



BMW Motorrad



Rider's manual

R nineT Scrambler

Motorcycle/Retailer Data

Motorcycle Data

Model

Vehicle identification number

Color number

Initial registration

License plate

Retailer Data

Contact in Service

Ms./Mr.

Phone number

Retailer's address/phone number (company stamp)

Welcome to BMW

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

About these Operating Instructions

Read these Operating Instructions before starting your new BMW. It contains important notes about operating the vehicle that will enable you to make full use of the technical advantages of your BMW.

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

Documentation confirming performance of maintenance work is a precondition for generous handling of out-of-warranty claims and goodwill warranty treatment. If you should decide to sell your BMW one day, please remember to hand over these Operating Instructions as well. They are an important part of your vehicle.

Suggestions and criticism

Should you have any questions about your vehicle, your authorized BMW Motorrad retailer is always happy to provide you with advice and assistance.

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

BMW Motorrad.

01 40 1 615 037



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General instructions

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Quick & easy reference

These Operating Instructions have been designed to provide quick and efficient orientation. Go straight to the "Overviews" chapter if you would like an initial overview of your motorcycle.

Abbreviations and symbols



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



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



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



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



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



Indicates the end of an item of information.



Instruction.



Result of an activity.



Reference to a page with more detailed information.



Indicates the end of accessory or equipment-dependent information.



Tightening torque.



Technical data.

OE

Optional equipment. BMW Motorrad optional equipment is already completely installed during motorcycle production.

OA

Optional accessories. BMW Motorrad optional accessories can be purchased and retrofitted at your authorized BMW Motorrad retailer.

ABS

Anti-Lock Brake System.

ASC

Automatic Stability Control.

DWA Anti-theft alarm.

EWS Electronic immobilizer.

Equipment

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

Technical data

All dimensions, weights and performance data contained in these Operating Instructions refer to the German DIN standards and comply with their tolerance specifications.

The technical data and specifications in these Operating Instructions serve as points of reference. The vehicle-specific data may vary, for instance due to the selected optional equipment, national-market version or country-specific measuring procedures. Detailed values can be obtained from the registration documents and the signs on the vehicle or from your authorized BMW Motorrad retailer or other qualified service partner or specialist workshop. The information on the vehicle documents always takes precedence over the information in these Operating Instructions.

Notice concerning current status

The high safety and quality standards of BMW motorcycles are maintained by consistent, ongoing development efforts embracing their design, equipment and accessories. For this reason, some aspects of your motorcycle may vary from the descriptions in these Operating Instructions. In addition, BMW Motorrad cannot guarantee the total absence of errors. We hope you will appreciate that no claims can be recognized based on the data, illustrations or descriptions in this manual.

Additional sources of information

BMW Motorrad retailers

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

Internet

The Operating Instructions for your motorcycle, the operating and installation instructions for optional accessories and general BMW Motorrad information related to the technology or other features are available at **www.bmw-motorrad.com/service**.

Certificates and operating permits

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

Data memory

General information

Control units are installed in the vehicle. Control units process data received from vehicle sensors, self-generated data or data

exchanged between control units, for example. Some control units are required for safe vehicle operation or provide driving assistance, such as driver assistance systems. Control units also make comfort and infotainment functions possible.

Information about the stored or exchanged data can be obtained from the vehicle manufacturer, such as in the form of a separate booklet.

Personal references

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

vehicle owner, such as via the used ConnectedDrive Account.

Data privacy laws

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

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

These locations may be:

- The vehicle manufacturer
- Qualified service partners
- Specialist workshops
- Service providers

Vehicle users may request information about the type of personal data that is stored, the purpose for which the data will be used and the source of the data.

This information can only be obtained by a registered owner or a person with written proof authorizing use of the vehicle.

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

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

The vehicle owner can have a BMW Motorrad retailer or other qualified service partner or specialist workshop read out the data stored in the vehicle for a fee if required.

The vehicle data is read out via the socket for onboard diagnosis

(OBD) required by law on the motorcycle.

Legal requirements for the disclosure of data

The vehicle manufacture is required by the law applicable in this context to provide authorities with the data stored by the manufacturer. Providing this data within the scope required is on a case-by-case basis, for instance to clarify a criminal offense.

Government agencies are authorized by the law applicable in this context to read out the data from the vehicle themselves in individual cases.

Operating data in the vehicle

Control units process data so that the vehicle can run.

Examples of this include:

- Status messages from the vehicle and its individual components, such as wheel RPM, wheel speed and deceleration
- Environmental conditions, such as temperature

The data is processed only in the vehicle itself and is usually temporary. The data is not stored beyond the period in which the vehicle is operating.

Electronic components such as control units contain components for storing technical information. This may be information about the vehicle's condition, component load, events or faults stored temporarily or permanently.

This information generally documents the condition of a component, module, system or the surrounding area; for example:

- Operating conditions of system components, such as fill levels and tire pressure
- Malfunctions and faults in key system components, such as lights and brakes
- Vehicle responses in specific driving situations, such as activation of dynamic driving systems
- Information about events causing damage to the vehicle

The data is necessary for providing control unit functions. In addition, it is used by the vehicle manufacturer to detect and eliminate malfunctions as well as to optimize vehicle functions.

The majority of this data is temporary and is processed only within the vehicle itself. Only a small amount of event-driven data is stored in the event data recorder and fault memory.

When a vehicle is serviced, such as for repairs, servicing processes, warranty cases and quality assurance measures, this technical information can be read out from the vehicle together with the vehicle identification number.

The information can be read out by a BMW Motorrad retailer or other qualified service partner or specialist workshop. The socket for onboard diagnosis (OBD) required by law on the motorcycle is used to read out the data.

The data is collected, processed and used by the respective retailer network locations. The data documents the vehicle's technical states and helps with fault finding, compliance with warranty obligations and quality improvements.

The manufacturer also has product monitoring obligations arising from product liability law. The

vehicle manufacturer requires technical data from the vehicle in order to fulfill these obligations. The data from the vehicle can also be used to verify customer warranty and guarantee claims. The fault memory and event data recorder in the vehicle can be reset by a BMW Motorrad retailer or other qualified service partner or specialist workshop as part of repair or servicing.

Data input and data transfer in the vehicle

General information

Depending on the equipment, comfort settings and individualized settings in the vehicle can be saved and changed or reset at any time.

Examples of this include:

- Windshield position settings
- Chassis and suspension adjustment settings

It is possible to introduce data into the vehicle entertainment and communication system via a smartphone, for instance.

Depending on the individual equipment, this includes:

- Multimedia data, such as music for playback
- Address book data for use in conjunction with a communication system or integrated navigation system
- Entered navigation destinations
- Data about the use of Internet services. This data can be stored locally in the vehicle or is on a device connected to the vehicle, such as a smartphone, USB stick or MP3 player. If this data is saved in the vehicle, it can be deleted at any time.

This data is transmitted to third parties only upon personal request as part of the use of online

services. The data transmitted depends on the selected settings when using the services.

Integrating mobile end devices

Depending on the equipment, mobile end devices connected to the vehicle, such as smartphones, are controlled using the vehicle's operating elements. This enables audio and visual output from mobile end devices through the multimedia system. At the same time, certain information is transmitted to the mobile end device. This includes for instance position data and other general vehicle data, depending on the type of integration, and makes it possible to optimize the use of selected apps, such as those for navigation or audio playback.

The way the data is processed further is determined by the provider of the particular app

used. The range of possible settings depends on the particular app and the operating system of the mobile end device.

Services

General information

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

Vehicle manufacturer services

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

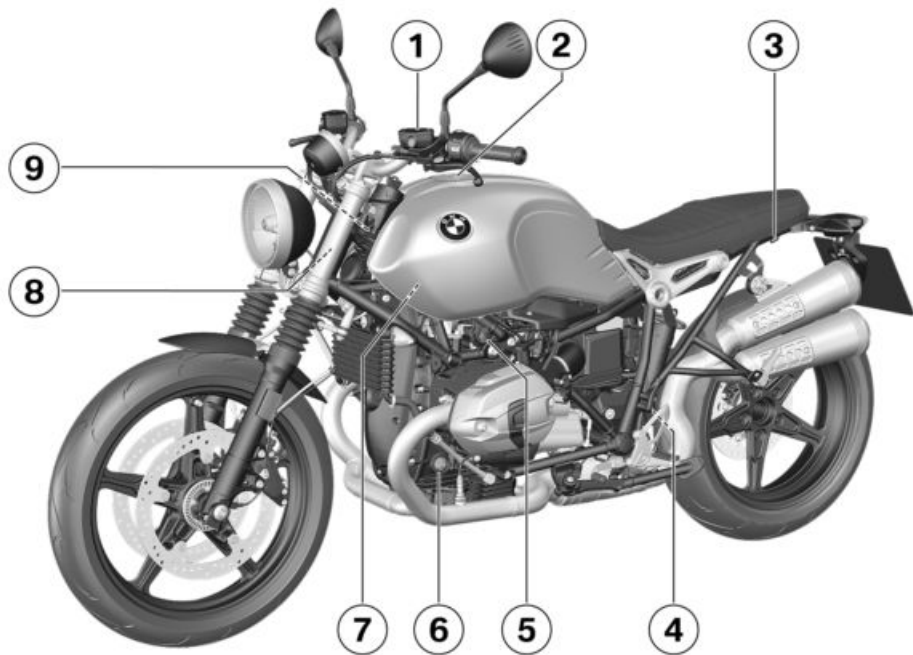
Any collection, processing and use of personal data that goes beyond the provision of services take place only as permitted by law, on the basis of a contractual agreement or as a result of consent. It is also possible to have the entire data connection activated or deactivated. This is not the case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

Services of other providers

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

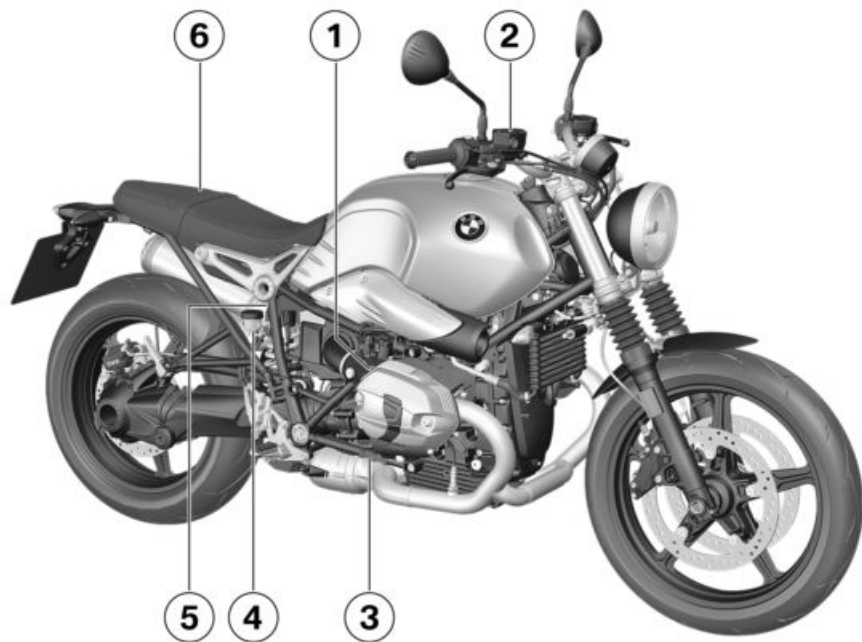
Overviews

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Overall view, left side

- 1** Clutch system
Checking clutch function
( 98).
- 2** Fuel filler opening
Fuel grade ( 76).
- 3** Eye
Correct loading ( 68).
Securing luggage on motorcycle ( 119).
- 4** Adjusting screw
Adjusting damping at rear wheel ( 60).
- 5** Socket ( 118)
- 6** Engine oil indicator
Checking engine oil level
( 91).
- 7** Connector for optional accessories (under the tank)
- 8** Type plate (left on the steering-head bearing)
Tire inflation pressure table
Checking tire pressure
( 98).
- 9** Connector for rotational-speed sensor (optional accessory)

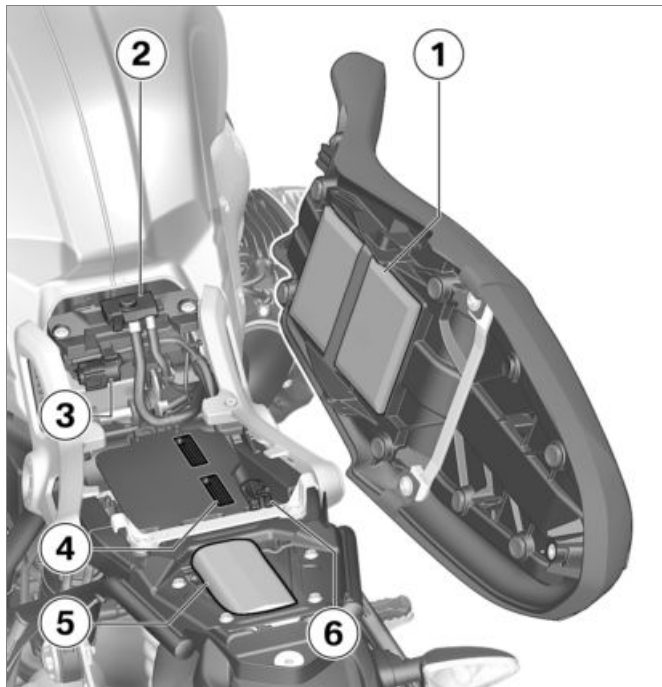


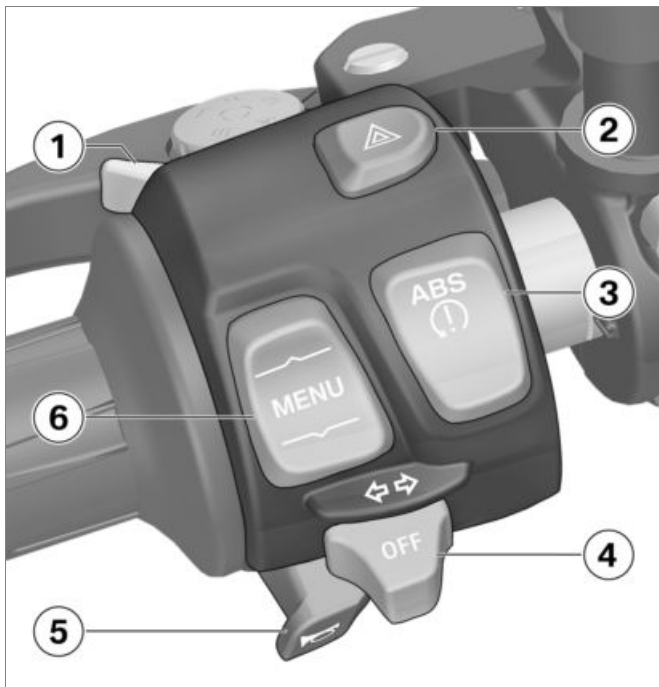
Overall view, right side

- 1** Oil filler opening
Topping up the engine oil
( 92).
- 2** Brake fluid tank, front
Checking the front brake
fluid level ( 96).
- 3** Vehicle identification number
- 4** Brake fluid tank, rear
Checking the rear brake
fluid level ( 97).
- 5** Adjusting ring for spring
preload
Adjusting spring preload at
rear wheel ( 59).
- 6** Seat
Removing seat ( 53).

Underneath the seat

- 1 Operating Instructions
Quick & easy reference
( 6)
- 2 Jump-start terminal
( 110)
- 3 Fuse box
Replacing fuses ( 113).
- 4 Payload table
- 5 Onboard vehicle toolkit
( 88)
- 6 Diagnostic socket
Loosening the diagnostic
socket ( 115).



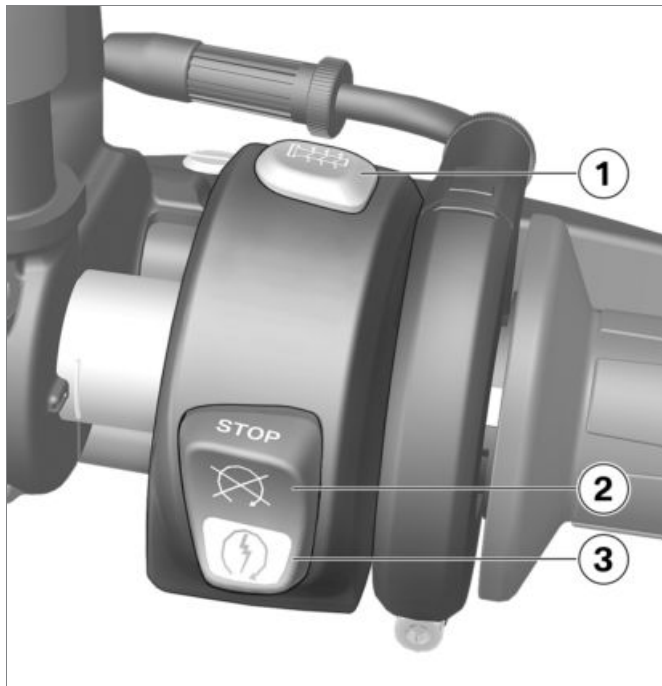


Multifunction switch, left

- 1 High-beam headlight and headlight flasher (➡ 41)
- 2 Hazard warning flasher (➡ 42)
- 3 Switching off ABS (➡ 51).
Switching off ASC (➡ 52).
- 4 Turn signals (➡ 42)
- 5 Horn
- 6 Rocker button MENU
Multifunction display (➡ 25)
Selecting displays (➡ 44)
Resetting the trip recorder (➡ 46)
Calling up the SETUP menu (➡ 48)

Multifunction switch, right

- 1 – with heated grips^{OE}
Operating heated grips (➡ 53).
- 2 Emergency-off switch
(➡ 40)
- 3 Starter button
Starting engine (➡ 70).





Instrument cluster

- 1 Speedometer
- 2 Indicator and warning lights (➡ 24)
- 3 Photosensor for brightness control in the multifunction display
– with anti-theft alarm system (DWA)^{OE}
DWA LED (➡ 47)
- 4 Multifunction display (➡ 25)
Selecting display (➡ 44).

Displays

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Warning and indicator lights

- 1 High-beam headlight indicator light
Operating high beams and headlight flasher (➡ 41).
- 2 General warning light
Display in conjunction with warning symbols in multi-function display (➡ 26)
- 3 Neutral indicator light
- 4 ASC indicator and warning light (➡ 33)
- 5 Turn signal indicator light
Operating turn signals (➡ 42).
- 6 ABS indicator and warning light





Multifunction display

- 1 Value
- 2 On-board computer
Selecting display (→ 44).
- 3 Unit
- 4 Warning symbol
Shown in conjunction
with general warning light
(→ 26)

Indicator lights

Display

Warnings are displayed by the corresponding warning lights. If several warnings are present, all corresponding warning lights and warning symbols are displayed. You will find an overview of the potential warnings on the following pages.

The general warning light lights up or flashes depending on the urgency of the warning.



Warnings that do not have their own warning light are shown as a warning symbol **1** in the multifunction display in conjunction with the general warning light **2**.

Overview of warning indicators

Indicator and warning lights	Display text	Meaning
 General warning light lights up.	 Key symbol is displayed.	Electronic immobilizer is active (▮▮▮ 30)
 General warning light flashes.	 Temperature symbol is displayed.	Coolant temperature too high (▮▮▮ 30)
 General warning light lights up.	 Engine symbol appears on the display.	Engine in emergency operation mode (▮▮▮ 30)
 General warning light flashes.	 Engine symbol appears on the display.	Engine warning (▮▮▮ 31)
 General warning light lights up.	 Battery symbol is displayed.	Voltage of the vehicle electrical system too low (▮▮▮ 31)
 General warning light lights up.	 Bulb symbol is displayed.	Bulb defective (▮▮▮ 31)
 ABS indicator and warning light flashes.		ABS self-diagnosis not completed (▮▮▮ 32)

Indicator and warning lights	Display text	Meaning
 ABS indicator and warning light lights up.		ABS switched off (→ 32)
 ABS indicator and warning light lights up.		ABS error (→ 32)
 ASC indicator and warning light flashes quickly.		ASC intervention (→ 33)
 ASC indicator and warning light flashes slowly.		ASC self-diagnosis not completed (→ 33)
 ASC indicator and warning light lights up.		ASC switched off (→ 33)
 ASC indicator and warning light lights up.		ASC error (→ 33)
	 Symbol for DWA battery is displayed.	Anti-theft alarm battery discharged (→ 34)

Indicator and warning lights

Display text

Meaning



General warning light lights up.



Symbols for fuel reserve and distance recorder **TRIP R** are displayed.

Fuel down to reserve volume (|||| 34)



General warning light lights up.



Symbol for service is displayed.

Service appointment has passed (|||| 35)

Electronic immobilizer is active



General warning light lights up.



Key symbol is displayed.

Possible cause:

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

- Remove other motorcycle keys from the ignition key ring.
- Have the defective key replaced, preferably by an authorized BMW Motorrad retailer.

Coolant temperature too high



General warning light flashes.



Temperature symbol is displayed.



ATTENTION

Riding with overheated engine

Engine damage

- Be sure to observe the measures listed below.◀

Possible cause:

The engine oil temperature is too high.

- If possible, continue driving in the partial-load range to cool down the engine.
- Should the engine oil temperature frequently be too high, have the fault rectified as quickly as possible by a specialist workshop, preferably an authorized BMW Motorrad retailer.

Engine in emergency operation mode



General warning light lights up.



Engine symbol appears on the display.



WARNING

Unusual handling when the engine is in emergency operation

Accident hazard

- Avoid rapid acceleration and passing maneuvers.◀

Possible cause:

The engine control unit has diagnosed a fault. In exceptional cases, the engine stops and can no longer be started. Otherwise, the engine runs in emergency operation mode.

- Continued driving is possible, however the accustomed en-

gine power output may not be available.

- Have the malfunction corrected as soon as possible at a specialist workshop, preferably an authorized BMW Motorrad retailer.

Engine warning



General warning light flashes.



Engine symbol appears on the display.



WARNING

Damage to engine during emergency operation

Accident hazard

- Drive slowly and avoid rapid acceleration and passing maneuvers.
- If possible, have the vehicle picked up and the fault eliminated at a specialist work-

shop, preferably an authorized BMW Motorrad retailer.◀

Possible cause:

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

- Avoid high load and engine speed ranges if possible.
- Have the malfunction corrected as soon as possible at a specialist workshop, preferably an authorized BMW Motorrad retailer.

» Continued driving is possible, however it is not recommended.

Voltage of the vehicle electrical system too low



General warning light lights up.



Battery symbol is displayed.



WARNING

Failure of vehicle systems

Accident hazard

- Do not continue riding.◀

Possible cause:

The battery is faulty.

- Have the malfunction corrected as soon as possible at a specialist workshop, preferably an authorized BMW Motorrad retailer.

Bulb defective



General warning light lights up.



Bulb symbol is displayed.



WARNING

Overlooking the vehicle in traffic due to a defective light source on the vehicle

Safety risk

- Replace defective bulbs as soon as possible; it is best always to carry a complete set of spare bulbs on the motorcycle. ◀

Possible cause:

One or more bulbs are faulty.

- Locate defective bulb with visual check.
- Replacing low and high-beam bulbs in headlight (➡ 107).
- Replacing the bulbs for parking lights (➡ 108).
- Replacing front and rear turn indicator bulbs (➡ 109).
- Replacing LED rear light (➡ 110).

ABS self-diagnosis not completed



ABS indicator and warning light flashes.

Possible cause:



ABS self-diagnosis not completed

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

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

ABS switched off



ABS indicator and warning light lights up.

Possible cause:

The ABS system has been switched off by the rider.

- Switching on ABS (➡ 51).

ABS error



ABS indicator and warning light lights up.

Possible cause:

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

- It is possible to continue riding if you make allowance for the failed ABS function. You should also take account of the additional information on situations that can lead to an ABS fault (➡ 83).
- Have the malfunction corrected as soon as possible at a specialist workshop, preferably an

authorized BMW Motorrad retailer.

ASC intervention



ASC indicator and warning light flashes quickly. ASC has detected instability at the rear wheel and responded by reducing the torque. The ASC indicator and warning light flashes longer than the ASC intervention lasts. This feature continues to furnish the rider with visual feedback confirming that the system has initiated active closed-loop intervention even after the critical situation has passed.

ASC self-diagnosis not completed



ASC indicator and warning light flashes slowly.

Possible cause:



ASC self-diagnosis not completed

To check wheel speed sensors, the vehicle must reach the following speed with engine running:

min 3 mph (min 5 km/h)

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

ASC switched off



ASC indicator and warning light lights up.

Possible cause:

The ASC system has been switched off by the rider.

- Switching on ASC (►► 52).

ASC error



ASC indicator and warning light lights up.

Possible cause:

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

- You may continue riding. It must be noted that the ASC function is not available. You should also take account of the additional information on situations that can lead to an ASC fault (►► 84).
- Have the malfunction corrected as soon as possible at a specialist workshop, preferably an authorized BMW Motorrad retailer.

Anti-theft alarm battery discharged

- with anti-theft alarm system (DWA)^{OE}



Symbol for DWA battery is displayed.



NOTICE

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

Possible cause:

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

- Contact a specialist workshop, preferably an authorized BMW Motorrad retailer.

Fuel reserve

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



After the low-fuel warning light is switched on, the distance recorder for the fuel reserve **TRIP R** is automatically shown.

The distance that can still be traveled with the fuel reserve depends on the riding style (on the consumption) and on the fuel quantity that was still available when the light switched on.

The distance recorder for the fuel reserve is reset once the fuel quantity after refueling is greater than the fuel reserve.

Fuel down to reserve volume



General warning light lights up.



Symbols for fuel reserve and distance recorder

TRIP R are displayed.



WARNING

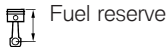
Rough engine running or switching off of the engine due to a fuel shortage

Accident hazard, damage to catalytic converter

- Do not drive to the extent that the fuel tank is completely empty. ◀

Possible cause:

At the most, the fuel tank still contains the reserve fuel quantity.



Fuel reserve

Approx. 3.7 quarts (Approx. 3.5 l)

- Fuel grade (III ➔ 76).

Service appointment has passed



General warning light lights up.



Symbol for service is displayed.

Service display



If service is due within a month, the symbol for service **3** and the service date **2** are displayed. SERV T **1** is displayed for a short time following the Pre-Ride-Check.



If service is due within 700 mi, the symbol for service **3** and the remaining distance **2** will be displayed and counted down in steps of 100 mi. SERV D **1** is displayed for a short time following the Pre-Ride-Check.



NOTICE

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

Operation

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Heated grips	53
Seat	53

Steering and ignition lock

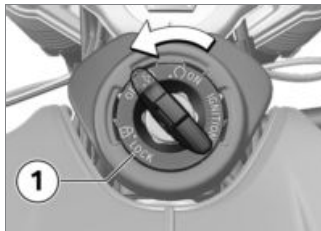
Ignition keys

You are provided with 2 ignition keys and one key for removing the seat (► 53).

Should you lose your keys, refer to the notes regarding the electronic immobilizer (EWS) (► 39). A single key fits the ignition steering lock and fuel filler cap.

Securing steering lock

- Turn handlebars to left.



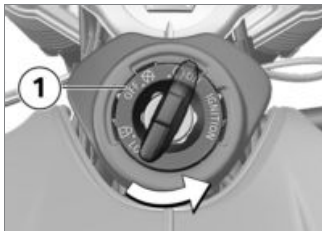
- Turn the ignition key to position **1** while moving the handlebars slightly.
 - » Ignition, lights and all electrical circuits are switched off.
 - » Steering lock is locked.
 - » Ignition key can now be removed.

Switching on ignition



- Turn ignition key to position **1**.
 - » Parking lights and all function circuits are switched on.
 - » Engine can be started.
 - » Pre-Ride-Check is carried out. (► 71)
 - » ABS self-diagnosis is performed (► 71)

Switching off ignition



- Turn ignition key to position **1**.
 - » Light switched off.
 - » Steering lock is locked.
 - » Ignition key can now be removed.
 - » Electrically powered accessories remain operational for a limited period of time.
 - » Battery can be recharged using the socket.

Electronic immobilizer (EWS)

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



NOTICE

A further 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 is displayed in the multifunction display with the key symbol. Always store further vehicle keys separately from the ignition key. ◀

If you lose one of your motorcycle keys, you can have it disabled by your authorized BMW motorcycle retailer.

When having a key disabled you should also bring all of the motorcycle's remaining ignition keys with you. The engine can no longer be started using a disabled key; however, a disabled key can be enabled again.

Ignition keys are available only through an authorized 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



1 Emergency-off switch



WARNING

Operation of the emergency ON/OFF switch when riding

Danger of falling due to blocking of rear wheel

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

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



A Engine switched off

B Operating position



NOTICE

The engine can only be started in the operating position.◀

Lights

Parking light and low-beam headlight

The parking lights come on automatically when the ignition is switched on.



NOTICE

The parking lights are a strain on the battery. Do not leave the ignition switched on longer than absolutely necessary.◀

The low-beam headlights automatically come on as soon as you start the engine.



NOTICE

With the engine switched off, you can switch on the lights by switching on the high-beam headlight with the ignition switched on or by operating the headlight flasher.◀

High-beam headlight and headlight flasher



- Press switch **1** toward front to switch on high beams.
- Push the **1** switch backwards to operate the headlight flasher.

Parking light

- Switching off ignition (➡ 39).



- Immediately after switching off the ignition, push button **1** to left and hold it until the parking lamps come on.
- Switch ignition on and then off again to switch off the parking light.

Headlight courtesy delay feature

- Switch off ignition.



- Immediately after turning off the ignition, pull switch **1** back and hold until the headlight courtesy delay feature turns on.
 - » The motorcycle lights light up for one minute and then turn off automatically.
- This can be used after parking the vehicle in order to illuminate the path to your front door, for instance.

Hazard warning flasher

Operating hazard warning flasher

NOTICE

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

- Switching on ignition (▶▶▶ 38).



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

- » Ignition can be switched off.
- To switch off the hazard warning flasher, switch on the ignition and press button **1** once again.

Turn signals

Operating turn signals

- Switching on ignition (▶▶▶ 38).



- Press button **1** to left to switch on left-side turn signals.
- Press button **1** to right to switch on right-side turn signals.

- Press button **1** to switch off the turn signal.

Comfort turn signals



When button **1** is pressed to the right or left, the turn signal automatically turns off under the following conditions:

- Speed is under 18 mph (30 km/h): after covering a distance of 165 ft (50 m).
- Speed is between 18 mph and 60 mph (30 km/h and 100 km/h): after covering a particular distance depending on the speed or when accelerating.

- Speed is above 60 mph (100 km/h): after turn signal flashes five times.

When button **1** is pressed and held slightly longer to the right or left, the turn signals will only turn off automatically after reaching the distance depending on the speed.

Display

Selecting display

Requirement

The vehicle is at a standstill.

- Switching on ignition (➡ 38).
» The on-board computer is displayed.
- Repeatedly short-press button **1** until desired value is displayed.

Possible displays:

- Total mileage: ODO
- Trip distance 1: TRIP 1
- Trip distance 2: TRIP 2
- Automatic trip distance:
TRIP A, is automatically reset if at least 5 hours have passed since the ignition was switched off and the date has changed.
- Distance covered after reaching the fuel reserve: TRIP R, can only be selected for the fuel reserve.
- Engine temperature: ENGTMP



- Clock: CLOCK
- Call up the settings menu:
SETUP ENTER

Resetting the trip recorder

- Switching on ignition (▶▶▶ 38).



- Repeatedly short-press button **1** until the trip recorder to be reset **2** is displayed.
- Press and hold button **1** until trip recorder **2** is reset.

Anti-theft alarm system (DWA)

- with anti-theft alarm system (DWA)^{OE}

Activating DWA

- Switching on ignition (▮▮▮ 38).
- Setting DWA (▮▮▮ 48).
- Switch off ignition.
 - » If the DWA is activated, the DWA is automatically activated after the ignition is switched off.
 - » Activation takes approximately 30 seconds to complete.
- Turn signals are illuminated twice.
- Confirmation tone sounds twice (if programmed).
- » DWA is armed.

Alarm signal

The DWA alarm can be set off by:

- Motion sensor
- Switching on the ignition with an unauthorized ignition key.
- Disconnecting the DWA from the vehicle battery (DWA battery takes over the power supply – alarm sound only, hazard warning lights do not flash).

If the DWA battery is discharged all functions remain operational; the only difference is that the alarm cannot be set off if the system is disconnected from the motorcycle battery.

The duration of the alarm signal is approx. 26 seconds. During the DWA alarm, an alarm tone sounds and the turn indicators flash. The type of alarm tone can be set by a BMW Motorrad partner.

If a DWA alarm was set off 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 signals the reason for the DWA alarm for one minute.

Light signals on DWA LED:

- 1 flash: motion sensor 1
- 2 flashes: motion sensor 2
- 3 flashes: ignition turned on with unauthorized ignition key
- 4 flashes: DWA disconnected from motorcycle battery
- 5 flashes: motion sensor 3

Deactivating DWA

- Switching on ignition (▮▮▮ 38).
 - » Turn signals are illuminated once.
 - » Confirmation tone sounds once (if programmed).
 - » DWA is now switched off.

Setting DWA

- Switching on ignition (➡ 38).



- Repeatedly short-press button **1** until **SETUP ENTER** is displayed.
- Press and hold button **1** to open **SETUP**.
- » **SET DWA** is displayed.



- Briefly press button **2** to change the adjusted value.
- The following settings are available:
- **DWA ON:** DWA is activated or is activated automatically when the ignition is switched off.
 - **DWA OFF:** DWA is deactivated.
 - Press and hold button **1** to exit **SET DWA**.
 - » **SETUP ENTER** is displayed.

Clock

Set clock



WARNING

Adjusting the clock while riding

Accident hazard

- Adjust the clock only when the motorcycle is stationary.◀
- Switching on ignition (➡ 38).



- Repeatedly short-press button **1** until **SETUP ENTER** is displayed.

- Press and hold button **1** to open **SETUP**.
- Repeatedly short-press button **1** until **SET CLOCK** is displayed.



- Press and hold button **2** until hours **3** flash.
- Briefly press button **1** to increment hours.
- Briefly press button **2** to decrement hours.
- » The hours are set.
- Press and hold button **2** until minutes **4** flash.

- Briefly press button **1** to increment minutes.
- Briefly press button **2** to decrement minutes.
- » The minutes are set.
- Press and hold button **2** until minutes no longer flash.
- » The clock is set.
- Press and hold button **1** to exit **SET CLOCK**.
- » **SETUP ENTER** is displayed.

Date

Setting the date

- Switching on ignition (☛ 38).



- Repeatedly short-press button **1** until **SETUP ENTER** is displayed.
- Press and hold button **1** to open **SETUP**.
- Repeatedly short-press button **1** until **SET DATE** is displayed.



- Press and hold button **2** until day **4** flashes.
- Briefly press button **1** to increment day.
- Briefly press button **2** to decrement day.
- » The day is set.
- Press and hold button **2** until month **3** flashes.
- Briefly press button **1** to increment month.
- Briefly press button **2** to decrement month.
- » The month is set.

- Press and hold button **2** until SET YEAR is displayed.



- Briefly press button **1** to increment year **5**.
- Briefly press button **2** to decrement year **5**.
- Press and hold button **2** until year no longer flashes.
- » The year is set.
- Press and hold button **1** to exit SET YEAR.
- » The date is set.
- » SETUP ENTER is displayed.

Adjusting brightness

Adjusting display brightness

- Switching on ignition (➡ 38).



- Repeatedly short-press button **1** until SETUP ENTER is displayed.
- Press and hold button **1** to open SETUP.
- Repeatedly short-press button **1** until SET BRIGHT is displayed.



- Repeatedly short-press button **1** until the desired value for display brightness **3** is set.
- » A value from 1...5 (dark ... bright) is set for display brightness.
- Press and hold button **1** to exit SET BRIGHT.
- » SETUP ENTER is displayed.

Antilock Braking System (ABS)

Switching off ABS

- Switching on ignition (🔑➡ 38).



NOTICE

The ABS function can also be deactivated while driving.◀



- Press and hold button **1** until first the ASC indicator and warning light **2** and then the ABS indicator and warning light **3** change their display behavior.
- » The ASC setting remains unchanged.



ABS indicator and warning light lights up.

- Release button **1** within two seconds.



ABS indicator and warning light remains illuminated.

» ABS is switched off.

Switching on ABS



- Press and hold button **1** until first the ASC indicator and warning light **2** and then the ABS indicator and warning light **3** change their display behavior.
- » The ASC setting remains unchanged.



ABS indicator and warning light goes out; if self-diagnosis has not been completed, the light begins to flash.

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



If the ABS warning light lights up after switching the ignition off and on and then continuing to ride above the minimum speed, an ABS fault has occurred.

min 6 mph (min 10 km/h)

Automatic Stability Control (ASC)

Switching off ASC

- Switching on ignition (➡ 38).



NOTICE

The ASC function can also be deactivated while riding. ◀



- Press and hold button **1** until the ASC indicator and warning light **2** changes its display behavior.
- » The ABS setting remains unchanged.



ASC indicator and warning light begins to light up.

- Release button **1** within two seconds.



ASC indicator and warning light remains illuminated.

- » ASC is switched off.

Switching on ASC



- Press and hold button **1** until the ASC indicator and warning light **2** changes its display behavior.



ASC indicator and warning light goes out; if self-diagnosis has not been completed, the light begins to flash.

- Release button **1** within two seconds.



ASC indicator and warning light remains off or continues to flash.

- » ASC switched on.

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



If the ASC indicator and warning light lights up after switching the ignition off and on and then continuing driving with the following minimum speed, an ASC fault has occurred.

min 6 mph (min 10 km/h)

Heated grips

– with heated grips^{OE}

Operating heated grips



NOTICE

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



NOTICE

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

- Starting engine (→ 70).



- Press button **1** repeatedly until desired heating level **2** is displayed.

The handlebar grips can be heated at two different levels.



100 % heating output



Approx. 50 % heater output

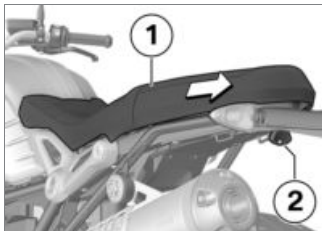
- » The 2nd heating level is used for fast heat-up of the grips; then the switch should be switched back to the 1st level.
- » If no further changes are made, the selected heating level is set.

- To switch off heated grips, actuate button **1** repeatedly until heated grip symbol **2** is no longer shown in the display.

Seat

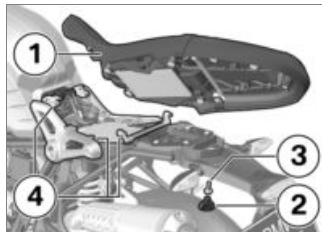
Removing seat

- Park motorcycle. Ensure that the ground is firm and level.



- Remove the screw with the motorcycle seat key **2**.
- Pull seat **1** backward and remove.

Installing seat



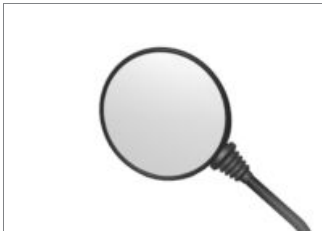
- Place seat **1** centrally and push it forward into the lugs **4**.
- Install the screw **3** with the motorcycle seat key **2**.

Setting

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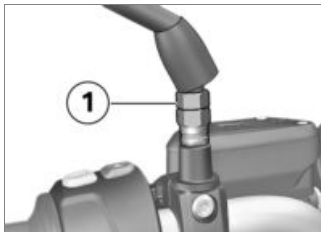
Mirrors

Adjusting mirrors



- Move mirrors into desired position by twisting.

Adjusting mirror arm



- Slide protective cap up over screw connection on mirror arm.
- Loosen nut **1** with tool from on-board toolkit.
- Turn mirror arm into desired position.
- Tighten nut **1** while holding mirror arm firmly.



Mirror (lock nut) on adapter

16 lb/ft (22 Nm) (Left-hand thread)

- Slide protective cap over screw connection.

Headlight

Headlight adjustment, right-hand/left-hand traffic

This motorcycle's headlight features a symmetrical low beam. No special measures are required prior to operating the motorcycle in a country where traffic travels on the side of the road opposite to that of your home country (left-hand drive to right-hand drive or vice versa).

Headlight beam throw and spring preload

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

However, in the case of very high payloads, the available spring

preload adjustment might not be adequate. If that is the case, the headlight beam throw must be adapted to the weight.



NOTICE

If there are doubts as to the correct headlight range, have the adjustment checked by a specialized workshop, preferably by an authorized BMW Motorrad retailer.◀

Clutch

Adjusting clutch lever



WARNING

Modified position of the clutch fluid reservoir

Air in the clutch system

- Do not twist the handlebar fitting or the handlebars.◀

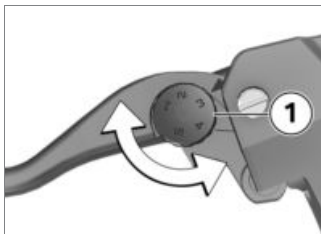


WARNING

Adjusting the clutch lever while driving

Accident hazard

- Adjust the clutch lever when the motorcycle is stationary.◀



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



NOTICE

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

- » Adjustment options:
 - From position 1: smallest distance between handlebar grip and clutch lever
 - To position 5: largest distance between handlebar grip and clutch lever

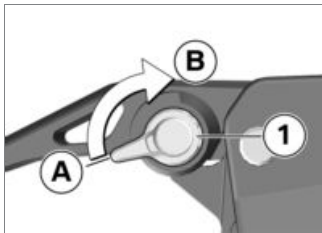
– with Option 719 Milled Parts Set Classic^{OE}

or

– with Option 719 Milled Parts Set Storm^{OE}

or

– with Option 719 milled part package, Club Sport^{OE}



- Turn the adjustment lever **1** to the desired position.
- » Adjustment options:
- From position **A**: smallest distance between handlebar grip and clutch lever.
- Five steps toward position **B** to increase the distance be-

tween the handlebar grip and the clutch lever.◀

Brakes

Adjusting brake lever



WARNING

Modified position of the brake fluid reservoir

Air in the brake system

- Do not twist the handlebar fitting or the handlebars.◀

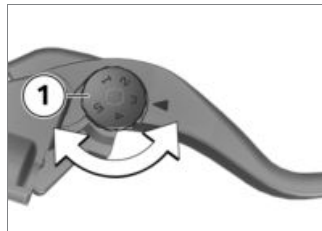


WARNING

Adjusting the brake lever while driving

Accident hazard

- Only adjust the brake lever when the motorcycle is stationary.◀



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



NOTICE

The adjusting screw is easier to turn if you push the brake lever forwards.◀

- » Adjustment options:
- From position 1: smallest distance between handlebar grip and brake lever
- To position 5: largest distance between handlebar grip and brake lever

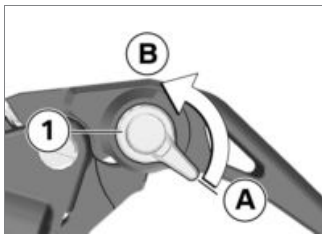
- with Option 719 Milled Parts Set Classic^{OE}

or

- with Option 719 Milled Parts Set Storm^{OE}

or

- with Option 719 milled part package, Club Sport^{OE}



- Turn the adjustment lever **1** to the desired position.
 - » Adjustment options:
 - From position **A**: smallest distance between handlebar grip and handbrake lever.
 - Five steps toward position **B** to increase the distance be-

tween the handlebar grip and the handbrake lever.<

Spring preload Setting

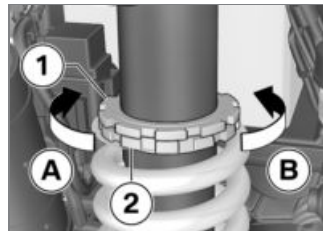
It is essential to set the spring preload at the rear wheel to suit the load carried by the motorcycle. Increase spring preload if the payload increases and reduce spring preload accordingly if the payload decreases.

Adjusting spring preload at rear wheel

Requirement

To set the spring preload, 2 hook wrenches are required, which are not contained in the toolkit, but which are, however, included in the delivery specification of the vehicle.

- Park motorcycle. Ensure that the ground is firm and level.



- To loosen the lock, turn adjustment ring **1** with the hook wrench in direction **B**, while securing adjustment ring **2** with the second hook wrench.
- To increase the spring preload, turn adjustment ring **2** with the hook wrench in direction **A**.
- To reduce the spring preload, turn adjustment ring **1** with the hook wrench in direction **B**.
- To lock, tighten adjustment ring **1** with the hook wrench in direction **A**, while securing adjustment ring **2** with the second hook wrench.

- Adjust damping to changed spring preload.
- Adjusting damping at rear wheel (▶▶ 60).

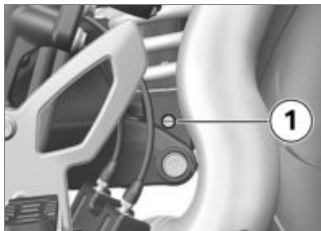
Damping Setting

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

- A rough road requires softer damping than a smooth road.
- An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting damping at rear wheel

- Park motorcycle. Ensure that the ground is firm and level.



CAUTION

Adjusting the spring strut damping when the silencer is hot

Burn hazard

- Allow the muffler to cool down. ◀

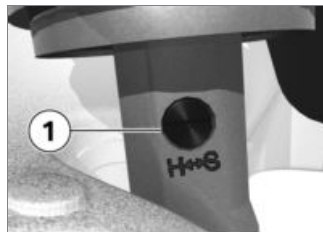
CAUTION

Working with hot components

Burn hazard

- Wear protective gloves. ◀

- Use on-board toolkit to adjust damping via adjusting screw **1**.



- To increase damping, turn the adjusting screw **1** clockwise.
- To reduce damping, turn the adjusting screw **1** counter-clockwise.



Recommendation on chassis and suspension adjustment for one-up operation

24 mm to start of thread
(Spring preload)



Recommendation on chassis and suspension adjustment for one-up operation

Turn adjusting screw clockwise up to the stop, then turn back by 1.5 turns (Damping)

– with lowered^{OE}

18 mm to start of thread (Spring preload)

Turn adjusting screw clockwise up to the stop, then turn back by 1.5 turns (Damping)◀



Recommendation on chassis and suspension adjustment for operation with extra load

27 mm to start of thread (Spring preload)

Turn adjusting screw clockwise up to the stop, then turn back by 1.25 turns (Damping)



Recommendation on chassis and suspension adjustment for operation with extra load

– with lowered^{OE}

21 mm to start of thread (Spring preload)

Turn adjusting screw clockwise up to the stop, then turn back by 1.25 turns (Damping)◀



Recommendation on chassis and suspension adjustment for two-up mode

34 mm to start of thread (Spring preload)

Turn adjusting screw clockwise up to the stop, then turn back by 0.75 turns (Damping)

– with lowered^{OE}

28 mm to start of thread (Spring preload)



Recommendation on chassis and suspension adjustment for two-up mode

Turn adjusting screw clockwise up to the stop, then turn back by 0.75 turns (Damping)◀

Adjustable footrest system

– with Option 719 Milled Parts Set Classic^{OE}

or

– with Option 719 Milled Parts Set Storm^{OE}

or

– with Option 719 milled part package, Club Sport^{OE}

Adjusting the rotor

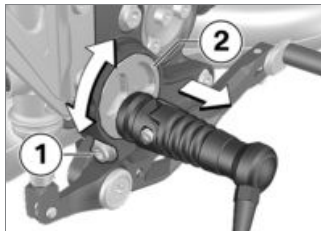


WARNING

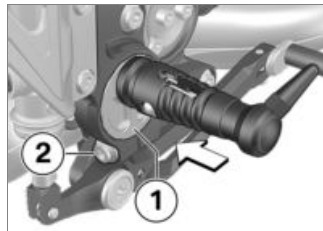
Greater inclinations can lead ground contact of hard components when cornering.

Accident hazard

- Do not use the footrest as an indicator for critical inclinations.◀
- The rotor is set in the same way on the left and right.
- The position of the rotor must be adjusted the same way on the right and left.



- The foot distance and a higher foot position can be adjusted on the rotor **2**.
- Loosen the bolt **1** far enough that the rotor **2** can be pulled out.
- The rotor **2** is adjustable in 12 positions. To set the highest position, turn the rotor **2** to the left or right by 180°.



- Install the rotor **1** in the desired position and tighten the screw **2**.



Rotor on base plate

15 lb/ft (20 Nm)



WARNING

Incorrectly adjusted footrest due to the rotor being moved.

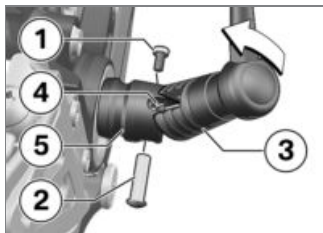
Accident hazard

- If the rotor is moved, the footrest adjustment must be adapted accordingly.◀

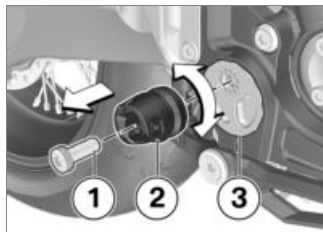
- The footrest can only fold upward and slightly backward.

Adjusting the footrest joint

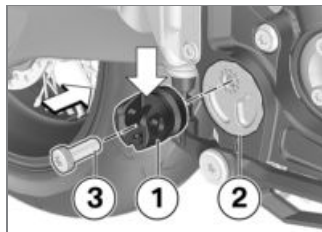
- The footrest joint is set in the same way on the left and right.



- Remove screw **1** and bolt **2**.
- Fold the footrest body **3** in direction of arrow.
- » The spring is relaxed.
- Disengage spring **4** from footrest joint **5**.



- Remove screw **1**.
- Pull the footrest joint **2** from the rotor **3**.
- To change the position of the footrest joint **2**, turn it clockwise or counterclockwise.

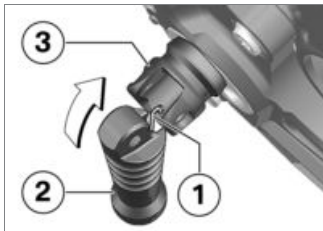


- When ultimately installed on the rotor **2**, the opening **arrow** of the footrest joint **1** **must** point upward or slightly to the rear and upward.
- Install screw **3**.
- Remove and install the footrest joint on the side of the switch unit in the same way.

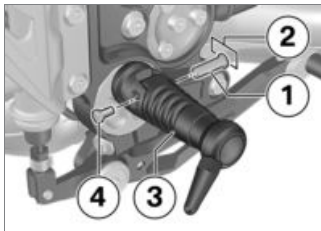


Footrest joint on rotor

15 lb/ft (20 Nm)



- Attach the spring **1** to the eye on the footrest joint **3**.
- Fold the footrest body **2** upward in the footrest joint **3**.



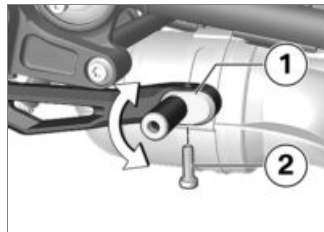
- Install bolt **1** with flattened head **2** flush to the footrest joint and footrest body **3**.
- Install screw **4**.
- Remove and install the footrest body on the side of the switch unit in the same way.



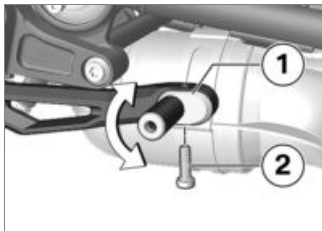
Footrest body on
footrest joint

2 lb/ft (3 Nm)

Adjusting the footbrake lever foot piece



- The distance between the feet and the height of the foot piece **1** can be adjusted by turning the foot piece into different positions.
- Remove screw **2**.



- Clean the thread.
- Turn the foot piece **1** to the desired position.
- Install the **new** screw **2**.

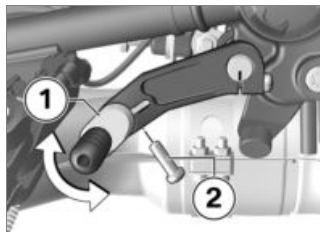


Foot piece on footbrake lever

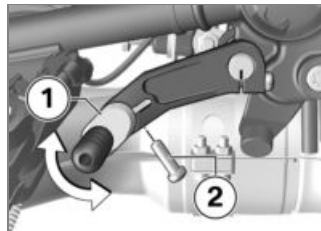
Thread-locking compound:
micro-encapsulated

7 lb/ft (10 Nm)

Adjusting gearshift lever foot piece



- The distance between the feet and the height of the foot piece **1** can be adjusted by turning the foot piece into different positions.
- Remove screw **2**.



- Clean the thread.
- Turn the foot piece **1** to the desired position.
- Install the **new** screw **2**.



Foot piece to gearshift lever

Thread-locking compound:
micro-encapsulated

7 lb/ft (10 Nm)

Riding

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Start	70
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Brakes	74
Parking your motorcycle	76
Refueling	76
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Safety information

Rider's equipment

The following clothing protects you while riding:

- Helmet
- Rider's suit
- Gloves
- Boots

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



ATTENTION

Use of materials that leave a stain (e.g., blue jeans) on the seat

Discoloration of the seat

- Avoid contact with materials that leave a stain.◀

Correct loading



WARNING

Reduced riding stability caused by overloading and uneven loading

Accident hazard

- Do not exceed the gross weight limit and observe the loading information.◀
- Set spring preload, suspension damping rate settings and tire pressures for the current gross vehicle weight.
- Pack heavy pieces of luggage and cargo as low and as close to the center of the motorcycle as possible.
- with tank bag^{OA}
- Observe maximum payload of the tank bag.



Payload of tank bag

max 11 lbs (max 5 kg)◀

- with rear bag^{OA}
- Observe maximum payload of the rear bag.



Payload of rear bag

max 22 lbs (max 10 kg)◀

Speed

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

- Incorrect settings of spring-struts
- Unevenly distributed load
- Loose clothing
- Insufficient tire pressure
- Tire tread in poor condition

- Attached luggage systems, such as a tank bag or rear bag. Observe the maximum speed indicated on the sign in the respective luggage system.

Risk of poisoning

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

WARNING

Harmful exhaust gas

Danger of suffocation

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

Burn hazard

CAUTION

Intense heating up of engine and exhaust system while riding

Burn hazard

- After parking the motorcycle, make sure that no persons or objects come into contact with the engine and exhaust system.◀

Catalytic converter

There is a danger of overheating and damage if misfiring causes unburned fuel to enter the catalytic converter.

For this reason, observe the following points:

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

ATTENTION

Unburned fuel in the catalytic converter

Damage to catalytic converter

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

Danger of overheating

ATTENTION

Engine idling for a lengthy period while at a standstill

Overheating due to insufficient cooling; in extreme cases vehicle fire

- Do not allow the engine to idle unnecessarily.
- After starting, ride off immediately.◀

Modifications

ATTENTION

Modifications to the motor-cycle (e.g. engine control unit, throttle valves, clutch)

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

- Do not make any modifications.◀

Checklist

Observe checklist

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

Always before riding off

- Check operation of the brake system.
- Check operation of the lighting and signal system.
- Checking clutch function (▮▮▮ 98).
- Checking tire tread depth (▮▮▮ 99).
- Checking tire pressure (▮▮▮ 98).
- Check secure hold of cases and luggage.

At every third refueling stop

- Checking engine oil level (▮▮▮ 91).
- Checking the front brake pad thickness (▮▮▮ 93).
- Checking rear brake pad thickness (▮▮▮ 94).
- Checking the front brake fluid level (▮▮▮ 96).
- Checking the rear brake fluid level (▮▮▮ 97).

Start

Starting engine

- Switching on ignition (▮▮▮ 38).
 - » Pre-Ride-Check is carried out. (▮▮▮ 71)
 - » ABS self-diagnosis is performed (▮▮▮ 71)
- Engage neutral, or pull back clutch lever if a gear is engaged.



NOTICE

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

- For cold start and low temperatures:
 - » Pull clutch.



- Press starter button **1**.



NOTICE

The starting attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you attempt to start the engine again, or use jumper cables and a donor battery to start. More detailed information can be found in the "Maintenance" chapter under "Jump-starting". ◀

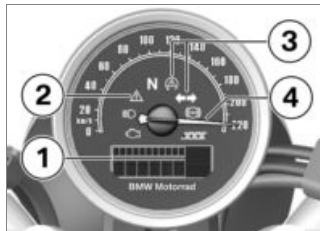
- » Engine starts.
- » Consult the troubleshooting chart if the engine refuses to start. (▶▶ 126)

Pre-Ride-Check

After the ignition is switched on, the instrument cluster performs a test of the instrument dials, the warning and indicator lights, and the display – this is known as the "Pre-Ride-Check". Starting the engine before the test routine is

completed will cancel the remainder of the routine.

Phase 1



All segments are shown in the display **1**.

At the same time, all warning and indicator lights **3** are switched on.

Phase 2

The general warning light **2** changes from lighting up to flashing.

The needle **4** for the speedometer moves to maximum speed.

Phase 3

The needle **4** for the speedometer moves to zero.

The warning and indicator lights go out or adopt their functions for operation.

The display reverts to the standard format. The on-board computer is displayed.

If the needle did not move, a warning or indicator light not switched on, or if segments are missing in the display:

- Have the malfunction corrected as soon as possible at a specialist workshop, preferably an authorized BMW Motorrad retailer.

ABS self-diagnosis

The self-diagnosis routine checks whether the BMW Motorrad Integral ABS is ready for operation. The self-diagnosis routine

launches automatically when you switch on the ignition.

Phase 1

- » Check on system components monitored by diagnostic system while motorcycle is parked.



ABS indicator and warning light flashes.

Phase 2

- » Check wheel speed sensors while starting off.



ABS indicator and warning light flashes.

ABS self-diagnosis completed

- » ABS warning light goes out.



ABS self-diagnosis not completed

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

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

- You may continue riding. Bear in mind that neither the ABS function nor the integral function is available.
- Have the malfunction corrected as soon as possible at a specialist workshop, preferably an authorized BMW Motorrad retailer.

ASC self-diagnosis

The self-diagnosis routine checks whether the BMW Motorrad ASC is ready for operation. The self-diagnosis routine runs automatically when you switch on the ignition.

Phase 1

- » Check of system components monitored by the diagnostic system while motorcycle is parked.



ASC indicator and warning light flashes slowly.

Phase 2

- » Checking the diagnosable system components while the motorcycle is moving.



ASC indicator and warning light flashes slowly.

ASC self-diagnosis completed

» The ASC indicator and warning light goes out.

- Check the display of all indicator and warning lights.



ASC self-diagnosis not completed

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

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

- You may continue riding. It must be noted that the ASC function is not available.
- Have the malfunction corrected as soon as possible at a spe-

cialist workshop, preferably an authorized BMW Motorrad retailer.

Break-in Engine

- In the period preceding the break-in service, attempt to change rpm and engine load as frequently as possible, avoiding extended periods at constant rpm.
- Choose curvy, slightly hilly sections of road if possible.
- Observe the load status during break-in.



Load condition when breaking in

No full throttle (Odometer reading 0...621 miles (0...1000 km))

- Note the break-in speeds.



Break-in speeds

0 to 1000 km

max 31 mph (max 50 km/h)
(1st gear)

max 43 mph (max 70 km/h)
(2nd gear)

max 56 mph (max 90 km/h)
(3rd gear)

max 68 mph (max 110 km/h)
(4th gear)

max 78 mph (max 125 km/h)
(5th gear)

max 87 mph (max 140 km/h)
(6th gear)

- Observe mileage, after which the running-in check should be performed.



Mileage until first
running-in check

311...746 miles
(500...1200 km)

Brake pads

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



WARNING

New brake pads

Extension of the braking distance, accident hazard

- Brake early.◀

Tires

New tires have a smooth surface. They must be roughened by riding in a restrained manner at varying lean angles until the tires are run in. Only once the surface has been roughened can the tires achieve maximum grip.



WARNING

Loss of adhesion of new tires on wet roads and at extreme angles

Accident hazard

- Always think well ahead and avoid extreme angles.◀

Brakes

How do you achieve the shortest braking distance?

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

To achieve the shortest possible braking distance, the front wheel brake must be applied quickly and with progressively greater levels of force. This procedure provides ideal exploitation of the extra weight transfer to the front wheel. The clutch should also be disengaged at the same time. With the frequently trained extreme emergency braking in

which the brake pressure is generated as quickly as possible and with great force, dynamic load distribution lags behind the progressive increases in deceleration rate and the braking force cannot be completely transferred to the road.

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

WARNING

Lifting off of the rear wheel due to heavy braking

Accident hazard

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

Descending mountain passes

WARNING

Braking only with the rear-wheel brake when descending mountain passes

Reduced of braking action, destruction of the brakes caused by overheating

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

Wet, soiled brakes

Moisture and dirt on the brake discs and the brake pads result in a decrease in the braking effect.

Delayed or poorer braking effect must be expected in the following situations:

- When driving in the rain and through puddles.
- After washing the motorcycle.
- When driving on roads spread with salt.
- After working on the brakes due to oil or grease residues.
- When driving on soiled roads or offroad.

WARNING

Poorer braking action due to moisture and dirt

Accident hazard

- Brake until brakes are dry or clean; clean if necessary.
- Brake early until the full braking action is available again.◀

Parking your motorcycle

Side stand

- Switch off engine.



ATTENTION

Poor ground conditions in area of stand

Component damage cause by tipping over

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



ATTENTION

Loading of the side stand with additional weight

Component damage cause by tipping over

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

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

Refueling

Fuel grade

Requirement

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



ATTENTION

Refueling with leaded fuel

Damage to catalytic converter

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



ATTENTION

Use of Ethanol E85 as fuel

Damage to the engine and fuel supply

- Do not refuel with E85, i.e. fuel with an ethanol content of 85 %, or with Flex Fuel. ◀
- Fuels with a maximum ethanol content of 15 %, i.e. E15, may be used for refueling.



Recommended fuel quality

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



Alternative fuel quality

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

Refueling procedure

WARNING

Fuel is highly flammable

Fire and explosion hazard

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

ATTENTION

Component damage

Component damage due to over-filled fuel tank

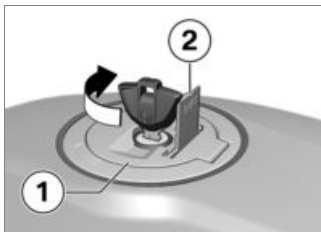
- If the fuel tank is overfilled, the excess fuel will flow into the carbon canister and lead to component damage there.
- Only fill the fuel tank to the lower edge of the fuel filler neck.◀

ATTENTION

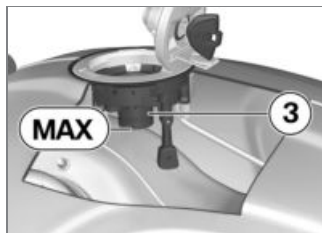
Contact of fuel and plastic surfaces

Damage to surfaces (become unattractive or cloudy)

- Immediately clean plastic surfaces after contact with fuel.◀
- Park motorcycle. Ensure that the ground is firm and level.



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



- Refuel with a fuel meeting the specifications below, continuing until fuel is no higher than lower edge of filler neck **3**.

NOTICE

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



NOTICE

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



Fuel tank capacity

Approx. 4.5 gal (Approx. 17.0 l)



Fuel reserve

Approx. 3.7 quarts (Approx. 3.5 l)

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

Securing motorcycle for transportation

- Protect against scratching all components where tensioning straps are routed. For example, use adhesive tape or soft cloths.



ATTENTION

Motorcycle tips to the side when raising

Component damage cause by tipping over

- Secure the motorcycle against tipping to the side, preferably

with the assistance of a second person.◀

- Push motorcycle onto transport surface, and do not place on side stand.



ATTENTION

Pinching of components

Component damage

- Do not pinch components, e.g. brake lines or wiring harnesses.◀
- Lay tensioning straps at front over lower fork bridge on both sides.

- Tension straps downward.



- Secure and tighten the tensioning straps at the rear on the frame for the rear footrests on both sides.
- Tighten all tensioning straps evenly.
- » The motorcycle is pulled down against its springs with the suspension compressed strongly.

Technology in detail

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Antilock Braking System (ABS)	82
Automatic Stability Control (ASC)	84

General notes

More information on the topic of technology is available at:

bmw-motorrad.com/technology

Antilock Braking System (ABS)

How does ABS work?

The maximum braking force that can be transferred to the road is partially dependent on the coefficient of friction of the road. Gravel, ice, snow and wet roads offer a considerably lower coefficient of friction than a dry, clean asphalt surface. The poorer the coefficient of friction of the road is, the longer the braking distance will be.

If the maximum transferable brake pressure is exceeded when the driver increases the brake pressure, the wheels begin to lock and driving stability is lost;

this could result in a fall. Before this situation occurs, ABS is activated and the brake pressure is adjusted to the maximum transferable braking force. This enables the wheels to continue to turn and maintains driving stability regardless of the road surface condition.

What happens when rough roads are encountered?

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

imaginable case and driving stability is ensured. After detecting the actual conditions, the system adjusts the optimum brake pressure.

Lifting off rear wheel

During extremely heavy and rapid decelerations it is possible that the BMW Motorrad ABS cannot prevent the rear wheel from lifting off the ground. In these cases, the motorcycle can also flip end over end.



WARNING

Lifting off of the rear wheel due to heavy braking

Accident hazard

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

What are the design characteristics of the BMW Motorrad ABS?

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

From a speed greater than 2.5 mph (4 km/h), the BMW Motorrad ABS can ensure riding stability on any surface within the limits of riding physics. At lower speeds, the BMW Motorrad ABS cannot provide optimal support on all surfaces due to system limitations.

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

Special situations

To detect the tendency of the wheels to lock up, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ABS function is switched off for safety reasons, and an ABS error is displayed.

A self-diagnosis routine must be completed before the fault memory entry will be displayed.

Apart from problems with the BMW Motorrad ABS, unusual riding conditions can also cause a fault memory entry to be generated:

- Riding on rear wheel (wheelie) for a longer period
- Rear wheel spinning when stationary with front wheel brake engaged (burn-out)
- Heating up on the main or auxiliary stand in neutral or with gear engaged

- Blocked rear wheel for an extended period of time, e.g., when riding downhill offroad

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

How important is regular maintenance?



WARNING

Brake system not regularly serviced

Accident hazard

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

Reserves for safety

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



WARNING

Braking in curves

Risk of accident despite ABS

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

Automatic Stability Control (ASC)

How does ASC work?

BMW Motorrad ASC compares the wheel centrifugal velocities of the front and rear wheels. The speed difference is used to determine the slip rate, and thus the stability reserves at the rear wheel. The engine control adapts the engine torque when the slip limit is exceeded.

Special situations

As lean angles increase, acceleration capability is also progressively restricted by the laws of physics. This can result in delayed acceleration when exiting very tight turns.

The system compares the rotation speeds of the front and rear wheels to detect any tendency for the rear wheel to spin or lose

traction. If the system registers implausible data for an extended period of time it will switch off the ASC functionality as safety precaution and a display will alert you to an ASC error. A self-diagnosis routine must be completed before the fault memory entry will be displayed.

In the following unusual riding conditions, the BMW Motorrad ASC may possibly switch off automatically.

Unusual riding conditions:

- Riding on the rear wheel (wheelie) for an extended period with ASC deactivated
- Rear wheel spinning when stationary with front wheel brake engaged (burn-out)
- Heating up on the main or auxiliary stand in neutral or with gear engaged

ASC is reactivated by turning the ignition off and on and then riding at a speed above 3 mph (5 km/h).

If the front wheel loses contact with the ground under extreme acceleration, the ASC reduces the engine torque, maintaining the reduction until the front wheel makes contact with the ground again.

BMW Motorrad recommends that you respond to this condition by twisting back the throttle grip somewhat to return to stable dynamic operating conditions as quickly as possible.

On a slippery surface, the throttle grip should never be suddenly twisted back completely unless the clutch is disengaged at the same time. The engine's braking torque could cause the rear wheel to block, resulting in un-

stable motorcycle conditions. BMW Motorrad ASC is unable to intervene effectively under these conditions.

Slippery road

On very loose surfaces (e.g. sand and snow), the interventions of the ASC can reduce the drive force at the rear wheel to such a degree that the rear wheel no longer turns sufficiently. In this case, BMW Motorrad recommends switching off the ASC temporarily.

Note that the rear wheel will spin on the loose surface, and close the throttle grip in a timely manner before reaching a solid surface.

Then switch on ASC again.

Maintenance

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General notes

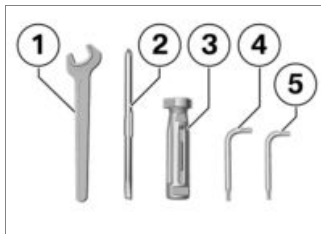
The Maintenance chapter describes work for checking and replacing wear parts. These tasks can be performed with a minimum of effort.

If special tightening torques are to be taken into account for installation, these are listed. An overview of all required tightening torques is contained in the chapter "Technical Data".

Further information about maintenance and repair tasks can be obtained on DVD through your authorized BMW Motorrad retailer.

Special tools and thorough specialized knowledge are required to carry out some of the work. If you are in doubt, consult a specialist workshop, preferably your authorized BMW Motorrad retailer.

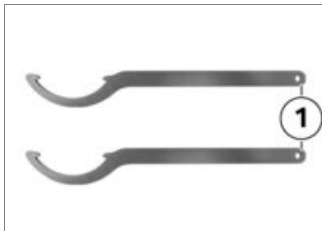
Onboard vehicle toolkit



- 1** Open-ended wrench
Wrench size: 14 mm
– Adjusting mirror arm (➡ 56).
- 2** Reversible screwdriver insert
with Phillips and straight blade
– Adjusting damping at rear wheel (➡ 60).
– Replacing front and rear turn indicator bulbs (➡ 109).
- 3** Screwdriver handle

- 3** – Topping up the engine oil (➡ 92).
– Use with screwdriver insert
- 4** Torx wrench, T25
– Disconnect the positive battery terminal.
- 5** Torx wrench T20
– Replacing low and high-beam bulbs in headlight (➡ 107).
– Replacing the bulbs for parking lights (➡ 108).

Tool for spring strut adjustment



- 1** Hook wrench
- Adjusting spring preload at rear wheel (► 59).

Front wheel stand

Installing front-wheel stand

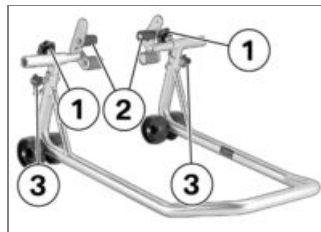


ATTENTION

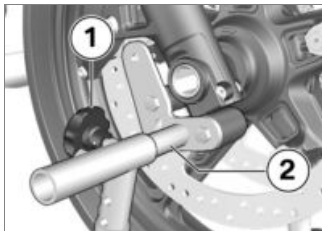
Use of the BMW Motorrad front wheel stand without an auxiliary stand

Component damage caused by tipping over

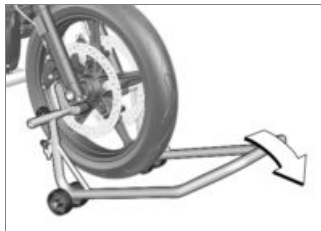
- Place the motorcycle on an auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand. ◀
- Place motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad auxiliary stand.
- Installing rear-wheel stand (► 90).
- Use basic stand with front wheel mount.
 - » The basic stand and its accessories are available through your authorized BMW Motorrad retailer.



- Loosen clamping bolts **1**.
- Push the two mounts **2** outward, continuing until the front suspension fits between them.
- Use locating pins **3** to set front wheel stand to desired height.
- Center front-wheel stand relative to front wheel and push it against front axle.



- Align the two mounts **2** so that front suspension rests securely on them.
- Tighten clamping bolts **1**.



ATTENTION

Lifting-off of the auxiliary stand if the motorcycle is raised too high

Component damage caused by tipping over

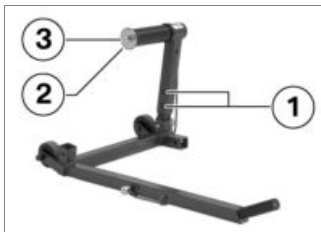
- When raising the motorcycle, make sure that the auxiliary stand remains in touch with the ground.
- Adjust the height of the front wheel stand or auxiliary stand if necessary.◀

- Apply uniform pressure to push front wheel stand down and raise motorcycle.

Rear-wheel stand

Installing rear-wheel stand

- Park motorcycle. Ensure that the ground is firm and level.
- Use rear-wheel stand with rear wheel adapter. The rear-wheel stand and its accessories are available through your authorized BMW Motorrad retailer.



- Apply the lock washer from the left; to do so, press the unlock button.



ATTENTION

Motorcycle tips to the side when raising

Component damage cause by tipping over

- Secure the motorcycle against tipping to the side, preferably with the assistance of a second person.◀
- Position motorcycle upright while simultaneously pressing

grip of stand back so that both stand rollers rest on ground.

- Then press the grip down to the ground.

Engine oil

Checking engine oil level



ATTENTION

Misinterpretation of the oil filling quantity, as the oil level is temperature-dependent (the higher the temperature, the higher the oil level)

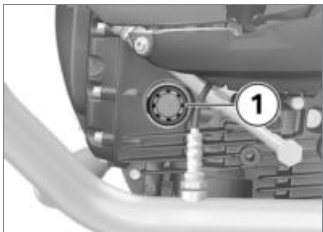
Engine damage

- Only check the oil level after a longer journey or when the engine is warm.◀
- Switch off engine at operating temperature.
- Make sure ground is level and firm and hold motorcycle vertically.

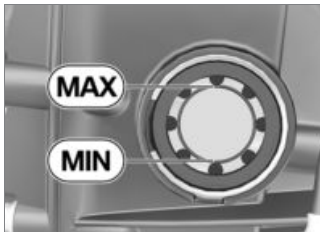


- Push the rear-wheel stand from the right onto the rear axle.

- Wait five minutes to allow oil to drain into the oil pan.



- Read oil level on the display **1**.



Specified level of engine oil

Between the **MIN** and **MAX** marks

If oil level is below minimum mark:

- Topping up the engine oil (→ 92).

If oil level is above maximum mark:

- Have oil level corrected at a specialist workshop, preferably an authorized BMW Motorrad retailer.

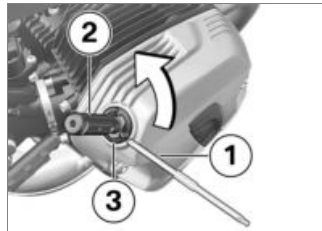


NOTICE

BMW Motorrad recommends occasionally checking the motor oil after a journey of at least 50 km in order to reduce the environmental impact. ◀

Topping up the engine oil

- Park motorcycle. Ensure that the ground is firm and level.



- Wipe the area around the oil filler opening clean.
- To be able to apply force more easily, insert the interchangeable screwdriver

insert **1** Phillips-end first, into the screwdriver handle **2** (from on-board toolkit).

- Position the tool on the cap **3** and turn it counterclockwise.
- Remove cap **3** of oil filler opening.



ATTENTION

Use of too little or too much engine oil

Engine damage

- Always make sure that the oil level is correct.◀
- Top up the engine oil to the specified level.



Engine oil, quantity for topping up

max 0.5 quarts (max 0.5 l) (Difference between MIN and MAX)

- Checking engine oil level (► 91).
- Install the cap **3**.

Brake system

Checking function of brakes

- Actuate brake 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

Improper working on the brake system

Endangering of the operating safety of the brake system

- Have all work on the brake system carried out by experts.◀
- Have the brakes checked by a specialist workshop, preferably an authorized BMW Motorrad dealer.

Checking the front brake pad thickness

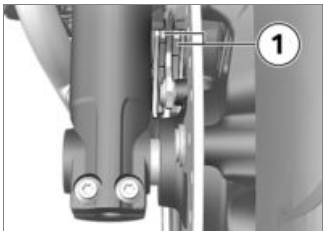


WARNING

Dropping below the minimum pad thickness

Reduced braking action, damage to the brake

- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀
- Park motorcycle. Ensure that the ground is firm and level.



- Visually inspect left and right brake pad thickness to determine their thickness. Viewing direction: between wheel and front suspension toward brake pads **1**.



Front brake-pad wear limit

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

- Check the wear marks.
If the wear marks are no longer clearly visible:
- Have brake pads renewed at a specialist workshop, preferably an authorized BMW Motorrad retailer.

Checking rear brake pad thickness

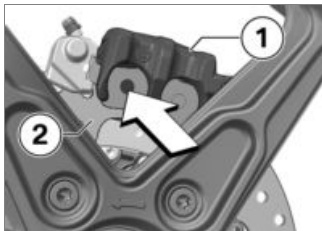


WARNING

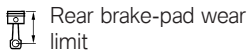
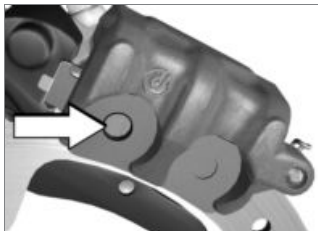
Dropping below the minimum pad thickness

Reduced braking action, damage to the brake

- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness. ◀
- Park motorcycle. Ensure that the ground is firm and level.



- Conduct a visual inspection of the brake pad thickness. Direction of view: from left to brake caliper **1**.



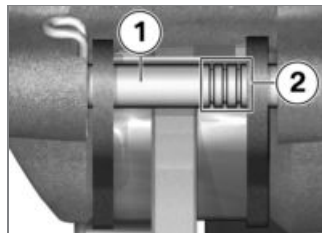
0.04 in (1.0 mm) (Only friction material without carrier plate. Brake disk must not be visible through bore hole of inner brake pad.)

If the brake disc **2** is visible:

- Have brake pads renewed at a specialist workshop, preferably an authorized BMW Motorrad retailer.

Brake pad wear

The rear wheel brake has a brake-pad wear indicator.



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

How to interpret the marks:

- 3 rings visible: at least 75% brake pad thickness
- 2 rings visible: at least 50% brake pad thickness
- 1 ring visible: at least 25% brake pad thickness

- No rings visible: brake pads are worn to the wear limit; check as described above.

Checking the front brake fluid level



WARNING

Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Adjust the riding mode immediately until the fault is rectified.
- Check brake fluid level regularly. ◀
- Make sure ground is level and firm and hold motorcycle vertically.



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



NOTICE

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



Front brake fluid level

Brake fluid, DOT4

The brake fluid level must not fall below the **MIN** mark. (Brake fluid tank horizontal, motorcycle standing upright.)

If the brake fluid level falls below the approved level:

- Have the defect rectified as quickly as possible by a specialist workshop, preferably an authorized BMW Motorrad dealer.

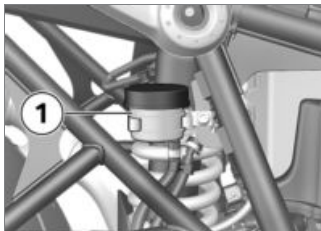
Checking the rear brake fluid level

WARNING

Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Adjust the riding mode immediately until the fault is rectified.
- Check brake fluid level regularly. ◀
- Make sure ground is level and firm and hold motorcycle vertically.

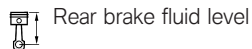


- Check brake fluid level in brake fluid tank **1**.



NOTICE

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



Brake fluid, DOT4

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

If the brake fluid level falls below the approved level:

- Have the defect rectified as quickly as possible by a specialist workshop, preferably an authorized BMW Motorrad dealer.

Clutch

Checking clutch function

- Pull back the clutch lever.
 - » There is a clearly perceptible pressure point.
- If no clear pressure point can be felt:
- Have the clutch checked by a specialist workshop, preferably an authorized BMW Motorrad retailer.

Tires

Checking tire pressure



WARNING

Incorrect tire inflation pressure

Poorer handling characteristic of motorcycle, reduction of tire service life

- Ensure proper tire inflation pressure. ◀



WARNING

Valve inserts open of their own accord at high speeds

Sudden loss of tire inflation pressure

- Use valve caps with rubber sealing ring and screw on firmly. ◀
- Park motorcycle. Ensure that the ground is firm and level.
- Check tire pressure against data below.



Front tire pressure

36.3 psi (2.5 bar) (One-up and two-up mode with load, with cold tires)



Rear tire pressure

42.1 psi (2.9 bar) (One-up and two-up mode with load, with cold tires)

If tire pressure is too low:

- Correct tire pressure.

Wheel rims and tires

Checking wheel rims

- Park motorcycle. Ensure that the ground is firm and level.
- Visually inspect rims for defects.
- Have damaged rims checked and, if necessary, renewed by a specialist workshop, preferably an authorized BMW Motorrad retailer.

Checking spokes

- with cross spoke wheels^{OE}
or
- with spoke wheels^{OE}

- Park motorcycle. Ensure that the ground is firm and level.
- Run the handle of a screw-driver or similar object over the spokes and listen to the sound pattern.

If the sound pattern is uneven:

- Have spokes checked by a specialist workshop, preferably by an authorized BMW Motorrad retailer.

Checking tire tread depth



WARNING

Riding with heavily worn tyres

Risk of accident due to poorer rideability

- If necessary, replace the tyres before the legally specified

minimum tread depth is reached. ◀

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



NOTICE

Tread wear marks are integrated into the main grooves on every tire. If the tire tread has worn down to the level of the marks, the tire is completely worn. The locations of the marks are indicated on the edge of the tire, e.g. by the letters TI, TWI or by an arrow. ◀

When the minimum tread depth is reached:

- Replace the worn tire.

Wheels

Affect of wheel size on ABS

Wheel sizes greatly affect the function of the ABS system. The diameter and width of the wheels stored in the control unit have particular significance as the basis for all necessary calculations. A change in these sizes resulting from conversion to wheels not installed as standard equipment can seriously affect the control comfort of these systems.

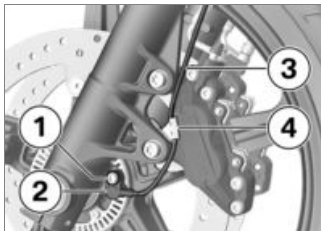
The sensor rings are essential for correct wheel speed detection; they too must match the built-in control systems and consequently cannot be replaced.

If you want to convert your motorcycle to different wheels, please contact a specialist workshop, preferably a BMW Motorrad retailer. In some cases, the data stored in the

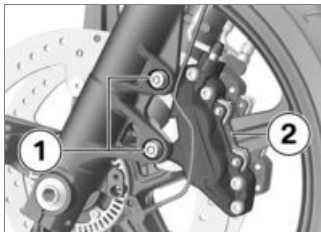
control units can be adapted for the new wheel sizes.

Removing front wheel

- Place the motorcycle on an auxiliary stand. BMW Motorrad recommends you use the BMW Motorrad rear-wheel stand.
- Installing rear-wheel stand (🔧 90).
- Raise front of motorcycle, preferably using a BMW Motorrad front-wheel stand, continuing until the wheel rotates freely.
- Installing front-wheel stand (🔧 89).
- Mask off the parts of the wheel rim that could be scratched when removing the brake caliper.

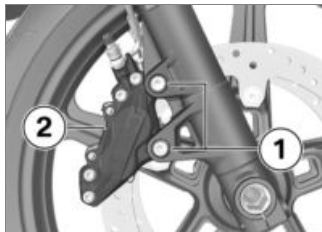


- Remove screw **1**.
- Loosen the wheel speed sensor **2**.
- Loosen cable **3** from bracket **4**.

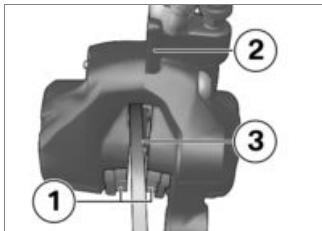


- Remove screws **1**.

- Loosen the left-hand brake caliper **2**.



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



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



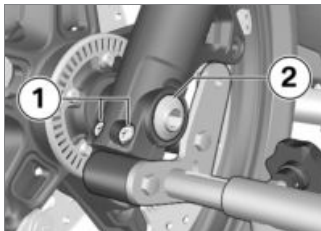
ATTENTION

Unintentional pressing together of brake pads

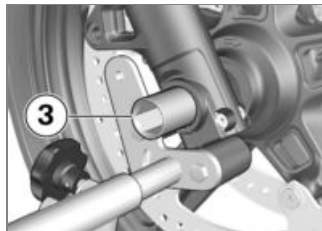
Component damage when mounting the brake caliper or when pressing the brake pads apart

- Do not actuate the brakes with the brake caliper removed.◀

- Carefully pull the brake calipers back and outward to remove them from brake discs.



- Remove screw **2**.
- Loosen clamping bolts **1** on left and right.
- Slightly press the quick-release axle inward for a better grip on the right side.



- Pull out the quick-release axle **3** while supporting the front wheel.
- Place front wheel down and roll it forward out of the front suspension.



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

Installing the front wheel



WARNING

Use of a wheel which does not comply with series specifications

Malfunctions during control interventions by ABS and ASC

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



ATTENTION

Tightening of screwed connections with incorrect tightening torque

Damage or loosening of screwed connections

- Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀



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



Lubricant

Optimoly TA

- Install the spacer bushing **4**.

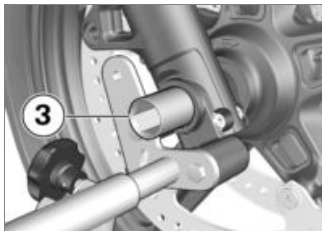


ATTENTION

Front wheel installation opposite the running direction

Accident hazard

- Observe running direction arrows on tire or rim.◀
- Roll the front wheel into the front suspension.



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



Lubricant

Optimoly TA

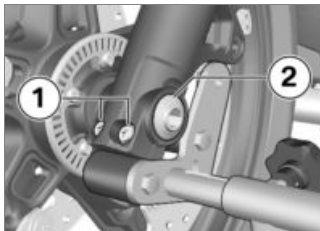
! WARNING

Improper installation of quick-release axle

Loosening of the front wheel

- After the brake caliper is fastened and the spring fork is relaxed, tighten the quick-release axle and axle clamping with the specified torque. ◀

- Lift the front wheel and install the quick-release axle **3**.
- Remove front wheel stand and firmly compress front forks. Do not actuate handbrake lever at the same time.
- Installing front-wheel stand (► 89).



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



Screw on quick-release axle

37 lb/ft (50 Nm)

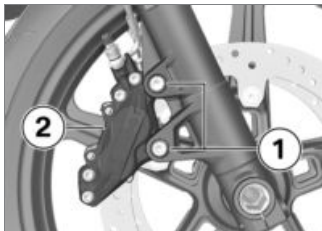
- Tighten the clamping bolts **1** on left and right to the appropriate torque.



Clamping bolt in axle adapter

Tightening sequence: tighten the screws 6 times, alternating between one and the other each time

14 lb/ft (19 Nm)

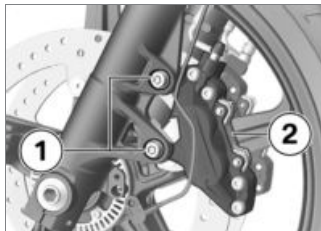


- Position brake caliper **2** on right and install screws **1**.



Brake caliper on telescopic forks

28 lb/ft (38 Nm)

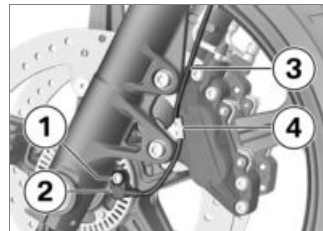


- Position brake caliper **2** on left and install screws **1**.



Brake caliper on telescopic forks

28 lb/ft (38 Nm)



- Position wheel speed sensor **2**.
- Install screw **1**.



Wheel speed sensor on fork

6 lb/ft (8 Nm)

- Fasten cable **3** in holder **4**.
- Engage the brakes repeatedly, continuing until the brake pads seat against the discs.
- Remove the adhesive tape from the rim.
- Remove the front-wheel stand.
- Extend the side stand.



ATTENTION

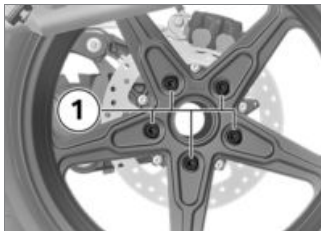
Motorcycle tips to the side when raising

Component damage cause by tipping over

- Secure the motorcycle against tipping to the side, preferably with the assistance of a second person.◀
- Remove the rear-wheel stand.
- Place motorcycle on its side stand.

Removing rear wheel

- Raise motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Installing rear-wheel stand (▮▮▮ 90).
- Shift into first gear.



- Remove screws **1** while supporting wheel.
- Roll rear wheel out toward rear.

Installing the rear wheel



WARNING

Use of a wheel which does not comply with series specifications

Malfunctions during control interventions by ABS and ASC

- Please see the information on the effect of wheel sizes on the ABS and ASC chassis control

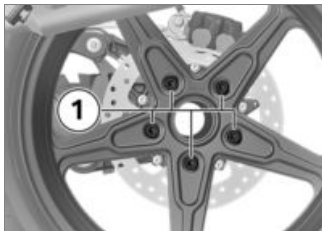
systems at the beginning of this chapter.◀



NOTICE

If the tread type is changed from studded to road tires or vice versa, the ASC must be reprogrammed accordingly.◀

- with off-road tires^{OE}
- or
- without off-road tires^{OE}
- When replacing the profile type, have ASC programmed by a specialist workshop, preferably by a BMW Motorrad partner.◀
- Clean wheel centering and contact surfaces.
- Place the rear wheel on the wheel carrier.



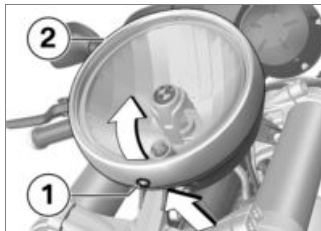
- Install screws **1**.



Rear wheel on wheel carrier

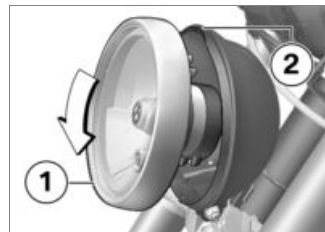
Tightening sequence: tighten crosswise

44 lb/ft (60 Nm)



- Loosen screw **1** with several rotations.
- Carefully pull reflector **2** forward in the lower area in direction **arrow** and lift off.
- » Light sources can be replaced.

Installing reflector

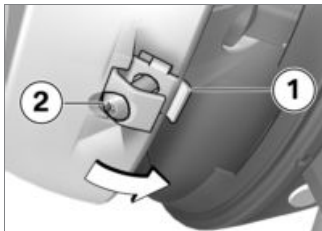


- Position reflector **1** under the tab **2** and swing down.
- Center reflector **1**.

Headlight

Removing reflector

- Switching off ignition (➡ 39).
- Park motorcycle. Ensure that the ground is firm and level.



WARNING

Bent clamp due to application of force on the lamp housing

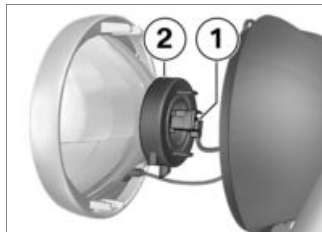
Risk of accident due to improper fastening of the reflector

- Avoid applying excessive force. ◀
- Press screw **2** upward using screwdriver.
- Swing reflector backward.
» Clamp **1** engages in housing.
- Tighten screw **2**.

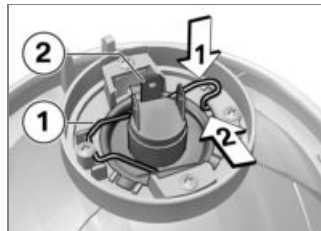
Light sources

Replacing low and high-beam bulbs in headlight

- Switching off ignition (➡ 39).
- Park motorcycle. Ensure that the ground is firm and level.
- Removing reflector (➡ 106).



- Disconnect connectors **1** for low-beam and high-beam headlight.
- Pull off rubber cap **2** from light housing.



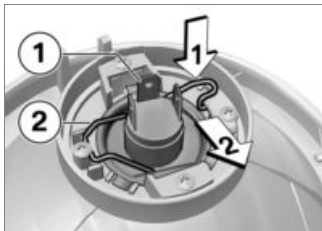
- Press wire spring clip **1** down and swing out of the locking to the side, then fold wire spring clip up.
- **Carefully** remove bulbs **2** for low and high beams from the light housing.
- Replace defective bulbs.



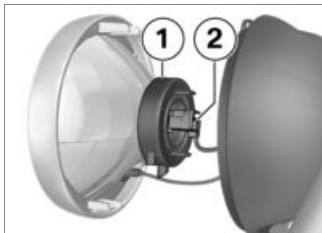
Bulb for low-beam and high-beam headlight

H4 / 12 V / 60/55 W

- To protect the glass against soiling, only grasp the bulbs by the base.



- Insert bulbs **1** into the light housing.
- Fold wire spring clip **2** closed and swing into the lock.

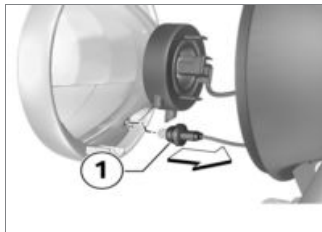


- Slip on rubber cap **1**.

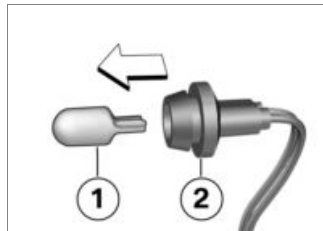
- Connect connectors **2** for low-beam and high-beam headlight.
- Install the reflector.

Replacing the bulbs for parking lights

- Switching off ignition (➡ 39).
- Park motorcycle. Ensure that the ground is firm and level.
- Removing reflector (➡ 106).



- Pull socket **1** for parking light out of light housing.



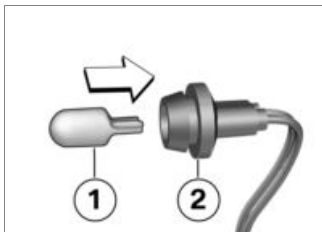
- Pull bulb **1** out of socket **2**.
- Replace defective bulbs.



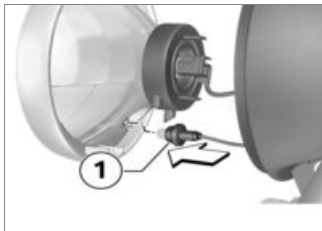
Bulb for parking light

W5W / 12 V / 5 W

- To prevent contaminants from being deposited on the glass surface, always use a clean, dry cloth to hold the bulb.



- Insert bulb **1** for parking light into socket **2**.



- Insert socket **1** for parking light into light housing.
- Install the reflector.

Replacing front and rear turn indicator bulbs

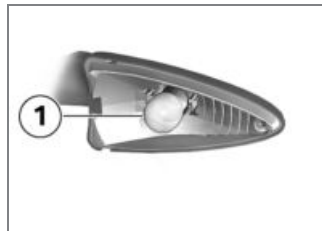
- Switching off ignition (III → 39).
- Park motorcycle. Ensure that the ground is firm and level.



- Remove screw **1**.



- Pull turn indicator glass on screw connection side out of light housing.



- Remove the bulb **1** by turning it counterclockwise.

- Replace defective bulbs.



Bulbs for flashing turn indicators, front

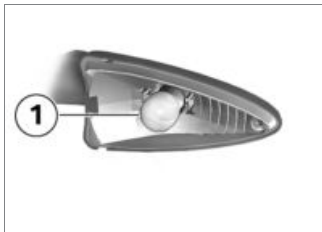
RY10W / 12 V / 10 W



Bulbs for flashing turn indicators, rear

RY10W / 12 V / 10 W

- To prevent contaminants from being deposited on the glass surface, always use a clean, dry cloth to hold the bulb.



- Install the bulb **1** by turning it clockwise.



- Insert the turn indicator glass from the motorcycle side into the light housing and close it.



- Install screw **1**.

Replacing LED rear light

If the LEDs in the tail lamp fail, the tail lamp must be replaced. In this case:

- Contact a specialist workshop, preferably an authorized BMW Motorrad retailer.

Jump-starting



CAUTION

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

Electrocution

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



ATTENTION

Current too high when jump-starting the motorcycle

Cable fire or damage to the motorcycle electronics

- Do not jump-start the motorcycle using the power socket, only via the battery terminal.◀



ATTENTION

Contact between crocodile clips of jump leads and motorcycle

Danger of short circuit

- Use jump leads fitted with fully insulated crocodile clips at both ends.◀



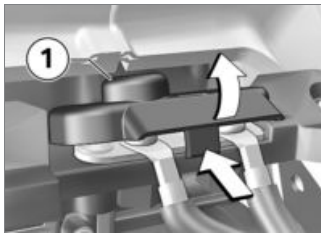
ATTENTION

Jump-starting with a voltage higher than 12 V

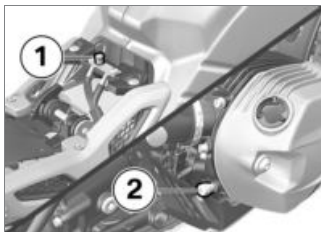
Damage to the motorcycle's electronics

- The battery of the donor motorcycle must have a voltage of 12 V.◀
- Park motorcycle. Ensure that the ground is firm and level.

- Removing seat (➡ 53).



- Unclip cover panel **1** at bottom (arrow) and lift off.



- Begin by connecting one end of the red jumper cable to the jump-start terminal **1** on the

discharged battery and the other end to the positive terminal of the donor battery.

- Use the black jump lead to connect the ground terminal **2** to the negative terminal of the second battery.
- Run the engine of the donor vehicle during jump-starting.
- Start engine of motorcycle with drained battery in usual way; if engine does not start, wait a few minutes before repeating attempt in order to protect starter motor and donor battery.



NOTICE

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

- Allow both engines to idle for a few minutes before disconnecting jumper cables.
- First, disconnect the jump lead from the ground terminal **2** and

then from the jump-start terminal **1**.

Battery

Maintenance instructions

Correct battery maintenance combined with proper charging and storage procedures extends the battery's service life, and is also required for warranty claims. Compliance with the points below is important in order to maximize battery life:

- Keep the surface of the battery clean and dry.
- Do not open the battery.
- Do not top up with water.
- Observe the notes on charging on the following pages.
- Do not turn the battery upside down.



ATTENTION

Discharging of the connected battery by the vehicle electronics (e.g. clock)

Total discharge of battery leading to a rejection of warranty claims

- During riding breaks of more than 4 weeks, connect a trickle-charger to the battery.◀



NOTICE

BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, you can keep the battery charged during long periods when the motorcycle is not being used without having to disconnect the battery from the motorcycle's onboard systems. Additional information is available at your authorized BMW Motorrad retailer.◀

Charging a connected battery



ATTENTION

Unsuitable chargers connected to the power socket

Damage to charger and vehicle electronics

- Use suitable BMW chargers. The correct charger is available through your authorized BMW Motorrad retailer.◀
- Disconnect any devices connected to the socket.
- Comply with operating instructions of charger.
- Charge the battery connected to the vehicle using the socket.



NOTICE

The motorcycle's onboard electronics know when the battery is fully charged. The onboard

socket is switched off when this happens.◀



NOTICE

If you are unable to charge the battery via the onboard socket, you may be using a charger that is not compatible with your motorcycle's electronics. In this case, charge the battery directly from the terminals of the battery disconnected from the vehicle.◀



ATTENTION

A fully discharged battery must be charged via a power socket or extra socket.

Damage to vehicle electronics

- A fully discharged battery (battery voltage less than 12 V, indicator lights and multifunction display remain off when ignition is switched on) must always be charged directly at the poles of the **disconnected** battery.◀



ATTENTION

Charging the battery connected to the vehicle using the battery terminals

Damage to the motorcycle's electronics

- Disconnect the battery before charging on the battery terminals.◀
- Charge a disconnected battery directly on the terminals.

Charging a disconnected battery

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



NOTICE

In the case of longer periods when the motorcycle is not being used, the battery must be recharged regularly. See the instructions for caring for your battery. Always fully recharge the battery before returning it to use.◀

Replacing the battery

Contact a specialist workshop, preferably an authorized BMW Motorrad retailer, if the battery is faulty.

Fuses

Replacing fuses



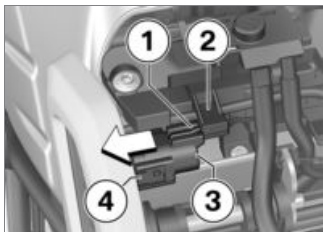
ATTENTION

Bypassing defective fuses

Risk of short circuit and fire

- Do not bypass defective fuses.

- Replace defective fuses with new fuses.◀
- Switch off ignition.
- Park motorcycle. Ensure that the ground is firm and level.
- Removing seat (➡ 53).



- Press hook **1**.
- » The fuse box is unlocked and can be pulled to the left and detached from the bracket **2**.
- Pull fuse box out of bracket **2**.
- Press lock **4** on both sides and remove cap **3**.

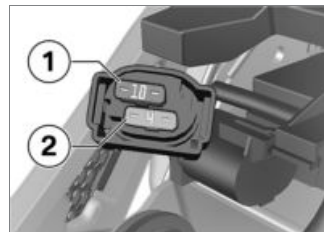


NOTICE

If the fuses blow frequently, have the electrical system checked by an authorized specialized workshop, preferably an authorized BMW Motorrad retailer.◀

- Replace defective fuse in accordance with following fuse assignment diagram.
- » Fuse assignment (➡ 114)
- Install cap **3** again. Make sure that the lock **4** engages.
- Slide fuse box into bracket **2** until hook **1** engages.
- Installing seat (➡ 54).

Fuse assignment



Fuse 1

10 A (Instrument cluster, anti-theft alarm system DWA, ignition switch, OBD diagnostic socket, coil for cut-off relay)



Fuse 2

4 A (ABS control unit, engine control unit, output cut-off relay, speedometer, rotational-speed sensor, alternator)

Diagnostic socket

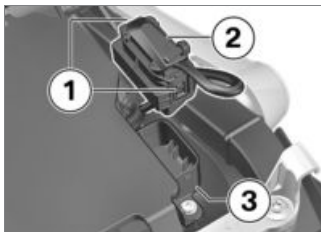
Loosening the diagnostic socket



Incorrect procedure followed when disconnecting the data link connector for the On-Board Diagnostics.

Motorcycle experiences malfunctions

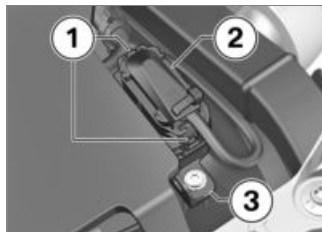
- Only have the data link connector disconnected by a specialist workshop or other authorized persons during your next BMW Service appointment.
- Have the work performed by appropriately trained staff.
- Refer to the vehicle manufacturer specifications.◀
- Removing seat (➡ 53).



- Press locking mechanisms **1**.
- Loosen the diagnostic socket **2** from the bracket **3**.
 - » The interface for the diagnostics and information system can be connected to the diagnostic socket **2**.

Fastening the diagnostic socket

- Disconnect the interface for the diagnosis and information system.



- Insert the diagnostic socket **2** into the bracket **3**.
 - » The locks **1** engage.
- Installing seat (➡ 54).

Accessories

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General notes



CAUTION

Use of products from other manufacturers

Safety risk

- BMW Motorrad cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW motorcycles without constituting a safety hazard. Nor is this guarantee provided when the official approval of a specific country has been granted. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances.
- Use only parts and accessories approved by BMW for your motorcycle.◀

The safety, operation and suitability of the parts and accessory products have been thoroughly tested by BMW. Therefore, BMW assumes responsibility for these products. BMW shall not be held liable for unapproved parts and accessory products of any kind. Comply with legal requirements for any modifications. The motorcycle shall not violate the regulations governing motorcycle approval for highway use applicable in your own country.

Your BMW Motorrad retailer offers you expert advice when choosing genuine BMW parts, accessories and other products. More information on the topic of accessories is available at:

bmw-motorrad.com/equipment

Sockets

Notes on using sockets:

Automatic switch-off

The sockets are automatically switched off under the following conditions:

- In order to retain the starting capability of the motorcycle if the battery voltage is too low
- If the maximum load capacity specified in the technical data is exceeded
- During the starting operation

Connecting electrical devices

The ignition must be switched on before electrical devices connected to the sockets can be operated. To reduce loads on the electrical system, the sockets are switched off no more than 15 minutes after the ignition is switched off.

Cable routing

Observe the following when routing cable from power sockets to additional devices:

- Cables must not impede the rider.
- Cables must not restrict the steering angle and driving characteristics.
- Cables must not become trapped.

Luggage

Securing luggage on motorcycle

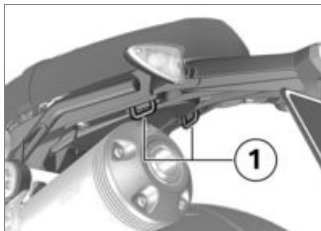


WARNING

Reduced riding stability caused by overloading and uneven loading

Accident hazard

- Do not exceed the gross weight limit and observe the loading information.◀



- Secure luggage (for example, rear bag) on lashing eyes **1**.
 - » Additional information on the luggage systems and their attachment is available from your authorized BMW Motorrad retailer.

Care

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Care products

BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. BMW Motorrad Care Products have been materials tested, laboratory tested, and field tested and provide optimum care and protection for the materials used in your motorcycle.



ATTENTION

Use of unsuitable cleaning and care agents

Damage to motorcycle parts

- Do not use any solvents such as nitro thinners, cold cleaners, fuel or similar, and do not use cleaning agents that contain alcohol. ◀



ATTENTION

Use of highly acidic or alkaline cleaning agents

Damage to motorcycle parts

- Observe the dilution ratio on the packaging of the cleaning agents.
- Do not use highly acidic or alkaline cleaning agents. ◀

Washing your motorcycle

BMW Motorrad recommends that you use BMW Insect Remover to soften and wash off insects and stubborn dirt from painted parts before washing the motorcycle.

To prevent stains, do not wash the vehicle immediately after it has been exposed to bright sunlight and do not wash it in the sun.

Make sure that the vehicle is washed frequently, especially during the winter months. To remove road salt, clean the motorcycle with cold water immediately after completion of every trip.



WARNING

Damp brake disks and brake pads after washing the motorcycle, after riding through water or in the rain

Poorer braking action, accident hazard

- Brake early until the brake rotors and brake pads are dry. ◀



ATTENTION

Increased effect of salt caused by warm water

Corrosion

- Only use cold water to remove road salt. ◀



ATTENTION

Damage caused by high water pressure from high-pressure cleaners or steam-jet devices

Corrosion or short circuit, damage to labels, to seals, to hydraulic brake system, to the electrical system and the seat

- Exercise caution when using high-pressure or steam-jet devices. ◀

Cleaning sensitive motorcycle parts

Plastics



ATTENTION

Use of unsuitable cleaning agents

Damage to plastic surfaces

- Do not use abrasive cleaners or cleaners containing alcohol or solvents.
- Do not use insect sponges or sponges with a hard surface. ◀

Trim panel components

Clean trim panel components with water and BMW Motorrad cleaning agent.

Headlight diffuser and turn indicator glass made of plastic

Clean off dirt and insects with a soft sponge and plenty of water.



NOTICE

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



Clean with water and sponge only.



Do not use chemical cleaning agents.

Chrome

Carefully clean chrome parts with plenty of water and BMW Motorrad Care Products motorcycle cleaner. This is required in particular for removing road salt.

Use BMW Motorrad metal polish for additional treatment.

Radiator

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



ATTENTION

Bending of radiator fins

Damage to radiator fins

- When cleaning, ensure that the cooler fins are not bent. ◀

Rubber

Treat rubber parts with water or BMW rubber care product.



ATTENTION

Use of silicone sprays for care of rubber seals

Damage to rubber seals

- Do not use silicone sprays or care products that contain silicone.◀

Care of paintwork

Washing the vehicle regularly will help counteract the long-term effects of substances that damage the paint, especially if your motorcycle is ridden in areas with high air pollution or natural sources of dirt, such as tree resin or pollen.

At the same time, you should remove particularly aggressive materials immediately; otherwise changes in the paint and discol-

oration can occur. These include spilled fuel, oil, grease and brake fluid as well as bird droppings. BMW Motorrad recommends using a cleaning agent and then applying a BMW Motorrad high gloss polish to preserve the paint. Contamination on the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning benzene or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar stains with BMW tar remover. Then add a protective wax coating to the paint at these locations.

Paint preservation

Apply a preservative when water fails to bead up on the painted surface.

BMW Motorrad recommends BMW Motorrad high gloss polish or agents that contain carnauba

or synthetic wax for paint preservation.

Storing the motorcycle

- Completely fill the motorcycle's fuel tank.
- Clean motorcycle.
- Remove battery.
- Spray brake lever and clutch lever as well as side stand pivots with a suitable lubricant.
- Coat bare metal and chrome plated parts with an acid-free grease (vaseline).
- Park motorcycle in a dry room, raising it to relieve both wheels.

Returning motorcycle to use

- Remove the protective wax coating.
- Clean motorcycle.
- Install a charged battery.
- Observe checklist (▶ 70).

Technical data

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Troubleshooting chart

Engine does not start.

Possible cause	Remedy
Side stand is extended and gear is engaged.	Fold in side stand.
Gear is engaged and clutch is not operated.	Shift transmission to neutral or disengage clutch.
Fuel tank is empty.	Fuel grade (▮▮▮ 76).
Battery is drained.	Charging a connected battery (▮▮▮ 112).
Overheating protection for starter motor has triggered. Starter motor can only be actuated for a limited period.	Leave the starter motor to cool down for around 1 minute until it becomes available again.

Screw connections

Front wheel	Value	Valid
Brake caliper on telescopic forks		
M10 x 40 x 1.25	28 lb/ft (38 Nm)	
Clamping bolt in axle adapter		
M8 x 35	Tightening sequence: tighten the screws 6 times, alternating between one and the other each time 14 lb/ft (19 Nm)	
Screw on quick-release axle		
M20 x 1.5	37 lb/ft (50 Nm)	
Wheel speed sensor on fork		
M6 x 20	6 lb/ft (8 Nm)	
Rear wheel	Value	Valid
Rear wheel on wheel carrier		
M10 x 53 x 1.25	Tightening sequence: tighten crosswise 44 lb/ft (60 Nm)	

Mirror arm	Value	Valid
Mirror (lock nut) on adapter		
M10 x 1.25	Left-hand thread, 16 lb/ft (22 Nm)	
Adapter to clamping block		
M10	18 lb/ft (25 Nm)	

Fuel

Recommended fuel quality	Premium plus unleaded (max. 5 % ethanol, E5) 91 AKI (98 ROZ/RON) 93 AKI
Alternative fuel quality	Premium unleaded (max. 15 % ethanol, E15) 89 AKI (95 ROZ/RON)
Fuel tank capacity	Approx. 4.5 gal (Approx. 17.0 l)
Fuel reserve	Approx. 3.7 quarts (Approx. 3.5 l)
Fuel consumption	44 mpg (5.3 l/100 km), in accordance with WMTC
CO2 emissions	123 g/km, in accordance with WMTC
Emission standard	Euro 4

Engine oil

Engine oil, capacity	max 1 gal (max 3.95 l), with filter replacement
Specification	SAE 15W-50, API SJ/JASO MA2, Additives (for instance, molybdenum-based substances) are prohibited, because they would attack the coatings on engine components, BMW Motorrad recommends BMW Motorrad ADVANTEC Pro Oil
Engine oil, quantity for topping up	max 0.5 quarts (max 0.5 l), Difference between MIN and MAX

BMW recommends **ADVANTEC**
ORIGINAL BMW ENGINE OIL

Engine

Engine number location	On crankcase at lower right, in front of cylinder
Engine type	12 2E J
Engine design	Air-/oil-cooled two-cylinder four-stroke opposed-twin engine with double overhead camshaft and a counterbalance shaft
Displacement	1170 cc (1170 cm ³)
Cylinder bore	4 in (101 mm)
Piston stroke	2.9 in (73 mm)

Compression ratio	12.0:1
Nominal capacity	110 hp (81 kW), at engine speed: 7750 min ⁻¹
Torque	86 lb/ft (116 Nm), at engine speed: 6000 min ⁻¹
Maximum engine speed	max 8500 min ⁻¹
Idle speed	1150 ^{±50} min ⁻¹ , Engine at operating temperature

Clutch

Clutch design	Single-plate dry clutch
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Transmission

Transmission design	Helical 6-speed manual transmission with integrated torsional vibration damper, claw shift via sliding sleeves
Transmission gear ratios	1.737, Primary gear ratio 2.375 (38:16 teeth), 1st gear 1.696 (39:23 teeth), 2nd gear 1.296 (35:27 teeth), 3rd gear 1.065 (33:31 teeth), 4th gear 0.939 (31:33 teeth), 5th gear 0.848 (28:33 teeth), 6th gear

Rear-wheel drive

Type of final drive	Cardan shaft drive with bevel gears
Type of rear-wheel guide	Cast aluminum single-sided swinging arm with BMW Motorrad Paralever
Gear ratio of rear-wheel drive	2.910 (32/11 teeth)
Rear axle differential oil	SAE 70W-80 / hypoid axle G3

Frame

Frame design	Lattice-tube frame with supporting drive unit
Location of type plate	Frame at front left on steering head
Location of the vehicle identification number	Main frame at lower front right

Chassis

Front wheel

Type of front suspension	Telescopic forks
Spring travel, front	4.9 in (125 mm), on wheel
– with lowered ^{OE}	4.9 in (125 mm), on wheel

Rear wheel

Type of rear-wheel guide	Cast aluminum single-sided swinging arm with BMW Motorrad Paralever
Design of rear-wheel suspension	Central spring strut with coil spring, adjustable rebound-stage damping and spring preload
Spring travel on the rear wheel	5.5 in (140 mm)
– with lowered ^{OE}	4.7 in (120 mm)
Recommendation on chassis and suspension adjustment for one-up operation	24 mm to start of thread, Spring preload Turn adjusting screw clockwise up to the stop, then turn back by 1.5 turns, Damping
– with lowered ^{OE}	18 mm to start of thread, Spring preload Turn adjusting screw clockwise up to the stop, then turn back by 1.5 turns, Damping

Recommendation on chassis and suspension adjustment for operation with extra load	27 mm to start of thread, Spring preload Turn adjusting screw clockwise up to the stop, then turn back by 1.25 turns, Damping
– with lowered ^{OE}	21 mm to start of thread, Spring preload Turn adjusting screw clockwise up to the stop, then turn back by 1.25 turns, Damping
Recommendation on chassis and suspension adjustment for two-up mode	34 mm to start of thread, Spring preload Turn adjusting screw clockwise up to the stop, then turn back by 0.75 turns, Damping
– with lowered ^{OE}	28 mm to start of thread, Spring preload Turn adjusting screw clockwise up to the stop, then turn back by 0.75 turns, Damping

Brakes

Front wheel

Type of front wheel brake	Hydraulically operated twin disc brake with 4-piston fixed calipers and floating brake discs
Front brake pad material	Sintered metal
Front brake disc thickness	min 0.16 in (min 4 mm), Wear limit

Rear wheel

Type of rear wheel brake	Hydraulically operated disc brake with 2-piston floating caliper and fixed brake disc
Rear brake pad material	Organic
Rear brake disc thickness	min 0.18 in (min 4.5 mm), Wear limit

Wheels and tires

Recommended tire combinations	An overview of the current tire approvals is available from your authorized BMW Motorrad retailer or on the Internet at bmw-motorrad.com .
Speed category of front/rear tires	V, minimum requirement: 149 mph (240 km/h)
Front wheel	
Front wheel design	Aluminum cast wheel
– with cross spoke wheels ^{OE} or – with cross spoke wheels design option ^{OE}	Cross spoke wheel
– with spoke wheels ^{OE} – with lowered ^{OE}	Spoked wheel
Front-wheel rim size	3.0" x 19"
– with lowered ^{OE}	3.5" x 17"
Front tire designation	120 / 70 R 19
– with lowered ^{OE}	120 / 70 ZR 17
Load index for front tire	At least 60
Permitted front wheel imbalance	max 0.2 oz (max 5 g)

Rear wheel

Rear wheel design	Aluminum cast wheel
– with cross spoke wheels ^{OE} or – with cross spoke wheels design option ^{OE}	Cross spoke wheel
– with spoke wheels ^{OE} – with lowered ^{OE}	Spoked wheel
Rear-wheel rim size	4.50" x 17"
– with lowered ^{OE}	5.50" x 17"
Rear tire designation	170 / 60 R 17
– with lowered ^{OE}	180 / 55 ZR 17
Load index for rear tire	At least 72
Permitted rear wheel imbalance	max 0.2 oz (max 5 g)

Tire pressures

Front tire pressure	36.3 psi (2.5 bar), One-up and two-up mode with load, with cold tires
Rear tire pressure	42.1 psi (2.9 bar), One-up and two-up mode with load, with cold tires

Electrical system

Fuses

Fuse 1	10 A, Instrument cluster, anti-theft alarm system DWA, ignition switch, OBD diagnostic socket, coil for cut-off relay
Fuse 2	4 A, ABS control unit, engine control unit, output cut-off relay, speedometer, rotational-speed sensor, alternator
Electrical rating of onboard socket	5 A

Battery

Battery design	AGM battery (Absorbent Glass Mat)
Battery voltage	12 V
Battery capacity	12 Ah

Spark plugs

Spark plugs, manufacturer and designation	NGK MAR8B-JDS
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Light sources

Bulb for low-beam and high-beam headlight	H4 / 12 V / 60/55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for taillight/brake light	LED
Bulbs for flashing turn indicators, front	RY10W / 12 V / 10 W
Bulbs for flashing turn indicators, rear	RY10W / 12 V / 10 W

Dimensions

Motorcycle length	85.6 in (2175 mm), measured over rear wheel
Motorcycle height	52.4 in (1330 mm), measured over mirrors, at DIN unloaded vehicle weight
– with lowered ^{OE}	49.6 in (1260 mm), measured over mirrors, at DIN unloaded vehicle weight
Motorcycle width	34.6 in (880 mm), measured across hand levers
Front-seat height	32.3 in (820 mm), measured without rider, at DIN unloaded vehicle weight
– with lowered ^{OE}	31.1 in (790 mm), measured without rider, at DIN unloaded vehicle weight

Rider's inside-leg arc, heel to heel	72 in (1830 mm), measured without rider, at DIN unloaded vehicle weight
– with lowered ^{OE}	46.3 in (1175 mm), measured without rider, at DIN unloaded vehicle weight

Weights

Unloaded vehicle weight	485 lbs (220 kg), DIN unloaded vehicle weight, ready for road, 90 % full tank of gas, without OE
Gross vehicle weight	948 lbs (430 kg)
Maximum payload	463 lbs (210 kg)

Performance data

Maximum speed	>124 mph (>200 km/h)
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Service

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Reporting safety defects

If you think that your motorcycle has a fault which may cause an accident, injury or death, you must inform the NHTSA (National Highway Traffic Safety Administration) immediately and BMW of North America, LLC.

If the NHTSA receives other similar complaints, it may open an investigation. If it finds that a safety defect exists in a group of vehicles, the NHTSA may order the manufacturer to perform a recall and remedy campaign. However, the NHTSA cannot become involved in individual problems between you, your authorized BMW Motorrad 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) for free, by visiting the website at <http://www.safercar.gov> or by writing to Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. Further information on vehicle safety is available at <http://www.safercar.gov>.

BMW Motorrad Service

With its worldwide retailer network, BMW Motorrad can attend to you and your motorcycle in over 100 countries around the globe. Authorized BMW Motorrad retailers have the technical information and expertise needed to conduct all maintenance and repair tasks on your BMW reliably.

You will find the nearest authorized BMW Motorrad retailer to you at our website:

bmw-motorrad.com



WARNING

Improperly performed maintenance and repair work

Accident hazard caused by subsequent damage

- BMW Motorrad recommends having corresponding work on the motorcycle carried out by a specialized workshop,

preferably by an authorized BMW Motorrad retailer. ◀

To ensure that your BMW consistently remains in optimal condition BMW Motorrad urges you to observe the recommended maintenance intervals. Have all maintenance and repair tasks confirmed in the "Service" chapter in these Operating Instructions. Documented proof of scheduled maintenance is essential for generous treatment of claims submitted after the warranty period has expired (good-will).

You can obtain information on the contents of the BMW Services from your BMW Motorrad retailer.

BMW Motorrad Service History

Entries

Maintenance work that has been performed is recorded in the diagnostics and information system. Like a Service Booklet, these entries provide proof of regular maintenance.

If an entry is made in the vehicle's electronic Service Manual, service-related data is stored on the central IT systems of BMW AG in Munich, Germany.

When there is a change in vehicle owner, the data entered in the electronic Service History can also be viewed by the new vehicle owner. A BMW Motorrad retailer or specialist workshop can view the data entered in the electronic Service Manual.

Objection

At the BMW Motorrad retailer or specialist workshop, the vehicle owner can object to the entry of data in the electronic Service Manual with the related storage of data in the vehicle and the transfer of data to the vehicle manufacturer during his time as the vehicle owner. In this case, no entry is made in the vehicle's electronic Service Manual.

BMW Motorrad Mobility Services

As the owner of a new BMW motorcycle, you can benefit from the protection afforded by the various BMW Motorrad mobility services in the event of a breakdown (e.g., BMW Roadside Assistance, breakdown service, vehicle recovery service).

Contact your authorized BMW Motorrad retailer for

additional information on available mobility services.

Maintenance work

BMW pre-delivery check

The BMW pre-delivery check is carried out by your authorized BMW Motorrad retailer before it turns the motorcycle over to you.

BMW running-in check

The BMW running-in check must be performed when the motorcycle has covered between 300 mi and 750 mi (500 km and 1200 km).

BMW Service

BMW service is carried out once a year. The scope of the services performed may vary depending on the age of the motorcycle and the kilometers (mileage) covered. Your BMW Motorrad retailer confirms that the service has

been performed and enters the date for the next service.

For riders with high annual mileage, it may be necessary to come in for service before the entered date. In this case a corresponding maximum odometer reading will also be entered in the confirmation of service. If this odometer reading is reached before the next service appointment, the service must be performed sooner.

The service display in the multifunction display reminds you of the next service appointment approx. one month or 620 mi (1000 km) before the entered values.

More information on the topic of service is available at:

bmw-motorrad.com/service

The required scope of maintenance work for your vehicle can be found in the following maintenance schedule.

[illegible]

Maintenance schedule

- 1** BMW Running-in check (including oil change)
- 2** BMW standard scope of service
- 3** Engine oil change with filter
- 4** Oil change in the rear bevel gears
- 5** Check valve clearance
- 6** Change transmission oil
- 7** Replace all spark plugs
- 8** Replace air filter insert
- 9** Replace alternator belt
- 10** Adjusting engine synchronization
- 11** Change brake fluid in entire system
 - a** annually or every 6000 miles (10000 km) (whichever comes first)
 - b** annually or every 12000 miles (20000 km) (whichever comes first)
 - c** for the first time after one year, then every two years or 24000 miles (40000 km) (whichever comes first)
 - d** every six years or every 24000 miles (40000 km) (whichever comes first)
 - e** at first after one year, then every two years

Maintenance confirmations

BMW Service standard scope

The repair procedures belonging to the BMW Service standard package are listed below. The actual maintenance work applicable for your vehicle may differ.

- Performing the vehicle test using the BMW Motorrad diagnosis system
- Visual inspection of the clutch system
- Checking steering-head bearing
- Visual inspection of the brake lines, brake hoses, and connections
- Checking the front brake pads and brake discs for wear
- Checking the front wheel brake fluid level
- Checking the rear brake pads and brake disc for wear
- Checking the rear wheel brake fluid level
- Checking cable linkages for ease of movement, chafing and kinks, and play
- Checking the tire pressure and tread depth
- Checking side stand for ease of movement
- Check the tension of the spokes and tighten as needed
- Checking the lighting and signal system
- Functional check for engine starting suppression
- Final inspection and road safety check
- Set the service date and remaining distance using the BMW Motorrad diagnostic system
- Checking charging state of battery
- Confirm the BMW service in the vehicle literature

BMW pre-delivery check

performed

on _____

Stamp, signature

BMW Running-in Check

performed

on _____

at km _____

Next service

latest

on _____

or, if reached earlier

at km _____

Stamp, signature

BMW Service

performed

on _____

at km _____

Next service

latest

on _____

or, if reached earlier

at km _____

Stamp, signature

Work performed

BMW Service

Yes

No

☐☐

Engine oil change with filter

☐☐

Oil change in rear bevel gears

☐☐

Checking valve clearance

☐☐

Changing gear oil

☐☐

Replacing all spark plugs

☐☐

Replacing air cleaner element

☐☐

Replacing alternator drive belt

☐☐

Adjusting engine synchronization

☐☐

Changing front brake fluid

☐☐

Changing brake fluid, rear

☐☐

Information

BMW Service

performed

on_____

at km_____

Next service

latest

on_____

or, if reached earlier

at km_____

Stamp, signature

Work performed

BMW Service

Yes

No

☐
☐

Engine oil change with filter

☐
☐

Oil change in rear bevel gears

☐
☐

Checking valve clearance

☐
☐

Changing gear oil

☐
☐

Replacing all spark plugs

☐
☐

Replacing air cleaner element

☐
☐

Replacing alternator drive belt

☐
☐

Adjusting engine synchronization

☐
☐

Changing front brake fluid

☐
☐

Changing brake fluid, rear

☐
☐

Information

BMW Service

performed

on _____

at km _____

Next service

latest

on _____

or, if reached earlier

at km _____

Stamp, signature

Work performed

BMW Service

Yes

No

☐☐

Engine oil change with filter

☐☐

Oil change in rear bevel gears

☐☐

Checking valve clearance

☐☐

Changing gear oil

☐☐

Replacing all spark plugs

☐☐

Replacing air cleaner element

☐☐

Replacing alternator drive belt

☐☐

Adjusting engine synchronization

☐☐

Changing front brake fluid

☐☐

Changing brake fluid, rear

☐☐

Information

BMW Service

performed

on _____

at km _____

Next service

latest

on _____

or, if reached earlier

at km _____

Work performed

BMW Service

Yes

No

☐
☐

Engine oil change with filter

☐
☐

Oil change in rear bevel gears

☐
☐

Checking valve clearance

☐
☐

Changing gear oil

☐
☐

Replacing all spark plugs

☐
☐

Replacing air cleaner element

☐
☐

Replacing alternator drive belt

☐
☐

Adjusting engine synchronization

☐
☐

Changing front brake fluid

☐
☐

Changing brake fluid, rear

☐
☐

Information

Stamp, signature

BMW Service

performed

on _____

at km _____

Next service

latest

on _____

or, if reached earlier

at km _____

Stamp, signature

Work performed

BMW Service

Yes

No

☐☐

Engine oil change with filter

☐☐

Oil change in rear bevel gears

☐☐

Checking valve clearance

☐☐

Changing gear oil

☐☐

Replacing all spark plugs

☐☐

Replacing air cleaner element

☐☐

Replacing alternator drive belt

☐☐

Adjusting engine synchronization

☐☐

Changing front brake fluid

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Changing brake fluid, rear

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Information

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Next service

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BMW Service

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Changing gear oil

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Replacing all spark plugs

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Replacing air cleaner element

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Adjusting engine synchronization

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Changing brake fluid, rear

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Replacing air cleaner element

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Replacing alternator drive belt

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Adjusting engine synchronization

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Changing front brake fluid

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Changing brake fluid, rear

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Information

Stamp, signature

The table serves to provide evidence of maintenance and repair work, as well as installed optional accessories and special campaigns performed.

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[illegible]

Work performed	at km	Date

Appendix

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FCC Approval

Ring aerial in the ignition switch



To verify the authorization of the ignition key, the electronic immobilizer exchanges information with the ignition key via the ring aerial.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.



Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. ◀

Approbation de la FCC

Antenne annulaire présente dans le commutateur d'allumage



Pour vérifier l'autorisation de la clé de contact, le système d'immobilisation électronique échange des

informations avec la clé de contact via l'antenne annulaire.

Le présent dispositif est conforme à la partie 15 des règles de la FCC. Son utilisation est soumise aux deux conditions suivantes :

- (1) Le dispositif ne doit pas produire d'interférences nuisibles, et
- (2) le dispositif doit pouvoir accepter toutes les interférences extérieures, y compris celles qui pourraient provoquer une activation inopportune.



Toute modification qui n'aurait pas été approuvée expressément par l'organisme responsable de l'homologation peut annuler l'autorisation accordée à l'utilisateur pour utiliser le dispositif. ◀

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The descriptions and illustrations in this manual may vary from your own motorcycle's actual equipment, depending upon its equipment level and accessories as well as your specific national version. No claims stemming from these differences can be recognized.

Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.

The right to modify designs, equipment and accessories is reserved.

Errors and omissions excepted.

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Original Rider's Manual, printed in Germany.



WARNING

Harmful substances

Operating, servicing and maintaining a passenger vehicle or off-road vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates and lead, which are known to the State of California to be carcinogenic or detrimental to childbirth or reproduction.

- To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle.
- For more information visit: www.P65Warnings.ca.gov/passenger-vehicle ◀

Fuel

Tire pressures

Front tire pressure	36.3 psi (2.5 bar), One-up and two-up mode with load, with cold tires
Rear tire pressure	42.1 psi (2.9 bar), One-up and two-up mode with load, with cold tires

BMW recommends ADVANTEC
ORIGINAL BMW ENGINE OIL

