position.

- If the engine oil temperature is frequently too high, have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad Retailer.

Engine in emergency-operation mode

 lights up.

 is displayed.

WARNING

Unusual ride characteristics when engine running in emergency-operation mode

Risk of accident

- Avoid accelerating sharply and overtaking.

Possible cause:

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

- You can continue to ride, but bear in mind that the usual engine performance might not be available.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

Engine warning

 flashes.

 is displayed.

WARNING

Engine damage when running in emergency-operation mode

Risk of accident

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

Possible cause:

The engine control unit has diagnosed a fault which may cause severe secondary faults. The engine is in emergency-operation mode.

- Avoid high load and rpm ranges if possible.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

» It is possible to continue to ride but not recommended.

Drive malfunction

 lights up.

Possible cause:

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

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

» You can continue riding; pollutant emissions are higher than the threshold values.

Serious drive malfunction

 flashes.

 flashes.

 is displayed.

Possible cause:

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

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

» It is possible to continue to ride but not recommended.

Voltage of the vehicle electrical system too low

 lights up.

 is displayed.

Generator power is no longer sufficient to supply all electrical consumers and charge the battery. In order to ensure that the engine can be started and the vehicle ridden, the on-board electronics switch off the electricity supply to individual electrical consumers.

Possible cause:

Too many electrical consumers are switched on. Particularly at low engine rpm and when the engine is idling, the voltage of the vehicle electrical system tends to drop.

- When riding at low engine rpm, switch off all electrical consumers that are not necessary for road safety (e.g. heated body warmers).

Voltage of the vehicle electrical system critical

 lights up.

 is displayed.

WARNING

Failure of the vehicle systems

Risk of accident

- Do not continue your journey.

Possible cause:

Alternator malfunction, battery faulty or fuse for alternator regulator has blown.

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

Bulb faulty

 lights up.

 is displayed.

WARNING

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

Safety risk

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

Possible cause:

One or more bulbs faulty.

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

ABS self-diagnosis not completed

 flashes.

Possible cause:

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

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

ABS fault

 lights up.

Possible cause:

The ABS control unit has detected a fault. The partially integral function and the Dynamic Brake Control function have failed. The ABS function is not available.

- You can continue to ride the vehicle, but make due provision for the fact that the affected functions are not available. Bear in mind the more detailed information on situations that can lead to an ABS fault (➠ 109).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

ASC intervention

 quick-flashes.

The ASC has detected a degree of instability at the rear wheel and has intervened to reduce torque. The ASC indicator and warning light flashes longer than the duration of the ASC intervention. This affords the rider visual feedback on control intervention even after the critical situation has been dealt with.

ASC self-diagnosis not completed

 flashes.

Possible cause:

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

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

ASC switched off

 lights up.

Possible cause:

The rider has switched off the ASC.

- Switch on ASC. (➠ 67)

ASC fault

 lights up.

Possible cause:

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

- You can continue to ride. Bear in mind that the ASC function and dynamic engine brake control are not available. Bear in mind the more detailed information on situations that can lead to an ASC fault (➠ 110).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

Anti-theft alarm battery weak

–with anti-theft alarm (DWA) OE

 is displayed.

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

Possible cause:

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

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

DWA battery empty or DWA failed

–with anti-theft alarm (DWA) OE

lights up.

is displayed.

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

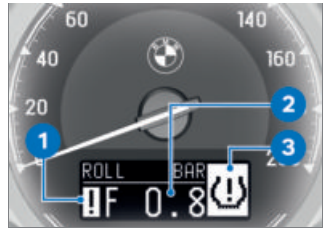
Possible cause:

DWA battery is discharged or DWA control unit has diagnosed a communication fault. It is not possible to trigger an alarm after disconnecting the vehicle battery. All other functions of the DWA are functional. It may no longer be possible to activate or deactivate the DWA. False alarm possible.

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

Tyre pressure

–with tyre pressure control (RDC) OE



F values **2** refer to the front wheel, R values **2** refer to the rear wheel.

Tyre symbol **3** and ! **1** are displayed to indicate that tyre pressure has dropped below the permissible limit. Tyre pressure reading **2** flashes. Immediately after the ignition is switched on, only dashes are displayed. The sensors do not start transmitting tyre pressure signals until the first time the vehicle accelerates to more than the minimum speed stated below:

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

The tyre-pressure readings in the instrument cluster are temperature-compensated and are always referenced to the following tyre-air temperature:
20 °C

If the value in question is close to the limit of the permissible tolerance range, the reading is accompanied by the 'General' warning light. If the tyre pressure registered by the sensor is outside the permissible tolerance range, the 'General' warning light flashes.

For further information about the BMW Motorrad TPM, see the section entitled "Engineering details" from page (➠ 114) onward.

Tyre pressure close to limit of permitted tolerance

–with tyre pressure control (RDC) OE

lights up.

is displayed. The critical tyre pressure flashes.

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

- Correct the tyre pressure as stated on the inside cover of the Rider's Manual.

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

» Temperature compensation (➠ 115)

Tyre pressure outside permitted tolerance

–with tyre pressure control (RDC) OE

flashes.

is displayed. The critical tyre pressure flashes.

WARNING

Tyre pressure outside the permitted tolerance.
Risk of accident, degradation of the vehicle's driving characteristics.

- Adapt your style of riding accordingly.

Possible cause:

Measured tyre pressure is outside permitted tolerance.

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

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

- Correct the tyre pressure at the earliest possible opportunity.

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

» Temperature compensation (➠ 115)

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

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

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

Battery for tyre pressure sensor weak

–with tyre pressure control (RDC) OE

 lights up.

 is displayed.

Possible cause:

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

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

Fuel down to reserve

 lights up.

 is displayed in combination with distance counter for reserve fuel KM R or, as applicable, MI R.

WARNING

Irregular engine operation or engine shutdown due to lack of fuel

Risk of accident, damage to catalytic converter

- Do not run the fuel tank dry.

Possible cause:

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

Fuel reserve	
approx. 4 l	

- Refuel. (➠ 99)

Fuel reserve

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

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

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

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

Hill Start Control active

is displayed.

Possible cause:

Hill Start Control (➠ 116) has been activated by the rider.

- Switch off Hill Start Control.

Hill Start Control automatically deactivated

lights up.

flashes.

Possible cause:

Hill Start Control has been automatically deactivated.

- Side stand has been extended.

» Hill Start Control is deactivated when the side stand is extended.

- Engine has been switched off.

» Hill Start Control is deactivated when the engine is switched off.

Hill Start Control cannot be activated

 flashes.

Possible cause:

Hill Start Control cannot be activated.

- Retract the side stand.

» Hill Start Control is operational only with the side stand retracted.

- Start the engine.

» Hill Start Control is operational only while the engine is running.

Service due

 is displayed.

Possible cause:

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

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

» The vehicle remains operationally reliable and roadworthy.

» The vehicle retains its value.

Service overdue

 lights up.

 is displayed.

Possible cause:

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

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

» The vehicle remains operationally reliable and roadworthy.

» The vehicle retains its value.

SERVICE DISPLAY

When a service is due within one month, symbol for service due **4** and service date **3** are displayed. The SERV display **2** has to be acknowledged by pressing button **1**.

When a service is due within 1000 km, symbol for service due **4** and countdown distance **3** are displayed and the countdown proceeds in steps of 100 km. The SERV display **2** has to be acknowledged by pressing button **1**.

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

INSTRUMENT CLUSTER

04

WARNINGS

WARNING

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

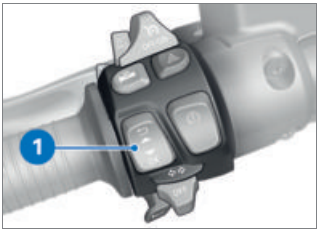
WARNING

Distraction from the road and loss of control
Operating the integrated information system and communication devices while driving results in a risk of accident
- Operate those systems or devices only when the traffic situation allows for it.
- If necessary, stop and operate the systems or devices when stationary.

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

CONTROLS

Rocker button



Short-press the top section of rocker button 1:
–Show next value/menu
–Select parameters
–Configure settings

Long-press the top section of rocker button 1:
–Exit SETUP

Short-press the bottom section of rocker button 1:
–Go back to previous value/menu
–Go back to previous parameter
–Configure settings

Long-press the bottom section of rocker button 1:
–Call up selection
–Confirm setting

OPERATION

SELECTING DISPLAY

Requirement

The vehicle is at a standstill.

- Switch on the ignition. (➠ 57)

» The on-board computer readings appear on the display.

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

Possible displays:

–Odometer reading: KM

–Trip distance recorder 1: KM 1

–Automatic trip distance: KM A is reset automatically 6 hours after the ignition is switched off and the date has changed.

–Distance ridden after fuel down to reserve: KM R selectable only when fuel level is down to reserve.

–Average speed: ØKM/H

–Vehicle voltage: VOLT

–Date: DD.MM.

–Average fuel consumption: ØL/100

–Current fuel consumption: L/100, vehicle at standstill: L/H

–Clock: H:M

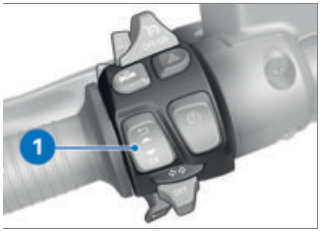
–Engine speed: RPM

– with tyre pressure control (RDC) OE
– Tyre pressure reading, rear wheel: R BAR◁
– with tyre pressure control (RDC) OE
– Tyre pressure reading, front wheel: F BAR◁
– Countdown distance to service: SERV, selectable only when next service is due within 1000 km or service is overdue.
– Service due date: SERV, selectable only when next service is due within one month or service is overdue.
– Active warnings: WARN, selectable only when warnings are active.
– Call up the menu for settings: SETUP ENTER

• Configure the displays. (➠ 50)

Reset the on-board computer

- Switch on the ignition. (➠ 57)



- Repeatedly short-press key **1** until the value to be reset is displayed.
- Long-press the bottom section of key **1** until the value you selected is reset.

» The following values can be reset:

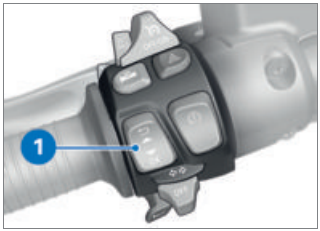
–Trip distance recorder reading
–Average consumption
–Average speed

SETUP

Select SETUP

Requirement

The vehicle is at a standstill.



- Repeatedly short-press button **1** until SETUP ENTER is displayed.
- Long-press the bottom section of key **1** to call up SETUP.
- Short-press the top section of key **1** to select the next parameter.
- Short-press the bottom section of key **1** to go back to the preceding parameter.
- The following parameters in SETUP can be selected:

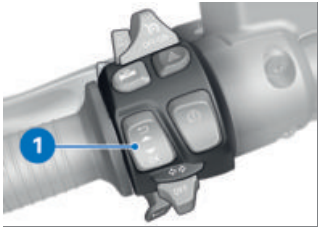
–Activate DRL A ON or deactivate DRL A OFF automatic daytime riding light.
–Adjust the brightness of the backlighting in the instrument cluster BRIGHT.
–with Hill Start Control OE
–Activate Hill Start Control HSC ON or deactivate it HSC OFF.◁
–with anti-theft alarm (DWA) OE
–Automatically activate anti-theft alarm function when the ignition is switched off DWA ON or leave the automatic function switched off DWA OFF.◁
–Set the time CLOCK.
–Set the date DATE.
–Configure displays SET DISPLAY.
–Set units UNIT.
–Reset displays RESET.
–Exit SETUP menu SETUP EXIT.

- Long-press the bottom section of key **1** to call up the desired parameter.

Exit SETUP

Requirement

There are three options for exiting SETUP.



- Long-press the top section of key **1**.

» SETUP ENTER is displayed.

- Alternatively: repeatedly short-press button **1** until SETUP EXIT is displayed.
- Long-press the bottom section of key **1**.

» SETUP ENTER is displayed.

- Alternatively: Ride off.

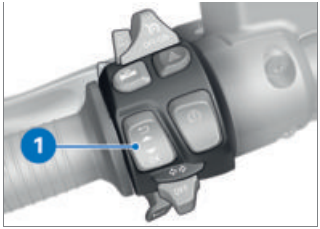
Speed for operation in SETUP mode
max. 10 km/h

» SETUP is exited automatically if the permissible maximum vehicle speed for menu operation is exceeded.

» KM is displayed.

Resetting SETUP

- Switch on the ignition.
- Select SETUP. (➠ 49)



- Repeatedly short-press button **1** until SETUP RESET is displayed.
- Long-press the bottom section of key **1** until the display RESET flashes.

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

» SETUP EXIT is displayed.

- Exit SETUP. (➠ 49)

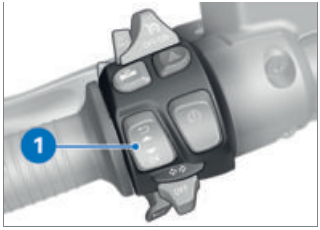
DISPLAY

Configuring displays

Requirement

The vehicle is at a standstill.

- Switch on the ignition. (➠ 57)
- Select SETUP. (➠ 49)



- Repeatedly short-press button **1** until SET DISPLAY ENTER is displayed.
- Long-press the bottom section of key **1** to call up SET DISPLAY.
- Press key **1** to select display.

» The following displays can be deactivated:

–Trip distance recorder reading
–Automatic trip distance
–Average speed
–On-board voltage
–Date
–Average consumption
–Current consumption
–Clock
–Engine speed
–with tyre pressure control (RDC) OE

» Depending on vehicle equipment, additionally:

–Tyre pressure reading◁

- Long-press the bottom section of key **1** to call up the display you want to view.

» The setting currently selected flashes.

- Press key **1** to deactivate OFF or activate ON the selected display.
- Long-press the bottom section of key **1** to confirm the set value.
- Alternatively: Long-press the top section of key **1** to exit without saving the setting.
- Long-press the bottom section of key **1** to exit SET DISPLAY.

» SET UNIT ENTER is displayed.

- If you want to restore the factory defaults, repeatedly short-press button **1** until SET DISPLAY RESET is displayed.
- Long-press the bottom section of key **1** until the display RESET flashes.

» Displays have been reset to the factory default.

» SET DISPLAY EXIT is displayed.

- Long-press the bottom section of key **1** to exit SET DISPLAY.

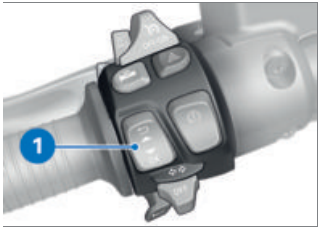
» SET UNIT ENTER is displayed.

Adjusting the brightness of the backlighting

Requirement

The vehicle is at a standstill.

- Switch on the ignition. (➠ 57)
- Select SETUP. (➠ 49)



- Repeatedly short-press button **1** until SET BRIGHT is displayed.
- Long-press the bottom section of key **1** to call up SET BRIGHT.

» The setting currently selected flashes.

- Repeatedly short-press key **1** until the backlighting reaches the brightness you want.
- Long-press the bottom section of key **1** to confirm the set value.
- Alternatively: Long-press the top section of key **1** to exit without saving the setting.
- Exit SETUP. (➠ 49)

SETTINGS

Changing system settings

- Switch on the ignition. (➠ 57)
- Select SETUP. (➠ 49)

» You can change the following system settings:

–Set the clock: SET CLOCK
–Set the date: SET DATE
–Set units: SET UNIT

OPERATION

05

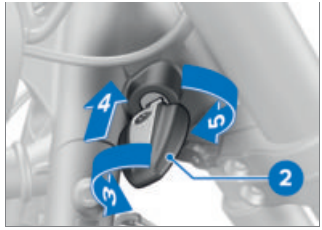
STEERING LOCK

Locking the steering lock

WARNING

Restricted steering angle when steering lock engaged
Risk of falling
- Unlock the steering lock before attempting to pull away.
- Before pulling away, remove the key from the steering lock.

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

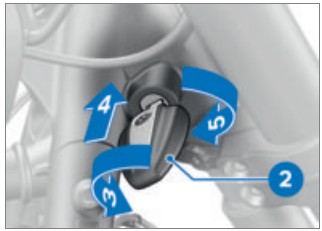


- Turn vehicle key **2** counter-clockwise **3** in the steering lock.
- Use vehicle key **2** to push the steering lock in **4** and hold it in this position.
- Turn vehicle key **2** clockwise **5**.

» Steering lock is engaged.

- Remove vehicle key **2**.

Unlocking steering lock



- Push vehicle key **2** into the steering lock **4** and turn it counter-clockwise **3**.

» The steering lock is disengaged.

- Turn vehicle key **2** clockwise **5**.

• Remove vehicle key **2**.

IGNITION

Radio-operated key

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

The motorcycle is supplied with one radio-operated key and one spare key. If a key is lost or mislaid, consult the information on the electronic immobiliser (EWS) (➠ 60). Ignition and anti-theft alarm system, if fitted, work with the radio-operated key. Steering lock and fuel filler cap are locked and unlocked manually.

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

Range of the Keyless Ride radio-operated key
approx. 1 m

Switching on ignition

Requirement

Radio-operated key is within range.

• Press button **1**.
» Side lights and all function circuits are switched on.
» Engine can be started.
» Daytime riding light is switched on.
» Pre-Ride-Check and self-diagnoses are performed. (➠ 94)

Switching off ignition

Requirement

Radio-operated key is within range.

- Press button **1**.

» Lights and all function circuits are switched off.

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

- If a key is lost or mislaid, consult the notes on the electronic immobiliser (EWS).
- If you happen to lose or mislay the radio-operated key while on a journey, you can start the vehicle with the spare key.
- If the battery of the radio-operated key is empty, the vehicle can be started by simply inserting the folded radio-operated key into the ring aerial under the seat.
- Remove the rider's seat. (➠ 75)
- Insert the spare key or folded-in radio-operated key with the empty battery **1** into ring aerial **2**.

The spare key or the closed radio-operated key with the empty battery **must be inserted into** the opening in the ring aerial.

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

» Pre-Ride-Check is performed.
– Key has been recognised.
– Engine can be started.

- Install the rider's seat. (➠ 76)
- Start the engine. (➠ 93)

Replacing battery of radio-operated key

Requirement

The radio-operated key does not react because the battery is weak.

 is displayed.

DANGER

Swallowing a battery

Risk of injury or death

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

- Change the battery.

- Press button **1**.

» Key bit flips out.

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

ATTENTION

Unsuitable or incorrectly inserted batteries

Component damage

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

- Insert the new battery with the positive terminal up.

 Battery type
For Keyless Ride radio-operated key
CR 2032

- Install battery cover **2**.

» Red LED in the instrument cluster flashes.

» The radio-operated key is again ready for use.

Electronic immobiliser (EWS)

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

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

If you lose a key, you can have it barred by your authorised BMW Motorrad retailer.
If you wish to do this, you will need to bring all other keys for the motorcycle with you. The electrical machine cannot be started by a barred key, but a key that has been barred can subsequently be reactivated.
You can obtain spare keys only through an authorised BMW Motorrad retailer. The keys are part of an integrated security system, so the retailer is under an obligation to check the legitimacy of all applications for replacement/ extra keys.

Emergency-off switch (kill switch)

1 Emergency-off switch (kill switch)

WARNING

Operation of the kill switch while riding
Risk of fall due to rear wheel locking
- Do not operate the kill switch when riding.

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

A Engine switched off

B Normal operating position (run)

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

LIGHTING

Side light

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

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

Low-beam headlight

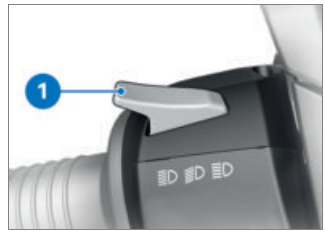
- Switch on the ignition. (➠ 57)
- Start the engine. (➠ 93)

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

» The low-beam headlight is switched on.

High-beam headlight and headlight flasher

- Switch on the ignition. (➠ 57)



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

Headlight courtesy delay feature

- Switch off the ignition. (➠ 57)

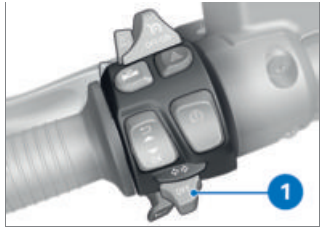
- Immediately after switching off the ignition, pull switch **1** back and hold it in that position until the headlight courtesy delay feature comes on.

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

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

Parking lights

- Switch off the ignition. (➠ 57)



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

Automatic daytime riding light

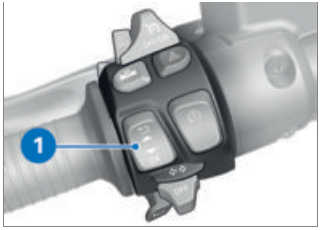
WARNING

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

Risk of accident

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

- Switch on the ignition. (➠ 57)



- Repeatedly short-press button **1** until SETUP ENTER is displayed.
- Long-press the bottom section of key **1** to call up SETUP.

» SET DRL A is displayed.

- Long-press the bottom section of key **1** to call up SET DRL A.

» The setting currently selected flashes.

- Short-press key **1** to change the set value.

The following settings are available:

– DRL A ON: Automatic daytime riding light is activated.
– DRL A OFF: Automatic daytime riding light is deactivated.

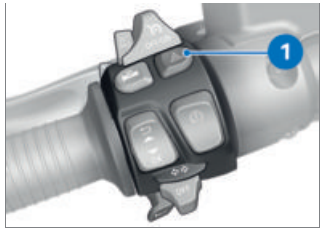
» If the ambient brightness decreases below a certain value (e.g. in a tunnel) while the daytime riding light function is active, the low-beam headlight is automatically switched on. When sufficient ambient brightness is detected, the daytime riding light is switched back on.

- Long-press the bottom section of key **1** to confirm the set value.
- Alternatively: Long-press the top section of key **1** to exit without saving the setting.
- Exit SETUP. (➠ 49)

Hazard warning lights

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

- Switch on the ignition. (➠ 57)



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

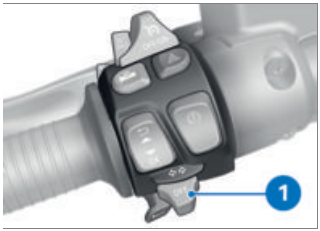
» Ignition can be switched off.

- To switch off the hazard warning flashers, switch

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

Turn indicators

- Switch on the ignition. (➠ 57)



- Push button **1** to the left or right, as appropriate, to switch on the turn indicators.

» The turn indicators are cancelled automatically when the speed-dependent distance is covered.

- Alternatively: Press button **1** to cancel the turn indicators.

ANTI-THEFT ALARM (DWA)

–with anti-theft alarm (DWA) OE

Automatic activation

- Switch on the ignition. (➠ 57)
- Adjust the DWA. (➠ 66)
- Switch off the ignition. (➠ 57)

» If DWA ON is selected in the setup of the DWA, the DWA is activated automatically after the ignition is switched off.

» Activation takes approximately 30 seconds to complete.

–Turn indicators flash twice.

» Anti-theft alarm (DWA) is active.

Activation with radio-operated key

- Switch off the ignition. (➠ 57)

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

» Turn indicators flash twice.

» Anti-theft alarm is active.

Activating transport mode

- If the motorcycle is transported by train or trailer, strong

movements can trigger an alarm. To deactivate the tilt sensor, press key **1** of the radio-operated key once again during the activation phase.
» Turn indicators flash three times.
» Tilt sensor is deactivated.

Alarm signal

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

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

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

The alarm signal continues for approx. 30 seconds. While a DWA alarm is in progress an acoustic alarm sounds and the turn indicators flash. The type of acoustic alarm tone can be set by an authorised BMW Motorrad retailer.

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

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

Light signals issued by the indicator light:

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

Deactivating anti-theft alarm system (DWA)

If the alarm function is deactivated by the radio-operated key and the ignition is not subsequently switched on, the alarm function is automatically reactivated after approx. 30 seconds if DWA ON is selected in the setup of the DWA.

- Switch on the ignition. (➠ 57)

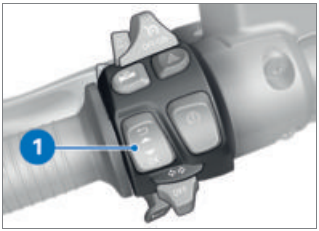
- Alternatively, short-press key **1** of the radio-operated key.

» Turn indicators flash once.

» DWA is switched off.

Adjusting DWA

- Switch on the ignition. (➠ 57)
- Select SETUP. (➠ 49)



- Repeatedly short-press button **1** until SET DWA is displayed.
- Long-press the bottom section of key **1** to call up SET DWA.

» The setting currently selected flashes.

- Short-press key **1** to change the setting.

The following settings are available:

–DWA ON: The DWA anti-theft alarm is active and will be armed automatically when the ignition is switched off.
–DWA OFF: The DWA anti-theft alarm is deactivated.

- Long-press the bottom section of key **1** to confirm the set value.

- Alternatively: Long-press the top section of key **1** to exit without saving the setting.
- Exit SETUP. (➠ 49)

AUTOMATIC STABILITY CONTROL (ASC)

Switching off ASC

- Switch on the ignition. (➠ 57)

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

- Press and hold down button **1** until ASC indicator and warning light **2** changes its state.

starts to show.

» ASC is switched off.

Switch on ASC

- Press and hold down button **1** until ASC indicator and warning light **2** changes its state.

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

» ASC is switched on.

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

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

min. 5 km/h

RIDING MODE

Using riding modes

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

–RAIN: Riding on rain-wet roads.
–ROLL: Riding on dry roads.
–ROCK: Dynamic riding on dry roads.

The respective optimum interplay of engine characteristics, ABS control, ASC control and dynamic engine brake control is provided for each of these scenarios.

For more information on the riding modes, see the section entitled "Engineering details" (➠ 111).

Select the riding mode

• Switch on the ignition. (➠ 57)

• Press button **1**.
» The current riding mode **2** is displayed.

• Repeatedly press **1** until the riding mode you want **2** is displayed.
» With the vehicle at a standstill, the selected mode is activated after approximately 2 seconds.
» The following conditions must be satisfied for activation of a new riding mode while riding:
–Throttle grip is in idle position.
–Brake is not applied.

–with cruise control OE
» Additionally on vehicles with cruise control:
–The cruise-control system is deactivated.◁
» The riding mode selected in this way is retained, with the engine-characteristic, ASC and engine drag torque control adaptation settings, even after the ignition has been switched off.

CRUISE CONTROL

–with cruise control OE

Switching on cruise control

WARNING

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

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

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

Setting road speed

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

Adjustment range for cruise control (gear-dependent)
20…180 km/h

lights up.

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

Accelerating

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

Decelerating

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

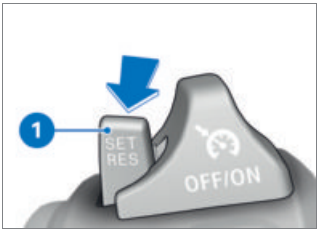
Deactivating cruise control

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

For safety reasons, cruise control is automatically deactivated when an ASC intervention occurs.

» Indicator light for adaptive cruise control goes out.

Resuming former cruising speed



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

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

lights up.

Switching off cruise control

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

» The system is deactivated.
» Button **1** is disabled.

HILL START CONTROL (HSC)

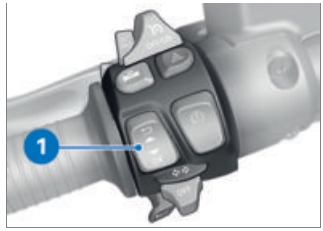
–with Hill Start Control OE

Display

Symbol **1** for Hill Start Control shows in the status field.

Switch Hill Start Control on or off

- Switch on the ignition. (➠ 57)
- Select SETUP. (➠ 49)



- Repeatedly short-press button **1** until SET HSC is displayed.
- Long-press the bottom section of key **1** to call up SET HSC.

» The setting currently selected flashes.

- Short-press key **1** to change the setting.

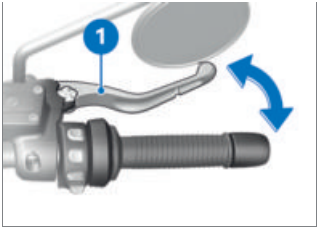
The following settings are available:
– HSC ON: Hill Start Control is activated.
– HSC OFF: Hill Start Control is deactivated.
- Long-press the bottom section of key **1** to confirm the set value.
- Alternatively: Long-press the top section of key **1** to exit without saving the setting.
- Exit SETUP. (➠ 49)

Operating Hill Start Control
Requirement
Vehicle stationary and upright, engine running. Hill Start Control is switched on.

ATTENTION

Non-availability of Hill Start Control
Risk of accident
- Apply the brakes manually to hold the vehicle.

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



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

(H) is displayed.

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

(H) disappears.

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

On pullaway or when the reverser is activated, Hill Start Control is automatically deactivated.

(H) disappears as soon as the brake is fully released.

» Hill Start Control is deactivated.
- See the "Engineering details" section for more information on Hill Start Control (➠ 116).

REVERSER

–with reverser[OE]

General information

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

Reverse without passenger.
On uphill/downhill gradients the reverser cannot guarantee the vehicle is held, as would be the case if a gear were engaged.
The reverser cannot be used on gradients steeper than max. 12 %.

Activating reverser

- Turn selector lever **1** to the **R** position.

» Gear indicator **2** switches from N to R.

» You can use the reverser as soon as the "R" indicator stops flashing.

Using the reverser

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

Automatic termination

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

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

Deactivating reverser

- Turn selector lever **1** to the **F** position.

Depending on the gradient of the roadway, tensions can build up in the drivetrain. The selector lever might be difficult to move.

- To relieve strain in the drivetrain, apply the front brake and compress the front suspension by pushing forward on the handlebars.
- Turn selector lever **1** to the **F** position.

» Gear indicator **2** switches from R to N.

HEATED GRIPS

–with heated grips[OE]

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

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

- Start the engine. (➠ 93)

- Repeatedly press button **1** until desired heating stage **2** is displayed.

The following settings are available:

Heating off

Low heating power

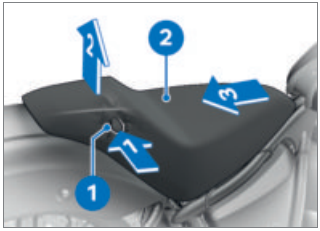
Medium heating power

High heating power

» High heating power is for heating the grips quickly: it is advisable to switch back to a lower heating power as soon as the grips are warm.
» If you allow a certain length of time to pass without making further changes, the selected heating stage is saved and the grip-heating symbol disappears.

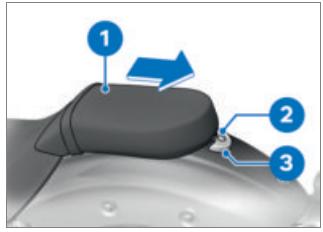
RIDER'S SEAT

Removing rider's seat

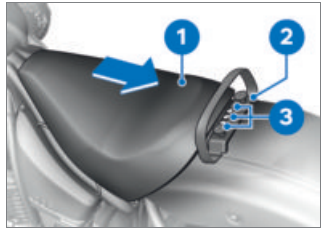


- Make sure the ground is level and firm and place the motorcycle on its stand.
- Press release **1** under seat cover.
- Lift the rider's seat **2** at the rear and remove.

–with two-up riding package OE



- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove screw **2**.
- Remove holder **3**.
- Pull passenger seat **1** to the rear and remove.



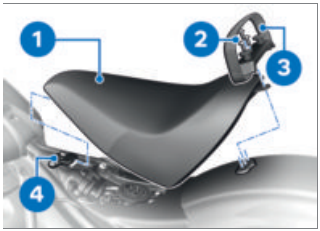
- Remove screws **3**.
- Remove retaining bracket **2**.
- Pull rider's seat **1** to the rear and remove.◁

Installing rider's seat

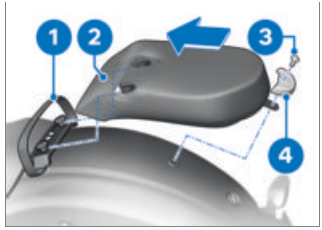
- Insert rider's seat **1** into mount **2**.
- Align rider's seat **1** at the rear and firmly press down.

» The rider's seat engages in the lock **3**.

–with two-up riding package OE



- Insert rider's seat **1** into mount **4**.
- Manoeuvre rider's seat **1** into position at rear and install retainer **3** with screws **2**.



- Position passenger seat **2** in retainer **1**.
- Manoeuvre passenger seat **2** into position at rear and install holder **4** with screw **3**.◁

ADJUSTMENT

06

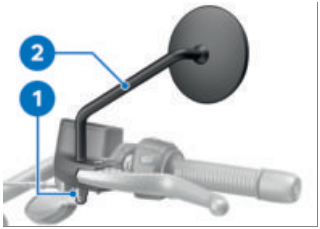
MIRRORS

Adjusting mirrors

- Turn the mirror to the appropriate position.

If the mirror's range of adjustment is not enough to permit correct alignment, the position of the mirror arm has to be changed accordingly.

Adjusting mirror arm



- Slacken nut **1**.
- Turn mirror arm **2** to the appropriate position.
- Tighten nut **1**, while holding mirror arm **2** to ensure that it does not move out of position.

	Mirror to handlebar fitting
M8	
12 Nm	

HEADLIGHT

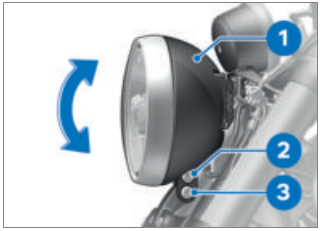
Headlight beam throw and spring preload

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

However, a spring preload adjustment might not suffice if the motorcycle is very heavily loaded. Under these circumstances, headlight beam throw has to be adjusted to suit the weight carried by the motorcycle.

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

Adjusting headlight beam throw



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

- Slacken screw **3**.
- Slacken screw **2**.

» Headlight **1** can be tilted through its range of adjustment.

- Adjust beam throw by tilting headlight **1** slightly about its horizontal axis.
- Secure the headlight in position by tightening screw **2**.
- Tighten screw **3**.

	Headlight to bracket
M8 x 40	
19 Nm	

When the motorcycle is again ridden with a lower load:

- Have the basic settings of the headlight restored by a specialist workshop, preferably an authorised BMW Motorrad retailer.

CLUTCH

Adjusting clutch lever

WARNING

Relocated clutch-fluid reservoir

Air in the clutch system

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

WARNING

Adjusting the clutch lever while riding

Risk of accident

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

- Applying light pressure from behind, turn adjuster knob **1** to the desired position.

The adjusting screw can be turned more easily if the clutch lever is pushed forward.

» Adjustment options:
– From position 1: Narrowest span between handlebar grip and clutch lever
– To position 5: Widest span between handlebar grip and clutch lever

BRAKES

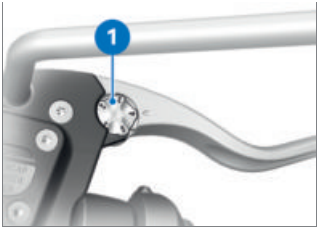
Adjusting handbrake lever

WARNING

Relocated brake fluid tank
Air in the brake system
- Do not turn the handlebars or the handlebar fitting on the handlebar.

WARNING

Adjusting the handbrake lever while riding
Risk of accident
- Do not attempt to adjust the handbrake lever unless the vehicle is at a standstill.



- Applying light pressure from behind, turn adjuster knob **1** to the desired position.

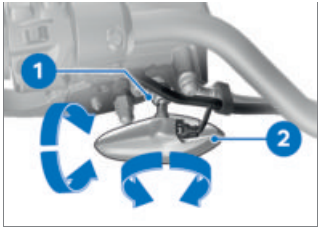
The adjusting screw is easier to turn when the handbrake lever is pushed forward.

» Adjustment options:
– From position 1: Narrowest span between handlebar grip and handbrake lever
– To position 5: Widest span between handlebar grip and handbrake lever

TURN INDICATORS

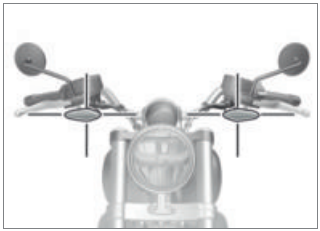
Aligning turn indicators

The turn indicators are secured by a nut with left-hand thread. Turn the nut clockwise to loosen and counter-clockwise to tighten.



- Slacken nuts with left-hand thread **1** on left and right.

» Turn indicators **2** move freely.



- Align the turn indicators horizontally and vertically at right angles to the vehicle's longitudinal axis.
- Tighten nuts with left-hand thread **1** on left and right.

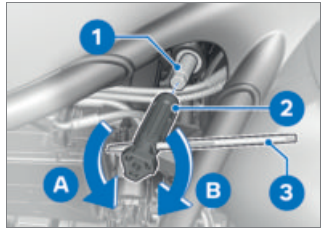
SPRING PRELOAD

Adjustment

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

Adjusting spring preload for rear wheel

- Remove the side panel. (➠ 121)



- Insert cross-head end of reversible screwdriver insert **3** into screwdriver handle **2** (onboard toolkit).

ATTENTION

Incorrect setting

Damage to adjustment mechanism

- Do not exceed the adjustment range of max. 26 turns (to the stop).

- To increase spring preload, turn hexagon head **1** clockwise in direction **B**.
- To reduce spring preload, turn hexagon head **1** counterclockwise in direction **A**.

Basic setting of the rear spring preload
Turn the hexagon head counter-clockwise as far as it will go (with full load of fuel, with rider weighing approx. 85 kg)
Turn the hexagon head as far as it will go counter-clockwise, then back it off 12 turns clockwise (One-up with luggage approx. 110 kg)
Turn the hexagon head as far as it will go counter-clockwise, then back it off 24 turns clockwise (Two-up with luggage approx. 200 kg)

- If the load differs from the base settings, increase spring preload 2 full turns for every 10 kg of extra weight.
- Install the side panel. (➠ 121)

GEARSHIFT LEVER

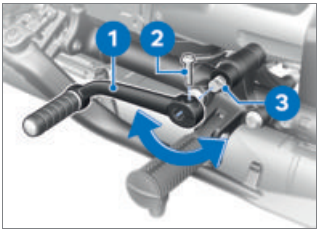
Adjusting gearshift lever

ATTENTION

Unintentional operation of the gearshift lever

Damage to the gearbox

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



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

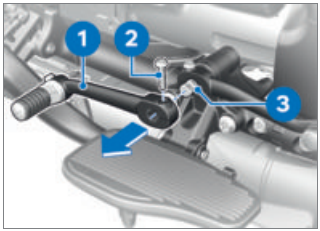
Gearshift lever to selector shaft
M6 x 25

Gearshift lever to selector shaft
8 Nm

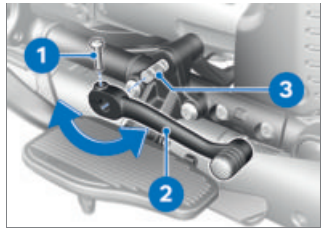
Adjusting shift rocker
–with footboard OE

ATTENTION

Unintentional operation of the gearshift lever
Damage to the gearbox
- Check that the gearshift lever is in the correct position.
- Make sure that the gearshift lever is under no load except when gearshifting is in progress.



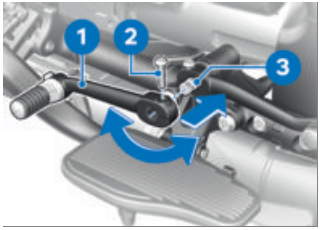
- Remove screw **2** and disengage front gearshift lever **1** from gearshift shaft **3**.



- Remove screw **1**.
- Disengage rear gearshift lever **2** from gearshift shaft **3**.
- Hold rear gearshift lever **2** in the desired position relative to the gearshift shaft and push it on to gearshift shaft **3**.
- Check the freedom of movement of the rear gearshift lever.

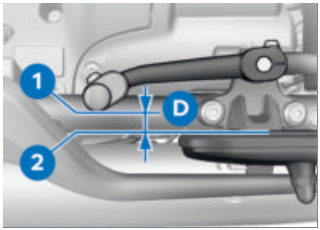
If the gearshift lever touches the exhaust cover when operated:
- Correct the setting of the rear gearshift lever.
- Install screw **1**.

Gearshift lever to selector shaft
M6 x 25
8 Nm



- Hold front gearshift lever **1** in the desired position relative to the gearshift shaft and push it on to gearshift shaft **3**.
- Install screw **2**.

Gearshift lever to selector shaft
M6 x 25
8 Nm

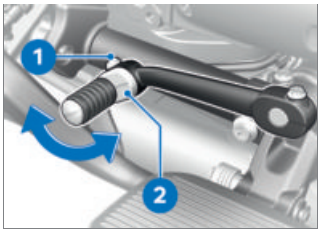


- Note minimum distance **D** between bottom edge of peg **1** and top edge of footrest **2** of min. 25 mm.
- Adjust the peg. (➠ 86)

Adjusting peg
–with footboard OE

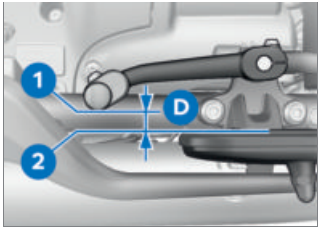
ATTENTION

Unintentional operation of the gearshift lever
Damage to the gearbox
- Check that the gearshift lever is in the correct position.
- Make sure that the gearshift lever is under no load except when gearshifting is in progress.



- Slacken screw **1**.
- Turn peg **2** to the desired position.
- Tighten screw **1**.

Foot plate eccentric to gearshift lever
M6 x 25
8 Nm



- Note minimum distance **D** between bottom edge of peg **1** and top edge of footrest **2** of min. 25 mm.

RIDING

07

SAFETY INFORMATION

Rider's equipment

Do not ride without the correct clothing! Always wear
–Helmet
–Suit
–Gloves
–Boots

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

WARNING

Loose textiles, items of luggage or straps snagged by open rotating parts of the vehicle (wheels, drive shaft)
Risk of accident
- Make sure that loosely worn or carried textiles cannot be snagged by openly rotating parts of the vehicle.
- Keep all items of luggage and straps well clear of openly rotating parts of the vehicle.

Loading correctly

WARNING

Handling adversely affected by overloading and imbalanced loads
Risk of falling
- Do not exceed the permissible gross weight and be sure to comply with the instructions on loading.
- Adjust spring preload and tyre pressures to suit total weight.
- Pack heavy items at the bottom and toward the inboard side.

–with tank bag OA
- Note the maximum permissible payload of the tank bag (➠ 155).◁

–with rear softbag OA
- Note the maximum permissible payload of the rear bag (➠ 155).◁

Speed

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

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

Maximum permissible speed with winter tyres

DANGER

Top speed of the motorcycle higher than the permissible tyre maximum speed
Risk of accident due to tyre damage at high speed
- Do not exceed the maximum speed for which the tyres are rated.

Always bear the maximum permissible speed of the tyres in mind when riding a motorcycle fitted with winter tyres.
Affix a label stating the maximum permissible speed to the instrument panel in the rider's field of vision.

Risk of poisoning

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

WARNING

Exhaust gases adversely affecting health
Risk of asphyxiation
- Do not inhale exhaust fumes.
- Do not run the engine in an enclosed space.

WARNING

Inhalation of harmful vapours
Health hazard
- Do not inhale vapours from operating fluids and plastics.
- Use the vehicle only outdoors.

Risk of burning

CAUTION

Engine and exhaust system become very hot when the vehicle is in use
Risk of burning
- Always wear helmet, suit, gloves and boots.
- While riding and when you park the vehicle, make sure that no-one and no objects come into contact with the hot engine and exhaust system.

Catalytic converter

ATTENTION

Unburned fuel in catalytic converter

Damage to catalytic converter

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

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

The following guidelines must be observed:

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

Risk of overheating

ATTENTION

Engine running for prolonged period with vehicle at standstill

Overheating due to insufficient cooling; in extreme cases vehicle fire

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

Tampering

ATTENTION

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

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

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

REGULAR CHECK

Comply with checklist

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

When load status changes:

– Adjust the spring preload for the rear wheel (➠ 83).

Always before riding off

– Unlock the steering lock (➠ 56).
– Check operation of the brake system (➠ 126).
– Check operation of the lights and signalling equipment.
– Check operation of the clutch (➠ 131).
– Check the tyre tread depth (➠ 132).
– Check the tyre pressures (➠ 131).
– Check security of luggage.

Every 3rd refuelling stop

– Check the engine oil level (➠ 124).
– Check the brake pad thickness, front brakes (➠ 127).
– Check the brake pad thickness, rear brakes (➠ 128).
– Check the brake-fluid level, front brakes (➠ 129).
– Check the brake-fluid level, rear brakes (➠ 130).

STARTING

Starting engine

- Switch on the ignition. (➠ 57)

» Pre-Ride-Check and self-diagnoses are performed. (➠ 94)

- Pull the clutch lever.

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

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

To ensure starting capability at high engine temperatures, idle speed after engine start is increased for a brief period.

- Press starter button **1**.

The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you start the engine, or use jump leads and a donor battery to start.
See the subsection on jump starting in "Maintenance" for more details.

» The engine starts.
» Consult the troubleshooting chart below if the engine refuses to start. (➠ 166)

Pre-Ride-Check and self-diagnosis

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

» Self-diagnosis checks the functional readiness of the BMW Motorrad ABS and the BMW Motorrad ASC/DTC.
ABS flashes.
slow-flashes.
» The indicator and warning lights go out when a speed of 5 km/h is reached.
» Self-diagnosis has completed.

If an error message appears when self-diagnosis completes:
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

RUNNING IN

Engine

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

 Load condition for running in
No full load (Odometer reading max. 1000 km)

- Comply with the running-in speeds.

 Running-in speed
max. 4000 min^{-1} (Odometer reading max. 1000 km)

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

 Running-in check
500...1200 km

Brake pads

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

WARNING

New brake pads

Longer stopping distance, risk of accident

- Apply the brakes in good time.

Tyres

New tyres have a smooth surface. This must be roughened by riding in a restrained manner at various heel angles until the tyres are run in. Only once the surface has been roughened can the tyres achieve maximum grip.

WARNING

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

Risk of accident

- Ride carefully and avoid extremely sharp inclines.

BRAKES

How can stopping distance be minimised?

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

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

WARNING

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

Emergency braking
If you brake sharply from a speed in excess of >50 km/h, the brake light flashes rapidly as a warning for road users behind you.
If you brake until your speed is less than <15 km/h, the hazard warning lights start to flash as well. The hazard warning lights switch off automatically as soon as you start to accelerate and vehicle speed reaches 20 km/h.

Descending mountain passes

WARNING

Braking mostly with the rear brake on mountain descents
Brake fade, destruction of the brakes due to overheating
- Use both front and rear brakes, and make use of the engine's braking effect as well.

DANGER

Riding with overheated brakes

Risk of accident due to failure of brakes

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

WARNING

Failure to observe service intervals

Risk of accident

- Observe the valid service intervals for brakes.

Wet and dirty brakes

WARNING

Wetness and dirt result in diminished braking efficiency

Risk of accident

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

Wetness and dirt on the brake discs and the brake pads diminish braking efficiency. Delayed braking action or poor braking efficiency must be reckoned with in the following situations:

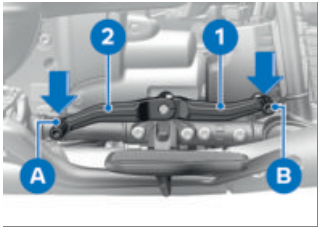
– Riding in the rain or through puddles of water.
– After the vehicle has been washed.
– Riding on salted or gritted roads.
– After work has been carried on the brakes, due to traces of oil or grease.
– Riding on dirt-covered surfaces or off-road.

SHIFTING WITH SHIFT ROCKER

– with footboard OE

Operating shift rocker

With footboards installed, gearshifts are performed by means of a shift rocker.



- Downshift: Press gearshift lever **2** down at position **A**.
- Upshift: Press gearshift lever **1** down at position **B**.

PARKING YOUR MOTORCYCLE

Side stand

- Switch off the engine.

ATTENTION

Poor ground underneath the stand

Risk of damage to parts if vehicle topples

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

ATTENTION

Additional weight placing strain on the side stand

Risk of damage to parts if vehicle topples

- Do not sit or lean on the vehicle while it is propped on the side stand.

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

REFUELLING

Fuel grade

Requirement

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

ATTENTION

Engine operation with leaded fuel

Damage to catalytic converter

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

- Observe the maximum ethanol content of the fuel.

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

	Recommended fuel grade
E5 E10	Super unleaded (max. 15% ethanol, E15) 95 ROZ/RON 90 AKI
	Alternative fuel grade
E5 E10	Regular, unleaded (max. 15% ethanol, E15) 91 ROZ/RON 87 AKI

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

E5

E10

Refuelling

WARNING

Fuel is highly flammable
Risk of fire and explosion
- Do not smoke. Never bring a naked flame near the fuel tank.

WARNING

Escape of fuel due to heat-induced expansion if fuel tank is overfilled
Risk of falling
- Do not overfill the fuel tank.

ATTENTION

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

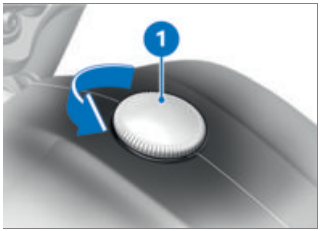
ATTENTION

Wetting of plastic surfaces by fuel

Damage to the surfaces (surfaces become unsightly or dull)

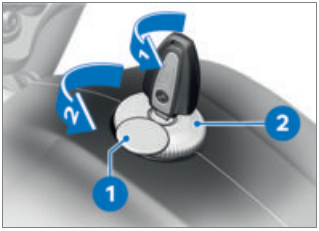
- Clean plastic surfaces immediately after contact with fuel.

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

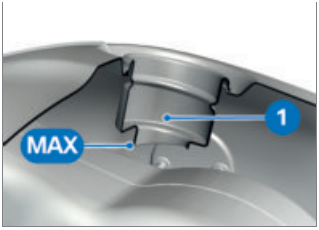


- Turn filler cap of fuel tank **1** counter-clockwise and remove.

–with lockable fuel filler cap[OE]



- Swivel protective cap **1** aside.
- Use the vehicle key to unlock filler cap of fuel tank **2** by turning it counter-clockwise.
- Turn filler cap of fuel tank **2** counter-clockwise and remove.◁



- Refuel with fuel of the grade stated; do not fill the tank past the bottom edge of filler neck **1**.

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

the fuel reserve indicator light is switched off.

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

Usable fuel capacity
approx. 16 l
Fuel reserve
approx. 4 l

- Set the filler cap of the fuel tank in position and turn it clockwise to close.

–with lockable fuel filler cap[OE]

- Use the vehicle key to lock the filler cap of the fuel tank by turning it clockwise.
- Remove the vehicle key and pivot the protective cap closed over the fuel tank lock. ◁

SECURING MOTORCYCLE FOR TRANSPORTATION

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

ATTENTION

Vehicle topples to side when being lifted on to stand

Risk of damage to parts if vehicle topples

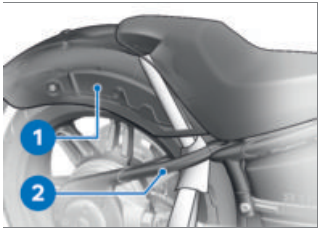
- Secure the vehicle to prevent it toppling, preferably with the assistance of a second person.

- Push the motorcycle onto the transportation flat and hold it in position: do not place it on the side stand.
- Have a helper hold the motorcycle to make sure that it cannot topple.

ATTENTION

Trapping of components
Component damage
- Do not trap components such as brake lines or cable legs.

- Run the strap over the steering head and tighten it down.



- Pass the tensioning belts on left and right through the rear wheel swinging arm **2** first.
- Pass the tensioning belts upwards between the rear-wheel cover and the rear frame **1** and place them around the rear frame **1**.
- Pass the tensioning belts on left and right back down through the rear wheel swinging arm **2**.
- Uniformly tighten all the straps.

» The vehicle's springs are compressed.

ENGINEERING DETAILS

08

GENERAL NOTES

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

GENERAL DRIVE FUNCTIONS

Gearshift speed control

When the clutch is disengaged and the throttle grip closed while the vehicle is on the move, engine speed does not immediately drop to idle speed. Gearshift speed control keeps engine speed above idle speed for several seconds, reducing the rpm difference between engine and transmission when the clutch re-engages. The tilting moment accompanying the gear shift is reduced and the shifting comfort experienced by the rider is increased.
Gearshift speed control is active in RAIN and ROLL riding modes.

Maximum rpm limitation at standstill

To prevent unwanted forward crawl away from a standstill, under the following conditions engine speed is limited to a maximum of 3600 rpm:

–Gear engaged.
–Clutch lever pulled.
–Vehicle speed <3 km/h.

Speed increase when vehicle rolling forward in neutral

If the transmission is shifted into neutral when the vehicle is travelling at a speed in excess of 30 km/h, engine speed does not immediately drop to idle speed. Engine speed remains elevated above idle for a smoother rpm match when the transmission is shifted into first gear. This reduces the load on the bevel gear rear when the switching action takes place and increases the shifting comfort experienced by the rider.

ANTILOCK BRAKE SYSTEM (ABS)

Partially integral brakes

Your motorcycle is equipped with partially integral brakes. Both front and rear brakes are applied when you pull the handbrake lever. The footbrake lever acts only on the rear brake.
While the brakes are slowing the motorcycle, the BMW Motorrad Integral ABS adapts brake force distribution between front and rear

brakes to suit the load on the motorcycle.

ATTENTION

Attempted burn-out despite integral braking function
Damage to rear brake and clutch
- Do not attempt a burn-out unless the vehicle is at a complete standstill. A burn-out is not use of the vehicle as intended by the manufacturer and can, therefore, lead to fault memory entries.

How does Integral ABS work?
The amount of braking force that can be transferred to the road depends on factors that include the coefficient of friction of the road surface. Loose stones, ice and snow or a wet road all have much lower coefficients of friction than a clean and dry asphalt surface. The lower the coefficient of friction, the longer the stopping distance.
If the rider increases braking pressure to the extent that braking force exceeds the maximum transferable limit, the wheels start to lock and the vehicle loses its directional stability: A fall is imminent. Before this situation can occur, ABS intervenes and adapts braking pressure to the maximum transferable braking force. The wheels continue to turn and the driving stability is retained irrespective of the road condition.

What are the effects of surface irregularities?
Humps and surface irregularities can cause the wheels to lose contact temporarily with the road surface; if this happens the braking force that can be transmitted to the road can drop to zero. If the brakes are applied under these circumstances the ABS has to reduce braking force to ensure that directional stability is maintained when the wheels regain contact with the road surface. At this instant the BMW Motorrad Integral ABS must assume an extremely low coefficient of friction (gravel, ice, snow), so that the wheels will continue to rotate under all imaginable circumstances, because this is the precondition for ensuring directional stability. As soon as is registers the actual circumstances, the system reacts instantly and adjusts

braking force accordingly to achieve optimum braking.

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

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

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

Rear wheel lift

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

WARNING

Rear wheel lift due to severe braking

Risk of falling

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

What is the design baseline for BMW Motorrad Integral ABS?

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

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

Special situations

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

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

– Heating up with the motorcycle on an auxiliary stand, in neutral or with a gear engaged.
– Rear wheel locked by the electrical machine's braking moment for a lengthy period, for example while descending on a loose or slippery surface.

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

How important is regular maintenance?

WARNING

Brake system not regularly serviced

Risk of accident

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

Safety reserves

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

WARNING

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

AUTOMATIC STABILITY CONTROL (ASC)

How does ASC work?

BMW Motorrad ASC system compares the speed of rotation of the front wheel and the rear wheel. The differential is used to compute slip as a measure of the reserves of stability available at the rear wheel. If slip exceeds a certain limit, the electrical machine management system intervenes and adapts torque accordingly.

WARNING

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

Special situations

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

The speeds of the front and rear wheels are compared as one means of detecting the rear wheel's incipient tendency to spin or slip sideways. If the system registers implausible values for a lengthy period the ASC function is deactivated for safety reasons and an ASC fault message is issued. Self-diagnosis has to complete before fault messages can be issued. The BMW Motorrad ASC can switch off automatically under

the exceptional riding conditions outlined below.

Exceptional riding conditions:
–Riding for a lengthy period with the front wheel lifted off the ground (wheelie) with ASC deactivated
–Rear wheel rotating with the vehicle held stationary by application of the front brake (burn-out)
–Warming up with the motorcycle on an auxiliary stand, in neutral or with a gear engaged

Accelerating the motorcycle to a speed in excess of min. 5 km/h after switching the ignition off and then on again reactivates the ASC.

If the front wheel lifts clear of the ground under severe acceleration, the ASC reduces engine torque until the front wheel regains contact with the ground.
Under these circumstances, BMW Motorrad recommends rolling the throttle slightly closed so as to restore stability with the least possible delay.

Slippery surface
On very loose surfaces (for example sand or snow), the ASC's attempts to control propulsive power might reduce drive to the extent that the rear wheel no longer turns. Under these circumstances, BMW Motorrad recommends temporarily switching off ASC. Bear in mind that the rear wheel will spin on the loose surface and close the throttle in good time before you reach a firm surface.
Then reactivate ASC.

RIDING MODE

Selection
To adjust the motorcycle to the road condition and the desired driving experience, the following riding modes can be selected:
–RAIN
–ROLL
–ROCK

There are matched settings for the ABS control, ASC control, dynamic engine brake control and engine characteristics for each riding mode. In the ROCK riding mode, the engine has very spirited idling that makes a clear statement about the potency of the boxer engine even

when the vehicle is just ticking over at a standstill. The direct throttle response ensures unfiltered power output and renders the engine's dynamism impressively perceptible.

Throttle response
–RAIN: gentle throttle response.
–ROLL: optimum throttle response.
–ROCK: direct throttle response.

ABS
–ROLL and ROCK: The anti block system setting corresponds to the respective riding mode.
–RAIN: The ABS setting corresponds to the riding mode ROLL.
–ROCK: The support of ABS is reduced compared to RAIN and ROLL.

Rear-wheel lift-off detection
–RAIN and ROLL: The rider receives maximum assistance from the rear wheel lift-off detection.
–ROCK: Rear wheel lift-off detection provides reduced assistance and allows the rear wheel to lift off slightly.

Automatic Stability Control (ASC)
–RAIN: Maximum stability on wet roads. Acceleration on dry roads might be reduced.
–ROLL: High performance on dry roads. If road conditions are poor, optimum stability cannot be ensured.
–ROCK: Maximum performance. On a poor road surface or with unsuitable tyres, stability might be impaired.

Effect of dynamic engine brake control
–RAIN and ROLL: Maximum stability
–ROCK: Compared to RAIN and ROLL riding modes, reduced intervention

Mode changes
The riding mode can be selected while the vehicle is stationary with the ignition on. Under the following precondition, it is also possible to change modes while riding:
–No drive torque on the rear wheel.
–No brake pressure in the brake system.

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

–Close the throttle twistgrip.
–Release the brake levers.
–Deactivate cruise control.

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

DYNAMIC ENGINE BRAKE CONTROL

How does dynamic engine brake control work?

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

Causes for excessive slip at the rear wheel:

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

In the same way as BMW Motorrad ASC, dynamic engine brake control compares the wheel circumferential velocities of the front and rear wheels. Dynamic engine brake control uses this differential to compute slip as a measure of the reserve of stability available at the rear wheel.
If slip overshoots the applicable limit value, the throttle valves are opened very slightly to increase engine torque. Slip is reduced and the vehicle is stabilised.

DYNAMIC BRAKE CONTROL

How Dynamic Brake Control works

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

Detection of emergency braking

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

Behaviour in emergency braking

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

–When partially integral braking at a high brake pressure gradient is initiated, Dynamic Brake Control increases the integral brake pressure at the rear wheel. The stopping distance shortens and controlled braking is possible.

Behaviour during accidental actuation of the throttle grip

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

–If the throttle is closed (throttle grip position < 5 %) while Dynamic Brake Control is in action, the engine torque requested by the ABS brake system is restored.

–If hazard braking ceases and the rider still has not changed the position of the throttle grip, Dynamic Brake Control steadily ramps engine torque back to the rider's requested level.

TYRE PRESSURE CONTROL (RDC)

–with tyre pressure control (RDC) OE

Function

A sensor integrated into each tyre measures the air temperature and the air pressure inside the tyre and transmits this information to the control unit. Each sensor has a centrifugal-force tripswitch that does not enable transmission of the measured values until the motorcycle has accelerated to a defined minimum speed of min. 30 km/h for the first time. The display shows –– for each tyre until the tyre-pressure signal is received for the first time. The sensors continue to transmit the measured-value signals for min. 15 min after the vehicle comes to a stop.
An error message is issued if wheels without sensors are fit-

ted to a vehicle equipped with an RDC control unit.

Tyre pressure ranges

The RDC control unit distinguishes between three tyre pressure ranges matched to the vehicle:

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

Temperature compensation

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

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

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

Pressure adaptation

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

 Example
According to the operating instructions, the tyre pressure should be:
2.5 bar
The following value is shown in the display:
2.3 bar
So pressure is low by:
0.2 bar
The gauge on the air line shows:
2.4 bar
You must now increase tyre pressure until the value is:
2.6 bar

HILL START CONTROL (HSC)

–with Hill Start Control OE

How Hill Start Control works

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

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

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

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

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

Behaviour when the motorcycle rolls or slips

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

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

Brake release when engine is stopped or after time-out

Hill Start Control is deactivated if the rider stops the engine by hitting the emergency-off switch (kill switch) or when the side stand is extended, or after time-out (10 minutes).

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

Brake warning jolt

–The brake is released briefly and reactivated immediately.

–This creates a jolt which the rider feels.

–The partial integral ABS brake system limits the speed

of movement to approx. 1...2 km/h.
–The rider must brake the motorcycle manually.
–After two minutes, or when the brake is actuated, speed control is completely deactivated.

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

ADAPTIVE HEADLIGHT

–with Headlight Pro[OE]

Function

In addition to the bulbs for low beam, high beam and, if applicable, daytime riding light or side light, the headlight has separate LED segments for the cornering light. The LED segments are activated as a function of bank angle in addition to the low-beam headlight, enabling the headlight to illuminate the inside of the bend as the motorcycle banks for cornering. The cornering headlight is optimised for slight to moderate bank angles.
The adaptive cornering headlight is activated under the following conditions:

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

MAINTENANCE

09

GENERAL NOTES

The Maintenance chapter describes straightforward procedures for checking and replacing certain wear parts.
Special tightening torques are listed as applicable. The tightening torques for the threaded fasteners on your vehicle are listed in the section entitled "Technical data".

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

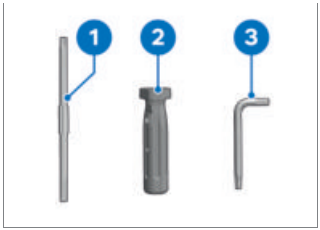
Microencapsulated screws

The microencapsulation is a chemical thread-locker. An adhesive compound creates a secure connection between bolt and nut or between screw and component. Consequently, microencapsulated screws are for once-only use and are not intended for re-installation after being slackened.
Regardless of whether the procedure involves removal or installation, the threaded bore always has to be cleaned. After removal of the screw, clean the internal thread to remove all traces of thread-locking compound. Always use new microencapsulated screws when re-assembling. Prior to disassembly make sure that you have suitable tools for cleaning the threads and a new replacement for each screw to be removed. If the job is not done correctly there is no guarantee that the screw will remain secure, which means that you would be putting yourself at risk!

Non-reusable cable ties

Non-reusable cable ties are used at some points to secure cables and lines. To prevent damage to cables and lines when these items are being removed, it is essential to use a suitable tool, for example diagonal cutting pliers, for their removal.
Cables and lines detached beforehand by the removal of non-reusable cable ties have to be re-secured with new non-reusable cable ties.
Use cable-tie clippers to clip off the excess length of the cable ties.

TOOLKIT



1 Reversible screwdriver blade
Plain-tip blade and Torx T25
–Replace the fuses. (➠ 146)

2 Screwdriver handle
–Adjust the spring preload for the rear wheel. (➠ 83)
–Topping up the engine oil. (➠ 125)
–Use with screwdriver insert

3 Torx wrench, T30
–Topping up the engine oil. (➠ 125)

SIDE PANEL

Removing side trim panel

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

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

- Disengage side trim panel **2** from retaining pins **1**.

Installing side trim panel

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

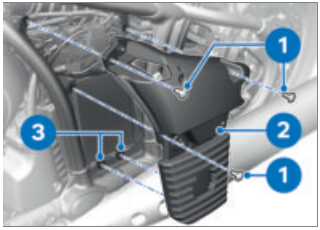
The procedure described here for the right side panel applies by analogy to the left side as well.

- Snap side trim panel **2** into retaining pins **1**.

FAIRING BRACKET

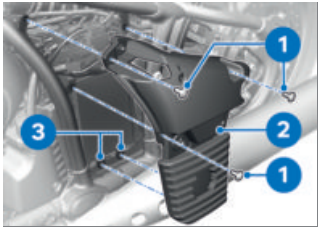
Removing left fairing bracket

- Remove the side panel. (➠ 121)



- Remove screws **1** from left trim panel carrier **2**.
- Disengage left trim panel carrier **2** from grommets **3** and remove.

Installing left fairing bracket



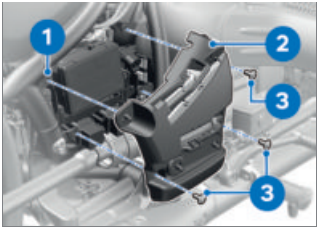
- Engage left trim panel carrier **2** in grommets **3**.
- Install screws **1** in left trim panel carrier **2**.

	Support for side cover to frame
M5 x 14	
Thread-locking compound: micro-encapsulated	
2 Nm	

- Install the side panel. (➠ 121)

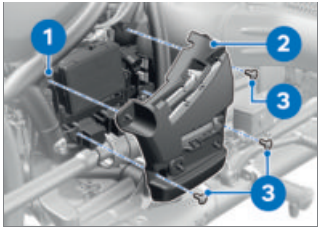
Removing right fairing bracket

- Remove the side panel. (➠ 121)



- Remove screws **3** from right trim panel carrier **2**.
- Disengage right trim panel carrier **2** from grommet **1** and remove.

Installing right fairing bracket



- Engage right trim panel carrier **2** in grommet **1**.
- Install screws **3** in right trim panel carrier **2**.

	Support for side cover to frame
M5 x 14	
Thread-locking compound: micro-encapsulated	
2 Nm	

- Install the side panel. (➠ 121)

FRONT-WHEEL STAND

Installing front-wheel stand

ATTENTION

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

Risk of damage to parts if vehicle topples

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

- Make sure the motorcycle is standing firmly.
- Place the motorcycle on an auxiliary stand.
- Install the rear-wheel stand. (➠ 124)
- See the instructions issued with the front-wheel stand for details of the correct procedure for installation.
- Your authorised BMW Motorrad retailer will be happy to assist you in selecting a suitable assembly stand.

REAR-WHEEL STAND

Install the rear-wheel stand

- The description of how to fit the rear-wheel stand correctly will be found in the instructions for the stand.
- Your authorised BMW Motorrad retailer will be happy to assist you in selecting a suitable assembly stand.

ENGINE OIL

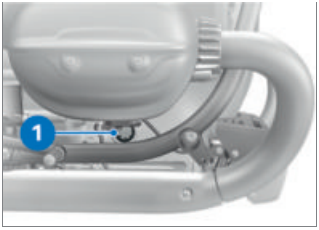
Checking engine oil level

ATTENTION

Misinterpretation of oil level reading, because oil level is temperature-dependent (the higher the temperature, the higher the oil level)
Engine damage due to incorrect oil filling

- Check the oil level only after a lengthy ride or when the engine is at operating temperature.

- Switch off the engine when it is at operating temperature.
- Wait five minutes for the oil to drain into the oil pan.
- Make sure the ground is level and firm and hold the motorcycle upright.

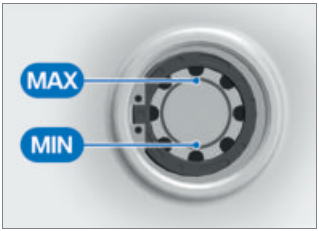


ATTENTION

Vehicle toppling sideways
Risk of damage to parts if vehicle topples

- Secure the vehicle, preferably with the assistance of a second person, so that it cannot topple sideways.

- Check the oil level in sight glass **1**.



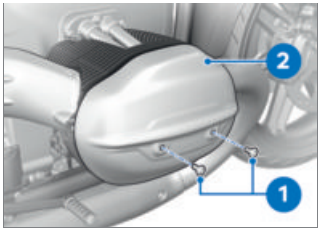
Engine oil, specified level	
Between **MIN** and **MAX** mark	

If the oil level is below the **MIN** mark:
- Topping up the engine oil. (➠ 125)

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

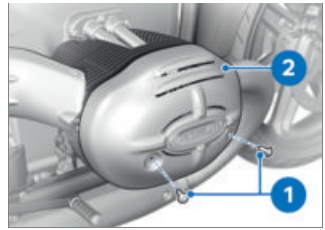
To avoid unnecessary environmental impact, BMW Motorrad recommends checking the engine oil after riding min. 50 km.

Topping up engine oil
- Make sure the ground is level and firm and place the motorcycle on its stand.

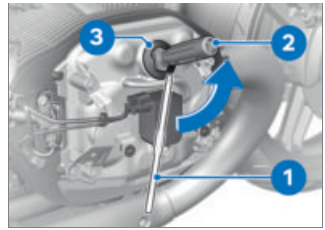


- Remove screws **1** with the tool from the on-board toolkit and remove cover **2**.

–with Option 719 design package Aero OE



- Remove screws **1** with the tool from the on-board toolkit and remove cover **2**.◁



- Wipe the area around the oil filler opening clean.
- Insert cross-head end of reversible screwdriver insert **1** into screwdriver handle **2** (on-board toolkit).
- Engage the tool in cap **3** and turn the cap counter-clockwise.
- Remove cap **3** of the oil filler opening.

ATTENTION

Use of insufficient engine oil or too much engine oil

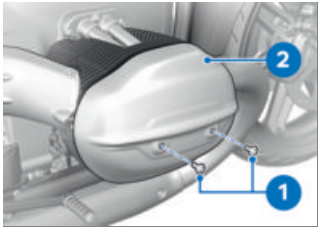
Engine damage due to incorrect oil filling

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

- Slowly and gradually top up the engine oil to the specified level.

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

- Check the engine oil level. (➠ 124)
- Install cap **3**.

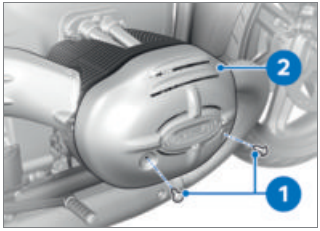


- Hold cover **2** in position and install screws **1**.

Cylinder head cover to cylinder head
M6

Cylinder head cover to cylinder head
Joining compound: Oil rubber grommet
10 Nm

–with Option 719 design package Aero OE



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

Cylinder head cover to cylinder head
M6
Joining compound: Oil rubber grommet
10 Nm◁

BRAKE SYSTEM

Check operation of the brakes

- Pull the handbrake lever.
» There is a clearly perceptible pressure point.
- Press the footbrake lever.
» There is a clearly perceptible pressure point.

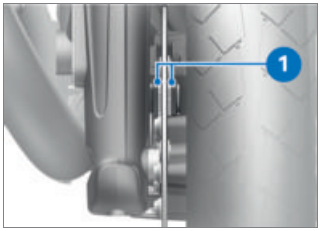
If pressure points are not clearly perceptible:

ATTENTION

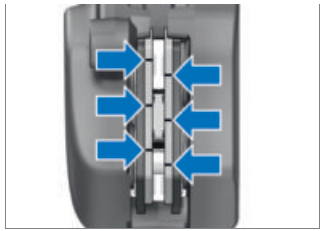
Work on brake system not in compliance with correct procedure
Risk to operational reliability of the brake system
- Have all work on the brake system undertaken by trained and qualified specialists.

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

Checking brake pad thickness, front brakes
- Make sure the ground is level and firm and place the motorcycle on its stand.



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



Brake-pad wear limit, front
min. 1 mm (Friction pad only, without backing plate. The wear indicators (grooves) must be clearly visible.)

If the wear indicating marks are no longer visible:

WARNING

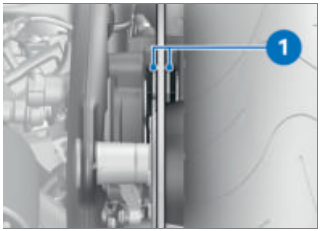
Brake-pad thickness less than permissible minimum
Diminished braking effect, damage to the brakes
- In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.

- Have the brake pads replaced by a specialist workshop,

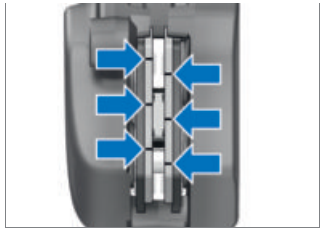
preferably an authorised BMW Motorrad retailer.

Checking brake pad thickness, rear brakes

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



- Visually inspect the brake pads to ascertain their thickness. Viewing direction: between rear wheel and rear suspension toward brake pads **1**.



	Brake-pad wear limit, rear
min. 1 mm (Friction pad only, without backing plate. The wear indicators (grooves) must be clearly visible.)	

If the wear indicating marks are no longer visible:

WARNING

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

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

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

Checking brake-fluid level, front brakes

WARNING

Not enough brake fluid in brake fluid reservoir, or contaminants in brake fluid
Considerably reduced braking power due to presence of air, contaminants or water in the brake system
- Cease operation of the vehicle immediately and do not ride it until the fault has been rectified.
- Check the brake-fluid levels at regular intervals.
- Always make sure that the lid of the brake fluid reservoir and the area around the lid are cleaned before opening.
- Make sure that only fresh brake fluid from a sealed container is used.

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

- Turn the handlebars to a position in which the brake fluid reservoir is horizontal.
- Check the brake fluid level in sight glass **1**.

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

Brake fluid level, front
Brake fluid, DOT4
The brake fluid level may not drop below the **MIN** mark. (Brake-fluid reservoir horizontal.)

If the brake fluid level drops below the permitted level:
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

Checking brake-fluid level, rear brakes

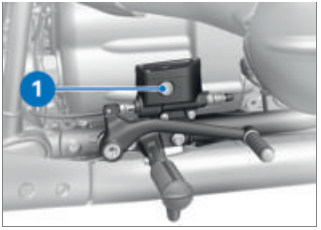
WARNING

Not enough brake fluid in brake fluid reservoir, or contaminants in brake fluid
Considerably reduced braking power due to presence of air, contaminants or water in the brake system
- Cease operation of the vehicle immediately and do not ride it until the fault has been rectified.
- Check the brake-fluid levels at regular intervals.
- Always make sure that the lid of the brake fluid reservoir and the area around the lid are cleaned before opening.
- Make sure that only fresh brake fluid from a sealed container is used.

ATTENTION

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

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



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

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

Brake fluid level, rear
Brake fluid, DOT4
The brake fluid level may not drop below the **MIN** mark. (Brake-fluid reservoir horizontal)

If the brake fluid level drops below the permitted level:

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

CLUTCH

Checking operation of the clutch

- Pull the clutch lever.

» There is a clearly perceptible pressure point.

If the pressure point is not clearly perceptible:

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

TYRES

Checking tyre pressures

WARNING

Incorrect tyre pressure
Impaired handling characteristics of the motorcycle, shorter useful tyre life

- Always check that the tyre pressures are correct.

WARNING

Tendency of valve inserts to open by themselves at high riding speeds
Sudden loss of tyre pressure

- Install valve caps fitted with rubber sealing rings and tighten firmly.

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Check tyre pressures against the data below.

Tyre pressure, front
2.5 bar (with cold tyre; one-up and two-up riding)

Tyre pressure, rear
2.9 bar (with cold tyre; one-up and two-up riding)

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

Check the tyre tread depth

WARNING

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

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

Each tyre has wear indicators integrated into the main tread grooves. The tyre has reached its wear limit when the tread has worn down to the level of the wear indicators. The locations of the marks are indicated on the edge of the tyre, e.g. by the letters TI, TWI or by an arrow.

If the tyre tread is worn to minimum:
- Replace tyre or tyres, as applicable.

WHEEL RIMS

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

Check the spokes
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Draw the handle of a screwdriver or a similar instrument across the spokes and listen to the sequence of sounds made by the individual spokes.

If there is a variation in the sequence of sounds:
- Have the spokes checked by a specialist workshop, preferably an authorised BMW Motorrad retailer.

WHEELS

Effect of wheel size on chassis and suspension control systems

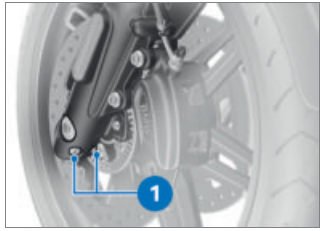
Wheel size is very important as a parameter for the running-gear control systems such as ABS, for example. In particular, the diameter and the width of a vehicle's wheels are programmed into the control unit and are fundamental to all calculations. Any change in these influencing variables, caused for example by a switch to wheels other than those installed ex-works, can have serious effects on the performance of the control systems.

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

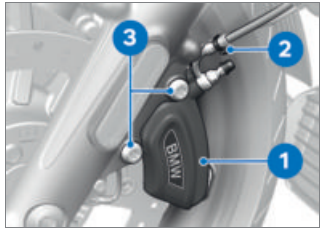
If you decide that you would like to fit non-standard wheels to your motorcycle, it is very important to consult a specialist workshop beforehand, preferably an authorised BMW Motorrad retailer. In these cases, the data programmed into the control units has to be changed to suit the new wheel sizes.

Removing front wheel

- Place the motorcycle on an auxiliary stand.
- Install the rear-wheel stand. (➠ 124)

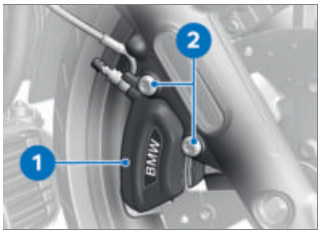


- Slacken clamping screws **1** on left and right.
- Lift the front of the motorcycle until the front wheel is clear of the ground, preferably using a BMW Motorrad front-wheel stand.
- Install the front-wheel stand. (➠ 123)

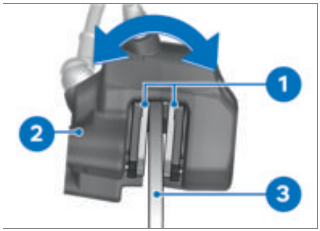


- Remove cable tie **2**.

- Remove screws **3**.
- Loosen left brake caliper **1**.



- Remove screws **2**.
- Loosen right brake caliper **1**.



- Force brake pads **1** slightly apart by rocking brake caliper **2** back and forth against brake disc **3**.

ATTENTION

Unwanted inward movement of the brake pads

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

- Do not operate the brakes with a brake caliper not correctly secured.

ATTENTION

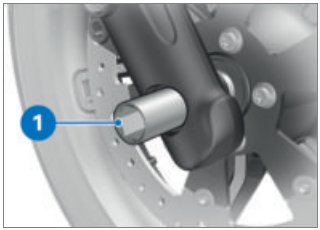
Use of hard or sharp-edged objects in proximity to component

Component damage

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

- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.
- Carefully pull the brake calipers back and out until clear of the brake discs.

- Slacken screw **1** but **do not remove it**.
- Press quick-release axle with screw **1** slightly toward the inside, so as to be better able to grip it on the right-hand side.
- Remove screw **1**.



- Withdraw quick-release axle **1**, support the front wheel when doing this.

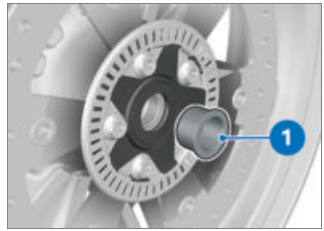
ATTENTION

Removal of front wheel not in compliance with correct procedure

Damage to wheel speed sensor

- Note the wheel-speed sensor when rolling out the front wheel.

- Set down front wheel and roll forwards out of the front suspension.



- Remove spacer bushing **1** from the wheel hub.

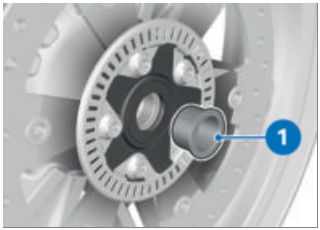
Installing front wheel

WARNING

Use of a non-standard wheel
Malfunctions in control attempts made by the ABS and ASC
- See the information on the effect of wheel size on the ABS and ASC systems at the start of this chapter.

ATTENTION

Tightening threaded fasteners to incorrect tightening torque
Damage, or threaded fasteners work loose
- Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.



- Lubricate the friction face of spacer bushing **1**.

Lubricant
Optimoly TA

- Insert spacer bushing **1**, turned with the collar facing out, into the wheel hub on the left-hand side.

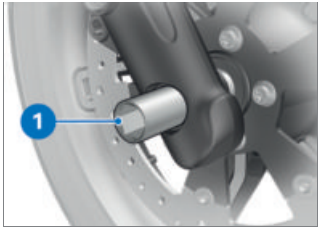
ATTENTION

Front wheel installed wrong way round
Risk of accident
- Note direction-of-rotation arrows on tyre or rim.

ATTENTION

Installation of front wheel not in compliance with correct procedure
Damage to wheel speed sensor
- Note the wheel-speed sensor when rolling in the front wheel.

- Roll the front wheel into position between the forks of the front suspension.



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

Lubricant
Optimoly TA

WARNING

Improper installation of the quick-release axle

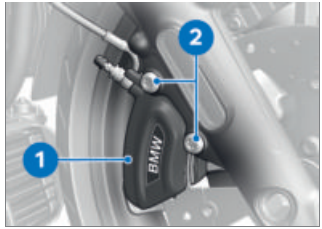
Loosening of the front wheel

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

- Lift the front wheel and insert quick-release axle **1**.
- Remove front-wheel stand and firmly compress front forks several times. Do not operate the handbrake lever in this process.
- Install the front-wheel stand. (➠ 123)

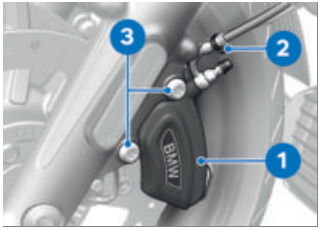
- Install screw **1**. In this process, counter-hold the quick-release axle on the right side.

Bolt on quick-release axle
M20 x 1.5 - 8.8
50 Nm



- Hold right brake caliper **1** in position and install screws **2**.

Brake calliper to telescopic fork
M10 x 40 - 10.9
56 Nm



- Hold left brake caliper **1** in position and install screws **3**.

Brake calliper to telescopic fork
M10 x 40 - 10.9
56 Nm

- Secure cable ties **2**.

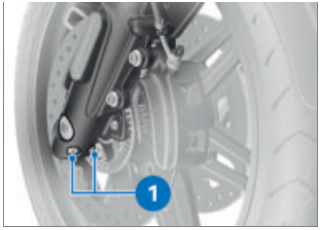
WARNING

Brake pads not lying against the brake disc

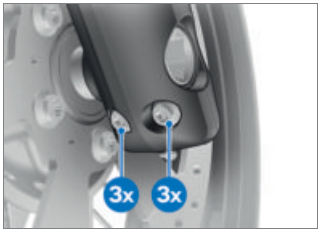
Risk of accident due to delayed braking effect.

- Before driving, check that the brakes respond without delay.

- Operate the brake several times until the brake pads are bedded.
- Remove the adhesive tape from the wheel rim.
- Remove the front-wheel stand.



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



Clamping screws in axle holder
Tightening sequence: Tighten screws six times in alternate sequence
M8 x 35 - 8.8
19 Nm

- Extend the side stand.
- Remove the rear-wheel stand.
- Place the motorcycle on its side stand.

Removing/installing rear wheel

Removing and installing the rear wheel are tasks that require special tools and equipment, such as a vehicle lift. Consequently, when a wheel change is necessary consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

LIGHTING

Replacing LED light sources

WARNING

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

Safety risk

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

All light sources of the vehicle are LED light sources. The service life of the LED light sources is longer than the presumed vehicle service life. If an LED light source is faulty contact a specialist workshop, preferably an authorised BMW Motorrad retailer.

JUMP-STARTING

CAUTION

Touching live parts of the ignition system when the engine is running

Electric shock

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

ATTENTION

Excessive current flowing when the motorcycle is jump-started

Wiring smoulders/ignites or damage to the on-board electronics

- If the motorcycle has to be jump-started connect the leads to the battery terminals; never attempt to jump-start the engine by connecting leads to the on-board socket.

ATTENTION

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

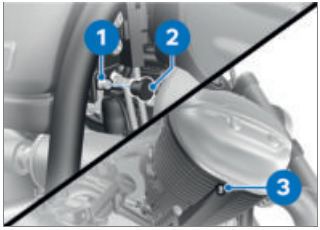
ATTENTION

Contact between remote positive terminal and vehicle
Short-circuit hazard
- Remove the protective cap only to permit use of the remote positive terminal and re-install the protective cap after use.

ATTENTION

Jump-starting with a voltage greater than 12 V
Damage to the on-board electronics
- Make sure that the battery of the donor vehicle has a voltage rating of 12 V.

- When jump-starting the engine, do not disconnect the battery from the on-board electrical system.
- Make sure the ground is level and firm and place the motorcycle on its stand.



- Remove protective cap **2**.
- Begin by connecting one end of the red jump lead to remote positive terminal **1** and the other end to the positive terminal of the donor battery.
- Connect one end of the black jump lead to the remote ground terminal **3** and the other end to the negative terminal of the donor battery.
- Run the engine of the donor vehicle during jump-starting.
- Start the engine of the vehicle with the discharged battery in the usual way; if the engine does not start, wait a few minutes before repeating the attempt in order to protect the starter motor and the donor battery.

Do not use proprietary start-assist sprays or other products to start the engine.

- Allow both engines to run for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from remote ground terminal **3** first, then disconnect the second jump lead from remote positive terminal **1**.
- Install protective cap **2**.

BATTERY

Maintenance instructions

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

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

–Keep the surface of the battery clean and dry.

–Follow the loading instructions on the following pages.

–Do not turn the battery upside down.

 Battery type
AGM

ATTENTION

On-board electronics (e.g. clock) draining connected battery

Battery is deep-discharged; this voids the guarantee

- Connect a float charger to the battery if the motorcycle is to remain out of use for more than four weeks.

BMW Motorrad has developed a float charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, the battery can be kept charged during long periods of disuse, without having to be disconnected from the vehicle's on-board systems. For more information, consult an authorised BMW Motorrad retailer.

Recharging connected battery

ATTENTION

Unsuitable chargers connected to a socket
Damage to charger and vehicle electronics
- Use suitable BMW chargers. The suitable charger is available from your authorised BMW Motorrad dealer.

- Disconnect devices plugged into the socket.
- Comply with the operating instructions of the charger.
- Charge the battery connected to the vehicle's on-board electrical system via the socket.

The motorcycle's on-board electronics know when the battery is fully charged. The on-board socket is switched off when this happens.

If you are unable to charge the battery through the on-board socket, you may be using a charger that is not compatible with your motorcycle's electronics. If this happens, charge the battery directly at the terminals of the battery that is disconnected from the vehicle.

ATTENTION

Recharging a fully discharged battery via the power socket or extra socket
Damage to the vehicle electronics
- If a battery has discharged to the extent that it is completely flat (battery voltage less than 12 V, indicator lights and multifunction display remain off when the ignition is switched on) always charge the **disconnected** battery with the charger connected directly to the battery terminals.

ATTENTION

Charging the battery that is connected to the vehicle via the battery terminals
Damage to the on-board electronics
- Disconnect the battery at the battery terminals before charging.

- Charge the disconnected battery directly at the terminals.

Recharging disconnected battery

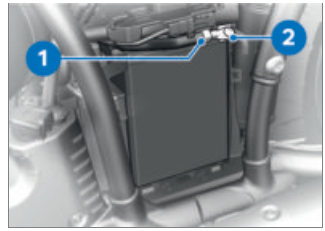
- Remove the battery. (➠ 143)
- Charge the battery using a suitable charger.
- Comply with the operating instructions of the charger.
- Once the battery is fully charged, disconnect the charger's terminal clips from the battery terminals.

The battery has to be recharged at regular intervals in the course of a lengthy period of disuse. See the instructions for caring for your battery. Always fully recharge the battery before restoring it to use.

Removing battery

–with anti-theft alarm (DWA) OE

- If applicable, switch off the anti-theft alarm.◁
- Switch off the ignition. (➠ 57)
- Remove the left fairing bracket. (➠ 122)



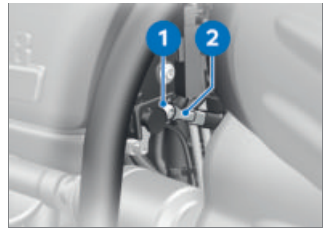
ATTENTION

Battery not disconnected in accordance with correct procedure

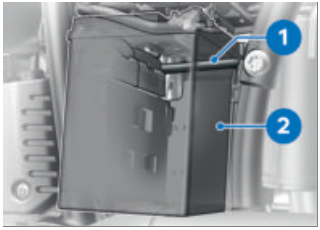
Risk of short-circuit

- Always proceed in compliance with the specified disconnection sequence.

- Remove negative battery cable **1** with screw **2**.



- On the right side of the vehicle, remove adapter cable for remote positive terminal **2** with screw **1**.



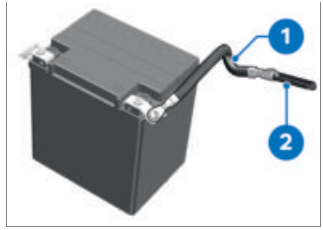
ATTENTION

Battery comes into contact with the silencer during removal/installation
Component damage
- Use a piece of cardboard, for example, to protect the silencer against scratches.

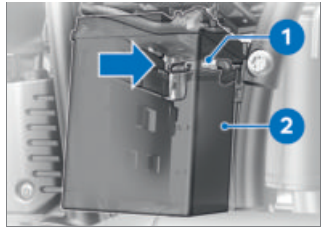
- Remove battery **2** completely, noting adapter cable for remote positive terminal **1**.

Installing battery

If the vehicle has been disconnected from the battery for a significant time, the current date will have to be reset to guarantee correct operation of the service display.



- To facilitate installation, secure cable tie **2** to adapter cable for remote positive terminal **1**.

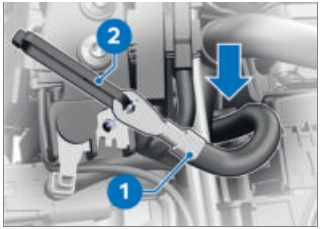


ATTENTION

Battery comes into contact with the silencer during removal/installation
Component damage
- Use a piece of cardboard, for example, to protect the silencer against scratches.

- Slide battery **2** into position, adapter cable for remote positive terminal **1** first.

- Route adapter cable for remote positive terminal **1** as close as possible to the opening **(arrow)**.

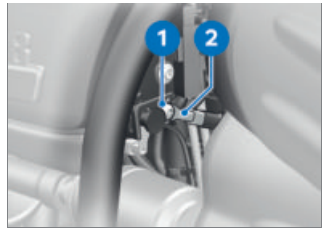


- On the right side of the vehicle, grip adapter cable for remote positive terminal **1** at the opening **(arrow)** by the cable tie and work it into position.
- Remove cable tie **2**.

- Push the battery all the way in, noting the routing of adapter cable for remote positive terminal **1**.

–Adapter cable for remote positive terminal **1** must be seated in recess **2** between the battery and the battery holder.

–Do not trap adapter cable for remote positive terminal **1** between the battery and the battery holder.



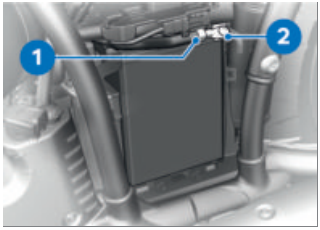
ATTENTION

Battery not connected in accordance with correct procedure

Risk of short-circuit

- Always proceed in compliance with specified installation sequence.

- Install adapter cable for remote positive terminal **2** with screw **1**.



- Install negative battery cable **1** with screw **2**.
- Install the left fairing bracket. (➠ 122)

–with anti-theft alarm (DWA) OE

- If applicable, switch on the anti-theft alarm.◁
- Set the date and time.
- Change the system settings. (➠ 52)

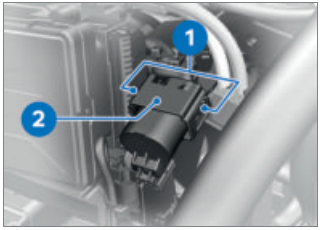
FUSES

Replacing fuses

ATTENTION

Jumpering of blown fuses
Risk of short-circuit and fire
- Never attempt to jumper a blown fuse.
- Always replace a defective fuse with a new fuse of the same amperage.

- Switch off the ignition. (➠ 57)
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the right fairing bracket. (➠ 122)

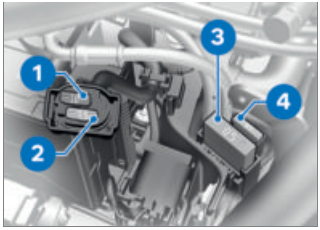


- Press locks **1** on both sides.
- Remove fuse box **2**.

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

- Consult the fuse assignment diagram below and replace the defective fuse.
- Insert fuse box **2**. Make sure that locks **1** engage on both sides.
- Install the right fairing bracket. (➠ 123)

Fuse assignment



1 10 A
Instrument cluster
Anti-theft alarm
Ignition switch
Diagnostic socket
Isolating relay

2 7.5 A
Multifunction switch, left
Round instrument
Sensor box

3 50 A
Main fuse

4 15 A
Fuse carrier, OA connector

DIAGNOSTIC CONNECTOR

Disengaging diagnostic socket

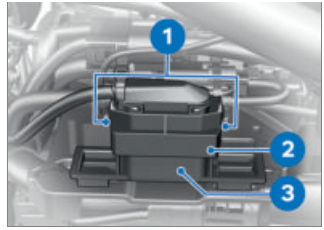
CAUTION

Incorrect disconnection of the diagnostic socket for on-board diagnosis

Malfunctions of the vehicle

- Do not disconnect the diagnostic socket or allow it to be disconnected except in the course of a BMW Motorrad service by a specialist workshop or by other authorised persons.
- Have the work carried out by appropriately trained personnel.
- Comply with the stipulations of the vehicle manufacturer.

- Remove the left fairing bracket. (➠ 122)



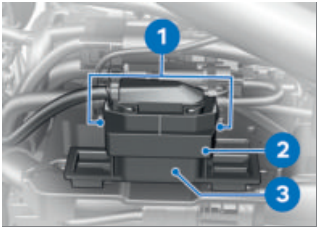
- Press locks **1**.

- Disengage diagnostic socket **2** from holder **3**.

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

Securing diagnostic socket

- Disconnect the interface for the diagnosis and information system.



- Insert diagnostic socket **2** into holder **3**.

» The locks **1** engage.

- Install the left fairing bracket. (➠ 122)

ACCESSORIES

10

GENERAL NOTES

CAUTION

Use of other-make products
Safety risk
- BMW Motorrad cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW vehicles without constituting a safety hazard. Country-specific official authorisation does not suffice as assurance. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW vehicles and, consequently, they are not sufficient in some circumstances.
- Use only parts and accessories approved by BMW for your vehicle.

BMW has conducted extensive testing of the parts and accessory products to establish that they are safe, functional and suitable. Consequently, BMW accepts responsibility for the products. BMW accepts no liability whatsoever for parts and accessories that it has not approved.

All modifications must be in compliance with legal requirements. Make sure that the vehicle does not infringe the national road-vehicle construction and use regulations applicable in your country.
Your authorised BMW Motorrad retailer can offer expert advice on the choice of genuine BMW parts, accessories and other products.
To find out more about accessories go to:
bmw-motorrad.com/equipment

POWER SOCKETS

Notes on use of power sockets:

Automatic shutdown
The power sockets are shut down automatically under the following circumstances:
- If the battery voltage is too low to maintain the vehicle's starting capability
- If the maximum load capacity as stated in the technical data is exceeded
- During the starting operation

Connection of electrical devices

You can start using electrical devices connected to the motorcycle's sockets only when the ignition is switched on. The power supply to the sockets is switched off 60 seconds after the ignition is switched off, in order to prevent overloading of the on-board electrics.

Cable routing

Note the following with regard to the routing of cables from sockets to items of electrical equipment:

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

USB CHARGING SOCKET

Notes on use

WARNING

Obstruction of the steering angle and risk of fire due to improperly routed cables

Driving safety is impaired

- Do not wind cables around the handlebars, and ensure that the handlebars can move freely.
- When routing the cable, ensure that the cable does not come into contact with hot components.

ATTENTION

Vibrations when vehicle is moving

Damage to mobile phones carried on the vehicle

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

Automatic shutdown

The USB charging sockets are shut down automatically under the following circumstances:
– If battery charge state is too low, to maintain the vehicle's start capability.
– If the maximum load capacity as stated in the technical data is exceeded.
– During the starting operation.

Connection of electrical devices

You can start using electrical devices connected to the USB charging sockets only when the ignition is switched on.
The power supply to the USB charging sockets is switched off 60 seconds after the ignition is switched off, in order to prevent overloading of the onboard electrics.
While riding in the rain, you should disconnect the device from the interface in order to protect against damage.
To prevent dirtying, keep the protective cover closed when no device is connected.

Cable routing

Note the following with regard to the routing of cables from USB charging sockets to items of electronic equipment:
– Make sure that cables do not impede the rider.
– Make sure that cables do not restrict the steering angle or obstruct handling.
– Make sure that cables cannot be trapped.

LUGGAGE

Securing luggage to motorcycle

WARNING

Handling adversely affected by overloading and imbalanced loads
Risk of falling
- Do not exceed the permissible gross weight and be sure to comply with the instructions on loading.

- Load correctly. (➠ 90)
- Stow luggage in genuine BMW Motorrad accessories such as side bags, for example.

» You can obtain additional information on luggage systems and how to secure them cor-

rectly from your authorised BMW Motorrad retailer.

Maximum payload and maximum speed
–with rear softbag OA
or
–with tank bag OA

Note the maximum payload and the maximum permissible speed. Always load luggage in such a way that the motorcycle's stability against toppling over is sustained.
The values for the combination described here are as follows:

–with rear softbag OA

Payload of rear softbag
max. 5 kg

–with tank bag OA

Payload of tank rucksack
max. 5 kg

Maximum speed for riding with a loaded tank bag
max. 180 km/h

OPTIONAL ACCESSORIES

Available optional accessories

Your authorised BMW Motorrad retailer can offer expert advice on the choice of genuine BMW parts, accessories and other products such as luggage systems or windscreens.
You can examine all the optional accessories from BMW Motorrad by visiting: **bmw-motorrad.com**.

CARE

11

CARE PRODUCTS

ATTENTION

Use of unsuitable cleaning and care products
Damage to vehicle parts
- Do not use solvents such as cellulose thinners, cold cleaners, fuel or the like, and do not use cleaning products that contain alcohol.

ATTENTION

Use of strongly acidic or strongly alkaline cleaning agents
Damage to vehicle parts
- Dilute in accordance with the dilution ratio stated on the packaging of the cleaning agent.
- Do not use strongly acidic or strongly alkaline cleaning agents.

BMW Motorrad recommends that you use the cleaning and care products you can obtain from your authorised BMW Motorrad retailer. The substances in BMW Care Products have been tested in laboratories and in practice; they provide optimised care and protection for the materials used in your vehicle.

WASHING THE VEHICLE

WARNING

Wet brake discs and brake pads after vehicle wash, after riding through water and in rainy conditions
Diminished braking effect, risk of accident
- Apply the brakes in good time to allow the friction and heat to dry the brake discs and brake pads.

ATTENTION

Damage due to high water pressure from high pressure cleaners or steam cleaners
Corrosion or short circuit, damage to labels, seals, hydraulic brake system, electrical system and the motorcycle seat
- Exercise restraint when using a steam jet or high pressure cleaning equipment.

BMW Motorrad recommends that you use BMW insect remover to soften and wash off insects and stubborn dirt on

painted parts prior to washing the vehicle.
To prevent stains, do not wash the vehicle immediately after it has been exposed to strong sunlight and do not wash it in the sun.
Remove dirt from the fork legs at regular intervals.
Make sure that the vehicle is washed frequently, especially during the winter months or if it is ridden on salted roads.

ATTENTION

Effect of road salt intensified by warm water
Corrosion
- Use only cold water to remove road salt deposits.

To remove road salt deposits, clean the vehicle and mounted parts, as applicable, with cold water immediately after every trip.

After a ride in the rain, when humidity is high or after the vehicle has been washed, condensation might form inside the headlight. This can cause temporary fogging on the headlight lens. If moisture is constantly present inside the headlight consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

CLEANING EASILY DAMAGED COMPONENTS

Plastics

ATTENTION

Use of unsuitable cleaning agents
Damage to plastic surfaces
- Do not use cleaning agents that contain alcohol, solvents or abrasives.
- Do not use insect-remover pads or cleaning pads with hard, scouring surfaces.

Clean the plastic parts with water and BMW plastic care product. This includes in particular:
–Windscreen and slipstream deflectors
–Headlight lens made of plastic
–Glass cover of the instrument cluster
–Black, unpainted parts

Soften stubborn dirt and insects by covering the affected areas with a wet cloth.

Chrome

Carefully clean chrome parts with plenty of water and motorcycle cleaner from the BMW Care Products range. This is particularly important to counter the effects of salt.
Use BMW Motorrad high-gloss polish for additional treatment.

Radiator

Clean the radiator at regular intervals to prevent overheating of the engine due to inadequate cooling.
Use a garden hose with low water pressure, for example, for this purpose.

ATTENTION

Bending of radiator fins
Damage to radiator fins
- Take care not to bend the radiator fins when cleaning.

Rubber

ATTENTION

Application of silicone sprays to rubber seals
Damage to the rubber seals
- Do not use silicone sprays or care products that contain silicon.

Treat rubber components with water or BMW rubber-care products.

CARE OF PAINTWORK

ATTENTION

Damage to paintwork due to metal polish
Risk of damage
- Do not treat painted surfaces and chrome-painted surfaces with metal polish.

Washing the vehicle regularly will help counteract the long-term effects of substances that can damage the paint, especially if your vehicle is ridden in areas with high air pollution or natural sources of dirt, for example tree resin or pollen.
Remove particularly aggressive substances immediately, however, as otherwise the paint can be affected or become discoloured. Substances of this nature include spilt fuel, oil, grease, brake fluid and bird droppings. For this, we recommend BMW Motorrad solvent cleaner followed by BMW Motorrad gloss polish for preservation.
Marks on the paintwork are particularly easy to see after

the vehicle has been washed. Remove stains of this kind at the earliest possible opportunity, using benzine or petroleum spirit on a clean cloth or ball of cotton wool. BMW Motorrad recommends using BMW tar remover for removing specks of tar. Then apply preserving agent to the areas treated in this way.

PAINT PRESERVATION

If water no longer rolls off the paint, the paint must be preserved.
For paint preservation, BMW Motorrad recommends the use of BMW Motorrad gloss polish or agents containing carnauba wax or synthetic wax.

Do not use chrome polish to preserve chrome paints. Use only the agents recommended by BMW Motorrad.

LAYING UP MOTORCYCLE

- Fill the motorcycle's fuel tank.

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

- Clean the motorcycle.
- Remove the battery. (➠ 143)
- Spray the brake and clutch levers with a suitable lubricant.
- Coat bright metal and chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Stand the motorcycle in a dry room in such a way that there is no load on either wheel. Alternatively, move the motorcycle occasionally forwards or backwards briefly to avoid damage to the tyres when stationary.
- If applicable, connect the charger.

BMW Motorrad has developed a float charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, the battery can be kept charged during long periods of disuse, without having to be disconnected from the vehicle's on-board systems. For more information, consult an authorised BMW Motorrad retailer.

RESTORING MOTORCYCLE TO USE

- Remove the protective wax coating.
- Clean the motorcycle.
- Install the battery. (➠ 144)
- Note the checklist (➠ 93).

TECHNICAL DATA

12

TROUBLESHOOTING CHART

The engine does not start.

Possible cause	Rectification
Side stand is extended and gear is engaged.	Retract the side stand.
Clutch lever not pulled.	In neutral or if a gear is engaged, pull the clutch lever.
Fuel tank is empty.	Fuel grade. (➠ 98)
Battery is flat.	Recharge the battery connected to the vehicle. (➠ 142)
Starter motor overheating protection has tripped. The starter motor can be operated for a limited time only.	Allow the starter motor to cool down for approximately 1 minute before trying again.

THREADED FASTENERS

Front wheel	Value	Valid
Brake calliper to telescopic fork		
M10 x 40 - 10.9	56 Nm	
Clamping screws in axle holder		
M8 x 35 - 8.8	**Tightening sequence: Tighten screws six times in alternate sequence**	
	19 Nm	
Bolt on quick-release axle		
M20 x 1.5 - 8.8	50 Nm	

Rear wheel	Value	Valid
Bolt to rear wheel quick-release axle		
M20 x 1.5 - 8.8	100 Nm	
Rear brake caliper on rear wheel swinging arm		
M10 x 40 - 10.9	56 Nm	

Exhaust system	Value	Valid
Clamp to silencer and exhaust manifold		
Replace clamp Lubricate inner face of clamp, Optimoly TA	24 Nm	

Mirror arm	Value	Valid
Mirror to handlebar fitting		
M8	12 Nm	

Frame	Value	Valid
Support for side cover to frame		
M5 x 14, Renew screw micro-encapsulated	2 Nm	

FUEL

Recommended fuel grade	E5 Super unleaded (max. 15% ethanol, E15) E10 95 ROZ/RON 90 AKI
Alternative fuel grade	E5 Regular, unleaded (max. 15% ethanol, E15) E10 91 ROZ/RON 87 AKI
Usable fuel capacity	approx. 16 l
Fuel reserve	approx. 4 l
Fuel consumption	5.6 l/100 km, in accordance with WMTC
CO2 emission	129 g/km, according to WMTC
Exhaust emissions standard	EU 5
–with Canada export[NV]	TIER 2, measured to FTP75

ENGINE OIL

Engine oil, capacity	approx. 4.0 l, with filter change
Engine-oil specification	SAE 15W-50, API SJ / JASO MA2, BMW Motorrad recommends BMW Motorrad ADVANTEC Pro.
Engine oil, quantity for topping up	max. 0.5 l, Difference between **MIN** and **MAX**

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

ENGINE	
Engine number location	Crankcase bottom section, left
Engine type	A70B18A
Engine design	Air-cooled/oil-cooled 2-cylinder 4-cycle opposed-twin engine with two chain-driven camshafts located above the crankshaft
Displacement	1802 cm^3
Compression ratio	9.6:1
Nominal capacity	67 kW, at rpm: 4750 min^{-1}
Torque	163 Nm, at rpm: 3000 min^{-1}
Maximum engine speed	max. 5750 min^{-1}
Idle speed	$950^{\pm 50}$ min^{-1}, Engine at regular operating temperature

CLUTCH	
Clutch type	Single-plate dry clutch

TRANSMISSION	
Type of transmission	Claw-switched 6-gear transmission with separate transmission housing

FINAL DRIVE	
Gear ratio of the final drive	3.091 (34:11)
Rear axle differential oil	FUCHS Titan EG 4218 SAE 70W-80

FRAME	
Type plate location	Frame steering head, middle
Position of the vehicle identification number	Front frame under steering head

CHASSIS AND SUSPENSION	
Front wheel	
Type of front suspension	Telescopic forks
Spring travel, front	120 mm, at front wheel
Rear wheel	
Type of rear suspension	Steel double armed swinging arm
Spring travel at rear wheel	90 mm, at rear wheel

BRAKES	
Front wheel	
Type of front brake	Twin disc brake, diameter 300 mm, 4-piston fixed caliper
Brake-pad material, front	Sintered metal
Brake disc thickness, front	5 mm, When new min. 4.5 mm, Wear limit
Rear wheel	
Type of rear brake	Single-disc brake, diameter 300 mm, 4-piston fixed caliper
Brake-pad material, rear	Sintered metal
Brake disc thickness, rear	7 mm, When new min. 6.5 mm, Wear limit

WHEELS AND TYRES	
Speed category, front/rear tyres	H, required at least: 210 km/h
Front wheel	
Front-wheel rim size	3.5" x 19"
Tyre designation, front	120/70 R 19
Load index, front tyre	min. 54
Rear wheel	
Rear wheel rim size	5.5" x 18"
Tyre designation, rear	180/55 B18
Load index, rear tyre	min. 73
Tyre pressures	
Tyre pressure, front	2.5 bar, with cold tyre; one-up and two-up riding
Tyre pressure, rear	2.9 bar, with cold tyre; one-up and two-up riding

ELECTRICAL SYSTEM	
Electrical rating of on-board socket	max. 5 A, Total for all sockets
Fuses	
Main fuse	50 A, Main fuse
Fuse 1	10 A, Anti-theft alarm system, instrument cluster, OBD connector, isolating relay, ignition switch
Fuse 2	7.5 A, Sensor box, round instrument, left multifunction switch
Fuse 4	15 A, Fuse carrier, OA connector

Battery	
Battery type	AGM
Battery rated voltage	12 V
Battery rated capacity	26 Ah
Battery type (For Keyless Ride radio-operated key)	CR 2032
Range of the remote control	1 m
Spark plugs	
Spark plugs, manufacturer and designation	NGK MAR8AI-10DS
Lighting	
All light sources	LED

DIMENSIONS	
Length of motorcycle	2440 mm, over number-plate carrier
Height of motorcycle	1126 mm, without mirrors, at DIN unladen weight
Width of motorcycle	964 mm, with mirrors
	949 mm, with handlebar levers
Height of rider's seat	720 mm, measured without rider, at DIN unladen weight
Rider's inside-leg arc, heel to heel	1675 mm, measured without rider, at DIN unladen weight

WEIGHTS	
Vehicle kerb weight	345 kg, DIN unladen weight, ready for road, 90 % load of fuel, without optional extras (OE)
Permissible gross vehicle weight	560 kg
Maximum payload	215 kg

PERFORMANCE FIGURES	
Top speed	180 km/h

SERVICE

13

REPORTING SAFETY-RELEVANT DEFECTS

–with Canada export[NV]

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the NHTSA (National Highway Traffic Safety Administration) in addition to notifying the BMW of North America, LLC.
If the NHTSA receives other, similar complaints, it may open an investigation. If it finds that a safety defect exists in a group of vehicles, the NHTSA it may order a recall and remedy campaign. However, the NHTSA cannot become involved in individual problems between you, your retailer, or BMW of North America, LLC.
You can contact the NHTSA by calling the Vehicle Safety Hotline on 1–888–327–4236 (teletypewriter TTY for the hearing impaired: 1–800–424–9153) toll-free, by visiting the website at http://www.safercar.gov or by writing to Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590.
Further information on vehicle safety is available at http://www.safercar.gov.
Canadian customers who wish to report a safety-related defect to Transport Canada, Defect Investigations and Recalls can call the toll-free hotline 1–800–333–0510. You can obtain further information about motor vehicle safety from http://www.tc.gc.ca/roadsafety.

RECYCLING

Disposal of an EOL vehicle

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

Disposal of the rider's manual

–with France export[NV]

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

BMW MOTORRAD SERVICE

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

WARNING

Maintenance and repair work not in compliance with correct procedure
Risk of accident due to consequential damage
- BMW Motorrad recommends having work of this nature carried out on the vehicle by a specialist workshop, preferably an authorised BMW Motorrad dealer.

In order to help ensure that your BMW is always in optimum condition, BMW Motorrad recommends compliance with the maintenance intervals specified for your motorcycle.
Have all maintenance and repair work carried out confirmed in the "Service" chapter in this manual. Evidence of regular preventive maintenance is essential for generous treatment of claims submitted after the warranty period has expired.

You can inquire about the content of BMW Motorrad services at your authorised BMW Motorrad retailer.

BMW MOTORRAD SERVICE HISTORY

Entries

Maintenance work that has been carried out is entered in the proof of maintenance. The entries are like a Service Booklet and provide proof of regular maintenance.
When an entry is made in the electronic service booklet of the vehicle, service-relevant data is saved in the central IT systems accessible through BMW.
If there is a change in vehicle ownership, the data saved in the electronic service booklet can also be viewed by the new vehicle owner. An authorised BMW Motorrad retailer or a specialist workshop can also view data that is stored in the electronic service booklet.

Objection

The vehicle owner can object to entries being made by the authorised BMW Motorrad retailer or a specialist workshop in the electronic service

booklet along with the corresponding storage of data in the vehicle and transfer of data to the vehicle manufacturer for the period of time that they are the vehicle owner. In this instance, no entry is made in the electronic service booklet of the vehicle.

BMW MOTORRAD MOBILITY SERVICES

As the owner of a new BMW motorcycle, in the event of a breakdown you can benefit from the protection afforded by the various BMW Motorrad mobility services (e.g. BMW Mobile Service, breakdown service, vehicle recovery service).
Your authorised
BMW Motorrad retailer
will be happy provide information about the mobility services available to you.

MAINTENANCE WORK

BMW pre-delivery check

Your authorised
BMW Motorrad retailer
conducts the BMW pre-delivery check before handing over the vehicle to you.

BMW Running-in check

The BMW running-in check has to be performed when the vehicle has covered between 500 km and 1200 km.

BMW Motorrad Service

The BMW Motorrad Service is carried out once a year; the extent of servicing can vary, depending on the age of the vehicle and the distance it has covered. Your authorised BMW Motorrad retailer confirms that the service work has been carried out and enters the date when the next service will be due.
Riders who cover long distances in a year might have to bring in their vehicles for service before the next scheduled date. It is to allow for these cases that a maximum odometer reading is entered as well in the confirmation of service. Servicing has to be brought forward if this odometer reading is reached before the next scheduled date for the service.

182 SERVICE

The service-due indicator in the display reminds you about one month or 1000 km in advance when the time for a service is approaching.

To find out more about service go to:
bmw-motorrad.com/service

The maintenance tasks necessary for your vehicle are set out in the maintenance schedule below. The tasks listed are due either when the vehicle has covered the stated distances, or periodically at the stated times.

MAINTENANCE SCHEDULE

	500 - 1200 km 300 - 750 mls	10 000 km 6 000 mls	20 000 km 12 000 mls	30 000 km 18 000 mls	40 000 km 24 000 mls	50 000 km 30 000 mls	60 000 km 36 000 mls	70 000 km 42 000 mls	80 000 km 48 000 mls	90 000 km 54 000 mls	100 000 km 60 000 mls	12 months	24 months
1	x												
2		x	x	x	x	x	x	x	x	x	x	x[a]	
3		x	x	x	x	x	x	x	x	x	x	x[a]	
4		x	x	x	x	x	x	x	x	x	x		
5		x	x	x	x	x	x	x	x	x	x		
6			x		x		x		x		x		
7			x		x		x		x		x		x[b]
8					x				x			x[c]	x[e]
9												x[d]	x[d]

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

2 BMW Motorrad Service, standard scope

3 Engine-oil change, with filter

4 Replace air-filter element

5 Check valve clearances

6 Replace all spark plugs

7 Oil change in bevel gears rear

8 Change transmission oil

9 Change brake fluid, entire system

[a] annually or every 10000 km (whichever comes first)

[b] every two years or every 20000 km (whichever comes first)

[c] for the first time after one year, then every two years or 40000 km (whichever comes first)

[d] for the first time after one year, then every two years

BMW MOTORRAD RUNNING-IN CHECK

BMW Motorrad running-in check

The tasks included in the BMW Motorrad running-in check are listed below. The actual scope of work applicable for your vehicle may vary.

–Performing vehicle test with BMW Motorrad diagnostic system
–Setting the service date and service for remaining distance with BMW Motorrad diagnosis system
–Engine-oil change, with filter
–Changing oil in bevel gears
–Checking brake-fluid level, front brakes
–Checking brake-fluid level, rear brakes
–Check the tyre pressures and tread depth
–Check the tension of the spokes, adjust if necessary
–Check the lights and signalling equipment
–Recharging battery
–Function test, engine start suppression
–Final inspection and check of roadworthiness
–Confirming BMW Motorrad service in on-board literature

MAINTENANCE CONFIRMATIONS

BMW Motorrad Service standard scope

The tasks included in the BMW Motorrad Service standard scope are listed below. The actual scope of maintenance work applicable for your vehicle may vary.

–Performing vehicle test with BMW Motorrad diagnostic system
–Visual inspection of clutch system
–Checking steering-head bearing
–Lubricating splines of input shaft at bevel gears
–Visual inspection of the brake lines, brake hoses and connections
–Check the front brake pads and brake discs for wear
–Check the brake-fluid level, front wheel brake
–Check the rear brake pads and brake disc for wear
–Check the brake-fluid level, rear wheel brake
–Draining the condensate hose
–Check the tyre pressures and tread depth
–Check the tension of the spokes, adjust if necessary
–Check the side stand's ease of movement
–Checking lighting and signalling system
–Function test, engine start suppression
–Checking battery state of charge
–Final inspection and check of roadworthiness
–Performing vehicle test with BMW Motorrad diagnostic system
–Setting service-due date and countdown distance with BMW Motorrad diagnostic system
–Confirm the BMW Motorrad service in the on-board literature

BMW Motorrad pre-delivery check

carried out

on_____

Stamp, signature

BMW Motorrad running-in check

carried out

on_____

odometer reading_____

Next service

at the latest

on_____

or, when reached earlier

odometer reading_____

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

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

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Engine oil change with filter	☐	☐
Replacing the air filter element	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear angular gearbox	☐	☐
Change gearbox oil	☐	☐
Changing the front brake fluid	☐	☐
Replace rear brake fluid	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

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

Work performed

	Yes	No
BMW Motorrad service	☐	☐
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Replacing the air filter element	☐	☐
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Replace rear brake fluid	☐	☐

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or, when reached earlier
odometer reading_____

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Replace rear brake fluid	☐	☐

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Stamp, signature

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carried out

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odometer reading_____

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odometer reading_____

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odometer reading_____

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at the latest
on_____
or, when reached earlier
odometer reading_____

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on_____
odometer reading_____

Next service
at the latest
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or, when reached earlier
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Change gearbox oil	☐	☐
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Replace rear brake fluid	☐	☐

Notes

Stamp, signature

DECLARATION OF CONFORMITY

Manufacturer

Bayerische Motoren Werke Aktiengesellschaft
Petuelring 130, 80809 Munich, Germany

Simplified EU Declaration of Conformity according to EU RED (2014/53/EU).

CE

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

UK CA

Hereby, BMW AG declares that the radio equipment components listed below are in compliance with Directive 2014/53/EU and with Radio Equipment Regulations 2017 of the United Kingdom. The full text of the EU/UK declarations of conformity are available at the following internet address: **bmw-motorrad.com/certification**

Technical information

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

Radio equipment	Component	Frequency band	Output/ Transmission Power
ZB002	Keyless Ride	433.92 MHz	max. 10 dBm e.r.p
TXBM-WMR	DWA 8	433.05 MHz - 434.79 MHz	18.8 dBm
RDC3	RDC	433.92 MHz	< 13 mW
Wus Moto gen 3	RDC	433.05 MHz - 434.79 MHz	< 10 mW e.r.p.
MC24-MA4	RDC		
WCA Motor-rad-Lade-staufach	Charging compart-ment	110 kHz - 115 kHz	< 6 W
ICC6.5in	Instru-ment Cluster	Bluetooth: 2402 MHz - 2480 MHz WLAN: 2412 MHz - 2462 MHz	Bluetooth: < 4 dBm WLAN: < 20 dBm
ICC65V2	Instru-ment Cluster	Bluetooth: 2400 MHz - 2480 MHz WLAN: 2400 MHz - 2480 MHz	Bluetooth: < 10 mW WLAN: < 100 mW
ICC10in	Instru-ment Cluster	Bluetooth: 2402 MHz - 2480 MHz WLAN: 2402 MHz - 2472 MHz	Bluetooth: < 4 dBm WLAN: < 14 dBm
MR-Re14FCR	ACC	76 - 77 GHz	Peak max. 32 dBm Nom max. 27 dBm

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

BATTERY DIRECTIVE

Batteries are generally subject to the battery directive 2023/1542/EU. Consumer information on the batteries can be found in the relevant sections of this manual.
Batteries are integrated in the following components:

Technical information

Compo-nent	Type	Contact
RDC sensor	17109	LID TECHNOLOGIES, 3 rue Giotto, 31520 Ramonville, Saint Agne, France E-mail: contact@lid.tech **www.lid.tech**
KLR Key	HUF5794	Huf Hülsbeck & Fürst GmbH & Co. KG, Steeger Str.17, 42551 Velbert, Germany E-mail: info@huf-group.com **www.huf-group.com**
KLR Key	ZB002	ZADI S.p.A., Via Carlo Marx 138, 41012 Carpi (MO), Italy E-mail: info@zadi.com **www.zadi.com**
KLR Key	ZB006	ZADI S.p.A., Via Carlo Marx, 138 41012 Carpi (MO), Italy E-mail: info@zadi.com **www.zadi.com**
DWA8 ECU	DWA8	Meta System S.p.A, Via Tancredi Galimberti 5, 42124 Reggio Emilia, Italy **www.metasystemcorporation.com**
DWA8 RC	TXBMWMR	Meta System S.p.A, Via Tancredi Galimberti 5, 42124 Reggio Emilia, Italy **www.metasystemcorporation.com**

Compo-nent	Type	Contact
DWA9	DWA9	Bury Sp. z o.o., ul. Wojska Polskiego 4, 39-300 Mielec, Poland E-mail: info@bury.com **www.bury.com**

RADIO EQUIPMENT ELECTRONIC IMMOBILISER

For all countries without EU

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

Technical information

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

Country

Argentina

H-25246

Australia/New Zealand

R-NZ

Brunei

TA No: DTA-007061

Canada

Contains IC:
10430A-MREWS5012
This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

India

ETA-SD-20200905860

Israel

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

Malaysia

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

Indonesia

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

Paraguay

NR: 2020-11-I-0834

Philippines

Type Approved
No.: ESD-RCE-2023298

Serbia

P1620118300

Singapore

Complies with
IMDA Standards
N3504-20

South Africa

TA-2020/6131
APPROVED

Taiwan

低功 電波 射性電機管 辦法 第十二條 經型式認證合格之低 功率射頻電 機，非經許可，公 司、商號或使用者均不得擅 自變 更頻率、加大功率或變更原設計 之特性及功能。第十四條 低功 率射頻電機之使用不 得影響飛航 安全及干擾合法通信；經發現有 干 擾現象時，應立即停用，並改 善至無干擾時方 得繼續使用。 前 項合法通信，指依電信法規定作 業之無線電 通信。

Vietnam

ICT

A1109091120AF04A3

CERTIFICATION
TIRE PRESSURE CONTROL
TPC

Canada

IC: 2546A-BC5A4
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
WARNING: Changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

KEYLESS RIDE SYSTEM MAIN UNIT

For all countries without EU

Model name: ZB001
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:
134,2 kHz
RF power:
< 100 dBµA/m
IP grade:
IP5K6K

Country

Indonesia

97734/SDPPI/2024
13349

KEYLESS RIDE SYSTEM ACTIVE KEY

For all countries without EU

Model name: ZB002
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:
433,92 MHz
RF power:
< 10 mW e.r.p.
IP grade:
IP5K7

Country

Indonesia

97735/SDPPI/2024

13349

Details described or illustrated in this booklet may differ from the vehicle's actual specification as purchased, the accessories fitted or the national-market specification. No claims will be entertained as a result of such discrepancies.
Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.
The right to modify designs, equipment and accessories is reserved.
Errors and omissions excepted.

Original rider's manual, printed in Germany.

Important data for refuelling:

Fuel	
Recommended fuel grade	E5 Super unleaded (max. 15% ethanol, E15) E10 95 ROZ/RON 90 AKI
Alternative fuel grade	E5 Regular, unleaded (max. 15% ethanol, E15) E10 91 ROZ/RON 87 AKI
Usable fuel capacity	approx. 16 l
Fuel reserve	approx. 4 l
Tyre pressures	
Tyre pressure, front	2.5 bar, with cold tyre; one-up and two-up riding
Tyre pressure, rear	2.9 bar, with cold tyre; one-up and two-up riding

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

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