BMW Motorrad

bmw-motorrad.com

The Ultimate Riding Machine

Rider's Manual (US Model)

F 800 GS

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

Congratulations on choosing a motorcycle from BMW Motorrad and welcome to the community of BMW motorcycle owners and riders. Familiarize yourself with your new motorcycle so that you can ride it safely and confidently in all highway traffic situations.

About this Rider's Manual

Please read this Rider's Manual carefully before starting to use your new BMW. It contains important information on how to operate the controls and how to get the most benefit from your BMW's advanced technical features.
In addition, it contains information on maintenance and care to help you maintain your motorcycle's reliability and safety, as well as its value.

Documentation confirming performance of scheduled maintenance is a precondition for generous handling of out-of-warranty claims and goodwill warranty treatment.
Should you want to sell your BMW one day, please also remember to turn over the Ride's Manual to the new owner. it is an important part of your motorcycle.

Suggestions and complaints

If you have any questions concerning your motorcycle, your authorized BMW Motorrad retailer is always happy to provide advice and assistance.

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

BMW Motorrad.

01 40 8 358 567

Table of Contents

General instructions

Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and repair work carried out on your motorcycle will be documented in Chapter 13. Documentation confirming performance of scheduled maintenance is a precondition for generous handling of out-of-warranty claims and goodwill warranty treatment.
When the time comes to sell your BMW, please remember to hand over this Rider's Manual; it is an important part of the 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 extra.
BMW Motorrad optional extras are already completely installed during motorcycle production.

OA Optional accessory. BMW Motorrad optional accessories can be purchased and installed at your authorized BMW Motorrad retailer.

EWS Electronic immobilizer.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.

ASC Automatic Stability Control.

ESA Electronic Suspension Adjustment.

Equipment

When you ordered your BMW motorcycle, you chose various items of custom equipment. This Rider's Manual 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 BMW is equipped with options or accessories not described in this Rider's Manual, then this equipment is described in a separate set of instructions.

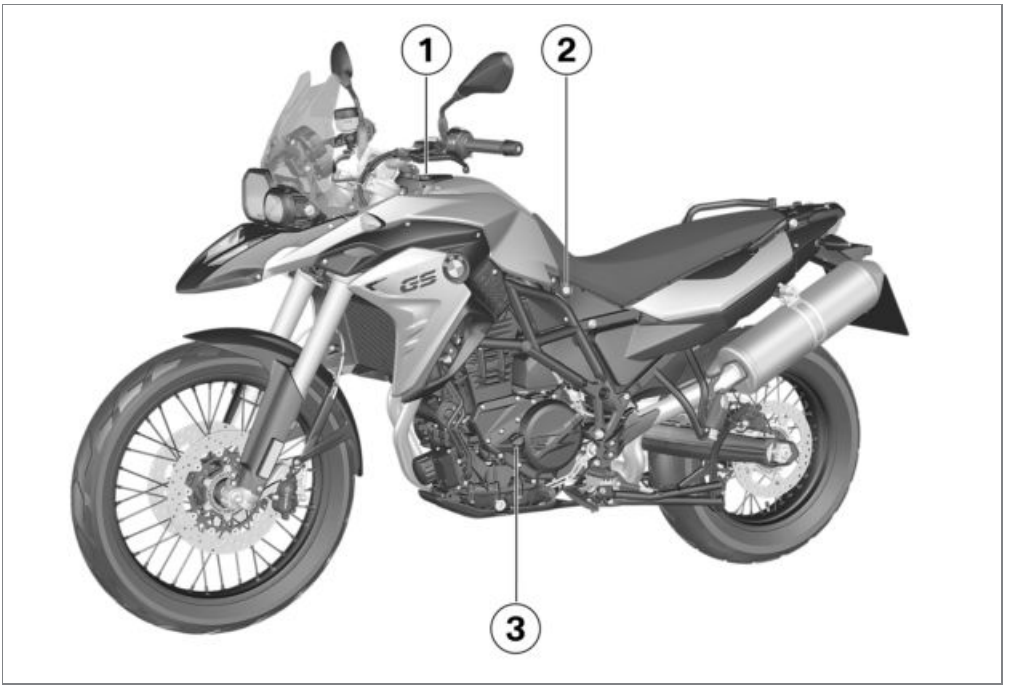
Technical Data

All dimensions, weights and performance data contained this Rider's Manual refer to the German DIN standards and comply with their tolerance specifications. Versions for individual countries may differ.

Notice concerning current status

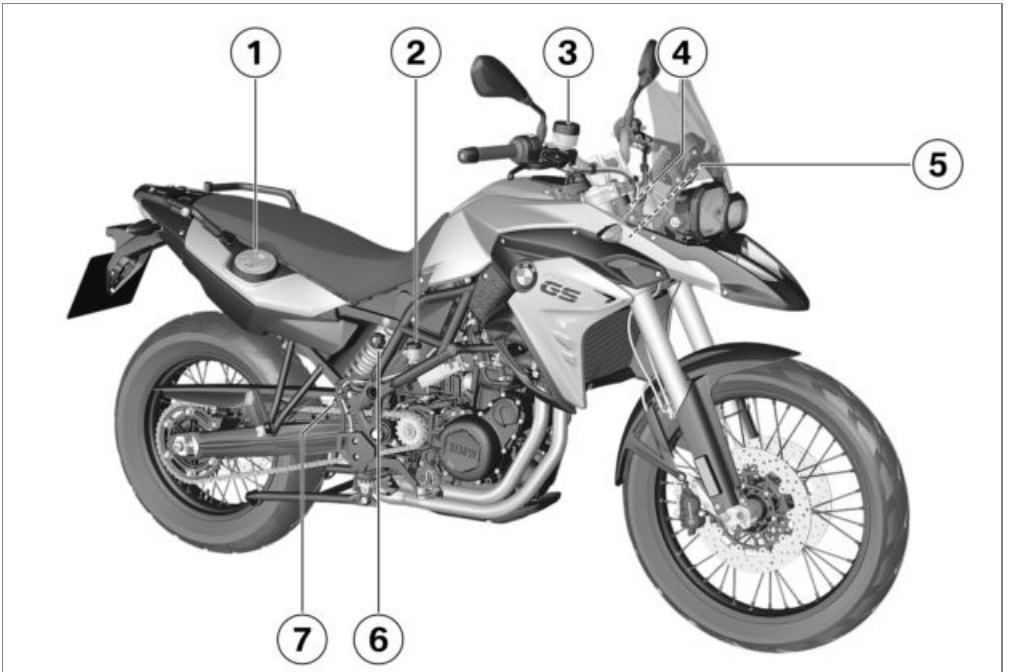
The high safety and quality standards of BMW motorcycles are maintained by consistent, ongoing development efforts embracing their design, equipment and accessories. For this reason, aspects of your motorcycle may vary from the descriptions in this Operating instructions. In addition, BMW Motorrad cannot 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.

Overviews


1
2
3
GS

General view, left side

1 Power socket (➠ 130)
2 Seat lock (➠ 50)
3 Oil fill location and oil dipstick (➠ 94)


1
2
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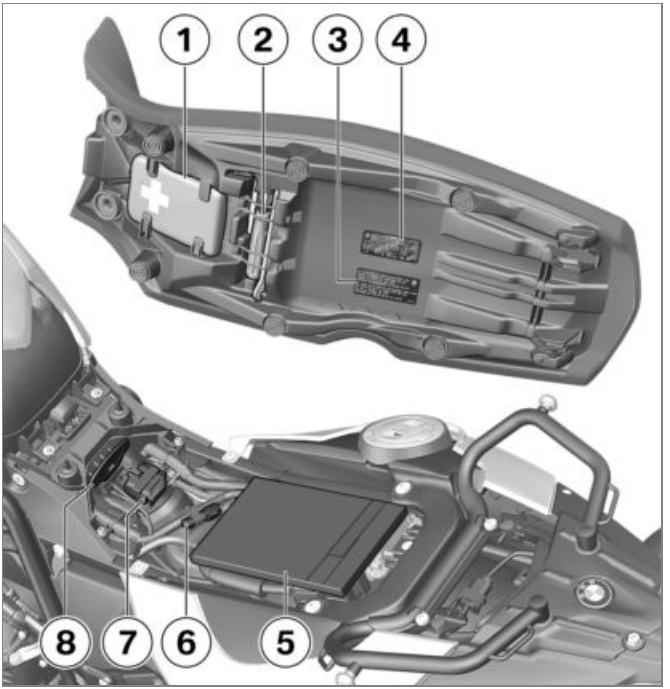
6

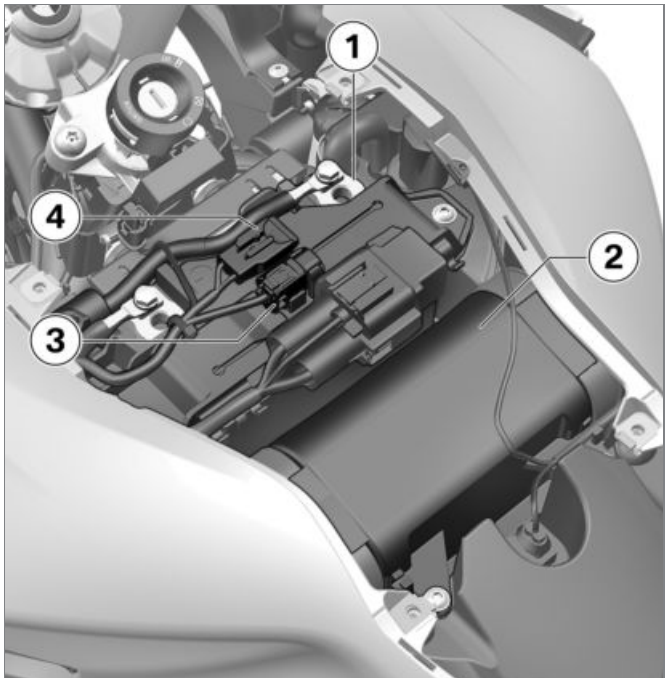
General view, right side

1 Fuel filler opening (➠ 81)
2 Brake-fluid reservoir, rear (➠ 99)
3 Brake-fluid reservoir, front (➠ 98)
4 Vehicle identification number, type plate (on steering head)
5 Coolant level indicator (behind side fairing) (➠ 101)
6 Adjusting spring preload (➠ 67)
7 Damping adjustment (➠ 68)

Underneath seat

1 Storage
– with first-aid kit [OA]
First-aid kit
2 Tool kit (➠ 92)
3 Tyre inflation pressure table
4 Load capacity table
5 Rider's Manual (US Model) (➠ 6)
6 Connector for coding plug
– with Pro riding modes [OE]
Install coding plug (➠ 48).
7 Diagnostic connector (➠ 125)
8 Tools for adjusting spring preload (➠ 67)





Under fairing

1 Battery (➠ 121)
2 Air cleaner housing (➠ 112)
3 Connector for optional accessories
4 Fuse (➠ 124)

Multifunction switch, left

1 High-beam headlight and headlight flasher (➠ 39)

2 Selecting display readings (➠ 40).
– with onboard computer[OE]
Resetting average data (➠ 42).

3 Hazard warning lights system (➠ 39)

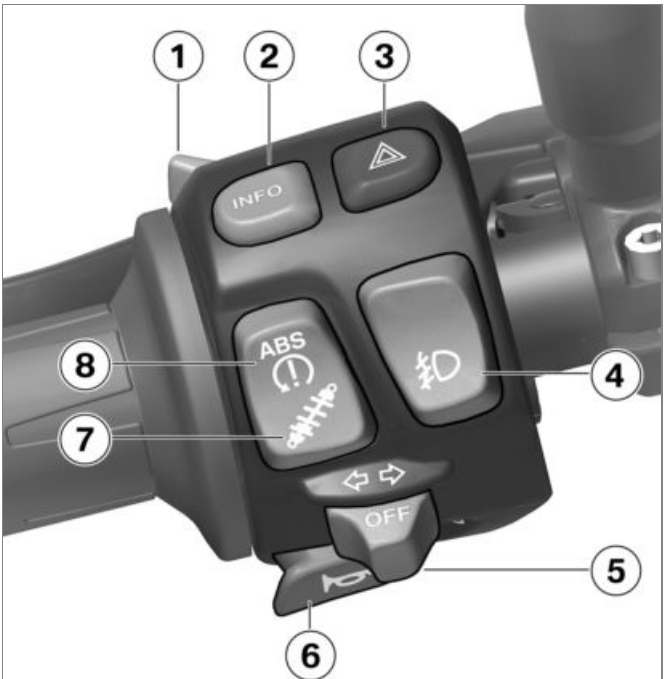
4 Additional headlight (➠ 142)

5 Turn indicators (➠ 40)

6 Horn

7 ESA (➠ 46)

8 ABS (➠ 44)
ASC (➠ 45)



Multifunction switch, right

1 – with heated handlebar grips[OE]
Operating heated grips (➠ 49).

2 MODE button
Setting riding mode (➠ 47).

3 Starter (➠ 73)

4 Emergency on/off switch (kill switch) (➠ 38)

Instrument cluster

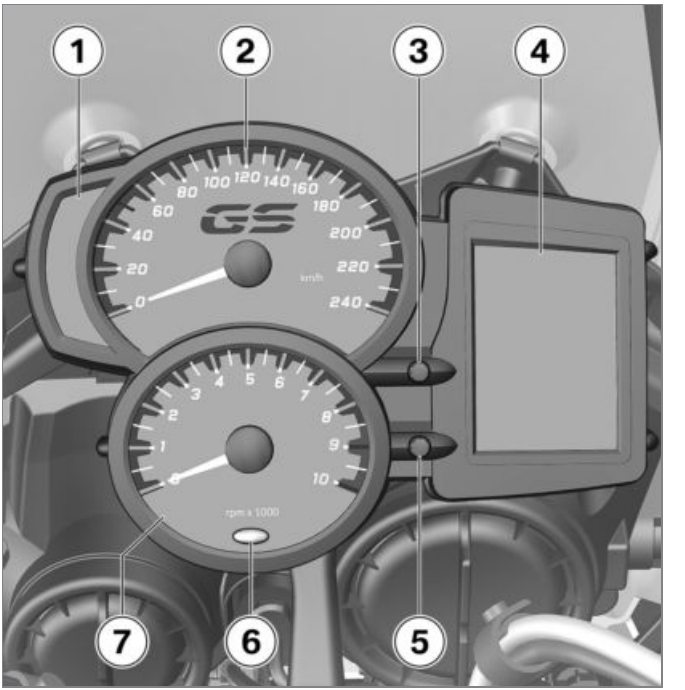
1 Indicator and warning lights (➠ 22)

2 Speedometer

3 Button
Set clock (➠ 42).
– with onboard computer OE
Operating stopwatch (➠ 43).

4 Multifunction display
- without optional equipment OE (standard) (➠ 23)
- with optional equipment OE (➠ 24)

5 Button
Selecting display readings (➠ 40).
Resetting trip odometer (➠ 41).



6 Photo sensor (brightness control)
– with onboard computer OE
Activating the engine speed warner (➠ 77).
– with anti-theft alarm system (DWA) OE
DWA LED
General information on DWA (➠ 54)

7 Tachometer

Displays

Indicator and warning lights

1 – with Automatic Stability Control (ASC)[OE]
Deactivate ASC function (➠ 45).

2 Switch off ABS function (➠ 44).

3 Fuel reserve (➠ 34)
Fuel gage (➠ 28)

4 Turn indicator, right

5 – with additional LED headlight[OA]
Operating auxiliary headlight (➠ 142).

6 Neutral position (idling)

7 Turn indicator, left

8 High-beam headlamp

9 General warning light (➠ 25)

Multifunction display

– without heated handlebar grips OE
– without onboard computer OE
– without Pro riding modes OE
– without Electronic Suspension Adjustment (ESA) OE

1 Warning light for electronic engine management (➠ 29)
2 Clock (➠ 42)
3 Coolant-temperature warning indicator (➠ 28)
4 Service display (➠ 33)
5 Indication range for values
Odometer (➠ 40)
Tripmeter (➠ 41)
6 Fuel gage (➠ 33)
7 Riding modes (➠ 47)
8 Warning symbol (➠ 25)
9 Tripmeter (➠ 41)

Multifunction display

– with heated handlebar grips OE
– with onboard computer OE
– with Pro riding modes OE
– with Electronic Suspension Adjustment (ESA) OE

1 Set heating stage (➠ 49)
2 Stopwatch (➠ 43)
3 Displays for OE
ESA (➠ 46)
Engine speed warner (➠ 77)
4 Onboard computer display (➠ 40)
Symbols (➠ 25)
5 Coding plug (➠ 48)
6 Riding modes (➠ 47)
7 Gear indicator, "N" indicates 'neutral'

Onboard computer display

– with onboard computer OE

Mileage covered since reaching the fuel reserve (➠ 34)

Average fuel consumption

Average speed

Current fuel consumption

Outside temperature (➠ 30)

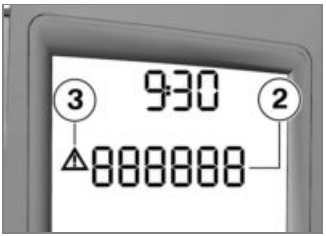
Coolant temperature

Warning lights

Displays

Warnings are displayed with appropriate warning lights.

Warnings for which no separate warning lamp is available are indicated by the 'universal' warning lamp **1** in conjunction with a warning notice or a warning symbol in the multifunction display. The universal warning light lights up in either yellow or red depending on the urgency of the warning.



Adjacent to the numerical data display **2** a warning triangle **3** may also appear. These warnings alternate with the odometers (➠ 40).

The universal warning light lights up for the most urgent warning.

The following page contains a list of potential warnings.

Overview of warning indicators

Indicator and warning lights	Warning symbols in the display panel	Meaning
 lights up yellow	 + "EWS" is indicated	Electronic immobilizer is active (➠ 28)
 lights up		Fuel down to reserve (➠ 28)
 lights up red	 flashes	Coolant temperature too high (➠ 28)
 lights up yellow	 appears on the display	Engine in emergency-operation mode (➠ 29)
 lights up red	 The engine symbol is displayed	Engine warning (➠ 29)
 lights up yellow	 + "LAMP" is indicated	Bulb defective (➠ 30)
	"x.x °C" flashes	Outside temperature warning (➠ 30)
 flashes		ABS self-diagnosis not completed (➠ 31)

Indicator and warning lights	Warning symbols in the display panel	Meaning
 lights up		ABS deactivated (➠ 31)
 lights up		ABS error (➠ 31)
 flashes rapidly		ASC intervention (➠ 31)
 flashes slowly		ASC self-diagnosis not completed (➠ 32)
 lights up		ASC deactivated (➠ 32)
 lights up		ASC error (➠ 32)
 lights up yellow	 + "DWA" is indicated	DWA battery drained (➠ 32)

Electronic immobilizer is active


General warning light shows yellow.


+ "EWS" is indicated.

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.
- Use the reserve key.
- Have the defective key replaced, preferably by an authorized BMW Motorrad retailer.

Fuel down to reserve


Fuel-reserve warning light lights up.

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.

	Reserve fuel quantity
min 2.9 quarts (min 2.7 l)	

- Refueling procedure (➠ 81).

Coolant temperature too high


General warning light shows red.


The temperature symbol flashes.

ATTENTION

Riding with overheated engine

Engine damage

- Be sure to observe the measures listed below.◀

Possible cause:

Coolant level is too low.

- Checking coolant level (➠ 101).

If coolant level is too low:

- Topping up coolant (➠ 102).

Possible cause:

The coolant temperature is too high.

- If possible, continue driving in the part-load range to cool down the engine.
- In traffic jams, switch off the engine, but keep the ignition

switched on so that the radiator fan continues to operate.
- Should the coolant temperature frequently be too high, have the fault rectified as quickly as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Engine in emergency-operation mode


General warning light shows yellow.


Engine symbol appears on the display.

WARNING

Unusual handling when engine is in emergency operating mode

Accident hazard

- Adapt riding style: 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 the emergency operating mode.

- Continued driving is possible, however the accustomed engine performance may not be available.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

Engine warning


General warning light shows red.


The engine symbol is displayed

WARNING

Damage to the engine when it is in the emergency operating mode

Accident hazard

- Adapt riding style: Ride slowly, avoid rapid acceleration and passing maneuvers.
- If possible, have the motorcycle picked up and the malfunction source eliminated by a specialized service facility, 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 the emergency-operation mode.

- Avoid high load and engine speed ranges if possible.
- Have the malfunction corrected as soon as possible at an

authorized service facility, preferably an authorized BMW Motorrad Retailer.
» Continued driving is possible, however it is not recommended.

Bulb defective


General warning light shows yellow.


+ "LAMP" is indicated.

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:
Light source defective.
- Locate defective light source with visual check.
- Replacing light sources for low-beam and high-beam headlight (➠ 113).
- Replacing light source for parking light (➠ 114).
- Replace the LED for brake and rear light (➠ 116).
- Replacing front and rear turn indicator light sources (➠ 116).

– with additional LED headlight OA
- Replace auxiliary driving light (➠ 119).

Outside temperature warning

– with onboard computer OE

"x.x °C" (outside temperature) flashes.

Possible cause:
The ambient temperature measured at the motorcycle is lower than 37 °F (3 °C).

WARNING

Risk of black ice, even above 3°C
Accident hazard
- At a low outside temperature, icy conditions must expected on bridges and in shady road areas.◀
- Think well ahead when driving.

Ambient temperature

– with onboard computer OE


Engine heat can lead to spurious readings of ambient temperature when the motorcycle is stationary. When the effects of engine heat on the monitored temperature become excessive the display responds

by temporarily reverting to −− as the display reading.
When ambient temperatures drop below 3 °C the temperature display responds by flashing a warning indicating possible ice formation on the road surface. The display automatically switches from any other mode to the temperature reading when the temperature drops below this threshold for the first time.

ABS self-diagnosis not completed


ABS indicator light flashes.

Possible cause:

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

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

ABS deactivated


ABS indicator light lights up.

Possible cause:

The ABS system has been deactivated by the rider.

- Switch on ABS function (➠ 44).

ABS error


ABS indicator light lights up.

Possible cause:

The ABS control unit has detected an error.

- It remains possible to continue riding. It must be noted that the ABS function is not available. Observe additional information on special situations which can lead to ABS fault codes (➠ 87).
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

ASC intervention

– with Automatic Stability Control (ASC)[OE]


ASC indicator and warning light flashes rapidly.
ASC has detected instability at the rear wheel and responded by reducing the torque. The warning lamp 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

– with Automatic Stability Control (ASC)[OE]

ASC indicator and warning light flashes slowly.

Possible cause:

The self-diagnosis was not completed; the ASC function is not available. So that the ASC self-diagnosis can be completed, the engine must be running and the motorcycle must be moved at a speed of at least 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 deactivated

– with Automatic Stability Control (ASC)[OE]

ASC indicator and warning light lights up.

Possible cause:

The ASC system has been deactivated by the driver.

- Switch on ASC.

ASC error

– with Automatic Stability Control (ASC)[OE]

ASC indicator and warning light lights up.

Possible cause:

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

- It remains possible to continue riding. Please be aware that ASC functionality is no longer available. Observe additional information on situations which can lead to an ASC error (➠ 88).
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

DWA battery drained

– with anti-theft alarm system (DWA)[OE]

General warning light shows yellow.

+ "DWA" is indicated.

NOTICE

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

Possible cause:

The anti-theft alarm system battery is completely discharged. Operation of the anti-theft alarm system is no longer ensured

when the motorcycle's battery is disconnected.

- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

Service display

If the time remaining until the next service will elapse within one month, the service date **1** appears briefly following the Pre-Ride-Check. The month and year are shown with two and four digits respectively separated by a colon. In this example the display means "June 2014".

If the motorcycle covers high annual mileages then shorter service intervals may be required. If the countdown distance to the early service is less than 1000 km, the remaining kilometers **1** are counted down in 100 km increments. They are briefly displayed following the Pre-Ride-Check.

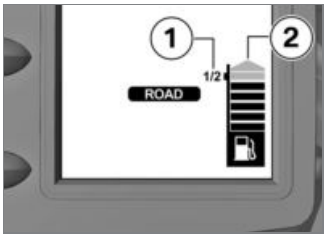
When a service date elapses without service, the universal warning light lights up in yellow, appearing together with the date and mileage (kilometer) display. The "Service" message is displayed continuously.

NOTICE

If the service display appears more than a month before the service date, the stored date must be adjusted in the instrument cluster. This situation can occur if the battery has been disconnected for a longer time. Consult a certified workshop, preferably an authorized BMW Motorrad retailer, for setting of the date.◀

Fuel gage

Due to the complex fuel tank geometry, the fill level cannot be determined in the upper filling range. For this reason, the fuel level indicator only details the lower half of the filling range.



The **2** tip indicates that the fuel tank is more than half full.
If the fuel gage drops to the 1/2 mark **1**, the fuel tank is still half full. Now, the fill level is exactly displayed.
If the fuel reserve has been reached, the low-fuel warning light is switched on.

Fuel reserve

The fuel quantity that is in the fuel tank when the low-fuel warning light switches on depends on the riding dynamics: the more substantially the fuel is moved in the tank (as a result of frequently changing lean angles, frequent braking and acceleration), the more difficult it becomes to determine the fuel reserve. However, the fuel tank still contains at least the fuel reserve specified on the back cover.

After the low-fuel warning light is switched on, the distance ridden since this point in time is indicated.
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 at the time of switch-on (see previous explanation).
The odometer for the fuel reserve is reset when the fuel quantity after refueling is greater than the fuel reserve.

Operation

Steering and ignition lock

Vehicle keys

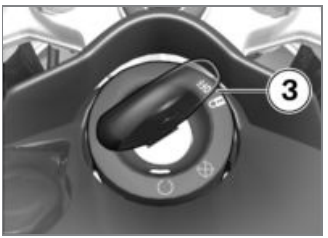
You are provided with 2 ignition keys.
Should you lose your keys please refer to the information regarding the electronic immobilizer (EWS) (➠ 37).
The ignition lock, fuel filler cap and seat lock are operated with the same key.

– with case OA
– with Topcase OA

The cases and the topcase can also be ordered with locks for the same key on request. Please contact an authorized workshop for this purpose, preferably an authorized BMW Motorrad retailer.

Locking handlebars

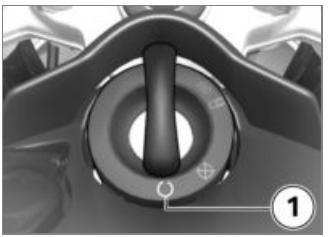
- Turn handlebars to left.



- Turn key to position **3** while moving handlebars slightly.

» Ignition, lights and all electrical circuits switched off.
» Handlebars locked.
» Key can now be removed.

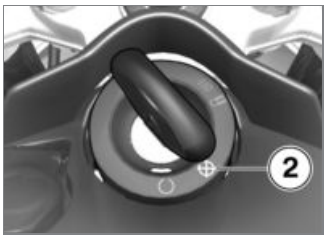
Switching on ignition



- Turn key to position **1**.

» Parking lights and all function circuits switched on.
» Engine can be started.
» Pre-Ride-Check is carried out. (➠ 74)
» ABS self-diagnosis is performed (➠ 75)
» ASC self-diagnosis in progress (➠ 75)

Switching off ignition



- Turn key to position **2**.

» Light switched off.
» Handlebars not locked.
» Key can be removed.
» Electrically powered accessories remain operational for a limited period of time.
» Battery can be recharged via onboard socket.

Electronic immobilizer

The motorcycle's electronic circuitry monitors the data stored in the ignition key through a ring antenna incorporated in the ignition lock. The engine management system does not enable engine starting until this key is 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 EWS warning is shown in the multifunction display.
Always store further vehicle keys separately from the ignition key.◀

If you lose a motorcycle key, you can have it disabled by your authorized BMW Motorrad Retailer. When having a key disabled you should also bring all of the motorcycle's remaining keys with you.

The engine can no longer be started using a disabled key; however, a disabled key can be enabled again.
Emergency and spare keys are only available 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 on/off switch (kill switch)

1 Emergency on/off switch (kill switch)

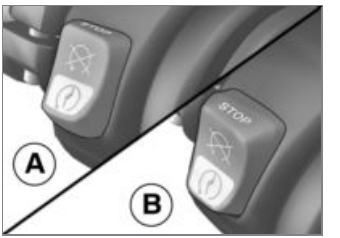
⚠ WARNING

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 on/off switch.



A Engine is switched off
B Operating position

Lights

Parking lights

The parking lights switch 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.◀

Headlight low beam

The low-beam headlight is automatically switched on under the following conditions:

– If the engine was started.
– If the vehicle is pushed while the ignition is switched on.

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.
- Pull switch **1** rearward to actuate headlight flasher.

Parking lamp

- Switch off ignition.

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

Hazard warning lights system

Operating hazard warning flashers

- Switch on ignition.

NOTICE

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

NOTICE

If a turn indicator button is pressed with the emergency flashing function switched on, the flashing function replaces the emergency flashing function as long as the button is pressed. If the turn indicator button is released, the emergency flasher function becomes active again.◀

- Press button **1** to switch on hazard warning flashers.

» Ignition can be switched off.

- Press button **1** again to switch off hazard warning flashers.

Turn indicators

Operating turn indicators

- Switch on the ignition.

NOTICE

The turn indicators automatically switch off when the defined driving time and distance have been reached. The defined riding time and distance can be set by an authorized BMW Motorrad retailer.◀

- Press button **1** to left to switch on left-side turn indicators.
- Press button **1** to right to switch on right-side turn indicators.
- Press button **1** into center position to switch off turn indicators.

Display

Selecting display readings

- Switching on ignition (➠ 36).

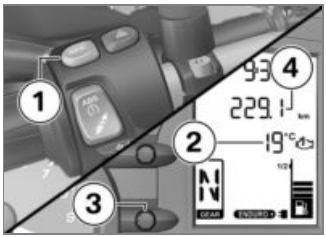
- Press button **1** to select the display in value area **2**.

The following values can be indicated:

– Total kilometers (in illustration)
– Trip distance 1 (Trip I)
– Trip distance 2 (Trip II)

– Warnings if necessary

– with onboard computer[OE]



• Actuate INFO **1** to select the display in the value range **2**.

The following data can be displayed:

Outside temperature

Coolant temperature

Average speed

Average fuel consumption

Current fuel consumption

Mileage covered since reaching the fuel reserve

• Press button **3** to select the display in value area **4**.

The following values can be indicated:

– Total kilometers (in illustration)
– Trip distance 1 (`Trip I`)
– Trip distance 2 (`Trip II`)

– Warnings if necessary◁

Resetting trip odometer

• Switching on ignition (➠ 36).
• Selecting display readings (➠ 40).
» The desired trip odometer is selected.
– `TRIP I` or `TRIP II` is displayed.

• Keep INFO **1** pressed down until the trip odometer **2** is reset.

– with onboard computer[OE]

• Press and hold button **1** until tripmeter **2** has been reset.◁

Resetting average data

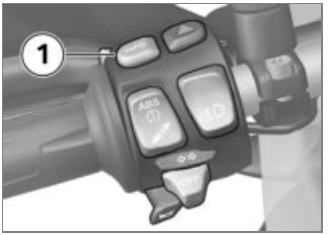
– with onboard computer[OE]

- Switching on ignition (➠ 36).
- Selecting display readings (➠ 40).

Average fuel consumption

Average speed

» The symbol of the desired average value is displayed.



- Keep INFO **1** pressed down until the displayed average value is reset.

Clock

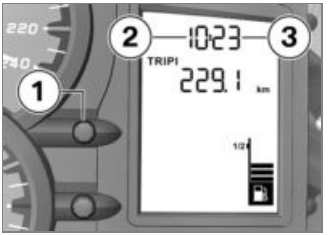
Set clock

⚠ WARNING

Adjusting the clock while riding

Accident hazard

- Adjust the clock only when the motorcycle is stationary.◀
- Switching on ignition (➠ 36).



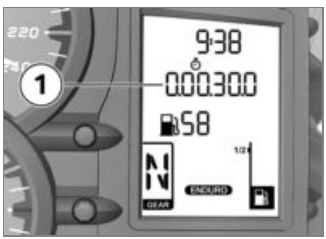
- Press and hold button **1** until hours **2** flash.
- Press button **1** repeatedly until desired hours are shown.
- Press and hold button **1** until minutes **3** flash.
- Press button **1** repeatedly until desired minutes are shown.
- Press and hold button **1** until minutes do not flash anymore.

» Setting is completed.

Stopwatch

– with onboard computer[OE]

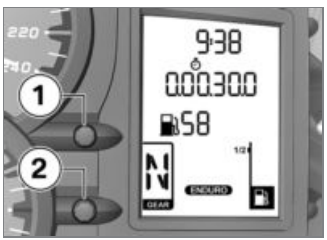
Stopwatch function



As an alternative to the odometer, the stopwatch **1** can be displayed. The display consists of hours, minutes, seconds and tenths of a second separated by dots.

The stopwatch continues to run in the background when the display is temporarily switched over to the odometer. The stopwatch also continues to run when the ignition is temporarily switched off.

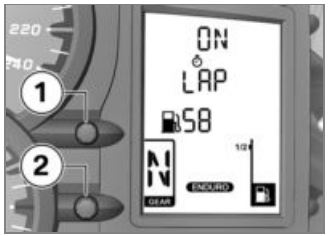
Operating stopwatch



- If necessary, switch over from odometer to stopwatch with button **1**.
- With stopwatch stopped, press button **2** to start stopwatch.
- With stopwatch running, press button **2** to stop stopwatch.
- Press and hold button **2** to reset stopwatch.

Interchanging button functions

- Switching on ignition (➠ 36).



- Press and hold button **1** and button **2** simultaneously until display changes.

» FLASH (engine speed warning indicator) and ON or OFF are shown.

- Press button **2**.

» LAP (Laptimer) and ON or OFF are shown.

- Press button **1** repeatedly until desired state is shown.

» ON: stop watch is operated by INFO button on left-hand multifunction switch.

» OFF: operation of stopwatch with button **2** in instrument cluster.

- To save the setting made, press and hold button **1** and button **2** simultaneously until the display changes.

Antilock Brake System (ABS)

Switch off ABS function

- Stop motorcycle or switch on ignition with motorcycle stationary.

- Press and hold button **1** until ABS warning lamp's display changes.

ABS indicator light lights up.

– with Automatic Stability Control (ASC)[OE]

» First the ASC symbol changes its display behavior. Press and hold button **1** until ABS warning lamp reacts. In this case, the ASC setting does not change.◁

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

ABS indicator light continues to be lit up.

» ABS function is switched off.

Switch on ABS function

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

ABS indicator light goes out, and starts to flash if self-diagnosis has not been completed.

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

ABS indicator light remains off or continues to flash.

» ABS function is now activated.

• If the coding plug is not installed, the ignition can also be turned off and then on again as an alternative.

NOTICE

If the ABS indicator and warning light lights up after the ignition is turned off and on and then riding continues at more than 5 km/h, an ABS fault has occurred.◀

Automatic Stability Control (ASC)

– with Automatic Stability Control (ASC)[OE]

Deactivate ASC function

• Switch on ignition.

NOTICE

The ASC function can also be deactivated while driving.◀

• Press the **1** button and continue to hold it down until the status indicated by the ASC warning lamp changes.

ASC indicator and warning light lights up.

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

ASC indicator and warning light continues to be lit up.

» ASC function is deactivated.

Activating ASC function

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

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

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

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

» ASC function is activated.

• If the coding plug is not installed, the ignition can also be turned off and then on again as an alternative.

NOTICE

If the ASC indicator and warning light lights up after the ignition is turned off and on and then riding continues at more than 5 km/h, an ASC fault has occurred.◀

Electronic suspension adjustment (ESA)

– with Electronic Suspension Adjustment (ESA) OE

Adjustment options

You can use the ESA Electronic Suspension Adjustment feature to adapt damping on the rear wheel to the road surface. Three damping settings are available.

Calling up settings

• Switch on ignition.

• Press button **1** to display current adjustment.

The adjusted damping is shown in the multifunction display, in area **1**. The displays provide the following information:

– COMF: Comfortable damping
– NORM: Normal damping
– SPORt: sporty damping

» The display is automatically hidden again after a short time.

Adjust the chassis

• Switch on ignition.

• Press button **1** to display current adjustment.

In order to adjust different damping:

- Press button **1** repeatedly until desired setting is displayed.

NOTICE

The damping cannot be adjusted while the motorcycle is being ridden.◀

» If button **1** is not pressed for a longer time, damping is set as indicated.
» The ESA display disappears once the adjustment procedure has been completed.

Riding mode

Use of the riding modes

BMW Motorrad has developed 4 riding scenarios for your motorcycle from which you can select the one matching your situation:

Highway operation
– Riding on wet roads.
– Riding on dry roads.

– with Pro riding modes OE

Off-road mode
– Riding off-road with road tires
– Riding off-road with coarse-tread off-road tires

For each of those 4 scenarios, the optimum balance between engine torque, throttle response, ABS and ASC feedback control is provided.

NOTICE

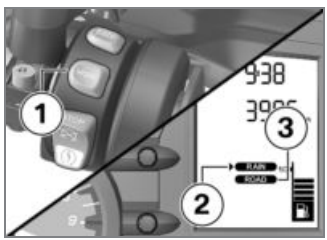
Detailed information regarding the off-road mode can be found in the section entitled "Technology in detail."◀

Setting riding mode

- Switching on ignition (➠ 36).

NOTICE

If a riding mode was selected prior to switching the ignition off, it remains further active after switching the ignition on again.◀



- Actuate MODE **1**.
» The selection arrow **2** is displayed.
- Actuate MODE **1** enough times for the selector arrow **2** to point to the desired riding mode.

» The most recent riding mode setting **3** remains on the display.
» While parked:
– Activation takes place after approx. 2 seconds.
» While in motion, the selected riding mode is activated provided that the following requirements have been satisfied:
– Throttle grip is in neutral position for a short time.
– Brake lever is not being operated.
» Activation process has finished.
– The riding mode setting **3** is displayed without the selector arrow **2**.

When riding on wet roads with road tires:
- Activate the RAIN riding mode.

When riding on dry roads with road tires:
- Activate the ROAD riding mode.

– with Pro riding modes OE

When riding off-road with road tires:
- Activate the **4** ENDURO riding mode.

When riding off-road with coarse-tread off-road tires:
– with Pro riding modes OE
- Install coding plug. (➠ 48).

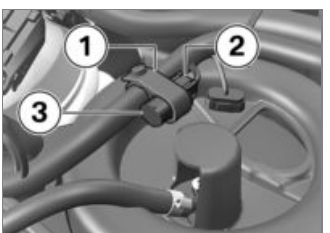
Symbol for coding plug is displayed.

- Activate the **5** ENDURO+ riding mode.◁

Install coding plug

– with Pro riding modes OE

- Switching off ignition (➠ 37).
- Remove seat (➠ 50).



- Remove rubber band **1**.

ATTENTION

Penetration of dirt and moisture in the open connector

Malfunctions

- After removing the encoding plug, refit the cover cap.◀
- Press in locking mechanism **2** and remove protective cap **3**.

- Install coding plug **4**.

NOTICE

The coding plug and/or the protective cap are stored in the seat bench together with the vehicle tools.◀

» The locking mechanism **2** engages.

- Install rubber band **1**.
- Switch on the ignition.

NOTICE

If the coding plug is connected, deactivated riding safety systems remain deactivated even after the ignition is turned off and on.◀

Symbol for coding plug is displayed.

- Setting riding mode (➠ 47).
- Install seat (➠ 50).

Heated handlebar grips

– with heated handlebar grips OE

Operating heated grips

- Starting engine (➠ 73).

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.◀

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

The handlebar grips can be heated at two different levels. The second level is used for fast

heating of the grips; the switch should then be switched back to the first level.

Approx. 50 % heater output

100 % heating output

» If no further changes are made the selected heating level is adopted as the setting.

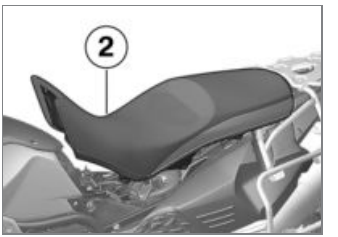
- To switch off the heated grip, press button **1** repeatedly until heated grip symbol **2** is not shown anymore in the display.

Seat

Remove seat

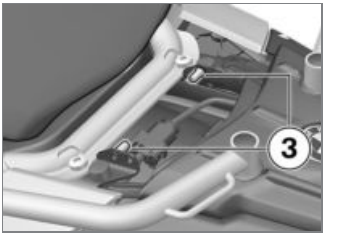
- Park motorcycle, ensuring that support surface is firm and level.

- Turn seat lock **1** to left with ignition key and hold while pressing seat downward at front to support movement.



- Raise seat bench **2** at front and release the ignition key.
- Take off seat and place on a clean surface with spacer buffers facing downward.

Install seat



- Insert seat in brackets **3**.
- Firmly press down on seat at front.

» The seat's detent mechanism will be heard to engage.

Helmet holder

Locking helmet on motorcycle

- Remove seat (➠ 50).

- Secure helmet on helmet holder **1** on left or right using a steel cable.

ATTENTION

Attaching the helmet on the left-hand side of the vehicle
Damage caused by the hot end muffler

- Fasten the helmet to the right-hand side of the motorcycle if possible.◀

ATTENTION

Incorrect positioning of the helmet lock
Fairing scratched

- When hooking on the helmet, watch the position of the helmet lock.◀
- Guide steel cable through helmet and bracket and position as shown.
- Install seat (➠ 50).

Rider's Manual (US Model)

Stowing the Rider's Manual

- Place Rider's Manual(s) into the provided bag.

- Tightly fold the open side of the bag several times and close subsequently using Velcro fastener **1**.
- Stow bag in the vehicle rear.

Alarm system

Overview

– with anti-theft alarm system (DWA) OE

General information on DWA

Any attempt to move the vehicle, change its position, start it without authorization, or disconnect the vehicle battery, results in the alarm being triggered. The sensitivity of the system is designed so that minor vibrations of the motorcycle do not trigger an alarm. Each theft attempt is signaled following activation of the system acoustically with the siren and optically with synchronized flashing of all 4 turn indicators. You can adjust the behavior of your DWA in partial areas to meet your needs.

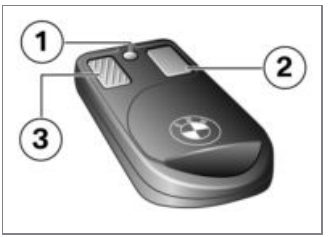
Protection of motorcycle battery

To protect the motorcycle battery and to maintain the starting capability, the activated DWA switches off automatically after several days. However, it remains active for at least 10 days.

Radio interference

Radio systems or devices which transmit on the same frequency as the remote control of the DWA can interfere with its function. With corresponding problems point the remote control at the motorcycle from a different direction.

Controls



1 LED
2 Right-hand button (➠ 56)
3 Left-hand button (ribbed) (➠ 55)

Activation

– with anti-theft alarm system (DWA) OE

Activation with motion sensor

The alarm function can be activated in 2 different ways:

– Pressing the **1** button once on the remote control. The alarm function is enabled after 15 seconds. If switched off more than one minute ago, the **1** button must be pressed for longer than one second.
– Turning off the ignition (if programmed). The alarm function is enabled after 45 seconds.

Activation is confirmed by two flashes of the turn signals and the sounding of two alarm tones.

Protection of the battery in the control unit (DWA disabled)

After approx. one hour in the deactivated state, the DWA switches off to protect the battery. To activate the alarm function after this period, the ignition must be switched on and then off again.

Motion sensor when transporting the motorcycle

If, for example, the motorcycle is to be transported by train, it is advisable to switch off the motion sensor. The strong movements could result in an accidental triggering of the alarm.

Deactivating motion sensor

- Press button **1** of the remote control again during the activation phase.

» Turn indicators are illuminated three times.
» Alarm tone sounds three times.
» Motion sensor is deactivated.

Alarm function

– with anti-theft alarm system (DWA) OE

Alarm triggering

The DWA alarm can be set off by:

– Movement sensor.
– Switching on ignition with an unauthorized motorcycle key.
– Disconnection of the DWA from the motorcycle battery (DWA battery assumes the power supply).

Alarm

The duration of the alarm is 26 seconds. The system is reactivated after another 12 seconds. A triggered alarm can be canceled at any time by pressing the **1** button on the remote control. This function does not change the state of the anti-theft alarm system.

During the alarm, an alarm tone sounds and the turn indicators flash. The type of alarm sound can be programmed.

Reason for triggering of the alarm

After the alarm function has been deactivated, the DWA LED indicates the reason for any alarm activation which may have occurred for one minute:

– 1x flash: movement sensor: motorcycle was tilted forward/back.
– 2x flashes: movement sensor: motorcycle was tilted to the side.
– 3x flashes: the ignition was turned on using an unauthorized key.
– 4x flashes: anti-theft alarm system was disconnected from the vehicle battery.

Note on alarm triggering

If an alarm was triggered after the last activation of the alarm function, then this is pointed out with a single signal tone after the ignition is switched on.

Deactivation

– with anti-theft alarm system (DWA)[OE]

Deactivate alarm function

NOTICE

The alarm function can only be deactivated with the ignition key if the emergency ON/OFF switch is in the operating position.◀

NOTICE

If the alarm function is deactivated by means of the remote control and the ignition then not switched on, the alarm function is automatically reactivated after 30 seconds if "Activation after ignition off" has been programmed.◀

- Actuate the **1** button on the remote control once **or** switch on the ignition with an authorized ignition key.

» Turn indicators light up once.

» Alarm tone sounds once (if programmed).

» Alarm function is deactivated.

Protection of the battery (DWA activated)

After approx. one hour in the activated state, the receiver for the remote control in the DWA switches off to protect the battery. The ignition must be switched on to deactivate the alarm function after this period.

Programming

– with anti-theft alarm system (DWA) OE

Programming options

The anti-theft alarm system can be adapted to individual needs in the following points:

– Confirmation alarm tone after activation/deactivation of the DWA in addition to the turn signals lighting up.
– Rising and falling or intermittent alarm tone.
– Automatic activation of the alarm function when the ignition is switched off.

Factory settings

The anti-theft alarm system is delivered with the following factory settings:

– Confirmation alarm tone after activation/deactivation of the DWA: no.
– Alarm tone: intermittent.
– Automatic activation of the alarm function when the ignition is switched off: no.

Programming DWA

- Deactivate alarm function (➠ 56).
- Switch on the ignition.
- Press button **1** three times.

» Acknowledgment tone sounds once.

- Switch off the ignition within ten seconds.
- Press button **2** three times.

» Acknowledgment tone sounds once.

- Switch on the ignition within ten seconds.

» Acknowledgment tone sounds three times.

» The programming function is active.

The actual programming is carried out in four steps, and Step 2 is not assigned any function. The number of flashing signals on the DWA indicator light of the motorcycle shows the active programming step. Pressing the button **1** is confirmed by an alarm tone, and pressing the button **2** by an acknowledgment tone.

- **Step 1**: is a confirmation tone to sound after the DWA is activated/deactivated?

yes:

- Press button **1**.

no:

- Press button **2**.

- **Step 2**:

This step is not assigned any function.

- Actuate the **1** button or **2** button.

- **Step 3**: Which alarm tone is to be selected?

rising and falling:

- Press button **1**.

intermittent:

- Press button **2**.

- **Step 4**: Is the alarm function to be automatically activated after the ignition is switched off?

yes:

- Press button **1**.

no:

- Press button **2**.

When is the programming canceled?

Programming is terminated by turning off the ignition before the last program step, or automatically whenever more than 30 seconds lapse between two programming steps.

The data are not saved when programming is canceled.

Save programming

Programming is stored when the ignition is switched off after the last programming step, or automatically 30 seconds after the last programming step.
The alarm system LED goes out and four acknowledgment tones are sounded.

Logging on additional remote controls

– with anti-theft alarm system (DWA)[OE]

When is it necessary to log on a remote control?

Should you log on an additional remote control or want to replace a lost remote control, then you must always log on all remote controls with the DWA. You can log on a maximum of four remote controls.

Logging on remote control

- Deactivate alarm function.
- Switch on the ignition.
- Press button **2** three times.

» Acknowledgment tone sounds once.

- Switch off the ignition within ten seconds.
- Press button **2** three times.

» Acknowledgment tone sounds once.

- Switch on the ignition within ten seconds.

» Acknowledgment tone sounds twice.

You can log on a maximum of remote controls for the DWA. The logon for each remote control is carried out in three steps.

- Press and hold button **1** and button **2**.

» LED flashes for ten seconds.

- As soon as the LED goes out, release the **1** button and the **2** button.

» LED lights up.

- Actuate the **1** button or **2** button.

» Alarm tone sounds once.
» LED goes out.
» Remote control is logged on.

- Repeat the three previous work steps for each additional remote control.

Logon ended

The logon is ended in the following situations:

– 4 remote controls have been logged on.
– Ignition is switched off.
– No button was pressed for 30 seconds after the ignition was switched off.
– No button was pressed for 30 seconds after a remote control was logged on.

After the logon is completed, the LED flashes and the acknowledgment tone sounds three times.

Synchronizing

– with anti-theft alarm system (DWA) OE

When is it necessary to synchronize the remote control?

The remote control must be synchronized when the buttons of the remote control has been operated more than 256 times outside the range of the receiver. In this case, the receiver on the motorcycle no longer reacts to the signals of the remote control.

Synchronize remote control

• Press and hold button **1** and button **2**.
» LED flashes for ten seconds.
• As soon as the LED goes out, release the **1** button and the **2** button.
» LED lights up.
• Actuate the **1** button or the **2** button.
» LED goes out.
– Remote control is synchronized.

Battery

– with anti-theft alarm system (DWA) OE

When is a battery change required?

The batteries of the remote control must be replaced after 2–3 years. A weak battery can be recognized from the fact that the LED does not light up at all or only briefly when a button is pressed.

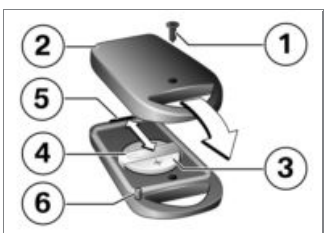
Replace battery

ATTENTION

Unsuitable or improperly inserted batteries

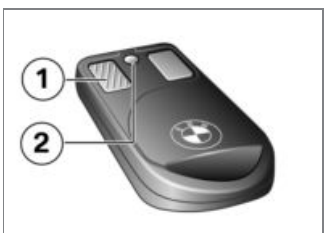
Component damage

- Use specified battery (see "Technical Data" chapter).
- When inserting the battery, make sure that the polarity is correct.◀



- Remove screw **1** and take off lower housing section **2**.
- Slide old battery **3** forward under bow **4**.
- Install new battery. Ensure that positive terminal of battery is at top.
- Fit lower housing section to lug **5** on front edge and close it. When doing so, pay attention to the guide pins **6**.
- Install screw.

» The LED of the remote control lights up; i.e. the remote control must be activated.



- To activate the remote control within the range of the receiver, press the button **1** twice.

» LED **2** begins to flash and goes out after a few seconds.

» The remote-control is again ready to be used.

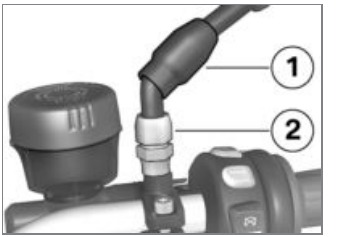
Setting

Mirrors

Adjusting mirrors

- Move mirror to the desired position by turning it.

Adjusting mirror arm



- Slide protective cap **1** up over screw connection on mirror arm.
- Loosen the nut **2**.
- Turn mirror arm into desired position.
- Tighten the nut to the specified torque while holding the mirror arm to ensure that it does not move out of position.

Locknut (mirror) on clamping piece
Joint compound: Multi-Wax Spray

Locknut (mirror) on clamping piece
15 lb/ft (20 Nm)

- Slide protective cap over threaded fastener.

Headlight

Adjusting headlight for RHD/LHD traffic

If the motorcycle is ridden in a country where vehicles are driven in the opposite lane relative to your own country, its asymmetric low-beam headlight will tend to blind oncoming traffic.
Have the headlight adjusted for these conditions by an authorized service facility, preferably an authorized BMW Motorrad retailer.

Headlight range and spring preload

The headlight range generally remains constant due to the adjustment of the spring preload to the loading state.
Spring preload adjustment may only be insufficient when the motorcycle is very heavily loaded. In this case, the headlight range must be adjusted to the weight.

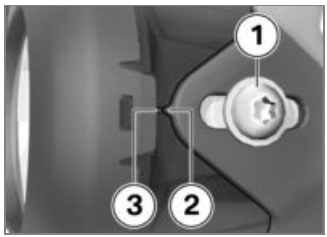
NOTICE

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.◀

Adjusting headlight range

- Loosen screws **1** on left and right.
- Adjust headlight by tilting slightly.
- Tighten screws **1** on left and right.

Basic headlight range adjustment



- Loosen screws **1** on left and right.
- Adjust headlight by tilting slightly so that tip **2** points to marking **3**.
- Tighten screws **1** on left and right.

Clutch

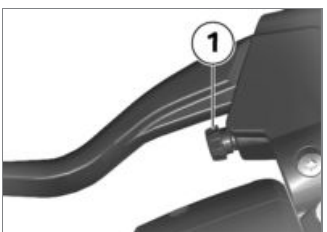
Adjusting clutch lever

WARNING

Adjusting the clutch lever while driving

Accident hazard

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



- Turn adjusting screw **1** clockwise to increase distance between clutch lever and handlebar grip.
- Turn adjusting screw **1** counterclockwise to decrease distance between clutch lever and handlebar grip.

NOTICE

The adjusting screw can be turned more easily if you press the clutch lever forward when doing so.◀

Brakes

Adjusting handbrake lever

WARNING

Modified position of the brake fluid reservoir

Air in the brake system

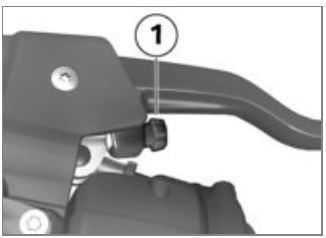
- Do not twist the handlebar fitting or the handlebars.◀

WARNING

Adjusting the brake lever while driving

Accident hazard

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



- Turn adjusting screw **1** clockwise to increase distance between brake lever and handlebar grip.
- Turn adjusting screw **1** counterclockwise to decrease distance between brake lever and handlebar grip.

NOTICE

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

Spring preload

Setting

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

Adjusting spring preload at rear wheel

- Remove seat (➠ 50).

- Remove toolkit **2**.

WARNING

Uncoordinated settings of spring preload and spring strut damping.

Poorer handling.

- Adjust damping characteristic to changed spring preload.◀
- To increase spring preload, turn adjustment wheel **1** clockwise using toolkit.
- To decrease spring preload, turn adjustment wheel **1** counterclockwise using toolkit.

Basic setting of spring preload, rear
Turn adjustment wheel counterclockwise as far as possible. (One-up without load)
Turn adjustment wheel as far as possible counterclockwise, then 12 turns clockwise. (One-up with load)
Turn adjuster wheel clockwise up to stop. (Two-up and load)

- Remount toolkit.
- Install seat (➠ 50).

Damping

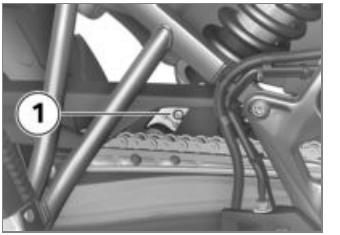
Setting

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

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

Adjusting damping on rear wheel

• Park motorcycle, ensuring that support surface is firm and level.



• Adjust damping via adjusting screw **1**.

• To increase damping, turn adjusting screw **1** in arrow direction H.

• To decrease damping, turn adjusting screw **1** in arrow direction S.

Basic setting of rear wheel rear-wheel damping
– without Electronic Suspension Adjustment (ESA) OE
Turn adjusting screw as far as possible clockwise, then turn back 1.5 turns. (One-up without load)
Turn adjusting screw as far as possible clockwise, then turn back 1.5 turns. (One-up with load)
Turn adjusting screw as far as possible clockwise, then turn back 1 turn. (Two-up with load)◁

Riding

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.

Reduced clearance in inclined position

– with lowered suspension OE

Motorcycles with lowered running gear have a reduced clearance in inclined position and to the ground compared to motorcycles with standard running gear (see the chapter "Technical Data").

WARNING

When cornering with lowered motorcycles, motorcycle parts can contact the road surface sooner than normal.
Accident hazard
- Carefully test the clearance of the motorcycle in an inclined position and adjust your riding style accordingly.◀

Test the clearance of your motorcycle at an angle in safe situations. Remember to take the limited ground clearance of your motorcycle into account when driving over curbs and similar obstacles.

Lowering the motorcycle reduces the spring travel. A possible reduction in the accustomed driving comfort may result. Especially when riding with a passenger, the spring preload should be adjusted accordingly.

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.◀
- Adjust spring preload and damping rate for the current gross motorcycle weight.

– with case OA
- Ensure that case volumes on left and right are equal.◁

– with case OA
or

– with aluminum case OA
- Make sure that weight is uniformly distributed between right and left.
- Pack heavy pieces of luggage to bottom and inside of cases.
- Observe the maximum payload and maximum speed as indicated on the label in the case (see also the chapter "Accessories").◁

– with Topcase OA

or

– with aluminum Topcase OA
- Observe the maximum payload and maximum speed as indicated on the label in the topcase (see also the chapter "Accessories").◁

– with tank backpack OA
- Observe the maximum load capacity of the tank rucksack (see also "Accessories" chapter).


Payload of tank rucksack

max 11 lbs (max 5 kg)◁

– with rear bag OA
- Observe the maximum load capacity of the rear bag (see also "Accessories" chapter).


Payload of rear bag

max 3 lbs (max 1.5 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-strut and shock absorber system
– Imbalanced load
– Loose clothing
– Insufficient tire inflation pressure
– Poor tire tread
– Installed luggage systems, such as cases, topcases and tank rucksacks.

Maximum speed with studded or winter tyres

⚠ DANGER

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

Risk of accident due to tire damage at high speed.
- Observe the maximum permissible speed for the tyres.◀

With studded or winter tyres, the maximum permissible speed for the tyres must be observed. Attach a label specifying the maximum permissible speed in

the field of view of the instrument cluster.

Risk of poisoning

Exhaust fumes contain 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

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

The following must be observed:

– Do not run the fuel tank dry
– Do not run the engine with the spark-plug cap 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 motorcycle (e.g. engine control unit, throttle valves, clutch)

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

- Do not make any modifications.◀

Observe checklist

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

If there is a change in the loading condition:

– without Electronic Suspension Adjustment (ESA)[OE]
- Adjusting spring preload at rear wheel (➠ 67).◁

– without Electronic Suspension Adjustment (ESA)[OE]
- Adjusting damping on rear wheel (➠ 68).◁

– with Electronic Suspension Adjustment (ESA)[OE]
- Adjust the chassis (➠ 46).◁

Before every journey:

- Check operation of the brake system.
- Check operation of the lighting and signal system.
- Check clutch function (➠ 100).
- Checking tire tread depth (➠ 103).
- Checking tire pressure (➠ 102).
- Check secure hold of cases and luggage.

At every third refueling stop:

- Check engine oil level (➠ 94).
- Check front brake pad thickness (➠ 97).
- Check rear brake pad thickness (➠ 97).
- Checking front brake fluid level (➠ 98).
- Checking rear brake fluid level (➠ 99).
- Checking coolant level (➠ 101).
- Lubricating chain (➠ 126).
- Check chain sag (➠ 126).

Starting

Starting engine

ATTENTION

Sufficient transmission gearbox lubrication only when the engine is running.

Transmission damage

- Do not allow the motorcycle to roll for longer periods or push it over longer distances with the engine switched off.◀
- Switching on ignition (➠ 36).

» Pre-Ride-Check is carried out. (➠ 74)

» ABS self-diagnosis is performed (➠ 75)

» ASC self-diagnosis in progress (➠ 75)

- 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 starts and at low ambient temperatures: pull lever to disengage clutch and twist throttle grip slightly.

- 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.

» If the engine fails to start, the troubleshooting chart in chapter "Technical Data" may provide assistance. (➠ 148)

Pre-Ride-Check

When the ignition is switched on the instrument cluster performs a test routine including the analog display instruments as well as the warning and indicator lights - this is the "Pre-Ride-Check." Starting the engine before the test routine is completed will cancel the remainder of the routine.

Phase 1

The needles on the tachometer and speedometer rotate to their end stops. Simultaneously all warning and indicator lights are activated sequentially.

Phase 2

The universal warning light changes from yellow to red.

Phase 3

The needles on the tachometer and speedometer return to their initial positions. At the same time, the previously activated warning and indicator lights are now switched off in reverse sequence.

If one of the needles fails to move, or if one of the warning and indicator lamps fails to light up:

- Have the malfunction corrected as soon as possible at an authorized service facility, 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 light flashes.

Phase 2

» Check wheel sensors while starting off.

ABS indicator light flashes.

ABS self-diagnosis completed

» The ABS indicator and warning light goes out.

 ABS self-diagnosis routine 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:

- It remains possible to 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 an authorized service facility, 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 on 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 routine 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 sensors: min 3 mph (min 5 km/h))

If an ASC error is indicated following completion of the ASC self-diagnosis routine:

- It remains possible to continue riding. It must be noted that the ASC function is not available.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

Running in

Engine

- In the period preceding the initial inspection attempt to change rpm and engine load as frequently as possible, avoiding extended periods at constant rpm.
- Try to do most of your riding during this initial period on twisting, fairly hilly roads, avoiding highways if possible.
- Observe the engine run-in speeds.

Engine run-in speed
<5000 min^{-1}

- 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 must be run in before they achieve their optimum friction force. This initial reduction in braking efficiency 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. This must be roughened by riding in a restrained manner at various heel angles until the tires are run in. This running in procedure is essential if the tires are to 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.◀

Shifting gears

– with onboard computer[OE]

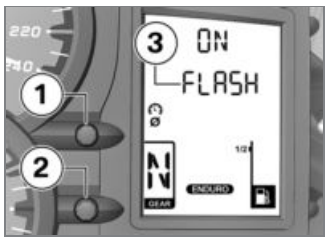
Engine speed warner

The engine speed warner signals to the rider that the red engine speed range has been reached. The red indicator lamp **1** of the engine speed warner flashes to provide this signal.

This signal lamp continues to flash until the rider either upshifts to a higher gear or reduces the engine speed. The engine speed warner can be activated or deactivated by the rider.

Activating the engine speed warner

- Switching on ignition (➠ 36).



- Press and hold button **1** and button **2** simultaneously until display changes.

» `FLASH` **3** and `ON` or `OFF` are displayed.

- Press button **1** until desired state is shown.

» `ON`: engine speed warner activated.

» `OFF`: engine speed warner deactivated.

- To save the setting made, press and hold button **1** and button **2** simultaneously until the display changes.

Off-road riding

After driving offroad

BMW Motorrad recommends that the following be observed after driving offroad:

Tire inflation pressure

WARNING

When riding off-road, reduce the tire pressure when riding on paved surfaces.
Risk of accident due to poorer driving characteristics.
- Ensure proper tyre inflation pressure.◀

Brakes

WARNING

Riding on unpaved or dirty roads.
Delayed braking effect caused by dirty brake discs and brake pads.
- Brake early until the brakes are braked clean.◀

ATTENTION

Riding on unpaved or dirty roads
Increased brake pad wear
- Check the brake pad thickness more often and replace the brake pads sooner.◀

Spring preload and damping

WARNING

Modified values for spring preload and spring strut damping when riding off-road.
Poorer driving characteristics on paved surfaces.
- Before returning to on-road use, reset the correct spring preload and spring strut damping.◀

Rims

BMW Motorrad recommends checking the rims for possible damage after riding offroad.

Air cleaner insert

ATTENTION

Dirty air filter element
Engine damage
- When driving in dusty terrain, check air filter insert for soiling at short intervals and clean or replace if necessary.◀

Use under very dusty conditions (deserts, savannas, etc.) requires the use of air filter elements spe-

cially developed for these kinds of applications.

Brakes

How do you achieve the shortest stopping distances?

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 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 instructed "forced 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 surface. The front wheel can lock up.

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

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 rotors and the brake pads result in a decrease in the braking action.

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

– When driving in the rain and through puddles.
– After washing the vehicle.
– 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 a grade, the motorcycle should always face uphill; select 1st gear.

Center stand

– with center stand OE

- 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

Center stand folds if subject to sharp movements.

Component damage cause by tipping over

- Do not sit on the motorcycle while it is resting on the center stand.◀
- Fold out center stand and jack up motorcycle.
- On a grade, the motorcycle should always face uphill; select 1st gear.

Refueling

Fuel specifications

Requirement

For optimal fuel economy, the gasoline 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

Refueling with leaded fuel

Damage to catalytic converter

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

- Fuels with a maximum ethanol content of 10 %, meaning "E10," may be used for refueling. Ethanol should satisfy the quality standards for the US (ASTM 4806–xx) and Canada (CGSB-3.511–xx). “xx” - comply with the current standard in each case.

Recommended fuel quality
Super unleaded (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI
– with unleaded regular gasoline OE
Regular unleaded (minor restrictions with regard to power and fuel consumption) (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI◁

Refueling procedure

WARNING

Fuel is highly flammable

Fire and explosion hazard

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

WARNING

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

Accident hazard

- Do not overfill the fuel tank.◀

ATTENTION

Contact of fuel and plastic surfaces

Damage to surfaces (become unattractive or cloudy)

- Immediately clean plastic surfaces after contact with fuel.◀

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

NOTICE

The available fuel tank volume can only be optimally used with the vehicle standing on the side stand.◀

- Open protective cover **1**.
- Unlock fuel-tank cap **2** with ignition key by turning clockwise, then swivel it up.

- Do not fill the tank past the bottom edge of the filler neck.

NOTICE

When refueling after running on fuel reserve, the resulting total fuel quantity must be greater than the fuel reserve, so that the new filling level is detected and the fuel warning 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.◀

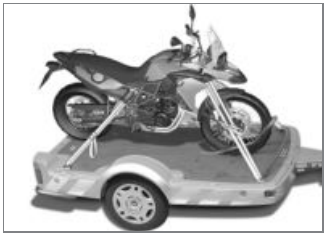
Usable fuel quantity
Approx. 4.2 gal (Approx. 16 l)

Reserve fuel quantity
min 2.9 quarts (min 2.7 l)

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

Fastening motorcycle for transport

- Protect against scratching all components along which luggage straps are routed. For example, use adhesive tape or soft cloths.

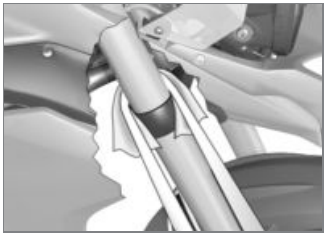


ATTENTION

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 or center stand.



ATTENTION

Pinching of components

Component damage

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

- Fasten straps at rear on both sides on rear frame and tension.
- Tension all straps evenly; the vehicle should be pulled down against its springs with the suspension compressed as much as possible.

Technology in detail

General notes

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

Antilock Brake System (ABS)

How does ABS work?

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

What happens when rough roads are encountered?

Bumpy or rough roads can briefly lead to a loss of contact between the tires and the road surface, until the transferable braking force is 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, the BMW Motorrad ABS must assume extremely low friction coefficients (gravel, ice, snow) so that the running wheels turn in every imaginable case and the 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, however, it is possible under certain circumstances that the BMW Motorrad Antilock Brake System 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 driving stability on any surface within the limits of driving physics. The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack.

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 deactivated for safety reasons and an ABS error is indicated. A self-diagnosis routine must be completed before the error will be displayed.
Apart from problems with the BMW Motorrad ABS, unusual riding conditions can also cause a fault message to be generated:

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

Should a fault code 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

But remember: the potentially shorter braking 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.
Be careful in curves! When you apply the brakes on a corner, the motorcycle's weight and momentum take over and even BMW Motorrad ABS is unable to counteract their effects.

Automatic Stability Control (ASC)

– with Automatic Stability Control (ASC)[OE]

How does ASC work?

The BMW Motorrad ASC compares the wheel speeds of the front and rear wheels. From the speed difference the slip, and with it the stability reserves on the rear wheel are determined. When a slip limit is exceeded, the engine torque is adapted by the engine management system.

What are the design characteristics of the BMW Motorrad ASC?

The BMW Motorrad ASC is an assistance system for the rider and is designed for driving on public roads. Especially at the limits of physics, the rider has a considerable influence on the extent of the control that ASC can provide (shifting weight in curves, loose loads).
The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack. The BMW Motorrad ASC can be deactivated for these cases.

⚠ WARNING

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

Special situations

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

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 deactivate 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 error will be displayed.
In the following unusual driving conditions, the BMW Motorrad ASC may be turned off automatically.

Unusual riding conditions:

– Driving on the rear wheel (wheelie) for a longer period with ASC deactivated.
– Rear wheel spinning in place with front brake engaged (burn out).

– Warm-up on the center or auxiliary stand at idle or with gear engaged.

ASC is reactivated by turning the ignition on and off and then riding at a speed above 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 lock, resulting in unstable motorcycle conditions. BMW Motorrad ASC is unable to intervene effectively under these conditions.

Riding mode

Selection

In order to adjust the motorcycle to the road condition, one of 4 riding modes can be selected:
– RAIN
– ROAD (standard mode)

– with Pro riding modes OE
– ENDURO
– ENDURO+ (with coding plug installed only)

For each of the 4 riding modes, adapted settings for the ABS and ASC systems and for the throttle response are available.

In every mode, ABS and/or ASC can be turned off. The following explanations refer to the systems that are switched on.

Throttle response

– In the RAIN and ENDURO riding modes: the response behavior of the engine is reticent.
– In the ROAD and ENDURO+ riding modes: the response behavior of the engine is optimum and direct.

ABS

– In the RAIN and ROAD riding modes, the ABS is matched to the road conditions and the use of road tires. Intervention of the ABS occurs at such an early stage that maximum ride stability (i.e. roadholding) is achieved. This also applies to lift-off detection for the rear wheel.

– In the ENDURO riding mode, ABS is matched to off-road operation using road tires. Intervention of the ABS occurs later than during on-road operation. When riding off-road, slight lifting of the rear wheel is tolerated by the system.
– In the ENDURO+ riding mode, the ABS is matched to off-road operation using coarse-tread off-road tires. The ABS intervention on the front wheel occurs later than during on-road operation. There is no ABS intervention on the rear wheel if the footbrake lever is actuated.

ASC

– The front wheel lift-off detection is switched on in all riding modes and it offers maximum support.
– In the RAIN and ROAD riding modes, the ASC is matched to road operation.
– Intervention of the ASC occurs in the RAIN riding mode at such an early stage that maximum ride stability (i.e. road-holding) is achieved. Intervention of the ASC occurs in the ROAD riding mode later than in the RAIN riding mode. Slipping of the rear wheel is avoided whenever possible.
– In the ENDURO and ENDURO+ riding modes, the ASC is matched to off-road mode.
– The ENDURO riding mode is designed for road tires in off-road mode. Intervention of the ASC occurs later, enabling slight drifts to occur.
– The ENDURO+ riding mode is designed for coarse-tread off-road tires in off-road mode. Here, ASC intervenes still later so that even longer drifts are possible.

Changing setting

The process of changing between the ABS and ASC functions for the prevailing riding mode is only possible while in motion if certain operating conditions are met:
– No drive torque at rear wheel.
– No brake pressure in the braking system.

This operating mode is active when the motorcycle is stopped with the ignition switched ON. As an alternative, the following steps must be carried out:
– Turn back throttle grip.
– Do not actuate brake lever.

First the desired riding mode is preselected. The new selection is not activated until the specified conditions are present in all affected systems.

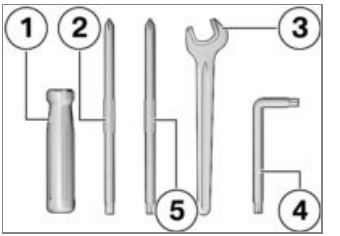
Maintenance

General instructions

The "Maintenance" chapter describes work involving the checking and replacement of wear parts that can be performed with a minimum of effort.
If special tightening torques are to be taken into account for assembly, these are listed. An overview of all required tightening torques is contained in the chapter "Technical Data".
Information on additional maintenance and repair work is provided in the Repair Manual for your vehicle on DVD, which you can obtain from your authorized BMW Motorrad retailer.

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

Tool kit



1 Screwdriver handle

2 Reversible screwdriver insert
with Phillips and straight blade
- Replacing front and rear turn indicator light sources (➠ 116).
- Replacing license-plate bulb (➠ 117).
- Removing battery (➠ 123).

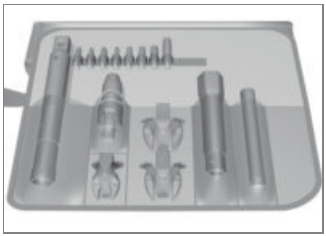
3 Open-ended wrench
Wrench size: 17 mm
- Adjusting mirror arm (➠ 64).

4 Torx wrench T40
- Adjusting headlight range (➠ 65).

5 Reversible screwdriver insert
Phillips PH1 and Torx T25
- Removing center fairing panel (➠ 119).

Service tool kit

- with service toolkit OA



For more extensive service operations (such as wheel removal and installation), BMW Motorrad has put together a service tool kit matched to your motorcycle. You can purchase this tool kit from your authorized BMW Motorrad retailer.

Front wheel stand

Mount front wheel stand

ATTENTION

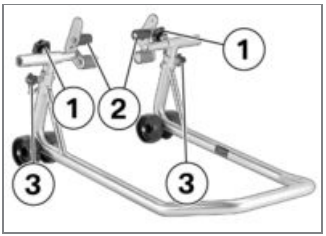
Use of the BMW Motorrad front wheel stand without an auxiliary stand

Component damage cause by tipping over

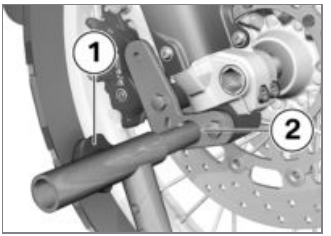
- Place the motorcycle on an auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.◀
- Place motorcycle on a suitable auxiliary stand.

– with center stand OE

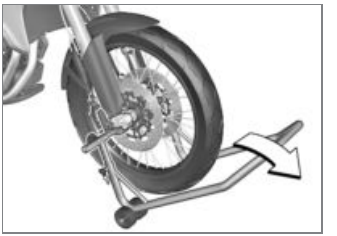
- Place motorcycle on center stand, ensuring that it is resting on a firm and level support surface.◁
- Use basic stand with tool number (83 30 0 402 241) in combination with front-wheel adapter (83 30 0 402 242).



- Loosen mounting bolts **1**.
- Push two mounts **2** outward, continuing until front suspension fits between them. Adjust support pin to match front suspension.
- 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 two mounts **2** so that front suspension rests securely on them.
- Tighten securing screws **1**.



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

– with center stand OE

ATTENTION

Lifting-off of the center stand if the vehicle is raised too high

Component damage cause by tipping over

- When raising the motorcycle, make sure that the center stand remains on the ground.
- Adjust the height of the front wheel stand if necessary.◀
- Ensure that motorcycle is standing securely.◁

Engine oil

Check 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.◀
- Wipe area around oil fill location to clean it.
- Allow engine to idle until fan starts, then let it continue running for an additional minute.
- Switch off engine.

- Make sure ground is level and firm and hold motorcycle at operating temperature vertically.

– with center stand OE

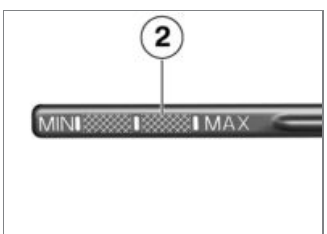
ATTENTION

Motorcycle tips to the side when raising

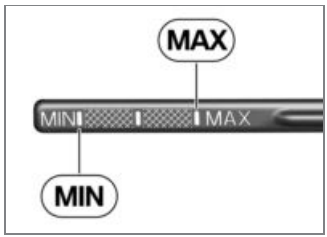
Component damage cause by tipping over

- Secure the motorcycle against tipping to the side, preferably with the assistance of a second person.◀
- Make sure ground is level and firm and place motorcycle at operating temperature on its center stand.◁

- Remove oil dipstick **1**.



- Wipe off the graduated section **2** with a dry cloth
- Position oil dipstick on oil filler opening, but do not screw in.
- Remove oil dipstick and read fluid level.



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

Engine oil, quantity for topping up
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 C
max 0.4 quarts (max 0.4 l) (Difference between MIN and MAX)

If oil level is below MIN mark:

- Topping up engine oil (➠ 96).

If oil level is above MAX mark:

- Have fluid level corrected by an authorized workshop, preferably an authorized BMW Motorrad retailer.

- Install oil dipstick.

Topping up engine oil

- Make sure ground is level and firm and park motorcycle.
- Wipe area around fill location clean.

- Remove oil dipstick **1**.

ATTENTION

Use of too little or too much engine oil

Engine damage

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

- Add engine oil up to specified level.
- Check engine oil level (➠ 94).
- Install oil dipstick.

Brake system

Checking brake operation

- Actuate the handbrake lever.

» Pressure point must be clearly perceptible.

- Actuate the footbrake lever.

» Pressure point must be clearly perceptible.

If no clear pressure points are perceptible:

ATTENTION

Improper working on the brake system

Endangering of the operating safety of the brake system

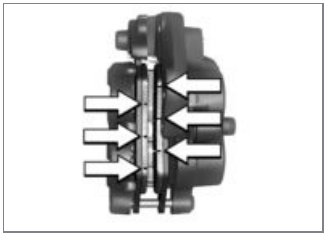
- Have all work on the brake system carried out by experts.◀

- Have the brakes checked at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Check front brake pad thickness

- Make sure ground is level and firm and park motorcycle.

- Visually inspect left and right brake pads to determine their thickness. Direction of view: between wheel and front wheel control to brake calipers **1**.



Front brake-pad wear limit
min 0.04 in (min 1.0 mm) (Only friction material without carrier plate. The wear markings, i.e. the grooves, must be clearly visible.)

If the wear indicators are no longer clearly visible:

WARNING

Dropping below the minimum pad thickness

Reduced braking action, damage to the brake

- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀
- Have the brake pads replaced at an authorized service facility, preferably an authorized BMW Motorrad dealer.

Check rear brake pad thickness

- Make sure ground is level and firm and park motorcycle.

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

Rear brake-pad wear limit
min 0.04 in (min 1.0 mm) (Only friction material without carrier plate.)

If brake pads are worn:

WARNING

Dropping below the minimum pad thickness

Reduced braking action, damage to the brake

- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀
- Have the brake pads replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking front brake fluid level

- Make sure ground is level and firm and hold motorcycle vertically.

– with center stand OE

- Make sure ground is level and firm and place motorcycle on its center stand.◁
- Move handlebars into straight-ahead position.

WARNING

Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Check brake fluid level regularly.◀
- Check brake fluid level in front brake-fluid reservoir **1**.

NOTICE

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

Front brake fluid level (visual check)
Brake fluid, DOT4
You should never allow the brake fluid level to drop below the **MIN** mark.

If brake fluid level falls below the approved level:

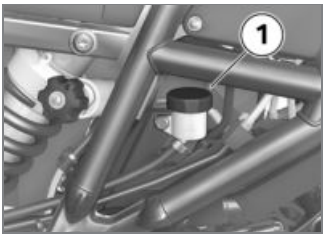
- Have the defect corrected as soon as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Checking rear brake fluid level

- Make sure ground is level and firm and hold motorcycle vertically.

– with center stand OE

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



WARNING

Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Check brake fluid level regularly.◀
- Read brake fluid level at rear brake-fluid reservoir **1**.

NOTICE

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

Rear brake fluid level (visual check)
Brake fluid, DOT4
You should never allow the brake fluid level to drop below the **MIN** mark.

If brake fluid level falls below the approved level:

- Have the defect corrected as soon as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Clutch

Check clutch function

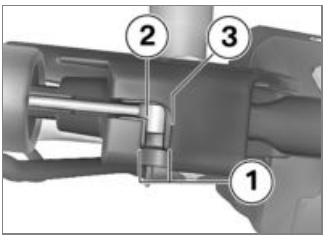
- Pull back the clutch lever.

» Pressure point must be clearly perceptible.

If no clear pressure point can be felt:

- Have the clutch checked by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Checking clutch play



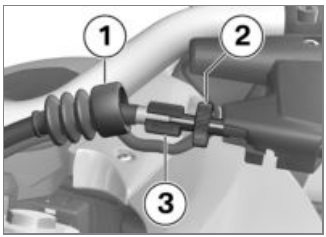
- Actuate the clutch lever until resistance can be felt. Observe cut-out **1** in the handlebar fitting.

» The edge of cable mount **2** should move to the edge of handlebar fitting **3**.

Clutch cable play
0.12...0.2 in (3...5 mm) (Handlebars in straight-ahead position)

If clutch play is outside tolerance:
- Adjusting clutch play (➠ 101).

Adjusting clutch play



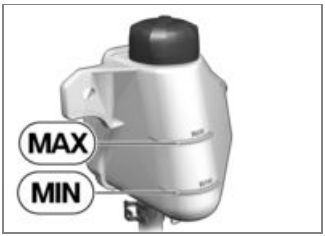
- Slide rubber grommet **1** to the side.
- Loosen the nut **2**.
- To increase clutch play: turn adjusting screw **3** into handlebar fitting.
- To decrease clutch play: turn adjusting screw **3** out of handlebar fitting.
- Check clutch play (➠ 100).
- Tighten nut **2** while holding adjusting screw **3** to ensure that it does not move out of position.
- Pull rubber grommet **1** over the nuts.

Coolant

Checking coolant level

- Make sure ground is level and firm and park motorcycle.
- Turn handlebars to the right.

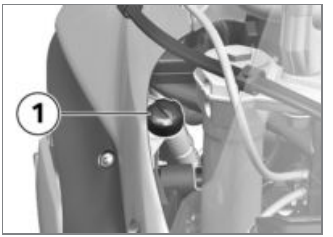
- Read off coolant level on expansion tank **1**. Viewing direction: from front through windshield and right-hand side panel.



	Coolant, specified level
between MIN – MAX mark on the expansion tank (Engine cold)	

If coolant level drops below approved level:
- Add coolant.

Topping up coolant



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

Tyres

Checking tire pressure

WARNING

Incorrect tire inflation pressure
Poorer handling characteristic of motorcycle, reduction of tire service life

- Ensure proper tire inflation pressure.◀

WARNING

Automatic opening of vertically installed valve cores at high speeds.
Sudden loss of tyre inflation pressure.

- Use valve caps with rubber sealing ring and screw on firmly.◀
- Park motorcycle, ensuring that support surface is firm and level.
- Check tire pressures against data below.

Tire pressure, front
31.9 psi (2.2 bar) (One-up, with cold tires)

Tire pressure, front
36.3 psi (2.5 bar) (Driver with passenger and/or load, with cold tire)

Tire pressure, rear
36.3 psi (2.5 bar) (One-up, with cold tires)
42.1 psi (2.9 bar) (Driver with passenger and/or load, with cold tire)

If tire pressure is too low:

- Correct tire pressure.

Wheel rims and tyres

Check wheel rims

- Make sure ground is level and firm and park motorcycle.
- Subject wheel rims to visual inspection for defects.

- Have damaged rims checked and, if necessary, replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking spokes

- Make sure ground is level and firm and park motorcycle.
- Sweep across spokes with a screwdriver handle or similar item, paying attention to the sound that they emit as you proceed.

If the tone does not remain consistent:

- Have spokes checked by an authorized service facility, preferably an authorized BMW Motorrad dealer.

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.◀
- Make sure ground is level and firm and park motorcycle.
- Measure tire tread depth in main tread grooves with wear indicating 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 tires concerned.

Wheels

Tyre recommendation

For every size of tyre, BMW Motorrad has tested and approved certain makes as roadworthy. BMW Motorrad cannot evaluate the suitability of other tyres, and can therefore take no responsibility for their driving safety.

BMW Motorrad recommends only using the tyres tested and approved by BMW Motorrad.

The permissible maximum speed and load capacity figures must be complied with (see "Technical Data").

Observe the notes on maximum speed with studded or winter tyres (➠ 71).

Detailed information can be obtained from your authorized BMW Motorrad retailer or online at:

bmw-motorrad.com

Affect of wheel sizes on chassis control systems

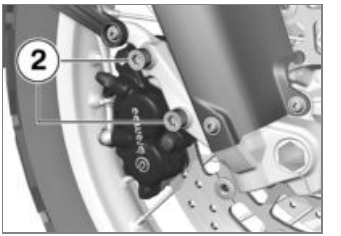
The wheel sizes play a major role in the ABS and ASC chassis control systems. Especially the diameter and width of the wheels are stored in the control unit as the basis for all necessary calculations. A change in these sizes due to conversion to others than the wheels installed as standard equipment can seriously affect the control comfort of these systems.

The sensor wheels required for wheel speed detection must also match the control systems installed and may not be replaced. If you want to equip your motorcycle with different wheels, please speak to a specialist service facility, and preferably a BMW Motorrad retailer. In some cases the data stored in the control units can be adapted to the new wheel sizes.

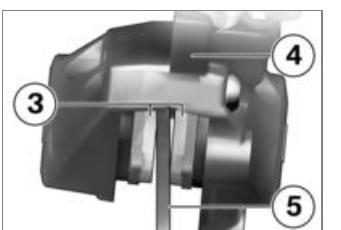
Removing front wheel

- Make sure ground is level and firm and park motorcycle.

- Remove screw **1** and extract the ABS sensor from its socket.



- Remove screws **2** of right-hand brake caliper.



- Push brake pads **3** apart slightly by turning the brake caliper **4** back and forth against the brake rotor **5**.

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

ATTENTION

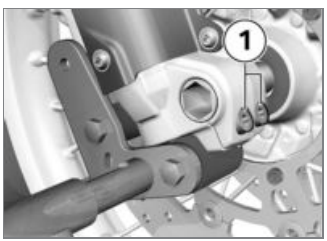
Unintentional pressing together of brake pads

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

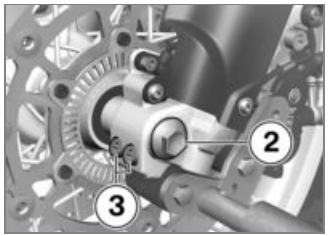
- Do not actuate the brakes with the brake caliper removed.◀
- Carefully pull brake calipers back to remove them from the brake rotors.
- Place motorcycle on a suitable auxiliary stand.

– with center stand OE

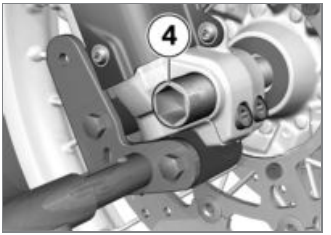
- Make sure ground is level and firm and place motorcycle on center stand.◁
- Raise front of motorcycle until the front wheel can turn freely. To lift motorcycle, BMW Motorrad recommends using BMW Motorrad front wheel stand.
- Mount front wheel stand (➠ 93).



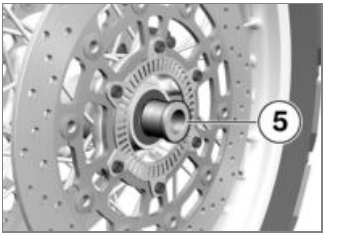
- Unscrew right-hand axle clamping screws **1**.



- Remove axle screw **2**.
- Unscrew left-hand axle clamping screws **3**.
- Push axle as far as possible toward inside.



- Remove axle **4** while supporting wheel.
- Do not remove grease on axle.
- Roll front wheel forward to remove.



- Remove spacing bushing **5** on left side from wheel hub.

Installing front wheel

WARNING

Use of a wheel which does not comply with series specifications

Malfunctions during control interventions by ABS and ASC

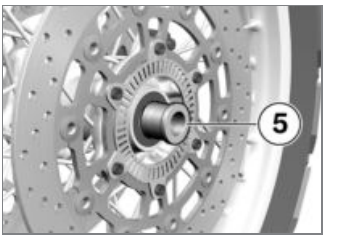
- Please see the information on the effect of wheel sizes on the ABS and ASC chassis control systems at the beginning of this chapter.◀

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.◀



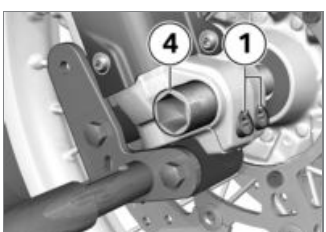
- Mount spacing bushing **5** on left side on wheel hub.

ATTENTION

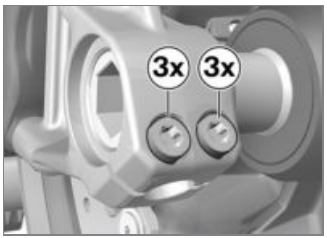
Front wheel installation opposite the running direction

Accident hazard

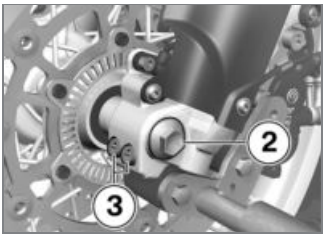
- Observe running direction arrows on tire or rim.◀
- Roll front wheel into front suspension while guiding brake disk between brake pads of left-hand brake caliper.



- Lift front wheel and insert axle **4** as far as possible.
- Tighten right-hand axle clamping screws **1** with specified torque or use suitable tool to brace for next work step.



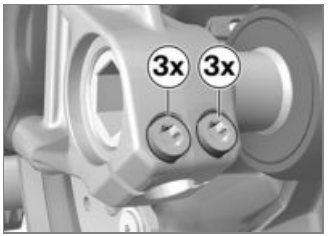
Pinch bolt on quick-release axle
Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time
14 lb/ft (19 Nm)



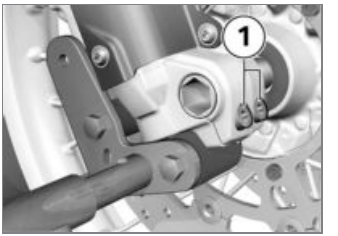
- Install the axis screw **2** with torque.

Axle screw in front quick-release axle
22 lb/ft (30 Nm)

- Tighten left-hand axle clamping screws **3** to appropriate torque.



Pinch bolt on quick-release axle
Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time
14 lb/ft (19 Nm)

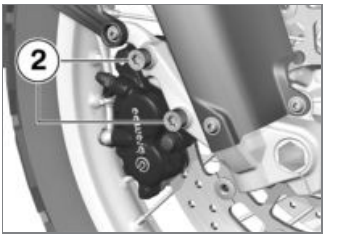


- If they have been tightened, loosen right-hand axle clamping screws **1** again.
- Remove front wheel stand.

– without center stand OE

- Remove auxiliary stand.◁

- Place right-hand brake caliper on brake disk.

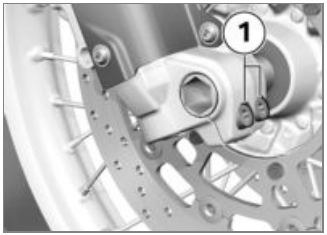


- Tighten screws **2** to the specified tightening torque.

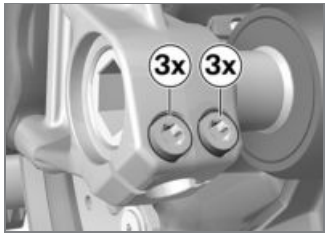
Brake caliper on telescopic forks
28 lb/ft (38 Nm)

- Insert ABS sensor in its socket and install screw **1**.
- Remove adhesive tape from wheel rim.
- Operate brakes several times until brake pads contact brake disk.

- Firmly compress the spring forks several times.



- Tighten right axle clamping screws **1** to specified tightening torque.



Pinch bolt on quick-release axle
Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time
14 lb/ft (19 Nm)

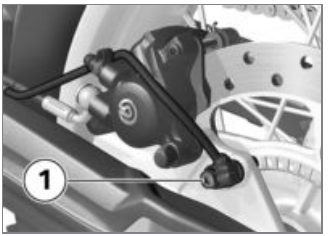
Removing rear wheel

- Make sure ground is level and firm and place motorcycle on a suitable auxiliary stand.

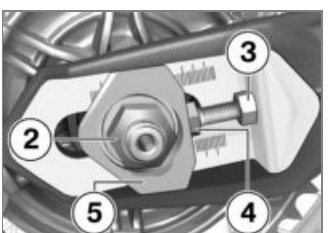
– with center stand[OE]

- Place motorcycle on center stand, ensuring that it is rest-

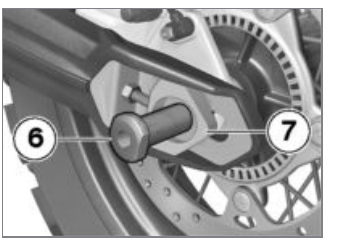
ing on a firm and level support surface.◁



- Remove the screw **1** and take the pulse sensor out of the bore hole.



- Remove axle nut **2**.
- Loosen lock nuts **3** on left and right by turning counterclockwise.
- Loosen adjusting screws **4** on left and right by turning clockwise.
- Remove adjusting plate **5** and slide axle as far as possible toward inside.



- Remove quick-release axle **6** and take out adjusting plate **7**.

- Roll rear wheel as far forward as possible and remove chain **8** from chain sprocket.
- Roll rear wheel toward rear out of swinging arm.

NOTICE

The chain sprocket and the spacer sleeves on the left and right are loosely inserted in the wheel. Exercise care during the removal, in order that the parts are not damaged or lost.◀

Installing 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.◀

ATTENTION

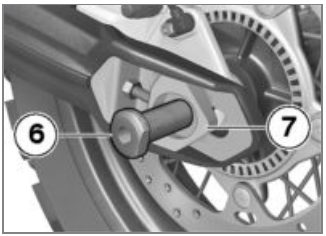
Tightening of screwed connections with incorrect tightening torque

Damage or loosening of screwed connections

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

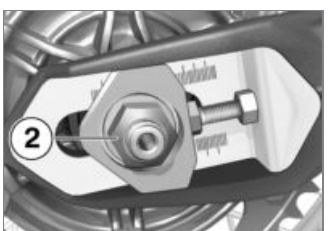
- Roll rear wheel into swing arm while guiding brake rotor between brake pads.

- Roll rear wheel as far forward as possible and lay chain **8** on chain sprocket.



- Mount left-hand adjusting plate **7** in swing arm and install quick-release axle **6** in brake caliper and rear wheel.
- Make sure that axle fits in cutout of adjusting plate.

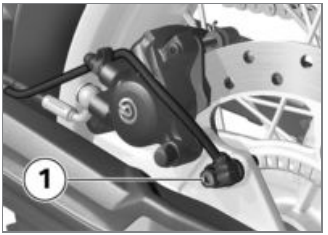
- Insert right-hand adjusting plate **5**.



- Install axle nut **2** but do not yet tighten it down.

– without center stand[OE]

- Remove auxiliary stand.◁



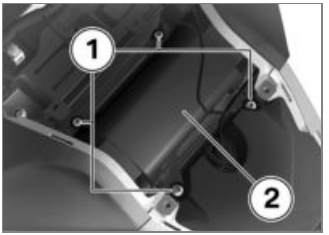
- Insert the pulse sensor in the bore hole and install the screw **1**.

- Adjusting chain sag (➠ 127).

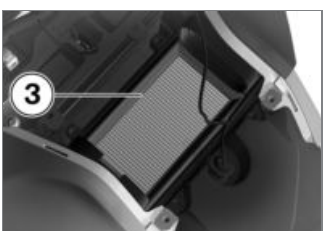
Air filter

Removing air filter

- Removing center fairing panel (➠ 119).

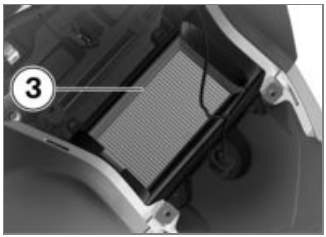


- Remove four screws **1**.
- Remove air filter cover **2**. For this purpose, slightly push the fairing side panels outwards.

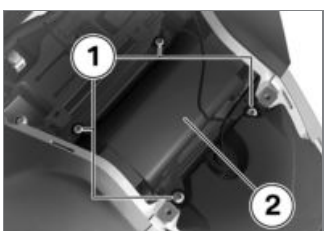


- Take out air filter **3**.

Install air cleaner



- Install air filter **3**.

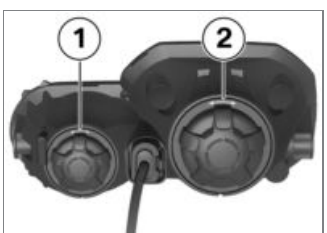


- Mount the air filter cover **2**. For this purpose, slightly push the fairing side panels outwards.
- Install screws **1** with washers.
- Installing center fairing panel (➠ 119).

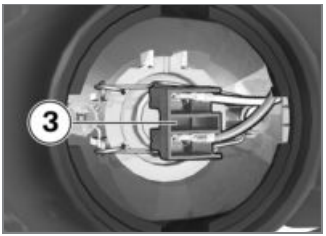
Light sources

Replacing light sources for low-beam and high-beam headlight

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.



- Remove cover **1** for high-beam headlight or cover **2** for low-beam headlight.



- Open connector **3**.

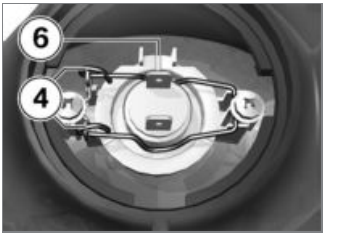
- Remove spring strap **4** from detents and fold to side.
- Take out bulb **5**.

- Replace defective bulb.

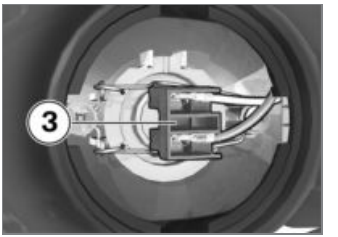
Bulb for high-beam headlight
H7 / 12 V / 55 W

Bulbs for low-beam headlight
H7 / 12 V / 55 W

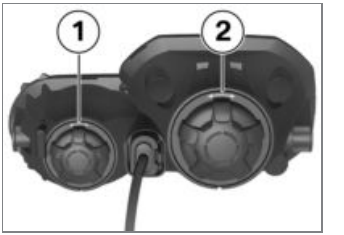
- To avoid contamination on the bulb's glass surface, never touch or hold the bulb anywhere other than on its metal socket base.



- Insert bulb while ensuring correct alignment at Position **6**.
- Close the spring clamp **4** and lock it in place.



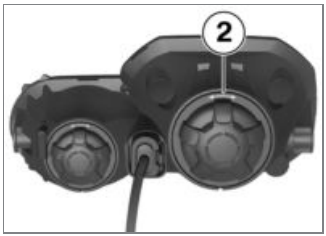
- Close connector **3**.



- Install cover **1** or cover **2**.

Replacing light source for parking light

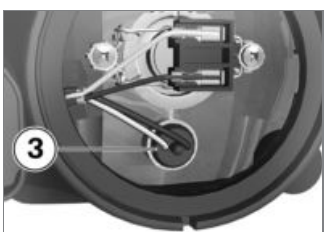
- Park motorcycle, ensuring that support surface is firm and level.
- Switch off ignition.



- Remove cover **2**.

- Remove light source from socket.

- Press light source into socket.

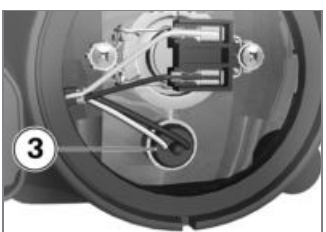


- Remove bulb holder **3** from the headlight housing.

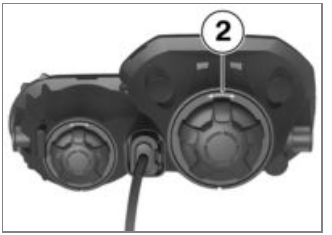
- Replace defective light source.

	Bulb for parking light
W5W / 12 V / 5 W	

- To protect glass on new bulb against contamination, always use a clean, dry cloth to hold it; do not touch with bare fingers.



- Insert bulb holder **3** into the headlight housing.



• Install cover **2**.

Replace the LED for brake and rear light

• The LED tail light can only be completely replaced. For details please contact a specialist service facility, preferably an authorized BMW Motorrad Retailer.

Replacing front and rear turn indicator light sources

– with LED turn indicators OE

• LED turn indicators can be completely replaced only. Please contact a specialist service facility for this purpose, preferably an authorized BMW Motorrad retailer.◁

– without LED turn indicators OE

• Park motorcycle, ensuring that support surface is firm and level.

• Switch off ignition.

• Remove the screw **1**.

• Pull glass on screw connection side out of mirror housing.

- Remove bulb **2** from light housing by turning it counterclockwise.
- Replace defective light source.

Bulbs for flashing turn indicators, front
R10W / 12 V / 10 W
– with LED turn indicators[OE]
LED◁

- To protect glass on new bulb against contamination, always use a clean, dry cloth to hold it; do not touch with bare fingers.

- Install the light source **2** in the light housing by turning it clockwise.

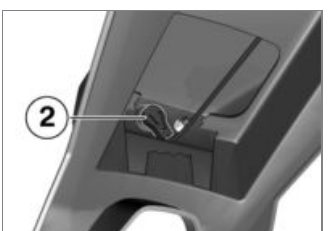
- Insert inside end of lens into light housing and close it.

- Fit the screw **1**.◁

Replacing license-plate bulb

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.

- Remove screw **1** of mudguard cover and take off cover.



- Pull bulb socket **2** out of bulb holder.

- Pull bulb out of socket.
- Replace defective bulb.

	Light source for license plate light
W5W / 12 V / 5 W	

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

- Mount bulb in socket.

- Insert bulb socket **2** into bulb holder.

- Position mudguard cover and install screw **1**.

Replace auxiliary driving light

– with additional LED headlight OA

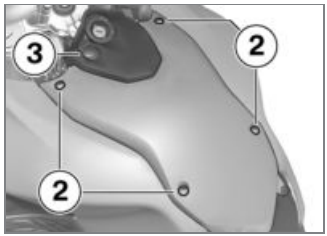
- The auxiliary driving light can only be completely replaced. Please contact a specialist service facility for this purpose, preferably an authorized BMW Motorrad retailer.

Fairings and panels

Removing center fairing panel

- Remove seat (➠ 50).

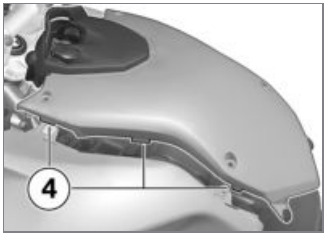
- Remove screws **1** on left and right.



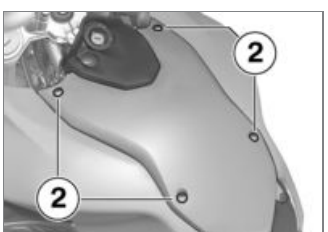
- Remove four screws **2**.
- Disconnect plug connection at onboard socket **3**.
- Remove center fairing panel.

Installing center fairing panel

- Connect plug connection to onboard socket.



- Lay on center fairing panel. Make sure that three tabs **4** on left and right grip into side panels.



- Install four screws **2**.

- Install screws **1** on left and right.
- Install seat (➠ 50).

Jump-starting

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.◀

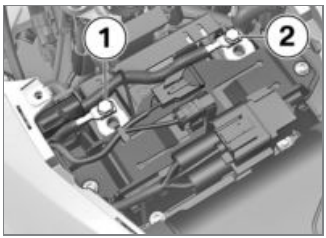
ATTENTION

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.◀
- Removing center fairing panel (➠ 119).
- Do not disconnect the battery from the onboard electrical sys-

tem when jump-starting the engine.



- First connect positive terminal of the discharged battery to positive terminal on the donor battery with red jumper cable (positive terminal on this motorcycle: position **2**).
- Connect black jumper cable to negative terminal of donor battery and then to negative terminal of the discharged battery (negative terminal on this motorcycle: position **1**).

NOTICE

As an alternative to the negative battery terminal, the spring strut bolt can also be used.◀

- Allow engine on support motorcycle to run while jump-starting.
- Start engine of motorcycle with discharged 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.
- Allow both engines to run for several minutes before disconnecting the jumper cables.
- Disconnect the jump leads from negative terminal first, then disconnect from positive terminal.

NOTICE

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

- Installing center fairing panel (➠ 119).

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.
– Be sure to read and comply with the instructions for charg-

ing the battery 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 connected battery

- Remove devices connected to onboard power sockets.

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.◀

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.◀

ATTENTION

Charging a fully discharged battery via the power socket or additional onboard socket
Damage to the motorcycle's electronics
- Always charge a fully discharged battery (battery voltage below 9 V; with the ignition switched on, the indicator lights and the multifunction display remain off) directly at the poles of the **disconnected** battery.◀
- Charge disconnected battery via onboard socket.

NOTICE

The motorcycle's onboard electronics know when the battery is fully charged. The onboard socket is switched off when this happens.◀

- Comply with operating instructions of charger.

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.◀

Charging disconnected battery

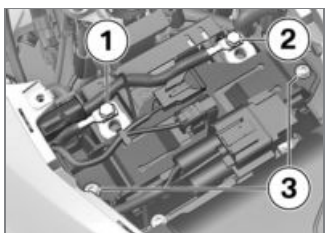
- Charge battery using a suitable charger.
- Comply with operating instructions of charger.
- After charging, remove terminal clamps of the charger from the battery terminals.

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.◀

Removing battery

- Remove seat (➠ 50).
- Removing center fairing panel (➠ 119).
- Park motorcycle, ensuring that support surface is firm and level.
  – with anti-theft alarm system (DWA)[OE]
- Switch off anti-theft alarm system if necessary.◁
- Switch off ignition.



ATTENTION

Incorrect battery disconnection

Danger of short circuit

- Follow the disconnection sequence.◀
- First remove negative battery cable **1**.

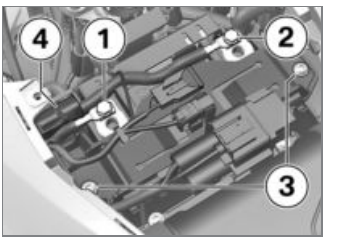
- Then remove positive battery cable **2**.
- Remove screws **3** on the left and right and take off battery carrier forward from the battery.
- Lift battery up and out, using tilting movements if it is difficult to move.

Install battery

NOTICE

If the motorcycle was disconnected from the battery for a longer time, the current date must be entered in the instrument cluster to ensure the proper operation of the service display.
Consult a certified service facility, preferably an authorized BMW Motorrad retailer, for setting of the date.◀

- Switch off ignition.
- Insert battery into battery compartment, with positive terminal on right in direction of travel.



- Lay on battery carrier while ensuring correct routing of cables to position **4**.
- Install screws **3** on left and right.

ATTENTION

Incorrect battery connection
Danger of short circuit
- Follow the installation sequence.◀

- Install positive battery cable **2**.
- Install negative battery cable **1**.

– with anti-theft alarm system (DWA)[OE]
- Switch on the alarm system if necessary.◁

- Installing center fairing panel (➠ 119).
- Install seat (➠ 50).
- Set clock (➠ 42).

Fuses

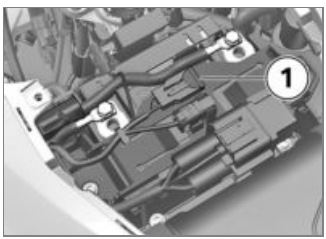
Replacing main fuse

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, ensuring that support surface is firm and level.
- Removing center fairing panel (➠ 119).



- Replace defective fuse **1**.

NOTICE

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

Main fuse	
30 A (Voltage regulator)	

- Installing center fairing panel (➠ 119).

Diagnostic connector

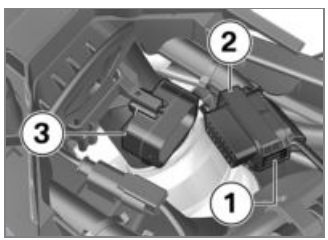
Removing the diagnostic connector

CAUTION

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.◀
- Remove seat (➠ 50).

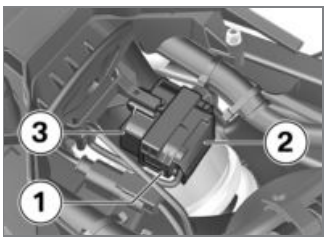


- Press locks **1** on both sides.
- Remove the diagnostic connector **2** from the bracket **3**.

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

Secure the data link connector

- Disconnect the diagnosis and information system interface.



- Seat diagnostic connector **2** into the bracket **3**.

» The locks **1** engage.

- Install seat (➠ 50).

Chain

Lubricating chain

ATTENTION

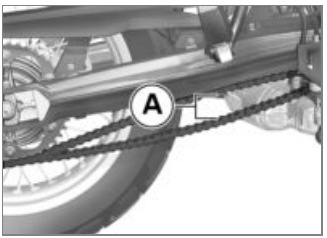
Insufficient cleaning and lubrication of the drive chain

Increased wear

- Clean and lubricate the drive chain regularly.◀
- Lubricate drive chain at least every 600 miles (1000 km). After driving though water or dust and dirt, carry out lubricate earlier accordingly.
- Switch off ignition and engage Neutral.
- Clean drive chain with suitable cleaning agent, dry and apply chain lubricant.
- Wipe off excess lubricant.

Check chain sag

- Make sure ground is level and firm and park motorcycle.
- Turn the rear wheel until the position with the lowest chain sag is reached.



- Press chain upward and downward using a screwdriver and measure difference **A**.

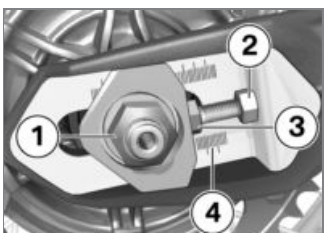
Chain sag
1.4...1.8 in (35...45 mm) (Motorcycle unloaded on side stand)

If the measured value is outside the approved tolerance:

- Adjusting chain sag (➠ 127).

Adjusting chain sag

- Make sure ground is level and firm and park motorcycle.



- Loosen quick-release axle nut **1**.
- Loosen lock nuts **2** on left and right.
- Adjust chain sag with adjusting screws **3** on left and right.
- Check chain sag (➠ 126).
- Ensure that the figures **4** indicating the adjustment settings are identical on left and right.
- Tighten locknuts **2** on left and right with appropriate torque.

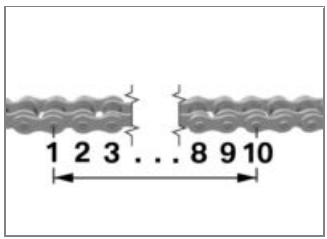
Locknut of drive-chain tensioning screw
14 lb/ft (19 Nm)

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

Rear-wheel quick-release axle in swinging arm
74 lb/ft (100 Nm)

Check chain wear

- Make sure ground is level and firm and park motorcycle.
- Engage 1st gear.
- Rotate rear wheel toward front of vehicle until the chain is tensioned.
- Determine chain length below the rear wheel swinging arm with 9 rivets.



Permissible chain length
max 5.7 in (max 144.30 mm) (Measured over the **center** of 10 rivets, chain tensioned)

If the chain has reached the maximum approved length:

- Contact an authorized service facility, preferably an authorized BMW Motorrad dealer.

Accessories

General notes

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Your authorized BMW Motorrad retailer will be happy to provide qualified advice on the selection of genuine BMW parts and accessories as well as other BMW-approved products.

These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for these products.

BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.

Observe the information on the importance of wheel sizes for chassis control systems (➠ 104).

⚠ 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.◀

Whenever you are planning modifications, comply with all the legal requirements. The motorcycle must not violate the regulations governing motorcycle approval for highway use applicable in your own country.

Onboard power sockets

Information on using onboard power sockets:

Automatic deactivation

Onboard sockets are switched off automatically under the following conditions:

– If the battery voltage falls below the level required to start the vehicle.
– If the maximum load specified in the technical data is exceeded.
– During starting.

Operating electrical accessories

Additional devices connected to onboard sockets can only be put into operation when the ignition is switched on. The accessory remains operational if the ignition is subsequently switched off. Onboard sockets are switched off approx. 15 minutes after switching off the ignition to reduce the strain on the onboard electrical system.
Additional devices with low power consumption are possibly not detected by the vehicle electronics. In these cases, onboard sockets are already switched off shortly after the ignition is switched off.

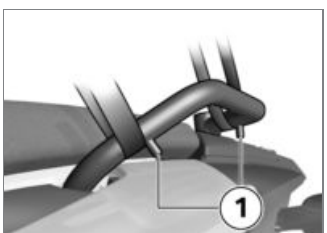
Cable routing

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

– Cables must not hinder the rider's movement.
– Cables must not restrict the steering angle and driving characteristics.
– Cables must not become trapped.

Luggage

Lashing down luggage



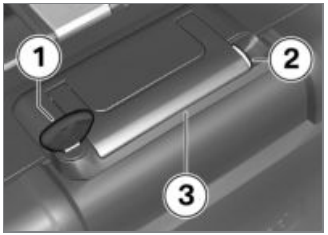
- Route luggage belts between motorcycle and along anti-slip locks **1**.

- Route luggage belt **2** as shown using example of a luggage roll.
- Check piece of luggage for secure hold.

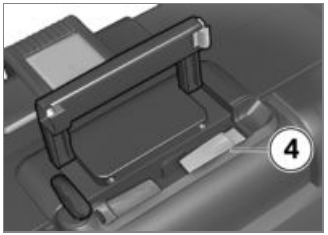
Case

Open case

– with case OA



- Turn key **1** in case lock perpendicular to direction of travel.
- Hold down yellow locking device **2** and fold out carrying handle **3**.



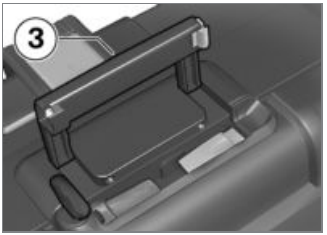
- Press yellow button **4** downward while opening case lid.

Close case

– with case [OA]

- Turn key in case lock perpendicular to direction of travel.
- Close case lid.

» The lid clicks audibly into place.



ATTENTION

Folding down the carrying handle when the case is locked

Damage to the locking tab

- Before folding down the carrying handle, make sure that the slot of the case lock is perpendicular to the direction of travel.◀
- Fold carrying handle **3** down.
- Turn key in case lock in the direction of travel and remove.

Adjust case volume

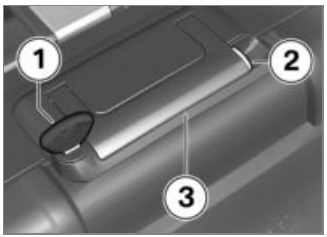
– with case OA

- Open and empty case.

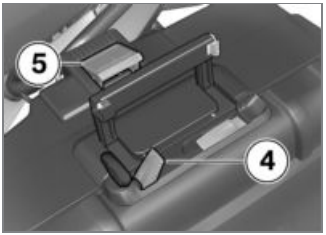
- Engage pivot lever **1** in upper end position to obtain smaller volume.
- Engage pivot lever **1** in lower end position to set larger volume.
- Close case.

Remove case

– with case OA



- Turn key **1** in case lock perpendicular to direction of travel.
- Hold down yellow locking device **2** and fold out carrying handle **3**.



- Pull up red release lever **4**.

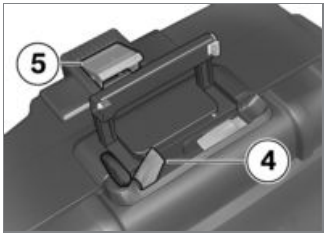
» Locking flap **5** pops up.

- Fold locking flap all the way open.
- Remove case from mount by its handle.

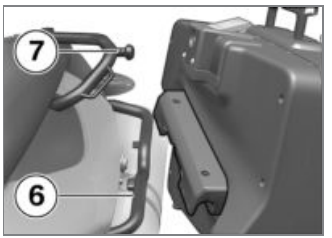
Mounting case

– with case OA

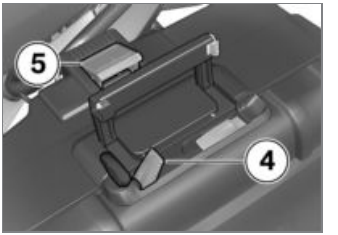
- Turn key in case lock perpendicular to direction of travel.



- Fold up locking flap **5** completely by pulling red release lever **4** upward if necessary.



- Insert case in case carrier **6**, then swing as far as possible onto mount **7**.



- Press locking flap **5** downward as far as possible and hold in place.
- Press red release lever **4** downward.

» The locking flap **5** clicks into place.

ATTENTION

Folding down the carrying handle when the case is locked

Damage to the locking tab

- Before folding down the carrying handle, make sure that the slot of the case lock is perpendicular to the direction of travel.◀
- Fold carrying handle down.
- Turn key in direction of travel and remove.

Maximum payload and maximum speed

Observe maximum payload and maximum speed as indicated on label in case.

If you cannot find your combination of motorcycle and case on the label, contact your BMW Motorrad Retailer.

The following values apply to the combination described here:

Maximum speed for riding with case
max 112 mph (max 180 km/h)

Payload per case
max 22 lbs (max 10 kg)

Topcase

Open the Topcase

– with Topcase[OA]

- Turn key **1** in Topcase lock into vertical position.
- Hold down yellow locking device **2** and fold out carrying handle **3**.

- Press yellow button **4** toward front while pressing Topcase lid upward.

Closing the Topcase

– with Topcase[OA]

- Turn key in Topcase lock into vertical position.

- Close Topcase lid with firm pressure.

ATTENTION

Folding down the carrying handle when the case is locked

Damage to the locking tab

- Before folding down the carrying handle, make sure that the slot of the topcase lock is vertical.◀
- Fold carrying handle **3** down.

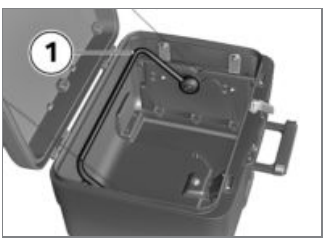
» Carrying handle audibly engages.

- Turn key in Topcase lock into horizontal position and remove.

Adjusting Topcase volume

– with Topcase OA

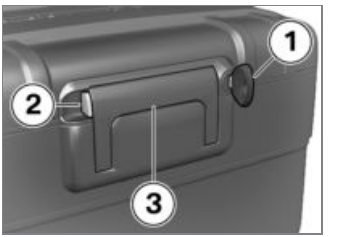
- Open and empty Topcase.



- Engage pivot lever **1** in front end position to set larger volume.
- Engage pivot lever **1** in rear end position to set smaller volume.
- Close Topcase.

Removing topcase

– with Topcase OA



- Turn key **1** in topcase lock into vertical position.
- Hold down yellow locking device **2** and fold out carrying handle **3**.

- Pull red release lever **4** toward rear.

» Locking flap **5** pops up.

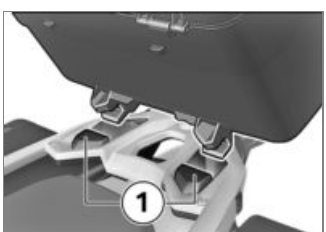
- Fold locking flap **5** all the way open.
- Remove topcase from mounting by its handle.

Mounting the topcase

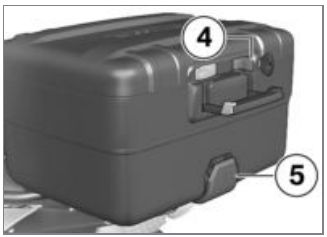
– with Topcase OA

- Turn key in Topcase lock into vertical position.

- Fold up locking flap **5** completely by pulling red release lever **4** toward rear if necessary.



- Hook topcase into front holders **1** of topcase retaining plate.
- Press topcase onto topcase retaining plate at rear.



- Fold locking flap **5** closed as far as possible and hold in place.
- Press red release lever **4** toward front.

» Locking flap clicks into place.

ATTENTION

Folding down the carrying handle when the case is locked

Damage to the locking tab

- Before folding down the carrying handle, make sure that the slot of the topcase lock is vertical.◀
- Fold carrying handle down.
- Turn key into horizontal position and remove.

Maximum payload and maximum speed

Observe maximum payload and top speed as indicated on label in Topcase.

If you cannot find your combination of motorcycle and topcase on the label, contact your BMW Motorrad Retailer.

The following values apply to the combination described here:

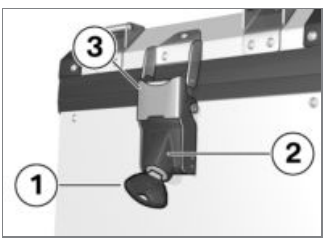
Maximum speed limit for driving with a Topcase
max 112 mph (max 180 km/h)

Payload of Topcase
max 11 lbs (max 5 kg)

Aluminum case

Open case

– with aluminum case OA



- Turn key **1** counterclockwise.

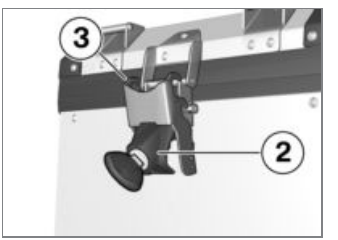
NOTICE

The case cover can be opened with both the left and the right latch.◀

- Press lock housing **2** upward to release locking claw **3**.
- Pull locking claw **3** to side and open cover lid.

Close case

– with aluminum case OA



- Close case lid.
- Position locking claw **3** on lid.
- Press lock housing **2** downward while making sure that claw grips into lid.
- To lock, turn key clockwise and remove.

Removing case lid

– with aluminum case OA

- Open one lock of case lid.

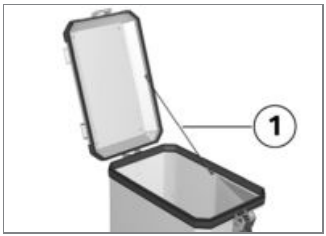
- Detach lid retaining cable **1**.
- Close case lid.
- Open second latch of case lid.
- Remove case lid.

Installing case lid

– with aluminum case OA

- Lay case lid on case.
- Close one lock of case lid.

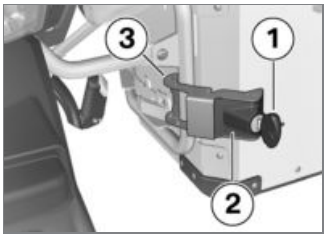
- Open case lid toward closed side.



- Hook in lid retaining cable **1**.
- Close case lid.
- Close second lock of case lid.

Remove case

– with aluminum case[OA]



- Turn key **1** counterclockwise.
- Press lock housing **2** to side to release locking claw **3**.
- Pull locking claw **3** to side while holding case in place.

⚠ CAUTION

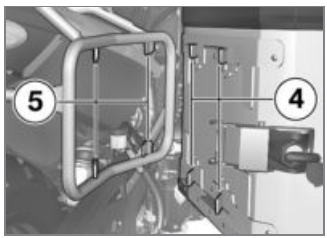
Heating of the left-hand case and case carrier during long journeys

Burn hazard

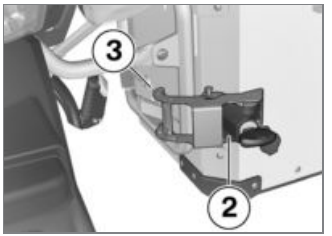
- Allow case and case carrier to cool down before removing case.◀
- Pull case back as far as possible and remove toward outside.

Mounting case

– with aluminum case[OA]



- Position case on case carrier and slide toward front so that mounts on case carrier **5** and on case **4** mesh.



- Position locking claw **3** on case carrier while holding case in place.
- Press lock housing **2** to side while ensuring that claw grips around bracket.
- Turn key clockwise and remove.

Maximum payload and maximum speed

Observe maximum payload and maximum speed as indicated on label in case.
If you cannot find your combination of motorcycle and case on the label, contact your BMW Motorrad Retailer.
The following values apply to the combination described here:

Maximum speed for riding with case
max 112 mph (max 180 km/h)

Payload per case
max 22 lbs (max 10 kg)

Aluminum Topcase

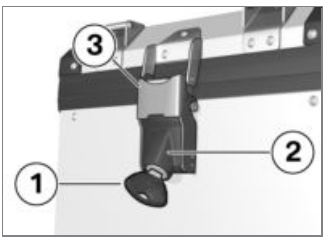
Topcase when driving offroad

– with aluminum Topcase OA

When driving offroad, the Topcase should be removed or the back padding available as an optional accessory should be used.

Open the Topcase

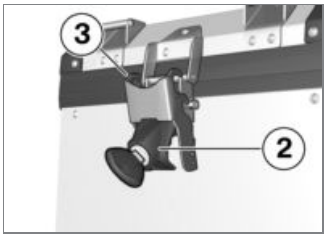
– with aluminum Topcase OA



- Turn key **1** counterclockwise.
- Press lock housing **2** upward to release locking claw **3**.
- Pull locking claw **3** toward rear and open lid.

Closing the topcase

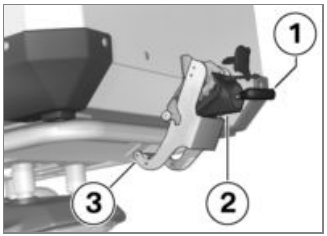
– with aluminum Topcase OA



- Close topcase lid.
- Position locking claw **3** on lid.
- Press lock housing **2** downward while making sure that claw grips into lid.
- To lock, turn key clockwise and remove.

Removing Topcase

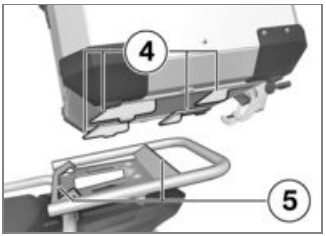
– with aluminum Topcase[OA]



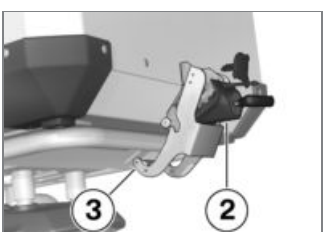
- Turn key **1** counterclockwise.
- Press lock housing **2** downward to release locking claw **3**.
- Pull locking claw **3** back.
- First pull Topcase toward rear and then remove upward.

Mounting the Topcase

– with aluminum Topcase[OA]



- Position Topcase on Topcase carrier and slide forward so that mounts on Topcase carrier **5** and on Topcase **4** mesh.



- Position locking claw **3** on Topcase carrier.

- Press lock housing **2** upward while making sure that claw grips around carrier.
- To lock lock, turn key clockwise and remove.

Maximum payload and maximum speed

Observe maximum payload and top speed as indicated on label in Topcase.

If you cannot find your combination of motorcycle and topcase on the label, contact your BMW Motorrad Retailer.

The following values apply to the combination described here:

Maximum speed limit for driving with a Topcase
max 112 mph (max 180 km/h)

Payload of Topcase
max 11 lbs (max 5 kg)

Additional headlight

– with additional LED headlight OA

Operating auxiliary headlight

NOTICE

The auxiliary headlights are approved for use as fog lights and may only be used in poor weather conditions. Comply with the country-specific road traffic regulations.◀

- Start engine.

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

The indicator lamp of the auxiliary headlights is switched on.

» If the engine is switched off while the auxiliary headlights are on, then they will automatically resume operation when the engine is restarted.

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

Care

Care products

BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. BMW 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.◀

Washing your motorcycle

BMW Motorrad recommends that you use BMW insect remover to soften and wash off insects and stubborn dirt on painted parts prior to washing the motorcycle.

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

Make sure that the motorcycle 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 seals, to hydraulic brake system, to the electrical system and the seat

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

NOTICE

Cases and topcases made of aluminum have no surface coating. The best possible appearance is preserved with the following care: Remove road salt and corrosive deposits immediately with cold water after completing the trip.◀

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.◀

Fairings and Panels

Clean body panels with water and BMW plastic cleaner.

Windshields and lenses are manufactured 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.◀

Chrome

Especially in the case of road salt, carefully clean chrome parts with plenty of water and BMW auto shampoo. Use chrome 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 components with water or BMW rubber protection coating agent.

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.◀

Paint care

Washing the vehicle on a regular basis will help prevent long-term damage from harmful substances, and is especially important when your vehicle is used in areas with high levels of air pollution or where natural contaminants such as tree resin and pollen are present.
However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilled fuel, oil, grease and brake fluid as well as bird droppings. BMW Car Polish and BMW Paint Cleaner are recommended for this procedure.
Contamination on the paint finish is particularly easy to see after the vehicle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar spots with BMW Tar Remover. Then add a protective wax coating to the paint at these locations.

Protective wax coating

To protect the paint finish of your motorcycle, BMW Motorrad recommends the use of BMW Car Wax or agents that contain carnauba wax or synthetic waxes. When water fails to form beads on the paint surface this indicates it is time to apply wax.

Store motorcycle

- Clean motorcycle.
- Completely fill the motorcycle's fuel tank.
- Removing battery (➠ 123).
- Spray the brake and clutch lever, and the center and side stand pivots with a suitable lubricant.
- Protect metal and chrome-plated parts with an acid-free grease (Vaseline).
- Park the motorcycle in a dry space in such a way that both wheels are under no load (preferably by using the front and rear-wheel stands available from BMW Motorrad).

Return motorcycle to use

- Remove the protective wax coating.
- Clean motorcycle.
- Install battery (➠ 124).
- Observe checklist (➠ 73).

Technical data

Troubleshooting chart

The engine does not start:

Possible cause	Remedy
Side stand extended and gear engaged	Engage neutral or fold up the side stand.
Gear engaged and clutch not disengaged	Place transmission in neutral or disengage clutch.
No fuel in tank	Refuel.
Battery drained	Charge the connected battery.
Overheating protection for starter motor has activated. Starter motor can only be actuated for a limited period.	Leave the starter motor to cool down for around 1 minute until it becomes available again.

Threaded fasteners

Front wheel	Value	Valid
Brake caliper on telescopic forks		
M10 x 40	28 lb/ft (38 Nm)	
Pinch bolt on quick-release axle		
M8 x 25	**Tighten the screws 6 times, alternating between one and the other each time**	
	14 lb/ft (19 Nm)	
Axle screw in front quick-release axle		
M14 x 1.5	22 lb/ft (30 Nm)	

Rear wheel	Value	Valid
Locknut of drive-chain tensioning screw		
M8	14 lb/ft (19 Nm)	
Rear-wheel quick-release axle in swinging arm		
M16 x 1.5	74 lb/ft (100 Nm)	

Mirror arm	Value	Valid
Locknut (mirror) on clamping piece		
M10 x 1.5 Multi-Wax Spray	15 lb/ft (20 Nm)	
Clamping piece (mirror) on clamping block		
M10 x 1.5	22 lb/ft (30 Nm)	

Fuel

Recommended fuel quality	Super unleaded (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI
– with unleaded regular gasoline[OE]	Regular unleaded (minor restrictions with regard to power and fuel consumption) (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 4.2 gal (Approx. 16 l)
Reserve fuel quantity	min 2.9 quarts (min 2.7 l)

Engine oil

Engine oil, capacity	Approx. 3.1 quarts (Approx. 2.9 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

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Oil additives	BMW Motorrad does not recommend the use of oil additives, as these can adversely affect the operation of the clutch. Ask your BMW Motorrad retailer for engine oils suitable for your motorcycle.

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Engine

Engine number location	On crankcase at lower right
Engine design	Water-cooled 2-cylinder four-stroke engine with four rocker-arm-actuated valves per cylinder, two overhead camshafts and dry-sump lubrication
Displacement	798 cc (798 cm^3)
Cylinder bore	3.2 in (82 mm)
Piston stroke	3 in (75.6 mm)
Compression ratio	12:1
Rated output	86 hp (63 kW), at engine speed: 7500 min^{-1}
– with unleaded regular gasoline OE	83 hp (61 kW), at engine speed: 7500 min^{-1}
– with power reduction to 35 kW OE	48 hp (35 kW), at engine speed: 7000 min^{-1}

Torque	61 lb/ft (83 Nm), at engine speed: 5750 min^{-1}
– with unleaded regular gasoline[OE]	60 lb/ft (81 Nm), at engine speed: 5750 min^{-1}
– with power reduction to 35 kW[OE]	46 lb/ft (63 Nm), at engine speed: 4000 min^{-1}
– with power reduction to 35 kW[OE] – with unleaded regular gasoline[OE]	45 lb/ft (61 Nm), at engine speed: 4000 min^{-1}
Maximum engine speed	max 9000 min^{-1}
Idle speed	1250^{+50} min^{-1}, with motorcycle stopped
Emission standard	EU 4

Clutch

Clutch design	Multi-disk oil-bath clutch

Transmission

Transmission design	Claw-shifted 6-speed manual transmission integrated in engine housing
Transmission gear ratios	1.943 (35/68 teeth), primary gear ratio 1:2.462 (13/32 teeth), 1st gear 1:1.750 (16/28 teeth), 2nd gear 1:1.381 (21/29 teeth), 3rd gear 1:1.174 (23/27 teeth), 4th gear 1:1.042 (24/25 teeth), 5th gear 1:0.960 (25/24 teeth), 6th gear

Rear-wheel drive

Type of final drive	Chain drive
Type of rear suspension	Two-arm cast aluminum swinging arm
Number of teeth of rear-wheel drive (Pinion/ sprocket)	16/42

Frame

Frame design	Lattice-tube frame
Location of type plate	Top front steering head
Location of the vehicle identification number	Frame at front right on steering head

Suspension

Front wheel	
Type of front suspension	Upside-down forks
Spring travel, front	9.1 in (230 mm), on wheel
– with lowered suspension[OE]	7.6 in (192 mm), on wheel
Rear wheel	
Type of rear suspension	Two-arm cast aluminum swinging arm
Type of rear suspension	Directly articulated central spring strut with steplessly adjustable rebound-stage damping
– with Electronic Suspension Adjustment (ESA)[OE]	Directly articulated central spring strut with electronically adjustable rebound-stage damping
Spring travel at rear wheel	8.5 in (215 mm), on wheel
– with lowered suspension[OE]	7.5 in (190 mm), on wheel

Brakes

Front wheel	
Type of front brake	Hydraulically operated twin disc brake with 2-piston floating calipers and floating brake discs
Front brake pad material	Sintered metal
Front brake-disk thickness	0.2 in (5.0 mm), new min 0.18 in (min 4.5 mm), wear limit
Rear wheel	
Type of rear brake	Hydraulically operated disk brake with 1-piston floating caliper and fixed brake disk
Rear brake pad material	Organic
Rear brake-disk thickness	0.2 in (5.0 mm), new min 0.18 in (min 4.5 mm), wear limit
Blow-by clearance of footbrake lever	0.08...0.1 in (2...2.5 mm), between footbrake lever and stop

Wheels and tyres

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	Spoked wheel, MT H2
Front-wheel rim size	2.15" x 21" MTH2
Front tire designation	90/90-21
Load index for front tire	At least 42
Permissible front-wheel imbalance	max 0.2 oz (max 5 g)
Balance weight for front wheel (Half of each weights must be attached on the right and left of the rim respectively)	max 2.8 oz (max 80 g)

Rear wheel	
Rear wheel design	Spoked wheel, MT H2
Rear-wheel rim size	4.25" x 17" MTH2
Rear tire designation	150/70 R 17
Load index for rear tire	At least 66
Permissible rear-wheel imbalance	max 1.6 oz (max 45 g)
Balance weight for rear wheel (Half of each weights must be attached on the right and left of the rim respectively)	max 2.8 oz (max 80 g)
Tire inflation pressure	
Tire pressure, front	31.9 psi (2.2 bar), one-up, with cold tires 36.3 psi (2.5 bar), driver with passenger and/or load, with cold tire
Tire pressure, rear	36.3 psi (2.5 bar), one-up, with cold tires 42.1 psi (2.9 bar), driver with passenger and/or load, with cold tire

Electrical system

Main fuse	30 A, voltage regulator
Fuses	All electrical circuits are electronically protected. If an electronic fuse trips and de-energizes a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.
Electrical rating of onboard sockets	5 A
Battery	
Battery design	AGM (Absorptive Glass Mat) battery.
Battery voltage	12 V
Battery capacity	12 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK DCPR 8 E
Electrode gap of spark plug	0.04...0.04 in (0.9...1.0 mm), new
Light sources	
Bulb for high-beam headlight	H7 / 12 V / 55 W
Bulbs for low-beam headlight	H7 / 12 V / 55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for taillight/brake light	LED

Maximum number of defective LEDS in the tail-lamp	6, brake / taillight
Light source for license plate light	W5W / 12 V / 5 W
Bulbs for flashing turn indicators, front	R10W / 12 V / 10 W
– with LED turn indicators OE	LED
Bulbs for flashing turn indicators, rear	R10W / 12 V / 10 W
– with LED turn indicators OE	LED

Dimensions

Rider's seat height	34.6 in (880 mm), without driver at unladen weight
– with comfort seat OE	35.2 in (895 mm), without driver at unladen weight
– with low seat OE	33.5 in (850 mm), without driver at unladen weight
– with lowered suspension OE	32.3 in (820 mm), without driver at unladen weight
Rider's inside-leg arc, heel to heel	76 in (1930 mm), without driver at unladen weight
– with low seat OE	74 in (1880 mm), without driver at unladen weight
– with comfort seat OE	77.2 in (1960 mm), without driver at unladen weight

– with lowered suspension[OE]	70.5 in (1790 mm), without driver at unladen weight

Weights

Vehicle curb weight	478 lbs (217 kg), DIN unladen weight, ready for road, 90 % full tank of gas, without OE
Maximum payload	500 lbs (227 kg)
– with lowered suspension[OE]	500 lbs (227 kg)

Performance data

Top speed	>124 mph (>200 km/h)
– with power reduction to 35 kW[OE]	103 mph (165 km/h)

Service

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 reliable service and repairs covering every aspect of your BMW.

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 service intervals.

Have all maintenance and repair work confirmed in the "Service" chapter in this manual. Documentation confirming regular maintenance is essential for generous treatment of claims submitted after the warranty period has expired (goodwill).

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

BMW Motorrad Mobility Services

The BMW Motorrad Mobility Services furnish you and your new BMW motorcycle with extra security by offering a wide array of assistance services in the event of a breakdown (BMW Roadside Assistance, breakdown assistance, vehicle recovery and retrieval, etc.).

Contact your authorized BMW Motorrad retailer for additional information on available mobility-maintenance services.

Maintenance procedures

BMW Pre-Delivery Check

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

BMW Running-in Check

The BMW running-in check has to be performed when the vehicle has covered between 300 and 750 mls (500 km and 1,200 km).

BMW Service

BMW Service is carried out once a year. The scope of the services performed may be dependent on the motorcycle owner and the mileage driven. Your BMW Motorrad retailer confirms that the service has been performed and enters the date for the next service.
For riders who drive long distances annually, 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 date, service must be performed sooner.

The service display in the multifunction display reminds you of the next service date approx. one month or 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 motorcycle can be found in the following maintenance schedule:

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

Maintenance schedule

1 BMW running-in check
2 BMW Service Standard Scope
3 Engine oil change with filter
4 Check valve clearance
5 Replace all spark plugs
6 Replacing air cleaner insert
7 Check or replace the air filter element
8 Telescopic fork oil change
9 Change brake fluid in entire system

a annually or every 10000 km (whichever comes first)
b when used off-road, annually or every 10000 km (whichever comes first)
c for the first time after one year, then every two years

Confirmation of maintenance work

BMW Service standard scope

The activities of the BMW Service standard scope are listed in the following. The actual scope of maintenance work applicable for your vehicle may differ.

- Performing the brief test using the BMW Motorrad diagnosis system
- Checking coolant level
- Checking/adjusting clutch play
- Checking front brake pads and brake disks for wear
- Checking rear brake pads and brake disk for wear
- Checking front and rear brake fluid level
- Visually inspect the brake lines, brake hoses and connections
- Check the tension of the spokes and tighten as needed
- Checking tire pressure and tread depth
- Checking and lubricating the chain drive
- Checking side stand for ease of movement
- Checking the center stand for ease of movement
- Checking steering-head bearing
- Checking the lighting and signal system
- Functional check for engine starting suppression
- Final inspection and check for road safety
- Set the service due date and remaining distance before next service
- Checking charging state of battery
- Confirm the BMW service in the vehicle literature

BMW Pre-Delivery Check

Conducted

on_____

Stamp, Signature

BMW Running-in Check

Conducted

on_____

Odometer reading_____

Next service
at the latest
on_____
or, if reached sooner
Odometer reading_____

Stamp, Signature

BMW Service

Conducted

on_____

Odometer reading_____

Next service
at the latest
on_____
or, if reached sooner
Odometer reading_____

_____
Stamp, Signature

Work carried out

	Yes	No
BMW Service standard scope	☐	☐
Engine oil change with filter	☐	☐
Checking valve clearance	☐	☐
Replacing all spark plugs	☐	☐
Replacing air cleaner element	☐	☐
Checking or replacing air cleaner element (maintenance)	☐	☐
Oil change - telescopic fork	☐	☐
Changing brake fluid in entire system	☐	☐

Information

BMW Service

Conducted

on_____

Odometer reading_____

Next service
at the latest
on_____
or, if reached sooner
Odometer reading_____

Work carried out

	Yes	No
BMW Service standard scope	☐	☐
Engine oil change with filter	☐	☐
Checking valve clearance	☐	☐
Replacing all spark plugs	☐	☐
Replacing air cleaner element	☐	☐
Checking or replacing air cleaner element (maintenance)	☐	☐
Oil change - telescopic fork	☐	☐
Changing brake fluid in entire system	☐	☐

Information

_____

Stamp, Signature

BMW Service

Conducted

on_____

Odometer reading_____

Next service
at the latest
on_____
or, if reached sooner
Odometer reading_____

_____
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Changing brake fluid in entire system	☐	☐

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BMW Service

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or, if reached sooner
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or, if reached sooner
Odometer reading_____

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Oil change - telescopic fork	☐	☐
Changing brake fluid in entire system	☐	☐

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Odometer reading_____

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Oil change - telescopic fork	☐	☐
Changing brake fluid in entire system	☐	☐

Information

BMW Service

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at the latest
on_____
or, if reached sooner
Odometer reading_____

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BMW Service standard scope	☐	☐
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Replacing all spark plugs	☐	☐
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Oil change - telescopic fork	☐	☐
Changing brake fluid in entire system	☐	☐

Information

_____

Stamp, Signature

BMW Service

Conducted

on_____

Odometer reading_____

Next service
at the latest
on_____
or, if reached sooner
Odometer reading_____

_____
Stamp, Signature

Work carried out

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Engine oil change with filter	☐	☐
Checking valve clearance	☐	☐
Replacing all spark plugs	☐	☐
Replacing air cleaner element	☐	☐
Checking or replacing air cleaner element (maintenance)	☐	☐
Oil change - telescopic fork	☐	☐
Changing brake fluid in entire system	☐	☐

Information

BMW Service

Conducted

on_____

Odometer reading_____

Next service
at the latest
on_____
or, if reached sooner
Odometer reading_____

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BMW Service standard scope	☐	☐
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Changing brake fluid in entire system	☐	☐

Information

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BMW Service

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on_____
or, if reached sooner
Odometer reading_____

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Checking or replacing air cleaner element (maintenance)	☐	☐
Oil change - telescopic fork	☐	☐
Changing brake fluid in entire system	☐	☐

Information

BMW Service

Conducted

on_____

Odometer reading_____

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at the latest
on_____
or, if reached sooner
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BMW Service standard scope	☐	☐
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Checking valve clearance	☐	☐
Replacing all spark plugs	☐	☐
Replacing air cleaner element	☐	☐
Checking or replacing air cleaner element (maintenance)	☐	☐
Oil change - telescopic fork	☐	☐
Changing brake fluid in entire system	☐	☐

Information

_____

Stamp, Signature

Confirmation of service

The table is intended as proof of maintenance and repair work, the installed optional accessories and any special campaign (recall) work carried out.

Work carried out	Odometer reading	Date

Work carried out	Odometer reading	Date

Appendix

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. ◀

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.

Original Rider's Manual, printed in Germany.

Important data for refueling:

Fuel	
Recommended fuel quality	Super unleaded (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI
– with unleaded regular gasoline[OE]	Regular unleaded (minor restrictions with regard to power and fuel consumption) (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 4.2 gal (Approx. 16 l)
Reserve fuel quantity	min 2.9 quarts (min 2.7 l)
Tire inflation pressure	
Tire pressure, front	31.9 psi (2.2 bar), one-up, with cold tires 36.3 psi (2.5 bar), driver with passenger and/or load, with cold tire
Tire pressure, rear	36.3 psi (2.5 bar), one-up, with cold tires 42.1 psi (2.9 bar), driver with passenger and/or load, with cold tire

You'll find additional information on all aspects of your motorcycle at:
bmw-motorrad.com

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Order No.: 01 40 8 358 567
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