BMW Motorrad

bmw-motorrad.com

The Ultimate Riding Machine

Rider's Manual

F 800 GS

Vehicle data/dealership details

Vehicle data

Model

Vehicle Identification Number

Colour code

Date of first registration

Registration number

Dealership details

Person to contact in Service department

Ms/Mr

Phone number

Dealership address/phone number (company stamp)

Welcome to BMW

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

About this Rider's Manual

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 make the best possible use of all your BMW's technical features. In addition, it contains information on maintenance and care to help you maintain your vehicle's reliability and safety, as well as its value.
This record of the maintenance work you have had performed on your vehicle is a precondition for generous treatment of goodwill claims.
If the time comes to sell your BMW, please remember to hand over this Rider's Manual to the new owner. It is an important part of the vehicle.

Suggestions and criticism

If you have questions concerning your vehicle, your authorised BMW Motorrad dealer will gladly provide advice and assistance.

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

BMW Motorrad.

01 40 8 358 561

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General instructions

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Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and repair work on the vehicle is documented in Chapter 13. This record of the maintenance work you have had performed on your vehicle is a precondition for generous treatment of goodwill claims.
If you sell your BMW some day, please also remember to hand over the rider's manual; it is an important element of your motorcycle.

Abbreviations and symbols

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

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

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

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

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

◄ 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 a passage relating to specific accessories or items of equipment.


Tightening torque.


Technical data.

OE Optional extras.
The vehicles are assembled complete with all the BMW Motorrad optional extras originally ordered.

OA Optional accessories. You can obtain BMW Motorrad optional accessories through your authorised BMW Motorrad dealer; optional accessories have to be retrofitted to the vehicle.

EWS Electronic immobiliser.

DWA Anti-theft alarm (Diebstahlwarnanlage).

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 extras (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 was supplied with equipment not described in this Rider's Manual, you will find these features described in separate manuals.

Technical data

All dimensions, weights and power ratings stated in the Rider's Manual are quoted to the standards and comply with the tolerance requirements of the Deutsches Institut für Normung e.V. (DIN). Versions for individual countries may differ.

Actuality

The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your motorcycle may differ from the information supplied in the Rider's Manual. Nor can BMW Motorrad entirely rule out errors and omissions. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.

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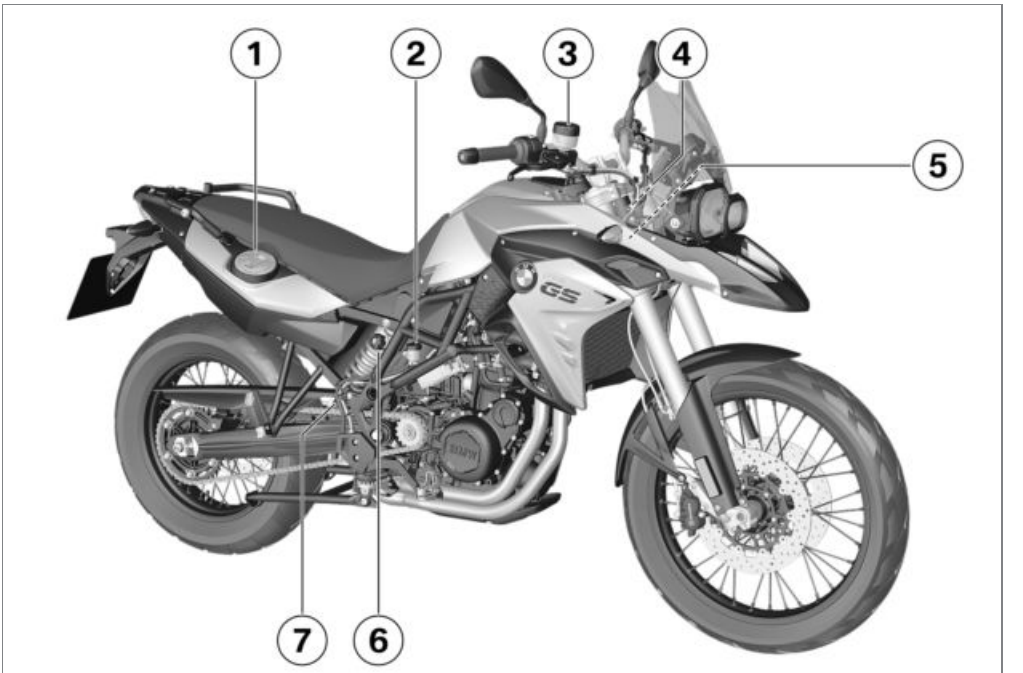
2
3
GS

General view, left side

1 Power socket (➠ 138)
2 Seat lock (➠ 52)
3 Oil filler neck and oil dipstick (➠ 102)

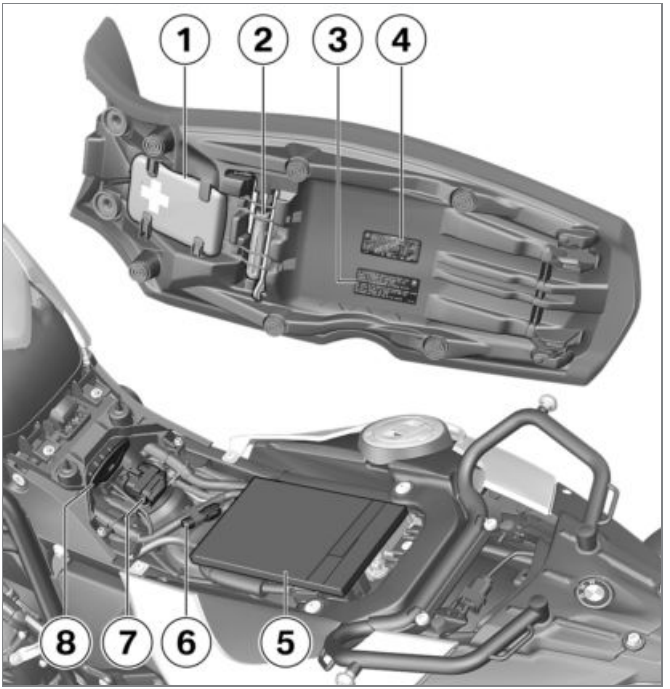

1
2
3
4
5
7
6
GS

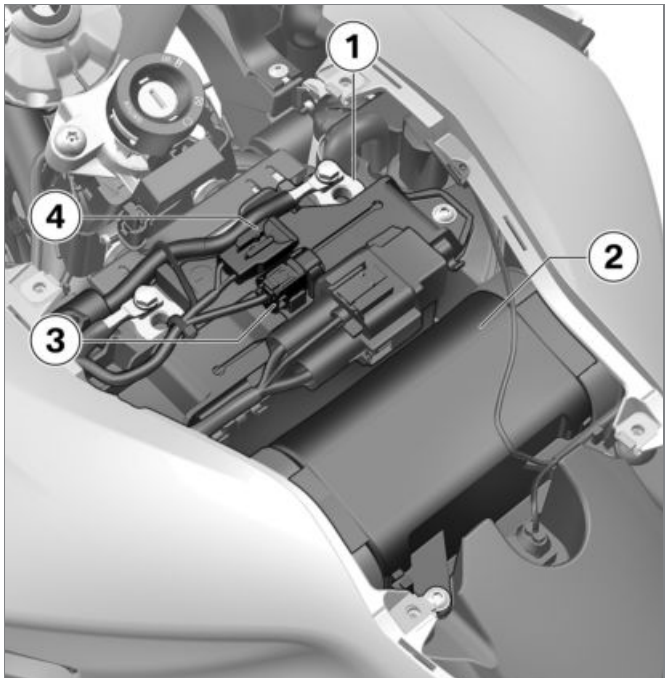
General view, right side

1 Fuel filler neck (➠ 88)
2 Brake-fluid reservoir, rear (➠ 107)
3 Brake-fluid tank, front (➠ 106)
4 Vehicle identification number, type plate (on steering head)
5 Coolant level indicator (behind side trim panel) (➠ 109)
6 Adjuster, spring preload (➠ 71)
7 Adjustment of damping characteristic (➠ 72)

Underneath the seat

1 Stowage
– with first-aid kit OA
First-aid kit
2 Toolkit (➠ 100)
3 Tyre pressure table
4 Payload table
5 Rider's Manual (➠ 6)
6 Connector for encoding plug
– with Pro riding modes OE
Install the encoding plug. (➠ 51).
7 Diagnostic connector (➠ 133)
8 Tool for adjusting spring preload (➠ 71)





Underneath the trim panel

1 Battery (➠ 129)
2 Air filter housing (➠ 120)
3 Socket for optional accessories
4 Fuse (➠ 133).

Multifunction switch, left

1 High-beam headlight and headlight flasher (➠ 41)

2 Select display (➠ 42).
– with on-board computer[OE]
Resetting the average values (➠ 44).

3 Hazard warning lights system (➠ 41)

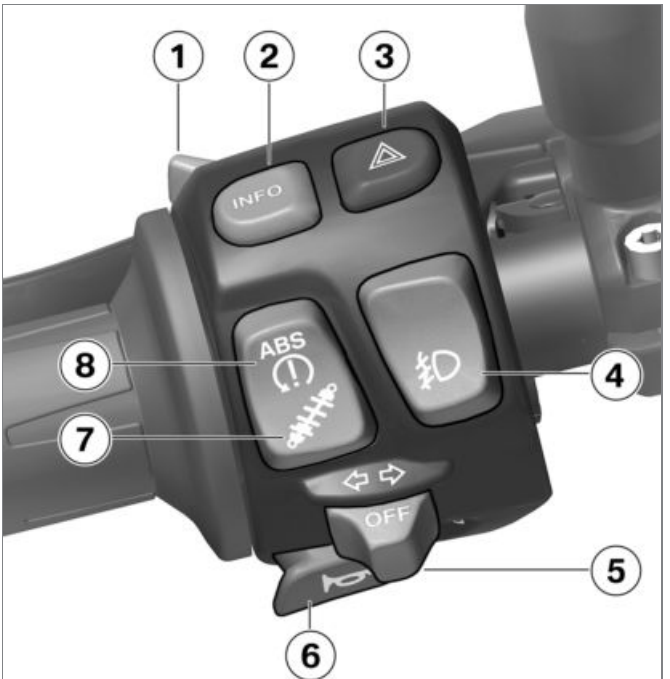
4 Auxiliary headlights (➠ 150)

5 Turn indicators (➠ 42)

6 Horn

7 ESA (➠ 48)

8 ABS (➠ 46)
ASC (➠ 47)



Multifunction switch, right

1 – with heated handlebar grips[OE]
Operating the heated handlebar grips (➠ 52).

2 MODE button
Setting riding mode (➠ 50).

3 Starter (➠ 80)

4 Emergency off switch (kill switch) (➠ 40)

Instrument panel

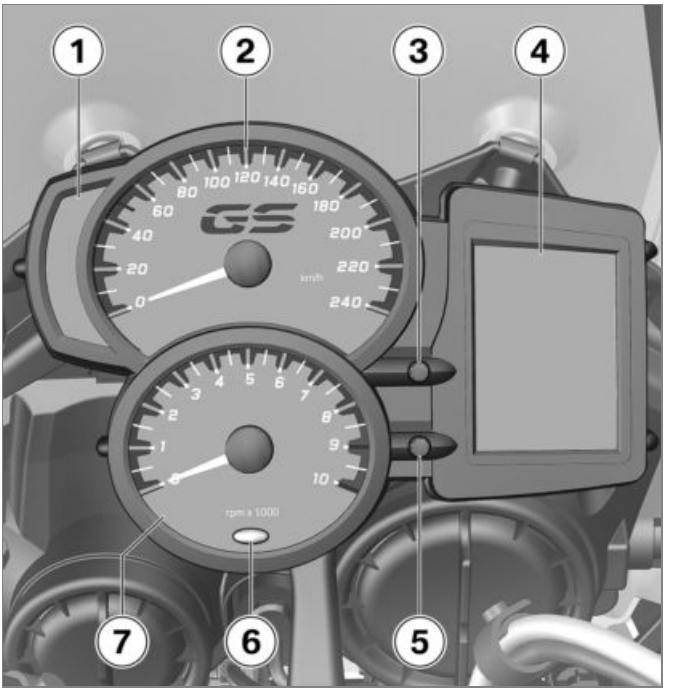
1 Indicator and warning lights (➠ 22)

2 Speedometer

3 Pushbutton
Setting the clock (➠ 44).
– with on-board computer[OE]
Operate stopwatch (➠ 45).

4 Multifunction display
- without optional accessories[OA] (as standard) (➠ 23)
- with optional accessories[OA] (➠ 24)

5 Pushbutton
Select display (➠ 42).
Resetting trip distance recorder (➠ 43).



6 Photosensor (brightness control)
– with on-board computer OE
Activating the rpm redline warning (➠ 84).
– with alarm system (DWA) OE
DWA light-emitting diode
General information about the anti-theft alarm (DWA) (➠ 58)

7 Engine speed display

Status indicators

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Indicator and warning lights

1 – with Automatic Stability Control (ASC)[OE]
Deactivate ASC function (➠ 47).

2 Deactivate ABS function (➠ 46).

3 Fuel reserve (➠ 35)
Fuel gauge (➠ 29)

4 Turn indicators, right

5 – with LED auxiliary headlights[OA]
Operating auxiliary headlights (➠ 150).

6 Neutral

7 Malfunction indicator lamp (➠ 31)

8 Turn indicators, left

9 High-beam headlight

10 General warning light (➠ 25)

Multifunction display

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

1 Indicator light for engine electronics (➠ 30)
2 Clock (➠ 44)
3 Indicator light for coolant temperature (➠ 29)
4 Service-due indicator (➠ 34)
5 Display area for values
Odometer (➠ 42)
Trip distance recorder (➠ 43)
6 Fuel gauge (➠ 35)
7 Riding modes (➠ 50)
8 Warning symbol (➠ 25)
9 Trip distance recorder (➠ 43)

Multifunction display

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

1 Selected heating stage (➠ 52)
2 Stopwatch (➠ 45)
3 Displays for OE
ESA (➠ 49)
rpm redline warning (➠ 84)
4 On-board computer display (➠ 42)
Symbols (➠ 25)
5 Encoding plug (➠ 51)
6 Riding modes (➠ 50)
7 Gear indicator, displays "N" in idle

On-board computer display

– with on-board computer[OE]

Distance travelled after having tapped into the fuel reserve (➠ 35)

Average consumption

Average speed

Current consumption

Ambient temperature (➠ 32)

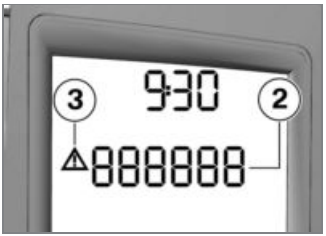
Coolant temperature

Warnings

Mode of presentation

Warnings are indicated by the corresponding warning lights.

Warnings that do not have warning lights of their own are indicated by 'general' warning light **1** showing in combination with a text warning or a warning symbol in the multifunction display. The 'general' warning light shows yellow or red, depending on the urgency of the warning.



In addition, the warning triangle **3** can also be displayed next to the values area **2**. These warnings alternate with the odometers (➠ 42).

The status of the 'General' warning light matches the most urgent warning.

The possible warnings are listed on the next page.

Warnings, overview

Telltale and warning lights	Warning symbols in the display	Meaning
 lights up yellow	 + "EWS" appears on the display	Electronic immobiliser active (➠ 29)
 lights up		Fuel down to reserve (➠ 29)
 lights up red	 flashes.	Coolant temperature too high (➠ 29)
 lights up yellow	 appears on the display.	Engine in emergency-operation mode (➠ 30)
 lights up red	 Engine symbol appears on the display.	Engine warning (➠ 30)
 The malfunction indicator lamp lights up.		Emissions warning (➠ 31)
 lights up yellow	 + "LAMP" appears on the display	Bulb defective (➠ 31)

Telltale and warning lights	Warning symbols in the display	Meaning
	"x.x °C" flashes	Outside temperature warning (➠ 31)
 flashes		ABS self-diagnosis not completed (➠ 32)
 lights up		ABS deactivated (➠ 32)
 lights up		ABS fault (➠ 32)
 quick-flashes		ASC intervention (➠ 33)
 slow-flashes		ASC self-diagnosis not completed (➠ 33)
 lights up		ASC deactivated (➠ 33)
 lights up		ASC fault (➠ 33)

Telltale and warning lights	Warning symbols in the display	Meaning
 lights up yellow	 + "DWA" appears on the display	DWA battery flat (➠ 34)

Electronic immobiliser active

General warning light shows yellow.

+ "EWS" appears on the display.

Possible cause:

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

- Remove all other vehicle keys from the same ring as the ignition key.
- Use the reserve key.
- Have the defective key replaced, preferably by an authorised BMW Motorrad dealer.

Fuel down to reserve

Warning light for fuel down to reserve shows.

WARNING

Irregular engine operation or engine shutdown due to lack of fuel

Risk of accident, damage to catalytic converter

- Do not run the fuel tank dry.◀

Possible cause:

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

	Reserve fuel
min 2.7 l	

- Refuelling (➠ 88).

Coolant temperature too high

General warning light shows red.

The temperature symbol flashes.

ATTENTION

Riding with overheated engine

Engine damage

- Compliance with the information set out below is essential.◀

Possible cause:

The coolant level is too low.

- Checking coolant level (➠ 109).

If the coolant level is too low:

- Topping up coolant (➠ 110).

Possible cause:

The coolant temperature is too high.

- If possible, ride in the part-load range to cool down the engine.
- In traffic jams, switch off the engine, but leave the ignition switched on so that the radiator fan continues to operate.

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

Engine in emergency-operation mode


General warning light shows yellow.


Engine symbol appears on the display.

WARNING

Unusual ride characteristics when engine running in emergency-operation mode

Risk of accident

- Adapt your style of riding accordingly: avoid accelerating sharply and overtaking.◀

Possible cause:

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

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

Engine warning


General warning light shows red.


Engine symbol appears on the display.

WARNING

Engine damage when running in emergency-operation mode

Risk of accident

- Adapt your style of riding accordingly: ride slowly, avoid sharp accelerating and overtaking.
- If possible, have the vehicle brought in and the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

Possible cause:

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

- Avoid high load and rpm ranges if possible.

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

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

Emissions warning

The malfunction indicator lamp lights up.

Possible cause:

The engine control unit has diagnosed a fault which affects the pollutant emissions.

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

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

Bulb defective

General warning light shows yellow.

+ "LAMP" appears on the display.

WARNING

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

Safety risk

- Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

Possible cause:

Bulb faulty.

- Visually inspect to ascertain which bulb is defective.
- Replacing bulbs for low-beam headlight and high-beam headlight (➠ 121).
- Replacing bulb for parking light (➠ 123).
- Replacing LED for brake light and rear light (➠ 124).
- Replacing bulbs for front and rear turn indicators (➠ 124).

– with LED auxiliary headlights OA

- Replace auxiliary headlights (➠ 127).

Outside temperature warning

– with on-board computer OE

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

Possible cause:

The air temperature measured at the motorcycle is lower than 3 °C.

⚠ WARNING

Risk of black ice also applicable at over 3°C

Risk of accident

- Always take extra care when temperatures are low; remember that there is particular danger of black ice forming on bridges and where the road is in shade.◀
- Ride carefully and think well ahead.

Ambient temperature

– with on-board computer[OE]

°C When the motorcycle is at a standstill the heat of the engine can falsify the ambient-temperature reading. If the effect of the engine's heat becomes excessive, –– temporarily appears on the display.

If ambient temperature drops below 3 °C the temperature display flashes to draw your attention to the risk of black ice forming. 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 telltale and warning light flashes.

Possible cause:

The ABS function is not available, because self-diagnosis did not complete. The motorcycle has to move forward a few metres for the wheel sensors to be tested.

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

ABS deactivated

ABS telltale and warning light shows.

Possible cause:

The rider has switched off the ABS system.

- Activating the ABS function (➠ 46).

ABS fault

ABS telltale and warning light shows.

Possible cause:

The ABS control unit has detected a fault.

- You can continue to ride. Bear in mind that the ABS function is not available. Bear in mind the more detailed information on certain situations that can lead to ABS fault messages (➠ 93).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably

an authorised BMW Motorrad dealer.

ASC intervention

– with Automatic Stability Control (ASC)[OE]

 ASC telltale and warning light quick-flashes.

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

ASC self-diagnosis not completed

– with Automatic Stability Control (ASC)[OE]

 ASC telltale and warning light slow-flashes.

Possible cause:

Self-diagnosis did not complete, so the ASC function is not available. The engine must be running and the motorcycle must reach a speed of at least 5 km/h in order for ASC self-diagnosis to complete.

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

ASC deactivated

– with Automatic Stability Control (ASC)[OE]

 ASC telltale and warning light shows.

Possible cause:

The rider has switched off the ASC system.

- Activate ASC.

ASC fault

– with Automatic Stability Control (ASC)[OE]

 ASC telltale and warning light shows.

Possible cause:

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

- You can continue to ride. Bear in mind that the ASC function is not available. Bear in mind the more detailed information on situations that can lead to an ASC fault (➠ 94).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably

an authorised BMW Motorrad dealer.

DWA battery flat

– with alarm system (DWA) OE

General warning light shows yellow.

+ "DWA" appears on the display.

NOTICE

This error message shows briefly only after the Pre-Ride-Check completes.◀

Possible cause:

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

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

Service-due indicator

If the next service is due in less than one month, the date for the next service **1** is shown briefly after the Pre-Ride-Check completes. The month and year are displayed with two and four digits respectively, separated by a colon. In this example, the reading means "June 2014".

If the vehicle covers long distances in the course of the year, under certain circumstances it might be necessary to have it serviced at a date in advance of the forecast due date. If the countdown distance to the early service is less than 1000 km, the countdown distance **1** appears on the display in steps of 100 km. This reading appears briefly after the Pre-Ride-Check completes.

If service is overdue, the due date or the odometer reading at which service was due

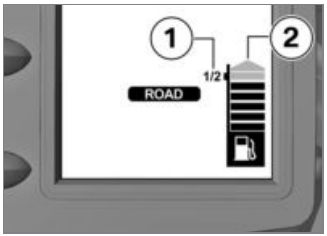
is accompanied by the 'general' warning light showing yellow. The word "Service" remains permanently visible.

NOTICE

If the service-due indicator appears more than a month before the service date, the date saved in the instrument cluster must be adjusted. This situation can occur if the battery was disconnected for a prolonged period of time.
If you want to have the date set consult a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

Fuel gauge

Due to the complex shape of the fuel tank, it is impossible to determine the fuel level when the tank is approaching capacity. For this reason, the fuel-level indicator only displays the bottom half of the filling capacity in detail.



The tip **2** indicates that the fuel tank is over half full.
If the fuel gauge drops below the 1/2 mark **1**, the fuel tank is only half full. From then on, the filling level will be displayed more precisely.
The fuel reserve indicator light switches on upon tapping into the fuel reserve.

Fuel reserve

The fuel quantity in the fuel tank upon activation of the fuel reserve indicator light depends on the driving dynamics: the more the fuel moves around within the fuel tank (as a result of frequently changing cornering angles, frequent braking and accelerating), the harder it is to determine the fuel quantity. However, the fuel tank will contain at minimum the fuel reserve stated on the inside of the rear cover.

The distance travelled after activation of the fuel reserve indicator light is displayed. The distance that can still be travelled using the reserve quantity depends on the style of riding (usage) and the amount of fuel remaining at the time the light came on (see explanation above). After a refuelling stop, the distance counter for reserve fuel is

reset if the amount of fuel in the tank is greater than the reserve quantity.

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Ignition switch/steering lock

Keys

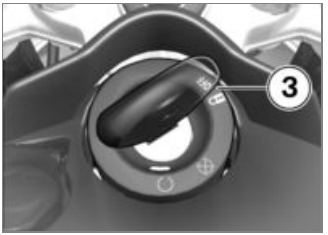
You receive 2 ignition keys. Please consult the information on the electronic immobiliser (EWS) if a key is lost or mislaid (➠ 39). Ignition switch, fuel filler cap lock and seat lock are all operated with the same key.

– with cases OA
– with topcase OA

If you wish you can arrange to have the cases and the topcase fitted with locks that can be opened with this key as well. Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.

Locking handlebars

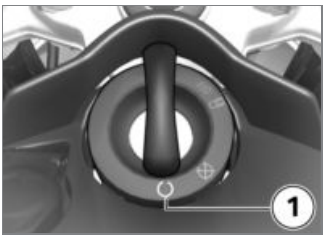
- Turn the handlebars all the way to left



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

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

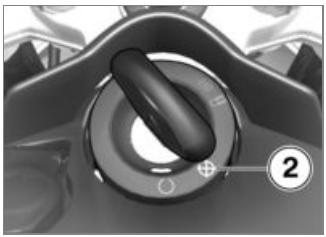
Switching on ignition



- Turn the key to position **1**.

» Parking lights and all function circuits switched on.
» Engine can be started.
» Pre-Ride-Check is performed. (➠ 81)
» ABS self-diagnosis is performed (➠ 81)
» ASC self-diagnosis is performed (➠ 82)

Switch off the ignition



- Turn the key to position **2**.

» Lights switched off.
» Handlebars not locked.
» Key can be removed.
» Electrically powered accessories remain operational for a limited period of time.
» The battery can be recharged via the on-board socket.

Electronic immobiliser

The electronic design of the motorcycle allows it to access data stored in the ignition key by means of a ring antenna located in the ignition switch. The engine control unit will only allow the engine to be started if the key is identified as “authorised”.

NOTICE

A spare 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 appears in the multifunction display.
Always keep the spare key separately from the ignition key.◀

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

Emergency off switch (kill switch)

1 Emergency off switch (kill switch)

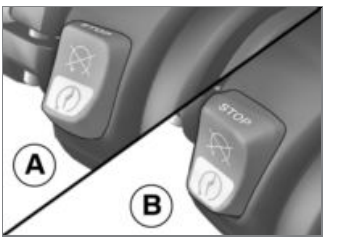
⚠ WARNING

Operation of the kill switch while riding

Risk of fall due to rear wheel locking

- Do not operate the kill switch when riding.◀

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



A Engine switched off
B Normal operating position (run)

Lights

Side light

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

NOTICE

The side lights place a strain on the battery. Do not switch the ignition on for longer than absolutely necessary.◀

Low-beam headlight

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

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

NOTICE

When the engine is not running you can switch on the lights by switching on the ignition and either switching on the high-beam headlight or operating the headlight flasher.◀

High-beam headlight and headlight flasher

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

Parking light

- Switch off the ignition.

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

Hazard warning lights system

Operate hazard warning flashers

- Switch on the 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 you press a turn-indicator button with the hazard warning flashers switched on, the turn-indicator function is activated instead of the hazard warning flashers, and remains active until you release the button. The hazard warning flashers recommence flashing as soon as the button is released.◀

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

» Ignition can be switched off.

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

Turn indicators

Operating the turn indicators

- Switch on the ignition.

NOTICE

The turn indicators are cancelled automatically after the defined riding time and distance. The defined time and distance can be set by an authorised BMW Motorrad dealer.◀

- Push button **1** to the left to switch on the left turn indicators.
- Push button **1** to the right to switch on the right turn indicators.
- Operate centre button **1** to cancel the turn indicators.

Reading

Select display

- Switching on ignition (➠ 38).

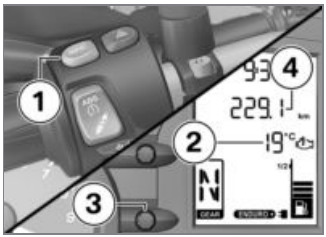
- Press button **1** to select the display in the value range **2**.

The following values can be displayed:

– Total kilometres (shown)
– Trip distance 1 (`Trip I`)
– Trip distance 2 (`Trip II`)

– Warnings, if applicable

– with on-board computer OE



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

The following values can be displayed:

Ambient temperature

Coolant temperature

Average speed

Average consumption

Current consumption

Distance travelled since fuel down to reserve

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

The following values can be displayed:

– Total kilometres (shown)
– Trip distance 1 (`Trip I`)
– Trip distance 2 (`Trip II`)

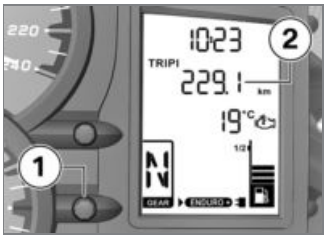
– Warnings, if applicable◁

Resetting trip distance recorder

• Switching on ignition (➠ 38).
• Select display (➠ 42).
» The desired trip distance recorder has been selected.
– `TRIP I` or `TRIP II` appears on the display.

• Press and hold INFO **1** until the trip distance recorder **2** has been reset.

– with on-board computer OE



- Press and hold down button **1** until the tripmeter **2** reading is reset.◁

Resetting the average values

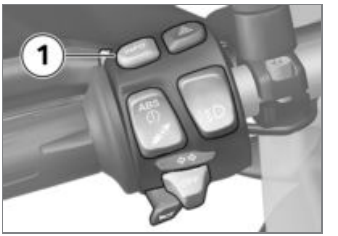
– with on-board computer OE

- Switching on ignition (➠ 38).
- Select display (➠ 42).

Average consumption

Average speed

» The symbol of the desired average value is displayed.



- Press and hold INFO **1** until the displayed average value has been reset.

Clock

Setting the clock

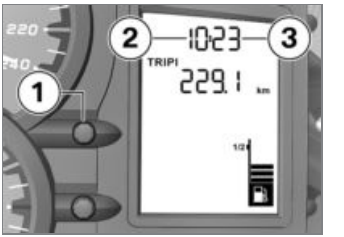
WARNING

Adjusting the clock while riding

Risk of accident

- Set the clock only when the motorcycle is stationary.◀

- Switching on ignition (➠ 38).



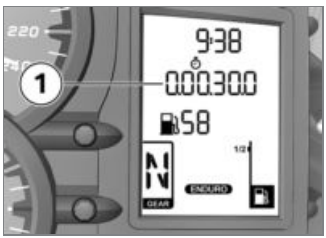
- Press and hold down button **1** until the hours number **2** flashes.
- Repeatedly press button **1** until the hours number is correct.
- Press and hold down button **1** until the minutes number **3** flashes.
- Repeatedly press button **1** until the minutes number is correct.
- Press and hold button **1** until the minutes number stops flashing.

» This completes the setting process.

Stopwatch

– with on-board computer[OE]

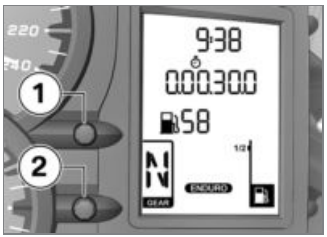
Stopwatch function



You can switch from the odometer reading to a stopwatch **1**. The readout is in hours, minutes, seconds and tenths of a second, with dots as separators.

The stopwatch continues to time in the background if you switch back temporarily to the odometer reading. Similarly, the stopwatch continues timing if you temporarily switch off the ignition.

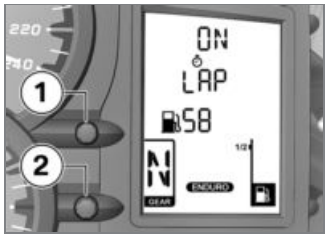
Operate stopwatch



- If necessary, use button **1** to switch from the odometer to the stopwatch.
- When the stopwatch is stopped, press button **2** to start timing with the stopwatch.
- When the stopwatch is running, press button **2** to stop timing with the stopwatch.
- Press and hold down button **2** to reset the stopwatch.

Swap key functions

- Switching on ignition (➠ 38).



- Press button **1** and button **2** at the same time and hold them down until the reading changes.

» `FLASH` (redline warning) appears, along with `ON` or `OFF`.

- Press button **2**.

» `LAP` (Laptimer) and `ON` or `OFF` are displayed.

- Repeatedly press button **1** until the reading shows the mode you want.

» `ON`: stopwatch operation using the INFO button on the left-hand multifunction switch.

» OFF: Stopwatch operated by means of button **2** in the instrument panel.

- To save the setting, press button **1** and button **2** at the same time and hold them down until the reading changes.

Anti-lock brake system (ABS)

Deactivate ABS function

- Bring the motorcycle to a stop or, if the motorcycle is at a standstill, switch on the ignition.

- Press and hold down button **1** until the ABS warning light changes status.

ABS telltale and warning light shows.

– with Automatic Stability Control (ASC)[OE]

» Initially, the ASC symbol changes status. Press and hold down button **1** until the ABS warning light responds. Under these circumstances there is no change in the ASC setting.◁

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

ABS telltale and warning light remains on.

» The ABS function is deactivated.

Activating the ABS function

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

ABS telltale and warning light goes out; if self-diagnosis has not completed it starts flashing.

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

ABS telltale and warning light remains off or continues to flash.

» The ABS function is activated.

- If the encoding plug is not inserted, you have the alternative of switching the ignition off and back on again.

NOTICE

If the ABS indicator and warning light is still lit after switching the ignition off and back on, and then driving at more than 5 km/h, then an ABS fault has occurred.◀

Automatic Stability Control (ASC)

– with Automatic Stability Control (ASC)[OE]

Deactivate ASC function

- Switch on the ignition.

NOTICE

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

- Press and hold down button **1** until the ASC warning light changes status.

ASC telltale and warning light shows.

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

ASC telltale and warning light remains on.

» The ASC function is deactivated.

Activating the ASC function

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

ASC telltale and warning light goes out; if self-diagnosis has not completed it starts flashing.

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

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

» The ASC function is activated.

- If the encoding plug is not inserted, you have the alternative of switching the ignition off and back on again.

NOTICE

If the ASC indicator and warning light is still it after switching the ignition off and back on, and then driving at more than 5 km/h, then an ASC fault has occurred.◀

Electronic Suspension Adjustment (ESA)

– with Electronic Suspension Adjustment (ESA) OE

Possible settings

With the help of Electronic Suspension Adjustment (ESA), you can calibrate the rear-wheel damping to the terrain with ease. Three settings are available for damping.

Call up settings

- Switch on the ignition.

- Press button **1** to view the current setting.

The currently selected damping is shown on the multifunction display at **1**. The meanings of the readings are as follows:

– COMF: Comfortable damping action
– NORM: Normal damping action
– SPORt: Sporty damping action

» The setting shows briefly, then disappears automatically.

Adjust the chassis and suspension

• Switch on the ignition.

• Press button **1** to view the current setting.

To make different adjustment to the damping:

• Repeatedly press button **1** until the setting you want to use appears on the display.

NOTICE

You can adjust the damping characteristic while the motorcycle is on the move.◀

» The setting shown on the display is automatically accepted as the damping characteristic if you allow a certain length of time to pass without pressing button **1**.

» The ESA indicator disappears from the display as soon as adjustment completes.

Riding mode

Using the riding modes

BMW Motorrad has developed 4 operational scenarios for your motorcycle from which you can select the scenario suitable for your situation:

Public roads

– Riding on a rain-wet road surface
– Riding on a dry road surface

– with Pro riding modes OE

Off-road mode

– Riding off-road with road tyres
– Riding off-road with off-road tyres with large tread block

The system guarantees an ideal coordination of engine torque, throttle response, ABS and ASC control for each of these four riding scenarios.

NOTICE

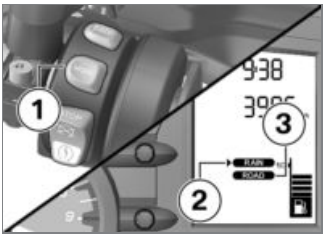
Detailed information regarding the off-road mode can be found in the section entitled "Engineering details".◀

Setting riding mode

• Switching on ignition (➠ 38).

NOTICE

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



• Operate MODE **1**.
» The selection arrow **2** appears on the display.
• Operate MODE **1** until the selection arrow **2** indicates the desired riding mode.
» The riding mode configured last **3** remains on-screen.
» At standstill:
– Activated after approximately 2 seconds.
» The selected riding mode is activated when riding, providing the following prerequisite have been met:
– Throttle grip is in idle position for a short period of time.
– Brake lever is not operated.
» Activation completed.
– The adjusted riding mode **3** is displayed without a selection arrow **2**.

When riding on wet roadways with road tyres:
• Activate RAIN riding mode.

When riding on dry roadways with road tyres:
• Activate ROAD riding mode.

– with Pro riding modes OE

When riding off-road with road tyres:

- Activate **4** ENDURO riding mode.

When riding off-road with off-road tyres with large tread blocks:

– with Pro riding modes OE

- Install the encoding plug. (➠ 51).

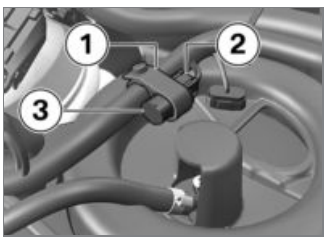
Symbol for encoding plug appears on the display.

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

Installing encoding plug

– with Pro riding modes OE

- Switch off the ignition (➠ 39).
- Remove seat (➠ 52).



- Remove the rubber band **1**.

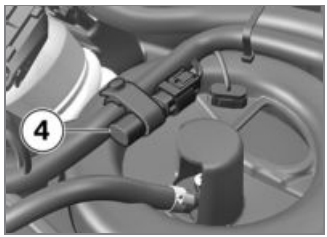
ATTENTION

Dirt and damp penetrating inside open connectors

Malfunctions

- Reinstall the protective cap after removing the coding plug.◀

- Press in the lock **2** and pull off the protective cap **3**.



- Insert encoding plug **4**.

NOTICE

The encoding plug and the protective cap are stored in the motorcycle seat together with the toolkit.◀

» The lock **2** engages.

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

NOTICE

If the encoding plug is in place, the disabled driving safety systems remain disabled even after switching the ignition off and back on.◀

Symbol for encoding plug appears on the display.

- Setting riding mode (➠ 50).
- Installing the seat (➠ 53).

Heated handlebar grips

– with heated handlebar grips OE

Operating the heated handlebar grips

- Start engine (➠ 80).

NOTICE

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

NOTICE

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

- Repeatedly press button **1** until desired heating stage **2** appears on the display.

The handlebar grips have two-stage heating. Stage two is for heating the grips quickly: it is advisable to switch back to stage one as soon as the grips are warm.

approx. 50% heating power

100% heating power

» The selected heating stage will be saved if you allow a certain length of time to pass without making further changes.

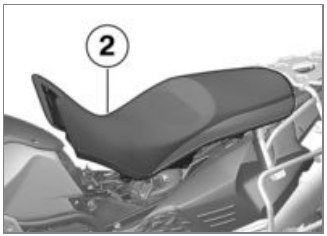
- In order to switch off the heated grips, repeatedly press button **1** until the heated grip symbol **2** is no longer shown on the display.

Seat

Remove seat

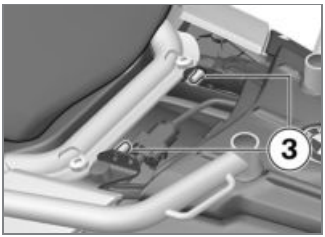
- Place the motorcycle on its stand on firm, even ground.

- Turn the key to the left in seat lock **1** and hold it in this position while pressing down the front part of the seat.



- Lift the rear seat bench **2** at the front and release the ignition key.
- Remove the rear seat bench and place it on a clean surface with the spacer buffers facing downwards.

Installing the seat



- Engage the seat in holders **3**.
- Firmly press down on the seat at the front.

» The seat engages with an audible click.

Helmet holder

Securing helmet to motorcycle

- Remove seat (➠ 52).

- Use a plastic-sheathed steel cable to secure the helmet to helmet holder **1** on left or right.

ATTENTION

Fastening the helmet on the left side of the vehicle

Damage due to hot rear silencer

- Attach the helmet on the right-hand side of the vehicle.◀

ATTENTION

Incorrect positioning of the helmet lock

Scratch marks on trim panel

- Make sure the lock is out of the way when you hook the helmet into position.◀
- Pass the steel cable through the helmet and the holder and position cable and helmet as shown here.
- Installing the seat (➠ 53).

Rider's Manual

Stowing the Rider's Manual

- Tuck the Rider's Manual(s) into the pocket provided.

- Make the opening side of the pocket as narrow as possible, then fasten the velcro **1**.

- Stowing the pocket in the rear of the vehicle.

Anti-theft alarm

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Alarm function 60
Deactivation 61
Programming 61
Registering additional remote controls 63
Synchronising 64
Battery 65

Overview

– with alarm system (DWA) OE

General information about the anti-theft alarm (DWA)

Any attempt to move the vehicle, change its position, disconnect the vehicle battery or unauthorised starts will activate the alarm. The sensitivity of the system is parameterised so that slight vibrations will not trigger the alarm. Once the system has been activated, any attempt to tamper with the vehicle is indicated acoustically by the siren and visually by all four turn indicators flashing in unison.

You can change some of your DWA alarm system's parameters to suit your personal preferences.

Conserving power in the vehicle's starter battery

In order to conserve the power of the starter battery and ensure that the vehicle will start, the DWA anti-theft alarm automatically switches off the alarm function a few days after being activated. In most cases, however, the system will remain active for at least 10 days.

Radio interference

Radio systems or devices transmitting on the same frequency as the remote control of the DWA anti-theft alarm can interfere with operation of the system. If problems of this nature occur, point the remote control toward the vehicle from another direction.

Controls

1 LED
2 Right button (➠ 60)
3 Left button (ribbed) (➠ 59)

Activation

– with alarm system (DWA) OE

Activation with motion sensor

There are two methods of activating the alarm function:

– Operate the **1** button on the remote control once. The alarm function is activated after 15 seconds. Operate the **1** button for more than one second if the ignition was switched off more than one minute ago.
– Switch off the ignition (if programmed). The alarm function is activated after 45 seconds.

Activation of the alarm function is indicated by the turn indicators flashing twice and the alarm tone sounding twice.

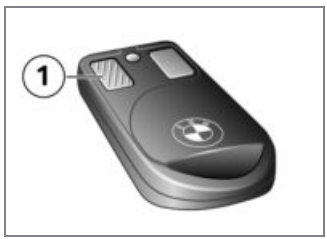
Conserving battery in the control unit (DWA deactivated)

The DWA switches off to conserve the battery if it has been deactivated for approximately one hour. If you want to activate the alarm function after the anti-theft alarm has shut down in this way, you have to switch the ignition on and then off again.

Motion sensor when motorcycle is to be transported

If you want to transport your motorcycle by train or on a trailer, for example, it is advisable to switch off the motion sensor. If the motion sensor is not switched off the severe movements occurring in transit could trigger the alarm.

Deactivating motion sensor



- Press button **1** on the remote control a second time during the activation phase.

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

Alarm function

– with alarm system (DWA)[OE]

Alarm triggers

A DWA alarm can be triggered by:

– Motion sensor.
– an attempt to use an unauthorised vehicle key to switch on the ignition.
– disconnection of the anti-theft alarm (DWA) from the vehicle's battery (DWA internal battery in the anti-theft alarm provides power).

Alarm

The alarm tone continues for 26 seconds. The system is active again another 12 seconds later. Press the **1** button on the remote control to stop an activated alarm tone at any time. This function does not change the status of the anti-theft alarm. While an alarm is in progress an alarm tone sounds and the turn indicators flash. You can program the type of alarm tone.

Reason for an alarm

Once you have deactivated the alarm function, the DWA LED indicates the reason for potential alarm activation for one minute:

– Flashes once: motion sensor: motorcycle was tilted towards the front/rear.
– Flashes twice: motion sensor: motorcycle was tilted towards the side.
– 3x flashing: The ignition was switched on with an unauthorised ignition key.
– Flashes four times: the alarm system was disconnected from the vehicle battery.

Information on alarm triggering

If an alarm was triggered after the last activation of the alarm function, the rider is notified accordingly by an alarm tone sounding once when the ignition is switched on.

Deactivation

– with alarm system (DWA)[OE]

Deactivating alarm function

NOTICE

Note that you can deactivate the alarm function with the ignition key only when the kill switch is in the RUN position.◄

NOTICE

If the alarm function is deactivated by the remote control and the ignition is not subsequently switched on, the alarm function automatically goes active again after 30 seconds if "Activation after ignition OFF" is programmed.◄

- Operate the **1** button of the remote control once **or** switch on the ignition using an authorised ignition key.

» Turn indicators flash once.
» Alarm tone sounds once (if programmed).
» Alarm function is deactivated.

Conserving the battery (DWA activated)

Approximately one hour after the alarm is armed, the receiver for the remote control in the DWA anti-theft alarm shuts down in order not to draw power unnecessarily from the battery. If you want to deactivate the alarm function after the receiver has shut down in this way, you have to switch the ignition on.

Programming

– with alarm system (DWA)[OE]

Programming options

You can customise the following parameters of your anti-theft alarm:

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

Default settings

The anti-theft alarm ships with the following default settings:

– Confirmation alarm tone after having activated/deactivated the DWA: no.
– Alarm tone: intermittent.
– Automatic activation of the alarm function when switching off the ignition: no.

Programming anti-theft alarm

- Deactivating alarm function (➠ 61).
- Switch on the ignition.
- Press button **1** three times.

» Acknowledgement tone sounds once.

- Within ten seconds, switch off the ignition.
- Press button **2** three times.

» Acknowledgement tone sounds once.

- Within ten seconds, switch on the ignition.

» Acknowledgement tone sounds three times.

» The programming function is active.

Programming is a four-step process, although no function is allocated to step 2. The number of times the anti-theft alarm status-indicator light on the vehicle flashes corresponds to the active programming step. An alarm tone sounds by way of confirmation when button **1** is pressed, and an acknowledgement tone sounds when button **2** is pressed.

- **Step 1**: Do you want a confirmation tone to sound after activation/deactivation of the anti-theft alarm?

Yes:

- Press button **1**.

No:

- Press button **2**.

- **Step 2**:

No function allocated to this step.

- Press button **1** or button **2**.

- **Step 3**: Which alarm tone would you like the alarm to sound?

Rising and falling:

- Press button **1**.

Intermittent:

- Press button **2**.

- **Step 4**: Do you want to have the alarm function activated automatically when you switch off the ignition?

Yes:
• Press button **1**.

No:
• Press button **2**.

Under what circumstances is programming aborted?

Programming is cancelled by switching off the ignition prior to the last programming step, or it is automatically cancelled if more than 30 seconds elapse between two programming steps.
The new settings are not saved if programming is aborted.

Saving programming

Programming is automatically saved by switching off the ignition after the last programming step or it is automatically saved 30 seconds after the last programming step.

The anti-theft alarm LED goes out and four acknowledgement tones sound.

Registering additional remote controls

– with alarm system (DWA) OE

When is it necessary to register a remote control?

If you want to register an additional remote control or register a remote control as a replacement for one that has been mislaid, you must always register all the remote control units with the anti-theft alarm. You can register a maximum of four remote control units.

Registering remote control

• Deactivate the alarm function.
• Switch on the ignition.
• Press button **2** three times.
» Acknowledgement tone sounds once.
• Within ten seconds, switch off the ignition.
• Press button **2** three times.
» Acknowledgement tone sounds once.
• Within ten seconds, switch on the ignition.

» Acknowledgement tone sounds twice.

You can now register a maximum of four remote control units with the anti-theft alarm. Registration is a three-step process and has to be repeated for each remote control unit.

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

» LED flashes for ten seconds.

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

» LED lights up.

- Press button **1** or button **2**.

» Alarm tone sounds once.
» LED goes out.
» Remote control has been registered.

- Repeat this three-step procedure for each additional remote control.

Termination of registration

Registration is terminated in the following situations:

– 4 remote control units have been logged on.
– Ignition is switched OFF.
– 30 seconds elapse without a button being pressed after the ignition has been switched off.
– 30 seconds elapse without a button being pressed after a remote control unit has been registered.

When registration terminates the LED flashes and the acknowledgement tone sounds three times.

Synchronising

– with alarm system (DWA)[OE]

When is it necessary to synchronise the remote control?

The remote control has to be synchronised if the buttons of the remote control have been pressed more than 256 times outside the receiver's range. Once this limit has been reached, the receiver on the vehicle will no longer react to the signals from the remote control.

Synchronising remote control

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

» LED flashes for ten seconds.

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

» LED lights up.

- Press button **1** or button **2**.

» LED goes out.

– Remote control has been synchronised.

Battery

– with alarm system (DWA) OE

When does the battery have to be changed?

The batteries in the remote control must be renewed after approximately 2-3 years. You can tell that the battery is weak if the LED does not light up or lights up only briefly when a button is pressed.

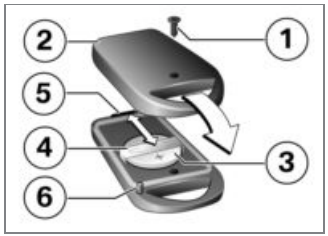
Changing battery

ATTENTION

Batteries unsuitable or not inserted in compliance with correct procedure

Component damage

- Use only the specified type of battery (see "Technical Data").
- When inserting the battery, always make sure polarity is correct.◀



- Remove screw **1** and remove bottom part of housing **2**.
- Slide old battery **3** forward from under retainer **4**.
- Insert a new battery. In this process, make sure the positive terminal of the battery is facing upwards.
- Position the lower housing section on the lug **5** at the front edge and close it. In this process, observe the two guide pins **6**.
- Install the screw.

» The LED on the remote control lights up, indicating that the

remote control has to be activated.

- To activate the remote control, make sure that it is within range of the receiver and press button **1** twice.

» LED **2** starts flashing and then goes out after a few seconds.

» The remote control is again ready for use.

Adjustment

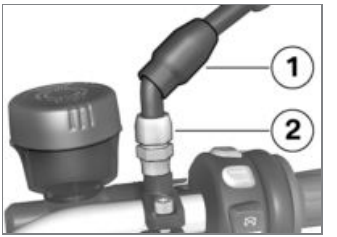
Mirrors 68
Headlight 68
Clutch 70
Brakes 70
Spring preload 71
Damping 72

Mirrors

Adjusting mirrors

- Turn the mirror to the desired position.

Adjusting mirror arm



- Push protective cap **1** up over the threaded fastener on the mirror arm.
- Slacken nut **2**.
- Turn the mirror arm to the appropriate position.
- Tighten the nut to the specified tightening torque, while holding the mirror arm to ensure that it does not move out of position.

	Locknut (mirror) to clamping piece
	Joining compound: Multi-wax spray
	20 Nm

- Push the protective cap over the threaded fastener.

Headlight

Adjusting headlight for driving on left/driving on right

If the motorcycle is ridden in a country where the opposite rule of the road applies, its asymmetric low-beam headlight will tend to dazzle oncoming traffic.
Have the headlight set accordingly by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Headlight beam throw and spring preload

Headlight beam throw is generally kept constant when spring preload is adjusted to suit load. Spring preload adjustment might not suffice only if the motorcycle is very heavily loaded. Under these circumstances, headlight beam throw has to be adjusted to suit the weight carried by the motorcycle.

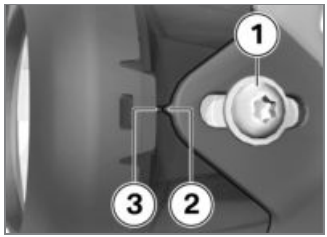
NOTICE

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

Adjusting headlight beam throw

- Slacken screws **1** on left and right.
- Adjust beam throw by tilting the headlight slightly about its horizontal axis.
- Tighten screws **1** on left and right.

Beam-throw basic setting



- Slacken screws **1** on left and right.
- Tilt the headlight slightly about its horizontal axis until arrowhead **2** is pointing toward marker **3**.
- Tighten screws **1** on left and right.

Clutch

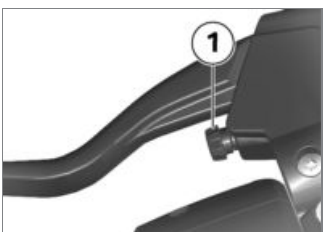
Adjusting clutch lever

WARNING

Adjusting the clutch lever while riding

Risk of accident

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



- Turn adjusting screw **1** clockwise to increase the span between the clutch lever and the handlebar grip.
- Turn adjusting screw **1** counter-clockwise to reduce the span between the clutch lever and the handlebar grip.

NOTICE

The adjusting screw is easier to turn if you push the clutch lever forward.◀

Brakes

Adjust the handbrake lever

WARNING

Relocated brake fluid tank

Air in the brake system

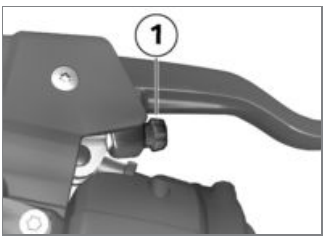
- Do not turn the handlebars or the handlebar fitting on the handlebar.◀

WARNING

Adjusting the brake lever while riding

Risk of accident

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



- Turn adjusting screw **1** clockwise to increase the span between the brake lever and the handlebar grip.
- Turn adjusting screw **1** counter-clockwise to reduce the span between the brake lever and the handlebar grip.

NOTICE

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

Spring preload

Adjustment

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

Adjusting spring preload for rear wheel

- Remove seat (➠ 52).

- Remove on-board toolkit **2**.

WARNING

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

Impaired handling.

- Adjust spring-strut damping to suit spring preload.◀
- If you want to increase spring preload, use the tool from the on-board toolkit to turn knob **1** clockwise.
- If you want to reduce spring preload, use the tool from the on-board toolkit to turn knob **1** counter-clockwise.

Basic setting of spring preload, rear
Turn the adjuster knob counter-clockwise as far as it will go. (One-up without luggage)
Turn the adjuster knob counter-clockwise as far as it will go, then back it off 12 turns in the clockwise direction. (One-up with luggage)

Basic setting of spring preload, rear
Turn the adjuster knob clockwise as far as it will go. (Two-up with luggage)

- Stow the on-board toolkit in its correct position.
- Installing the seat (➠ 53).

Damping

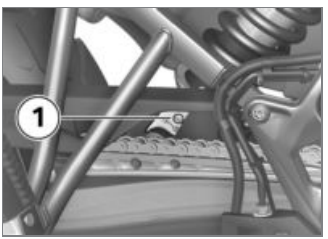
Adjustment

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

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

Adjust the damping for rear wheel

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



- Adjust the damping action by turning adjusting screw **1**.

- If you want harder damping, turn adjusting screw **1** in the direction indicated by the H arrow.
- If you want softer damping, turn adjusting screw **1** in the direction indicated by the S arrow.

Basic setting of rear-suspension damping characteristic
– without Electronic Suspension Adjustment (ESA) OE

 Basic setting of rear-suspension damping characteristic
Turn the adjusting screw as far as it will go clockwise, then back it off 1.5 turns. (One-up without luggage)
Turn the adjusting screw as far as it will go clockwise, then back it off 1.5 turns. (One-up with luggage)
Turn the adjusting screw as far as it will go clockwise, then back it off 1 turn. (Two-up with luggage)◁

Riding

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Safety instructions

Rider's equipment

The following clothing will protect you for every journey:

– Helmet
– Motorcycling jacket and trousers
– Gloves
– Boots

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

Restricted angle of heel

– with lowered suspension OE

A motorcycle with lowered suspension has less ground clearance and cannot corner at angles of heel as extreme as those achievable by a counterpart motorcycle with standard-height suspension (see the section entitled "Technical data").

WARNING

When a motorcycle with lowered suspension is cornering, certain components can come into contact with the surface at a bank angle less than that to which the rider is accustomed.
Risk of falling
- Carefully try out the limits of the motorcycle's bank angle and adapt your style of riding accordingly.◀

Test your motorcycle's angle of heel in situations that do not involve risk. When riding over kerbs and similar obstacles, bear in mind that your motorcycle's ground clearance is limited.

Lowering the motorcycle's suspension shortens suspension travel. Ride comfort might be restricted as a result. Be sure to adjust spring preload accordingly, particularly for riding two-up.

Load correctly

WARNING

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

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

– with cases OA

or

– with aluminium cases OA

- Make sure that the weight is uniformly distributed between right and left.
- Pack heavy items at the bottom of the cases and toward the inboard side.
- Note the maximum permissible payload and the speed limit for riding with cases fitted, as stated on the label inside the case (see also the section entitled "Accessories").◁

– with topcase OA

or

– with aluminium topcase OA

- Note the maximum permissible payload and the speed limit for riding with topcase fitted, as stated on the label inside the case (see also the section entitled "Accessories").◁

– with tank rucksack OA

- Note the maximum permissible payload of the tank rucksack (see also the section entitled "Accessories").

 Payload of tank rucksack
max 5 kg◁

– with rear softbag OA

- Note the maximum permissible payload of the rear softbag (see also the section entitled "Accessories").

 Payload of rear softbag
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.:

– Spring-strut and shock-absorber system not set up correctly
– Imbalanced load
– Loose clothing
– Insufficient tyre pressure
– Poor tyre tread
– Added luggage systems such as cases, topcase and tank rucksack.

Maximum speed with knobbly tyres or winter tyres

DANGER

Maximum speed of the motorcycle is higher than the permissible maximum rated speed of the tyres

Risk of accident due to tyre damage at high speed

- Comply with the tyre-specific speed restrictions.◀

Always bear the maximum permissible speed of the tyres in mind when riding a motorcycle fitted with knobbly tyres or winter tyres.

Affix a label stating the maximum permissible speed to the instrument panel in the rider's field of vision.

Risk of poisoning

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

WARNING

Exhaust gases adversely affecting health

Risk of asphyxiation

- Do not inhale exhaust fumes.
- Do not run the engine in an enclosed space.◀

Risk of burn injury

CAUTION

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

Risk of burn injury

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

Catalytic converter

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

The following guidelines must be observed:

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

ATTENTION

Unburned fuel in catalytic converter

Damage to catalytic converter

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

Risk of overheating

ATTENTION

Engine running for prolonged period with vehicle at standstill

Overheating due to insufficient cooling; in extreme cases vehicle fire

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

Tampering

ATTENTION

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

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

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

Comply with checklist

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

When changing the load status:

– without Electronic Suspension Adjustment (ESA)OE

- Adjusting spring preload for rear wheel (➠ 71).◁

– without Electronic Suspension Adjustment (ESA)OE

- Adjust the damping for rear wheel (➠ 72).◁

– with Electronic Suspension Adjustment (ESA)OE

- Adjust the chassis and suspension (➠ 49).◁

Always before riding off:

- Check operation of the brake system.
- Check operation of the lights and signalling equipment.
- Checking clutch function (➠ 108).
- Check the tyre tread depth (➠ 111).
- Checking tyre pressure (➠ 110).
- Check that cases and luggage are securely held in place.

Every 3rd refuelling stop:

- Checking engine oil level (➠ 102).
- Check front brake pad thickness (➠ 105).
- Check rear brake pad thickness (➠ 105).

- Check brake-fluid level, front brakes (➠ 106).
- Check the brake-fluid level, rear brakes (➠ 107).
- Checking coolant level (➠ 109).
- Lubricate the chain (➠ 134).
- Check chain sag (➠ 134).

Starting

Start engine

ATTENTION

Sufficient gearbox lubrication only with the engine is running.

Gearbox damage

- Do not allow the motorcycle to roll for a lengthy period of time or push it a long distance with the engine switched off.◀

- Switching on ignition (➠ 38).

» Pre-Ride-Check is performed. (➠ 81)

» ABS self-diagnosis is performed (➠ 81)

» ASC self-diagnosis is performed (➠ 82)

- Select neutral or, if a gear is engaged, pull the clutch lever.

NOTICE

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

- When starting a cold engine at low ambient temperatures: disengage the clutch and turn the twistgrip slightly to open the throttle.

- Press starter button **1**.

NOTICE

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

The engine starts.

» If the engine refuses to start, consult the troubleshooting chart in the section entitled "Technical data". (➠ 158)

Pre-Ride-Check

The instrument panel runs a test of the instruments and the telltale and warning lights when the ignition is switched on: this is the so-called "Pre-Ride-Check". The test is aborted if you start the engine before it completes.

Phase 1

The engine speed and speed indicators move up to the end stop. At the same time, all the warning lights and telltale lights are switched on in succession.

Phase 2

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

Phase 3

The engine speed and speedometer needles both swing to the starting position on their scales. At the same time, all the warning lights and telltale lights switched on in the initial phase are switched off in reverse sequence.

The malfunction indicator lamp only goes out after 15 seconds.

If a needle did not move or if a warning light or telltale light did not show:

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

ABS self-diagnosis

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

Phase 1

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

ABS telltale and warning light flashes.

Phase 2

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

ABS telltale and warning light flashes.

ABS self-diagnosis completed

» The ABS telltale and warning light goes out.


ABS self-diagnosis not completed

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

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

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

ASC self-diagnosis

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

Phase 1

» Test of the diagnosable system components with the vehicle at a standstill.


ASC telltale and warning light slow-flashes.

Phase 2

» Test of the diagnosis-compatible system components while the motorcycle is on the move.


ASC telltale and warning light slow-flashes.

ASC self-diagnosis completed

» The ASC telltale and warning light goes out.

- Check all the indicator and warning lights.


ASC self-diagnosis not completed

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

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

- You can continue to ride. Bear in mind that the ASC function is not available.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Running in

Engine

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

 Running-in speed
<5000 min^{-1}

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

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

Brake pads

New brake pads have to bed down before they can achieve their optimum friction levels. You can compensate for this initial reduction in braking efficiency by exerting greater pressure on the levers.

⚠ WARNING

New brake pads

Longer stopping distance, risk of accident

- Apply the brakes in good time.◀

Tyres

New tyres have a smooth surface. This must be roughened by riding in a restrained manner at various heel angles until the tyres are run in. This running in procedure is essential if the tyres are to achieve maximum grip.

⚠ WARNING

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

Risk of accident

- Ride carefully and avoid extremely sharp inclines.◀

Shifting gear

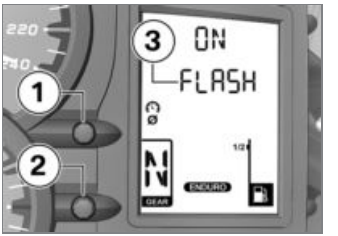
– with on-board computer[OE]

rpm redline warning

The rpm redline warning indicates to drivers when the engine has reached the engine speed range highlighted in red. This signal is indicated by an rpm redline warning **1** flashing in red. The signal remains active until you shift up or reduce engine speed. The rpm redline warning can be activated or deactivated by the rider.

Activating the rpm redline warning

- Switching on ignition (➠ 38).



- Press button **1** and button **2** at the same time and hold them down until the reading changes.

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

- Repeatedly press button **1** until the reading shows the mode you want.

» ON: rpm redline warning activated.

» OFF: rpm redline warning deactivated.

- To save the setting, press button **1** and button **2** at the same time and hold them down until the reading changes.

Off-roading

After off-roading

BMW Motorrad recommends checking the following after riding the motorcycle off-road:

Tyre pressure

⚠ WARNING

Lowering the tyre pressure for off-roading during operation on road.

Risk of accident due to impaired handling characteristics.

- Always check that the tyre pressures are correct.◀

Brakes

WARNING

Riding on unsurfaced roads or dirty road surfaces.
Delayed braking effect due to dirty brake discs and brake pads.
- Apply the brakes in good time until the brakes have been cleaned.◀

ATTENTION

Riding on unsurfaced or dirty roads
Increased brake pad wear
- Check the thickness of the brake pads more frequently and replace the brake pads in good time.◀

Spring preload and shock-absorber settings

WARNING

Changed values for spring preload and spring-strut damping for riding off-road.
Impaired handling characteristics on surfaced roads.
- If you have been off-roading, be sure to correct spring preload and spring-strut damping characteristics before you return to surfaced roads.◀

Rims
BMW Motorrad recommends checking the rims for damage after off-roading.

Air filter element

ATTENTION

Dirty air filter element
Engine damage
- If you ride in dusty terrain check the air filter element for clogging at shorter intervals; clean or replace as necessary.◀

Operation in very dusty conditions (desert, steppes, or the like) necessitates the use of air filter elements specially designed for conditions of this nature.

Brakes

How can stopping distance be minimised?

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

makes the best possible use of the dynamic increase in load at the front wheel. Remember to pull the clutch at the same time. In the "panic braking situations" that are trained so frequently, braking force is applied as rapidly as possible and with the rider's full force applied to the brake levers; under these circumstances, the dynamic shift in load distribution cannot keep pace with the increase in deceleration and the tyres cannot transmit the full braking force to the surface of the road. Under these circumstances the front wheel can lock up.

BMW Motorrad ABS prevents the front wheel from locking up.

Descending mountain passes

WARNING

Braking only with the rear brake on mountain descents

Brake fade, destruction of the brakes due to overheating

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

Wet and dirty brakes

Wetness and dirt on the brake discs and the brake pads diminish braking efficiency.

Delayed braking action or poor braking efficiency must be reckoned with in the following situations:

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

WARNING

Wetness and dirt result in diminished braking efficiency

Risk of accident

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

Parking your motorcycle

Side stand

- Switch off the engine.

ATTENTION

Poor ground underneath the stand

Risk of damage to parts if vehicle topples

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

ATTENTION

Additional weight placing strain on the side stand

Risk of damage to parts if vehicle topples

- Do not sit or lean on the vehicle while it is propped on the side stand.◀
- Extend the side stand and prop the motorcycle on the stand.
- If the camber of the roadway permits, turn the handlebars all the way to the left.
- On a gradient, the motorcycle should always face uphill; select 1st gear.

Centre stand

– with centre stand OE

- Switch off the engine.

ATTENTION

Poor ground underneath the stand

Risk of damage to parts if vehicle topples

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

ATTENTION

Centre stand folds in due to sharp movements

Risk of damage to parts if vehicle topples

- Do not lean or sit on the vehicle with the centre stand extended.◀
- Extend the centre stand and lift the motorcycle onto the stand.
- On a gradient, the motorcycle should always face uphill; select 1st gear.

Refuelling

Fuel grade

Requirement

For optimum fuel consumption, fuel should be sulphur-free or with the lowest sulphur content possible.

ATTENTION

Engine operation with leaded fuel

Damage to catalytic converter

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

ATTENTION

Engine operation with leaded fuel

Damage to catalytic converter

- Do not attempt to run the vehicle on leaded fuel or fuel with metallic additives (e.g. manganese or iron).◀
- You can run the engine on fuel with a maximum ethanol content of 10 %, i.e. E10.

Recommended fuel grade
Super unleaded (max. 10 % ethanol, E10) 95 ROZ/RON 89 AKI
– with regular unleaded OE
Regular unleaded (slight power- and consumption-related restrictions) (max. 10 % ethanol, E10) 91 ROZ/RON 87 AKI◁

Refuelling

WARNING

Fuel is highly flammable

Risk of fire and explosion

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

WARNING

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

Risk of falling

- Do not overfill the fuel tank.◀

ATTENTION

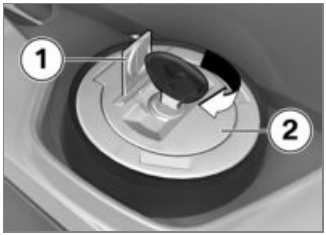
Wetting of plastic surfaces by fuel

Damage to the surfaces (surfaces become unsightly or dull)

- Clean plastic surfaces immediately after contact with fuel.◀
- Make sure the ground is level and firm and place the motorcycle on its side stand.

NOTICE

The volume of the tank can be utilised to the full only when the motorcycle is propped on its side stand.◀



- Open protective cap **1**.
- Use the ignition key to unlock fuel filler cap **2** by turning the key clockwise, and flip the cap open.

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

NOTICE

When refuelling after running on reserve, make sure that you top up the tank to a level above reserve, as otherwise the new level will not be registered and the fuel warning light indicating that the level is down to reserve will not be switched off.◀

NOTICE

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

Usable fuel capacity
approx. 16 l

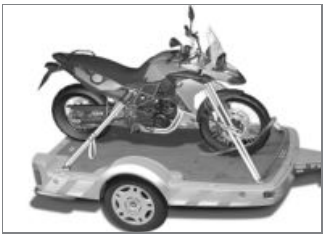
Reserve fuel
min 2.7 l

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

Secure motorcycle for transportation

- Make sure that all components that might come into contact with straps used to secure the motorcycle are adequately protected against scratching. Use

adhesive tape or soft cloths, for example, for this purpose.

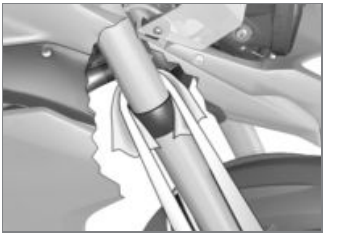


ATTENTION

Vehicle topples to side when being lifted on to stand

Risk of damage to parts if vehicle topples

- Secure the vehicle to prevent it toppling, preferably with the assistance of a second person.◀
- Push the motorcycle onto the transportation flat and hold it in position: do not place it on the side stand or centre stand.



ATTENTION

Trapping of components

Component damage

- Do not trap components such as brake lines or cable legs.◀
- At the front, secure the straps to the bottom fork bridge on both sides and tighten the straps.

- At the rear, secure the straps to the rear frame on both sides and tighten the straps.
- Tighten all the straps uniformly; the vehicle's suspension should be compressed as tightly as possible front and rear.

Engineering details

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Automatic Stability Control (ASC) 94
Riding mode 95

General instructions

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

Anti-lock brake system (ABS)

How does ABS work?

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

What are the effects of surface irregularities?

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

Rear wheel lift

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

WARNING

Rear wheel lift due to severe braking

Risk of falling

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

What is the design baseline for BMW Motorrad ABS?

Within the limits imposed by physics, BMW Motorrad ABS ensures directional stability on any surface. The system is not optimised for special requirements that apply under extreme competitive situations off-road or on the track.

Special situations

The speeds of the front and rear wheels are compared as one means of detecting a wheel's incipient tendency to lock. If the system registers implausible values for a lengthy period the ABS function is deactivated for safety reasons and an ABS fault message is issued. Self-diagnosis has to complete before fault messages can be issued. In addition to problems with the BMW Motorrad ABS, exceptional riding conditions can also cause a fault message to be issued:

– Riding for a lengthy period with the front wheel lifted off the ground (wheelie).
– Rear wheel rotating with the vehicle held stationary by applying the front brake (burnout).
– Heating up with the motorcycle on the centre stand or an auxiliary stand, engine idling or with a gear engaged.
– Rear wheel locked for a lengthy period, for example while descending off-road.

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

What significance devolves on regular maintenance?

WARNING

Brake system not regularly serviced

Risk of accident

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

Reserves for safety

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.

Take care when cornering! 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 system compares the speed of rotation of the front wheel and the rear wheel. The differential is used to compute slip as a measure of the reserves of stability available at the rear wheel. If slip exceeds a certain limit the engine control intervenes, adapting engine torque accordingly.

What is the design baseline for BMW Motorrad ASC?

BMW Motorrad ASC is designed as an assistant system for the rider and for use on public roads. The extent to which the rider affects the ASC can be considerable (weight shifts when cornering, items of luggage loose on the motorcycle), especially when style of riding takes rider and machine close to the limits imposed by physics.

The system is not optimised for special requirements that apply under extreme competitive situations off-road or on the track. You have the option of deactivating the BMW Motorrad ASC system for these circumstances.

⚠ WARNING

Risky riding

Risk of accident despite ASC

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

Special situations

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

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

Exceptional riding conditions:

- Riding for a lengthy period with the front wheel lifted off the ground (wheelie) with ASC deactivated.
- Rear wheel rotating with the vehicle held stationary by applying the front brake (burnout).
- Heating up with the motorcycle on the centre stand or an auxiliary stand, engine idling or with a gear engaged.

Switching the ignition off and on again and then driving at a speed in excess of 5 km/h re-activates the ASC.

If the front wheel lifts clear of the ground during extreme acceleration, the ASC reduces engine torque until the front wheel is touching the ground again. Under these circumstances, BMW Motorrad recommends rolling the throttle slightly closed so as to restore stability with the least possible delay.

When riding on a slippery surface, never snap the throttle twistgrip fully closed without pulling the clutch at the same time. Engine braking torque can cause the rear wheel to lock, with a corresponding loss of stability. The BMW Motorrad ASC is unable to control a situation of this nature.

Riding mode

Selection

There is a choice of 4 riding modes for adapting the motorcycle to riding-surface condition:

- RAIN
- ROAD (standard mode)
- with Pro riding modes OE
- ENDURO
- ENDURO+ (with installed encoding plug only)

For each of the 4 riding modes there is a matching setting for the ABS and ASC systems and for throttle response.

In each mode ABS and/or ASC can be switched off. The following descriptions always apply to systems that have been switched on.

Throttle response

– In RAIN and ENDURO riding mode: the engine's response characteristics are reserved.
– In ROAD and ENDURO+ riding mode: the engine's response characteristics are direct and at an optimum level.

ABS

– In RAIN and ROAD the ABS is set to on-road riding mode with road tyres. The ABS intervenes at such an early stage to achieve maximum riding stability. This also applies to the rear wheel lift-off detection.
– In ENDURO riding mode the ABS is set to off-road mode with road tyres. ABS intervenes at a later point compared with on-road mode. The system tolerates if the rear wheel slightly loses contact with the surface in off-road mode.
– In ENDURO+ riding mode the ABS is set to off-road mode with off-road tyres with large tread blocks. ABS intervenes on the front wheel at a later point compared with on-road mode. If the rider operates the footbrake lever, there is no ABS intervention at the rear wheel.

ASC

– The front wheel lift-off detection is active in all riding modes and provides maximum support.
– In RAIN and ROAD riding modes ASC is set to on-road mode.
– ASC intervenes at an early stage in RAIN riding mode to achieve maximum riding stability. The ASC intervention in riding mode ROAD is carried out at a later point compared with RAIN riding mode. This prevents the rear wheel from spinning whenever possible.
– In ENDURO and ENDURO+ riding mode the ASC is set to off-road mode.
– ENDURO riding mode is designed for road tyres in off-road mode. The ASC intervenes later to also allow slight oversteering.
– ENDURO+ riding mode is designed for off-road tyres with large tread blocks in off-road mode. The ASC intervenes even later to also allow prolonged oversteering.

Mode changes

Changing over the ABS and ASC functions for the corresponding riding mode when you are moving is only possible in certain operating conditions:

– No drive torque on the rear wheel.
– No brake pressure in the brake system.

This is the status of the motorcycle when it is at a standstill with the ignition switched on. Under other circumstances, you must proceed as follows:

– Close the throttle twistgrip.
– Release the brake levers.

The desired riding mode is initially preselected. The mode change does not take place until the systems in question are all in the appropriate state.

Maintenance

General instructions 100
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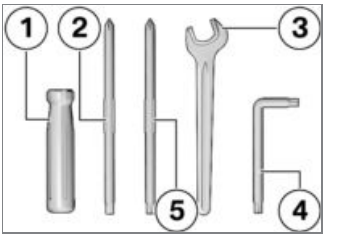
General instructions

The "Maintenance" chapter describes straightforward procedures for checking and replacing certain wear parts.
Special tightening torques are listed as applicable. The tightening torques for the threaded fasteners on your vehicle are listed in the section entitled "Technical data".
You will find information on more extensive maintenance and repair work in the Repair Manual on DVD for your vehicle, which is available from your authorised BMW Motorrad dealer.

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

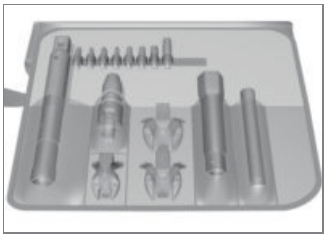
Toolkit



1 Screwdriver handle
2 Reversible screwdriver blade
With star-head and plain-tip ends
– Replacing bulbs for front and rear turn indicators (➠ 124).
– Replacing number-plate light bulbs (➠ 125).
– Removing battery (➠ 131).
3 Open-ended spanner
Width across flats 17
3 – Adjusting mirror arm (➠ 68).
4 Torx wrench, T40
– Adjusting headlight beam throw (➠ 69).
5 Reversible screwdriver blade
Phillips PH1 and Torx T25
– Removing centre trim panel (➠ 127).

Service toolkit

– with service toolkit OA



BMW Motorrad has assembled a service toolkit that is ideal for carrying out extended service work (e.g. removing and installing wheels) on this motorcycle. You can obtain the tools set from your authorised BMW Motorrad dealer.

Front-wheel stand

Install the front-wheel stand

ATTENTION

Use of the BMW Motorrad front-wheel stand without also using the auxiliary stand

Risk of damage to parts if vehicle topples

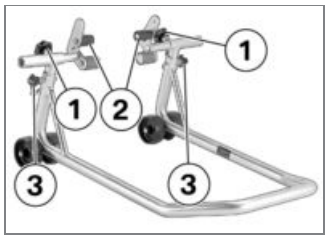
- Place the motorcycle on an auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.◀

- Place the motorcycle on a suitable auxiliary stand.

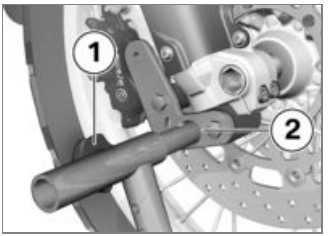
– with centre stand OE

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

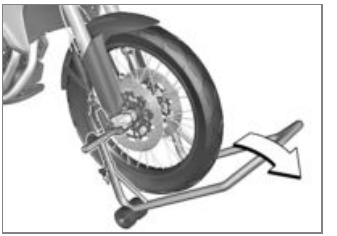
- Use basic stand with tool number (83 30 0 402 241) in combination with front-wheel adapter (83 30 0 402 242).



- Slacken securing screws **1**.
- Push the two adapters **2** apart until the front forks fit between them. Adjust the adapter studs to suit the front suspension.
- Use locating pins **3** to set the front-wheel stand to the desired height.
- Centre the front-wheel stand relative to the front wheel and push it against the front axle.



- Align the two adapters **2** so that the front forks are securely seated.
- Tighten securing screws **1**.



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

– with centre stand OE

ATTENTION

Centre stand retracts if the vehicle lifted too high

Risk of damage to parts if vehicle topples

- When raising the vehicle, make sure that the centre stand remains on the ground.
- If necessary, adjust the height of the front-wheel stand.◀
- Make sure the motorcycle is standing firmly.◁

Engine oil

Checking engine oil level

ATTENTION

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

Engine damage

- Check the oil level only after a lengthy ride or when the engine is at operating temperature.◀
- Wipe the area around the oil filler neck clean.
- Allow the engine to idle until the fan starts up, then allow it to idle one minute longer.
- Switch off the engine.

- Make sure the engine is at operating temperature and hold the motorcycle upright.

– with centre stand OE

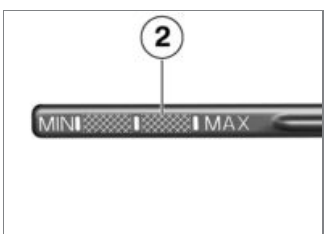
ATTENTION

Vehicle topples to side when being lifted on to stand

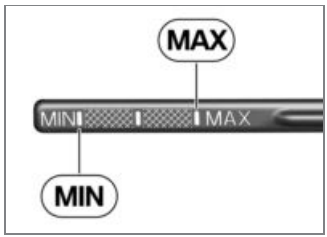
Risk of damage to parts if vehicle topples

- Secure the vehicle to prevent it toppling, preferably with the assistance of a second person.◀
- Check that the engine is at operating temperature, make sure the ground is level and firm and place the motorcycle on its centre stand.◁

- Remove oil dipstick **1**.



- Use a dry cloth to wipe gauge length **2** clean
- Seat the oil dipstick on the oil filler neck, but do not engage the threads.
- Remove the oil dipstick and check the oil level.



Engine oil, specified level
between **MIN** and **MAX** marks

Engine oil, quantity for topping up
SAE 15W-50, API SJ / JASO MA2, Additives (e.g. molybdenum-based) are not permissible because they can attack coated components of the engine, BMW Motorrad recommends BMW Motorrad ADVANTEC Pro oil.
max 0.4 l (Difference between MIN and MAX)

If the oil level is below the MIN mark:

- Top up the engine oil (➠ 104).

If the oil level is above the MAX mark:

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

- Install the oil dipstick.

Top up the engine oil

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

- Remove oil dipstick **1**.

ATTENTION

Use of insufficient engine oil or too much engine oil
Engine damage

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

- Top up the engine oil to the specified level.
- Checking engine oil level (➠ 102).
- Install the oil dipstick.

Brake system

Check operation of brakes

- Pull the front brake lever.

» The pressure point must be clearly perceptible.

- Press the footbrake lever.

» The pressure point must be clearly perceptible.

If pressure points are not clearly perceptible:

ATTENTION

Work on brake system not in compliance with correct procedure
Risk to operational reliability of the brake system

- Have all work on the brake system undertaken by trained and qualified specialists.◀
- Have the brakes checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Check front brake pad thickness

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

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

Brake-pad wear limit, front
min 1.0 mm (friction pad only, without backing plate. The wear indicators, i.e. the grooves, must be clearly visible.)

If the wear indicating marks are no longer clearly visible:

⚠ WARNING

Brake-pad thickness less than permissible minimum

Diminished braking effect, damage to the brakes

- In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.◀
- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Check rear brake pad thickness

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

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

	Brake-pad wear limit, rear
min 1.0 mm (Friction pad only, without backing plate.)	

If the brake pads are worn:

WARNING

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

- In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.◀
- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Check brake-fluid level, front brakes

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

– with centre stand OE

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

WARNING

Not enough brake fluid in brake fluid reservoir
Considerably reduced braking power due to air in the brake system

- Check the brake-fluid level at regular intervals.◀
- Check the brake fluid level in front reservoir **1**.

NOTICE

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

Brake fluid level, front (visual inspection)
Brake fluid, DOT4
The brake fluid level must not drop below the **MIN** mark.

If the brake fluid level drops below the permitted level:

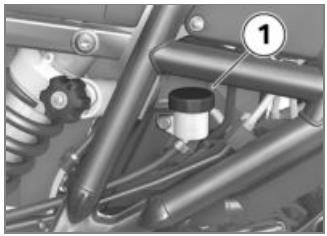
- Have the defect rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Check the brake-fluid level, rear brakes

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

– with centre stand OE

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



WARNING

Not enough brake fluid in brake fluid reservoir

Considerably reduced braking power due to air in the brake system

- Check the brake-fluid level at regular intervals.◀
- Check the brake fluid level in rear reservoir **1**.

NOTICE

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

Brake fluid level, rear (visual inspection)
Brake fluid, DOT4
The brake fluid level must not drop below the **MIN** mark.

If the brake fluid level drops below the permitted level:

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

Clutch

Checking clutch function

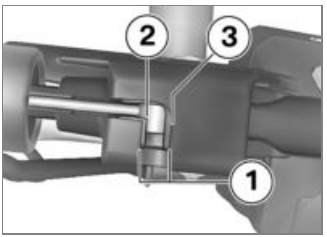
- Pull the clutch lever.

» The pressure point must be clearly perceptible.

If the pressure point is not clearly perceptible:

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

Check the clutch play



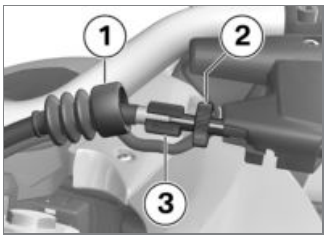
- Operate the clutch lever until resistance can be felt whilst observing the notch **1** in the manual valve.

» The edge **2** of the brake cable should be able to move up to the edge **3** of the manual valve.

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

Clutch play is out of tolerance:
- Adjusting clutch play (➠ 109).

Adjusting clutch play



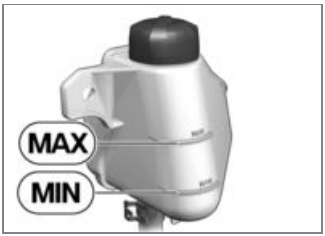
- Move the rubber grommet **1** to one side.
- Slacken nut **2**.
- To increase clutch play: Screw the adjusting screw **3** into the manual valve.
- To reduce clutch play: Unscrew the adjusting screw **3** from the manual valve.
- Check the clutch play (➠ 108).
- Tighten nut **2** while holding the adjusting screw **3** in position.
- Fasten the rubber grommet**1** over the nuts.

Coolant

Checking coolant level

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Turn the handlebars all the way to the right.

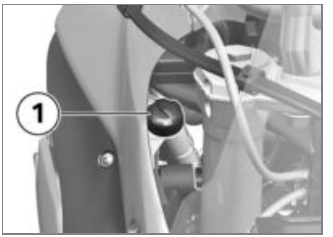
- Check the coolant level in expansion tank **1**. Viewing direction: From in front, between windscreen and right side panel.



	Specified coolant level
Between the MIN - MAX-mark on the expansion tank (Engine cold)	

If the coolant drops below the permitted level:
- Top up the coolant.

Topping up coolant



- Open cap **1** of the expansion tank.
- Using a suitable funnel, top up with coolant until the level is correct.
- Close the cap of the expansion tank.

Tyres

Checking tyre pressure

WARNING

Incorrect tyre pressure

Impaired handling characteristics of the motorcycle, shorter useful tyre life

- Always check that the tyre pressures are correct.◀

WARNING

Tendency of valve inserts installed vertically top open by themselves at high riding speeds.

Sudden loss of tyre pressure.

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

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

Tyre pressure, front
2.2 bar (One-up, tyre cold)

Tyre pressure, front
2.5 bar (Two-up and/or with luggage, tyre cold)

Tyre pressure, rear
2.5 bar (One-up, tyre cold)
2.9 bar (Two-up and/or with luggage, tyre cold)

If tyre pressure is too low:

- Correct tyre pressure.

Rims and tyres

Checking rims

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Visually inspect the rims for defects.
- Have any damaged rims inspected by a specialist workshop and replaced if neces-

sary, preferably by an authorised BMW Motorrad dealer.

Check spokes

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

If the notes vary:

- Have the spokes checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Check the tyre tread depth

WARNING

Riding with badly worn tyres
Risk of accident due to impaired handling

- If applicable, have the tyres changed in good time before they wear to the minimum tread depth permitted by law.◀
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Measure the tyre tread depth in the main tread grooves with wear marks.

NOTICE

Wear indicators are built into the main profile grooves on each tyre. The tyre is worn out when the tyre tread has worn down to the level of the marks. The locations of the marks are indicated on the edge of the tyre, e.g. by the letters TI, TWI or by an arrow.◀

If the tyre tread is worn to minimum:

- Replace tyre or tyres, as applicable.

Wheels

Tyre recommendation

For each size of tyre, BMW Motorrad tests and classifies as roadworthy certain makes. BMW Motorrad cannot assess the suitability or provide any guarantee of road safety for other tyres.
BMW Motorrad recommends using only tyres tested by BMW Motorrad.
It is absolutely essential to observe the maximum permissible speed and load-capacity ratings (see "Technical data").
Comply with the instructions regarding maximum speed for riding with knobbly tyres or winter tyres fitted (➠ 78).
Detailed information is available from your authorised BMW Motorrad dealer or in the internet at:
bmw-motorrad.com

Effect of wheel size on chassis and suspension control systems

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

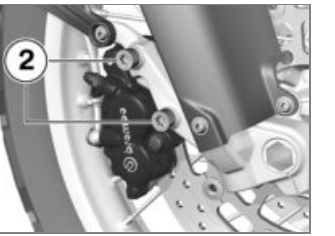
The sensor rings are essential for correct road-speed calculation, and they too must match the motorcycle's control systems and consequently cannot be changed.

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

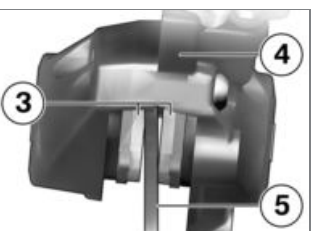
Removing front wheel

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

- Remove screw **1** and remove the ABS sensor from its bore.



- Remove screws **2** from the right brake caliper.



- Force the brake pads **3** slightly apart by rocking brake caliper **4** back and forth against brake disc **5**.

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

ATTENTION

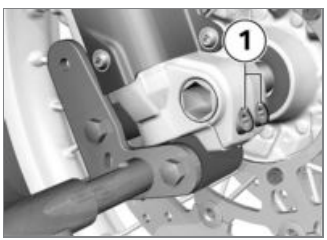
Unwanted inward movement of the brake pads

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

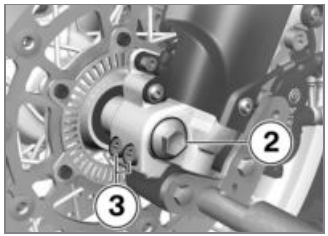
- Do not operate the brakes with a brake caliper not correctly secured.◀
- Carefully pull the brake calipers back and out until clear of the brake discs.
- Place the motorcycle on a suitable auxiliary stand.

– with centre stand OE

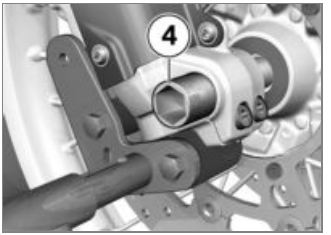
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◁
- Raise front of motorcycle until the front wheel can turn freely. BMW Motorrad recommends the BMW Motorrad front-wheel stand for lifting the motorcycle.
- Install the front-wheel stand (➠ 101).



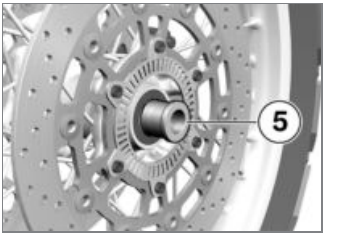
- Slacken right axle clamping screws **1**.



- Remove axle screw **2**.
- Slacken left axle clamping screws **3**.
- Push the axle in as far as it will go.



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



- Remove spacing bushing **5** from the left-hand side of the wheel hub.

Installing front wheel

WARNING

Use of a non-standard wheel

Malfunction as part of ABS and ASC control interventions

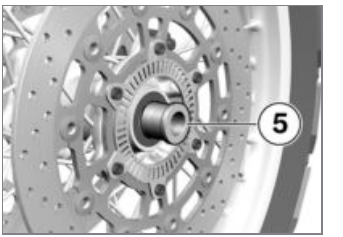
- See the information on the effect of wheel size on the ABS and ASC systems at the start of this chapter.◀

ATTENTION

Tightening threaded fasteners to incorrect tightening torque

Damage, or threaded fasteners work loose

- Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀



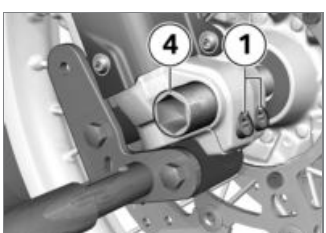
- Slip spacing bushing **5** onto the left-hand side of the wheel hub.

ATTENTION

Front wheel installed wrong way round

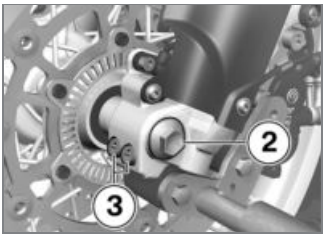
Risk of accident

- Note direction-of-rotation arrows on tyre or rim.◀
- Roll the front wheel into position between the forks, making sure that the brake disc passes between the brake pads of the brake caliper on the left.



- Raise the front wheel and insert axle **4** until seated.
- Tighten right axle clamping screws **1** to the specified tightening torque or install a suitable tool to counter-hold for the next step in the assembly procedure.

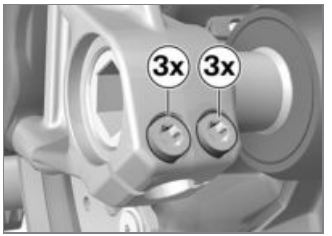
Clamp of quick-release axle
Tightening sequence: Tighten screws six times in alternate sequence
19 Nm



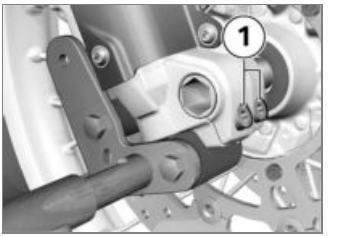
- Install axle screw **2** and tighten to the specified tightening torque.

Axle screw in front quick-release axle
30 Nm

- Tighten left axle clamping screws **3** to the specified tightening torque.



Clamp of quick-release axle
Tightening sequence: Tighten screws six times in alternate sequence
19 Nm

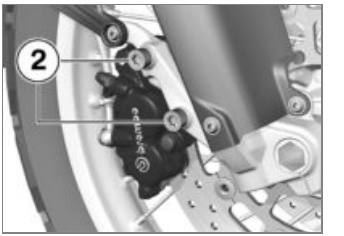


- If fully tightened beforehand, slacken right axle clamping screws **1** again.
- Remove the front-wheel stand.

– without centre stand OE

- Remove the auxiliary stand.◁

- Ease the right brake caliper onto the brake disc.

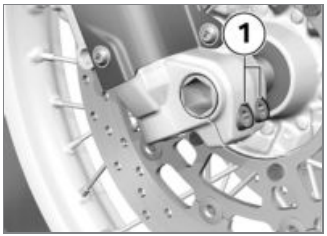


- Tighten screws **2** to the specified tightening torque.

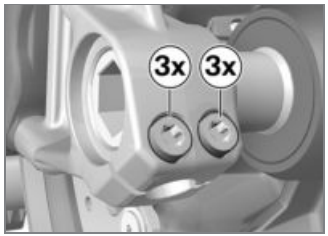
Brake caliper to telescopic fork
38 Nm

- Insert the ABS sensor into its bore and install screw **1**.
- Remove the adhesive tape from the wheel rim.
- Operate the brake several times until the brake pads are bedded.

- Firmly compress the front forks several times.



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

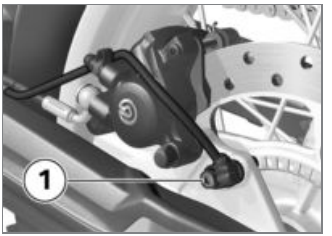


	Clamp of quick-release axle
Tightening sequence: Tighten screws six times in alternate sequence	
19 Nm	

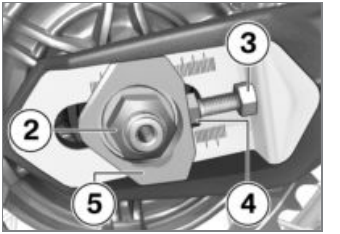
Removing rear wheel

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

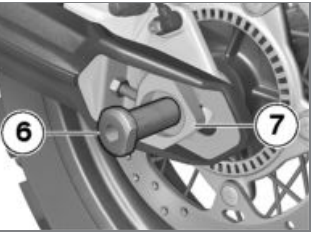
– with centre stand OE
- Make sure the ground is level and firm and place the motorcycle on its centre stand.◁



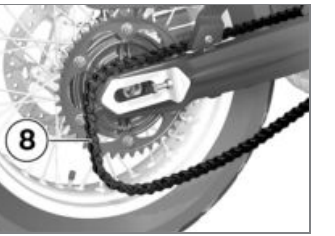
- Remove screw **1** and remove the pulse sensor from its bore.



- Remove axle nut **2**.
- Slacken locknuts **3** on left and right by turning them counter-clockwise.
- Back off adjusting screws **4** on left and right by turning them counter-clockwise.
- Remove adjusting plate **5** and push the axle in as far as it will go.



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



- Roll the rear wheel as far forward as possible and disengage chain **8** from the sprocket.

- Roll the rear wheel back until it is clear of the swinging arm.

NOTICE

The sprocket and the spacer sleeves on left and right are loose fits in the wheel. When removing, make sure that no parts are damaged or mislaid.◀

Install the rear wheel

WARNING

Use of a non-standard wheel
Malfunction as part of ABS and ASC control interventions

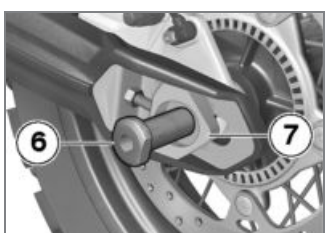
- See the information on the effect of wheel size on the ABS and ASC systems at the start of this chapter.◀

ATTENTION

Tightening threaded fasteners to incorrect tightening torque
Damage, or threaded fasteners work loose

- Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀
- Roll the rear wheel into the swinging arm, making sure that the brake disc passes between the brake pads.

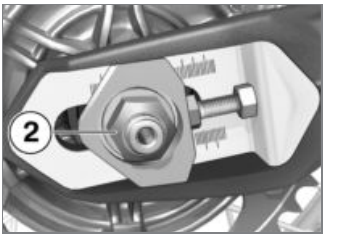
- Roll the rear wheel as far forward as possible and loop chain **8** over the sprocket.



- Seat left adjusting plate **7** in the swinging arm and install quick-release axle **6** in the

brake caliper and the rear wheel.
- Make sure that the axle fits into the recess of the adjusting plate.

- Install right adjusting plate **5**.



- Install nut **2**, but do not tighten it at this point.

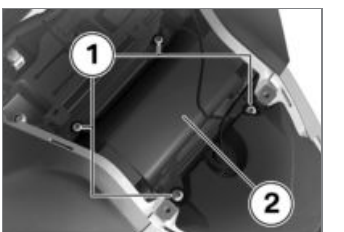
– without centre stand OE
- Remove the auxiliary stand.◁

- Insert the impulse sensor into the bore and install screw **1**.
- Adjust chain sag (➠ 135).

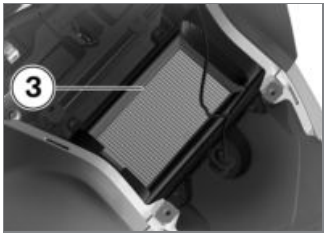
Air filter

Removing air filter

- Removing centre trim panel (➠ 127).

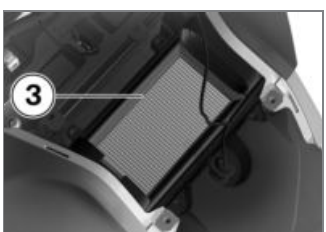


- Remove four screws **1**.
- Remove the air filter cover **2**, slightly pushing the side trim panel outwards to do so.

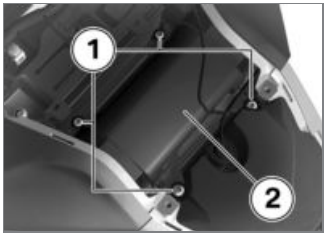


• Remove air filter **3**.

Install air filter



• Install air filter **3**.

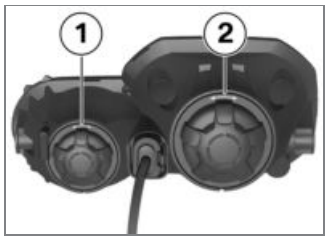


• Place air filter cover **2** in position, easing the side trim panels out slightly to do so.
• Install screws **1** with the washers.
• Installing centre trim panel (➠ 127).

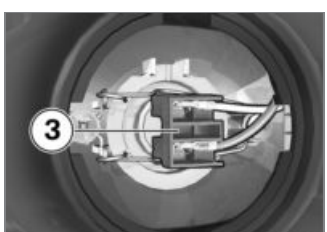
Light source

Replacing bulbs for low-beam headlight and high-beam headlight

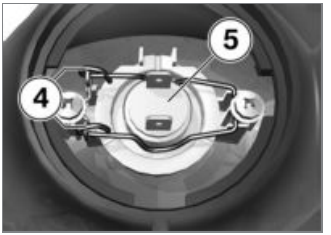
• Make sure the ground is level and firm and place the motorcycle on its stand.
• Switch off the ignition.



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



• Disconnect plug **3**.



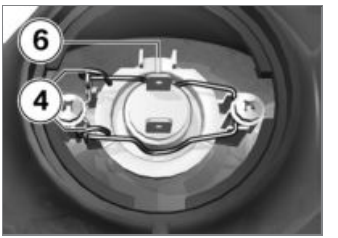
- Disengage spring clips **4** from the fastenings and swing them aside.
- Remove bulb **5**.

- Replace the defective bulb.

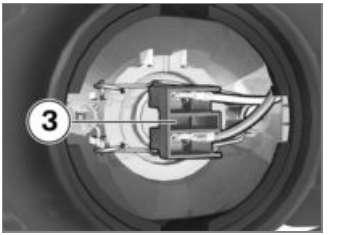
Bulb for high-beam headlight
H7 / 12 V / 55 W

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

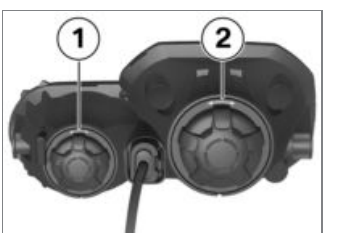
- Hold the new bulb by the base only, in order to keep the glass free of foreign matter.



- Install the bulb, making sure that alignment is correct at position **6**.
- Close and lock spring clips **4**.



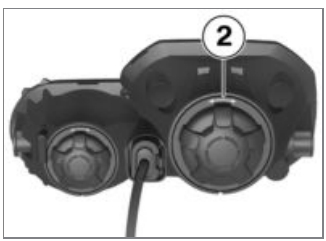
- Connect plug **3**.



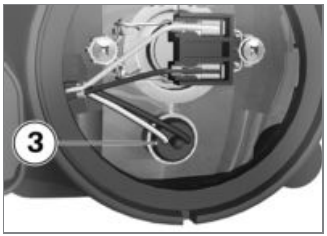
- Install cover **1** or cover **2**, as applicable.

Replacing bulb for parking light

- Place the motorcycle on its stand on firm, even ground.
- Switch off the ignition.



- Remove cover **2**.



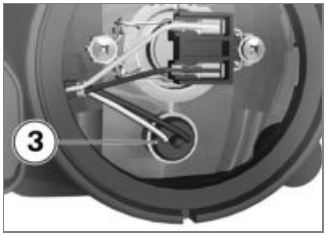
- Pull socket **3** out of the headlight housing.

- Remove the bulb from the socket.
- Replace the defective bulb.

	Bulb for parking light
W5W / 12 V / 5 W	

- Use a clean, dry cloth to hold the new bulb in order to keep the glass free of foreign matter.

- Push the bulb into the bulb socket.



- Insert socket **3** into the headlight housing.

- Install cover **2**.

Replacing LED for brake light and rear light

- The LED rear light can be replaced only as a complete unit. Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.

Replacing bulbs for front and rear turn indicators

– with LED turn indicators OE

- The LED flashing turn indicators can be replaced only as a complete unit. Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.◁

– without LED turn indicators OE

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

- Remove screw **1**.

- Pull the glass out of the reflector housing at the threaded-fastener side.

- Turn bulb **2** counter-clockwise and remove it from the light housing.
- Replace the defective bulb.

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

- Use a clean, dry cloth to hold the new bulb in order to keep the glass free of foreign matter.

- Turn bulb **2** clockwise to install it in the bulb housing.

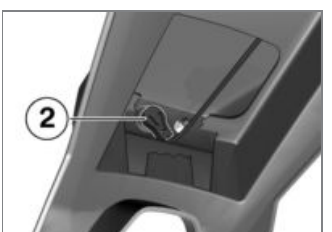
- Working from the inboard side, insert the glass into the light housing and close the housing.

- Install screw **1**.◁

Replacing number-plate light bulbs

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

- Remove screw **1** from the mudguard cover and remove the cover.



- Pull bulb holder **2** out of the light carrier.

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

	Light source for the number plate light
W5W / 12 V / 5 W	

- Use a clean, dry cloth to hold the new bulb in order to keep the glass free of foreign matter.

- Insert the bulb into the bulb socket.

- Seat bulb holder **2** in the light carrier.

- Hold the mudguard cover in position and install screw **1**.

Replace auxiliary headlights

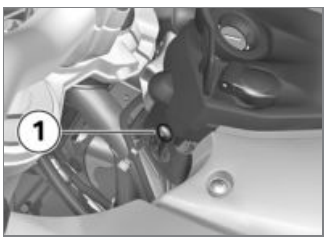
– with LED auxiliary headlights[OA]

- An auxiliary headlight can only be replaced in its entirety. Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.

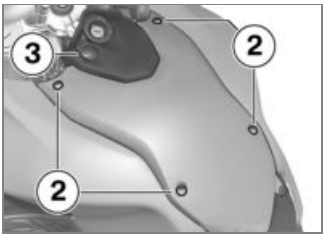
Trim panel components

Removing centre trim panel

- Remove seat (➠ 52).



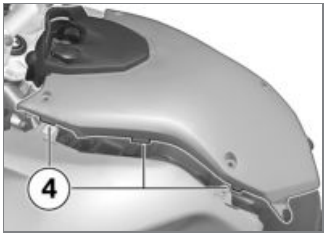
- Remove screws **1** on left and right.



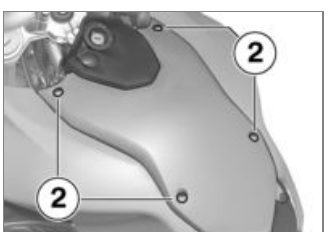
- Remove four screws **2**.
- Disconnect the plug from socket **3**.
- Remove the centre trim panel.

Installing centre trim panel

- Connect the plug to the socket.



- Manoeuvre the centre trim panel into position. Make sure that all three tabs **4** on left and right engage the side panels.



- Install four screws **2**.

- Install screws **1** on left and right.
- Installing the seat (➠ 53).

Jump-starting

ATTENTION

Excessive current flowing when the motorcycle is jump-started

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

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

ATTENTION

Contact between crocodile clips of jump leads and vehicle

Risk of short-circuit

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

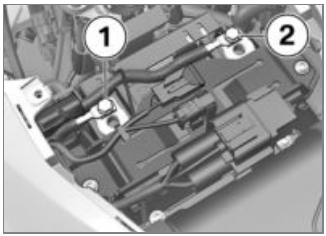
ATTENTION

Jump-starting with a voltage greater than 12 V

Damage to the on-board electronics

- Make sure that the battery of the donor vehicle has a voltage rating of 12 V.◀
- Removing centre trim panel (➠ 127).
- When jump-starting the engine, do not disconnect the battery

from the on-board electrical system.



- Begin by connecting one end of the red jump lead to the positive terminal of the discharged battery and the other end to the positive terminal of the donor battery (positive on this vehicle: position **2**).
- Then connect one end of the black jump lead to the negative terminal of the donor battery and the other end to the negative terminal of the discharged battery (negative on this vehicle: position **1**).

NOTICE

The spring-strut screw can be used as an alternative to the battery's negative terminal.◀

- Run the engine of the donor vehicle during jump-starting.
- Start the engine of the vehicle with the discharged battery in the usual way; if the engine does not start, wait a few minutes before repeating the attempt in order to protect the starter motor and the donor battery.
- Allow both engines to idle for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from the negative terminals first, then disconnect the second lead from the positive terminals.

NOTICE

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

- Installing centre trim panel (➠ 127).

Battery

Maintenance instructions

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

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

– Keep the surface of the battery clean and dry.
– Do not open the battery.
– Do not top up with water.
– Be sure to read and comply with the instructions for char-

ging the battery on the following pages.
– Do not turn the battery upside down.

ATTENTION

On-board electronics (e.g. clock) draining connected battery
Battery is deep-discharged; this voids the guarantee
- Connect a float charger to the battery if the motorcycle is to remain out of use for more than four weeks.◀

NOTICE

BMW Motorrad has developed a float charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, you can keep the battery charged during long periods of disuse, without having to disconnect the battery from the motorcycle's on-board systems. You can obtain additional information from your authorised BMW Motorrad dealer.◀

Charge battery when connected

- Disconnect devices plugged into the sockets.

ATTENTION

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

ATTENTION

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

ATTENTION

Charging a fully discharged battery via the socket or the extra socket
Damage to the on-board electronics
- If a battery has discharged to the extent that it is completely flat (battery voltage less than 9 V, status-indicator lights and multifunction display remain off when the ignition is switched on) **it has to be disconnected from the on-board circuits** and re-charged with the charger connected directly to the battery posts.◀

- Charge via the charging socket, with the battery connected to the motorcycle's on-board electrical system.

NOTICE

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

- Comply with the operating instructions of the charger.

NOTICE

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

Charging battery when disconnected

- charge the battery using a suitable charger.
- Comply with the operating instructions of the charger.
- After charging, remove the pole terminal of the charger from the battery posts.

NOTICE

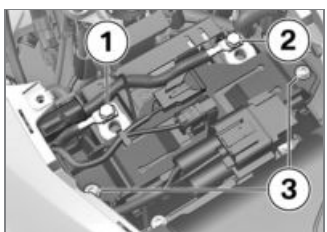
The battery has to be recharged at regular intervals in the course of a lengthy period of disuse. See the instructions for caring for your battery. Always fully recharge the battery before restoring it to use.◀

Removing battery

- Remove seat (➠ 52).
- Removing centre trim panel (➠ 127).
- Place the motorcycle on its stand on firm, even ground.

– with alarm system (DWA) OE

- If applicable, switch off the anti-theft alarm.◁
- Switch off the ignition.



ATTENTION

Battery not disconnected in accordance with correct procedure

Risk of short-circuit

- Always proceed in compliance with the specified disconnection sequence.◀

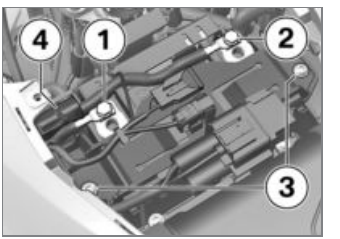
- First disconnect battery negative lead **1**.
- Then disconnect battery positive lead **2**.
- Remove the screws **3** on left and right and pull the batter holder forward, away from the battery.
- Lift the battery up and out; work it slightly back and forth if it is difficult to remove.

Installing battery

NOTICE

If the battery was disconnected from the motorcycle for a prolonged period of time it will be necessary to enter the current date in the instrument panel, in order to ensure that the service-due indicator functions correctly. If you want to have the date set consult a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

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



- Place the battery holder in position, making sure that the leads are correctly routed at position **4**.
- Install screws **3** on left and right.

ATTENTION

Battery not connected in accordance with correct procedure

Risk of short-circuit

- Always proceed in compliance with specified installation sequence.◀
- Install the positive battery cable **2**.
- Install the battery earth lead **1**.

– with alarm system (DWA) OE

- If applicable, switch on the anti-theft alarm.◁
- Installing centre trim panel (➠ 127).
- Installing the seat (➠ 53).
- Setting the clock (➠ 44).

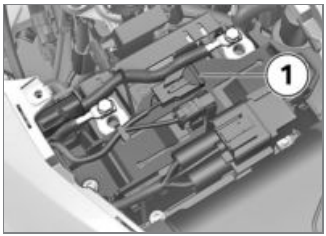
Fuses

Replacing main fuse

ATTENTION

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

- Switch off the ignition.
- Place the motorcycle on its stand on firm, even ground.
- Removing centre trim panel (➠ 127).



- Replace defective fuse **1**.

NOTICE

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

Main fuse	
30 A (Voltage regulator)	

- Installing centre trim panel (➠ 127).

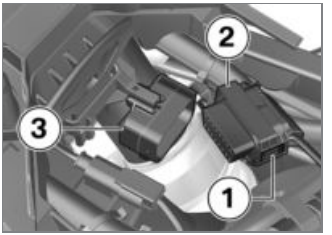
Diagnostic connector

Disengaging diagnostic connector

CAUTION

Incorrect procedure followed when loosening the diagnostic connector for the on-board diagnosis
Motorcycle experiences malfunctions
- Only have the diagnostic connector loosened by a specialist workshop or other authorised persons during your next BMW Service appointment.
- Have the work performed by appropriately trained staff.
- Refer to the vehicle manufacturer specifications.◀

- Remove seat (➠ 52).

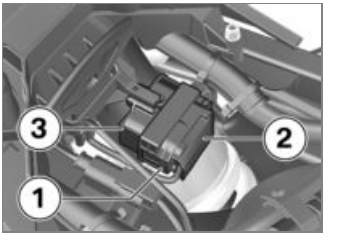


- Press the locks **1** on both sides.
- Disengage diagnostic connector **2** from holder **3**.

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

Securing the diagnostic connector

- Disconnect the interface for the diagnosis and information system.



- Seat diagnostic connector **2** in bracket **3**.

» Retainers **1** engage with an audible click.

- Installing the seat (➠ 53).

Chain

Lubricating chain

ATTENTION

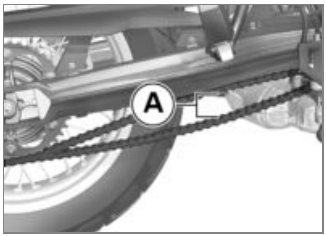
Inadequate cleaning and lubrication of the drive chain

Accelerated wear

- Clean and lubricate the drive chain at regular intervals.◀
- Lubricate the drive chain every 1000 km at the latest. Lubricate the chain more frequently if the motorcycle is ridden in wet, dusty or dirty conditions.
- Switch the ignition off and select neutral.
- Clean the drive chain with a suitable cleaning product, dry it and apply chain lubricant.
- Wipe off excess lubricant.

Check chain sag

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Turn the rear wheel until it reaches the position with the lowest amount of chain sag.



- Use a screwdriver to push the chain up and down and measure difference **A**.

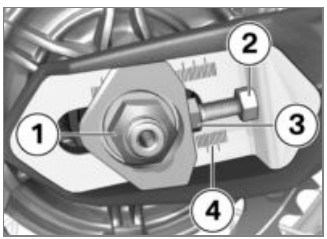
Chain deflection
35...45 mm (Motorcycle with no weight applied, supported on its side stand)

If measured value is outside permitted tolerance:

- Adjust chain sag (➠ 135).

Adjust chain sag

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



- Slacken quick-release axle nut **1**.
- Slacken locknuts **2** on left and right.
- Use adjusting screws **3** on left and right to adjust chain sag.
- Check chain sag (➠ 134).
- Make sure that scale readings **4** are the same on left and right.
- Tighten locknuts **2** on left and right to the specified tightening torque.

Locknut of the final-drive chain tensioning screw
19 Nm

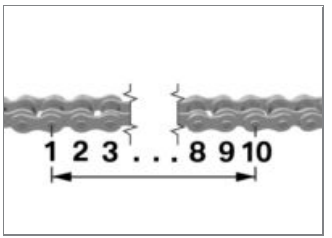
- Tighten quick-release axle nut **1** to the specified tightening torque.

Rear quick-release axle in swinging arm
100 Nm

Checking the chain wear

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Engage 1st gear.
- Turn the rear wheel in the normal direction of travel until the chain is tensioned.

- Measure the length of the chain over 9 rivets below the rear wheel swinging arm.



Permissible chain length
max 144.30 mm (measured **centre to centre** over 10 pins, chain pulled taut)

If the chain has stretched to the maximum permissible length:

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

Accessories

General instructions 138
Power sockets 138
Luggage 139
Cases 139
Topcase 143
Aluminium case 146
Aluminium topcase 148
Auxiliary headlights 150

General instructions

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Your BMW Motorrad authorised dealer will offer you professional advice in your selection of original BMW parts and accessories and other products approved by BMW.

These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for them. BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.

Also bear in mind the information on the effect of wheel size on running-gear control systems (➠ 112).

⚠ CAUTION

Use of other-make products

Safety risk

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

Whenever you are planning modifications, comply with all the legal requirements. Make sure that the vehicle does not infringe the national road-vehicle construction and use regulations applicable in your country.

Power sockets

Notes on use of power sockets:

Automatic switch-off

Power sockets are shut down automatically under the following circumstances:

– If the battery voltage is too low to maintain the vehicle's starting capability.
– If the maximum load capacity as stated in the technical data is exceeded.
– During the starting operation.

Operating electrical accessories

You can start using electrical accessories connected to the motorcycle's sockets only when the ignition is switched on. The

accessory remains operational if the ignition is subsequently switched off. Approximately 15 minutes after ignition is turned off, power sockets are switched off to lessen the burden on the on-board electrical system. Low-wattage electrical accessories might not be recognised by the vehicle's electronics. In such cases, power sockets are switched off very shortly after the ignition is turned off.

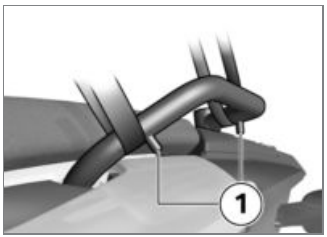
Cable routing

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

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

Luggage

Lashing luggage



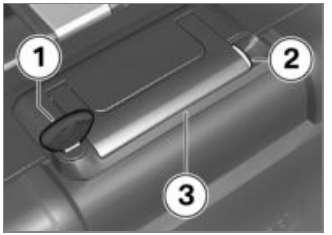
- Loop the luggage straps over the bar between the motorcycle and stops **1**.

- Position luggage strap **2** as shown here with a stuffbag as example.
- Check that the luggage is secure.

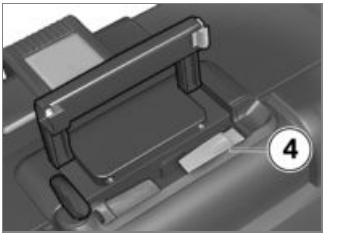
Cases

Opening cases

– with cases[OA]



- Turn key **1** in the case lock to right angles with the forward direction of travel.
- Keep the yellow latch **2** held and fold out the carry handle **3**.



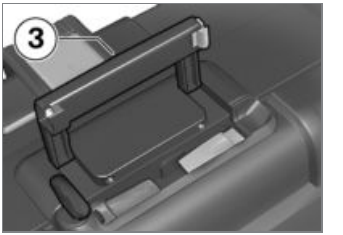
- Push yellow button **4** down and at the same time open the lid of the case.

Close cases

– with cases[OA]

- Turn the lock with the key until it is at right angles to the forward direction of travel.
- Close the case lid.

» The lid engages with an audible click.



ATTENTION

Closure of carrying handle with case lock latched

Damage to locking tab

- Make sure that the case lock is at right angles to the forward direction of travel when you close the carry handle.◀
- Close carry handle **3**.
- Turn the key in the case lock in line with the forward direction of travel and remove the key from the lock.

Adjusting case volume

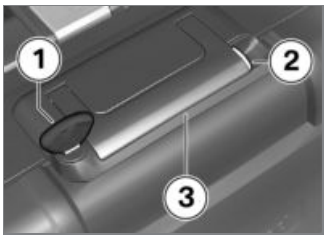
– with cases OA

- Open the case and remove all its contents.

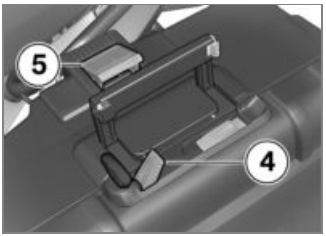
- Engage pivot lever **1** at the top limit position to set the case to minimum volume.
- Engage pivot lever **1** at the bottom limit position to set the case to maximum volume.
- Close the case.

Removing cases

– with cases OA



- Turn key **1** in the case lock to right angles to the forward direction of travel.
- Keep the yellow latch **2** held and fold out the carry handle **3**.

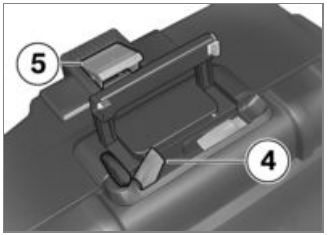


- Pull red release lever **4** up.
» Latching flap **5** pops up.
- Fully open the latching flap.
- Take a firm grip of the handle and lift the case out of the holder.

Installing cases

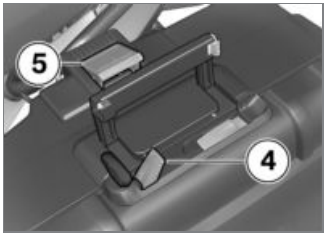
– with cases OA

- Turn the lock with the key until it is at right angles to the forward direction of travel.



- Fully open latching flap **5**, if necessary pulling up red release lever **4**.

- Position the case in case carrier **6**, then pivot it until it is seated at mount **7**.



- Push latching flap **5** down as far as it will go and hold it in this position.
- Push red release lever **4** down.

» Latching flap **5** engages.

ATTENTION

Closure of carrying handle with case lock latched

Damage to locking tab

- Make sure that the case lock is at right angles to the forward direction of travel when you close the carry handle.◀
- Close the carry handle.
- Turn the key parallel with the direction of travel and remove.

Maximum payload and maximum permissible speed

Note the maximum permissible payload and the speed limit for riding with cases fitted, as stated on the label inside the case. Contact your authorised BMW Motorrad dealer if you cannot find your combination of vehicle and cases on the label. The values for the combination described here are as follows:

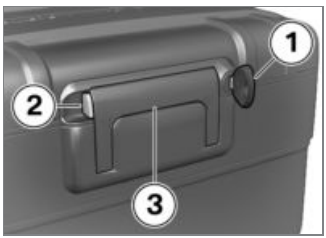
Maximum permissible speed for riding with cases fitted to the motorcycle
max 180 km/h

Payload per case
max 10 kg

Topcase

Opening topcase

– with topcase[OA]



- Turn key **1** in the topcase lock to the vertical position.
- Keep the yellow latch**2** held and fold out the carry handle.**3**.

- Push yellow button **4** forward and at the same time push the topcase lid up.

Closing topcase

– with topcase[OA]

- Turn key in the topcase lock to the vertical position.

- Press down firmly on the topcase lid to close.

ATTENTION

Closure of carrying handle with case lock latched

Damage to locking tab

- Make sure that the topcase lock is vertical when you close the carry handle.◀
- Close carry handle **3**.

» The handle engages with an audible click.

- Turn the key in the topcase lock to the horizontal position

and remove the key from the lock.

Adjusting topcase volume

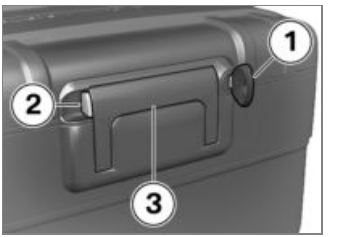
– with topcase[OA]

- Open the topcase and remove all its contents.

- Engage pivot lever **1** at the front limit position to set the case to maximum volume.
- Engage pivot lever **1** at the rear limit position to set the case to minimum volume.
- Close the topcase.

Removing the topcase

– with topcase[OA]



- Turn key **1** in the topcase lock to the vertical position.
- Keep the yellow latch **2** held and fold out the carry handle **3**.

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

» Latching flap **5** pops up.

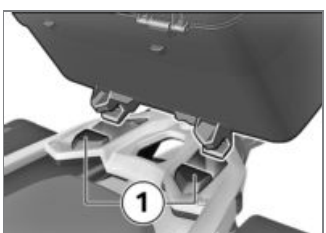
- Fully open latching flap **5**.
- Take a firm grip of the handle and lift the topcase out of the holder.

Installing topcase

– with topcase[OA]

- Turn key in the topcase lock to the vertical position.

- Fully open latching flap **5**, if necessary pulling red release lever **4** to the rear.



- Engage the topcase in front holders **1** of the topcase carrier plate.
- Press the topcase onto the topcase carrier plate at the rear.

- Push latching flap **5** fully closed and hold it in this position.
- Push red release lever **4** forward.

» The latching flap engages.

ATTENTION

Closure of carrying handle with case lock latched

Damage to locking tab

- Make sure that the topcase lock is vertical when you close the carry handle.◀
- Close the carry handle.
- Turn the key to the horizontal position and remove.

Maximum payload and maximum permissible speed

Note the maximum permissible payload and the speed limit for riding with topcase fitted, as stated on the label inside the topcase.

Contact your authorised BMW Motorrad dealer if you cannot find your combination of vehicle and topcase on the label.

The values for the combination described here are as follows:

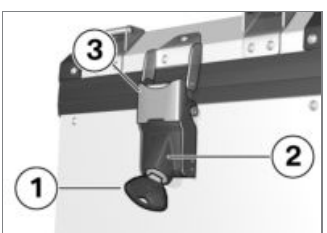
Maximum permissible speed for riding with topcase fitted to the vehicle
max 180 km/h

Payload of topcase
max 5 kg

Aluminium case

Opening cases

– with aluminium cases OA



- Turn key **1** counter-clockwise.

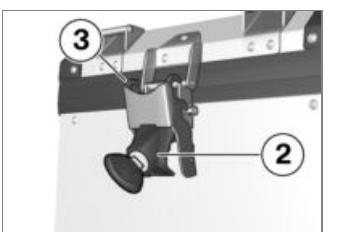
NOTICE

The case lid can be opened at either the left or the right latch.◀

- Push lock housing **2** upwards in order to release the catch **3**.
- Pull the latch **3** to one side and open the lid.

Closing cases

– with aluminium cases OA



- Close the case lid.
- Set the latch **3** on the lid.
- Push lock housing **2** down, making sure that the latch toggle grips firmly in the lid.
- To secure the lock, turn the key clockwise and remove.

Removing case lid

– with aluminium cases OA

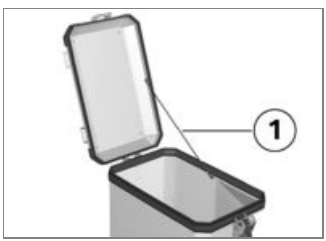
- Open one latch of the case lid.

- Disengage retainer **1**.
- Close the case lid.
- Open the second catch of the case lid.
- Remove the case lid.

Installing case lid

– with aluminium cases OA

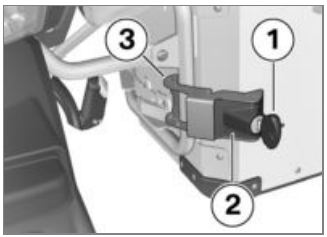
- Place the case lid on the case.
- Close one latch of the case lid.
- Open the case lid at the fastened side.



- Engage retainer **1**.
- Close the case lid.
- Close the second latch of the case lid.

Removing cases

– with aluminium cases OA



- Turn key **1** counter-clockwise.
- Push lock housing **2** to one side in order to release the catch **3**.
- Push the latch **3** to one side while holding the case.

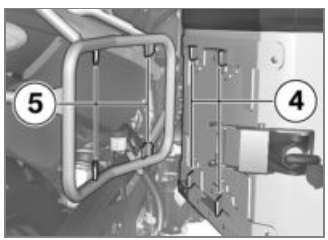
⚠ CAUTION

Left-hand case and case holder heat up during prolonged journeys
Risk of burn injury

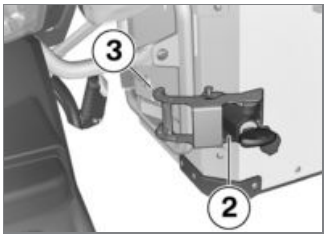
- Allow the case and the case carrier to cool down before removing the case.◀
- Pull the case back as far as it will go and then out to remove.

Installing cases

– with aluminium cases OA



- Set the case on the case carrier and push it forward in such a way that mounts on case carrier **5** and on case **4** engage each other.



- Place the latch **3** on the case carrier while holding the case.
- Push lock housing **2** to the side, making sure that the latch toggle grips firmly on the carrier.
- Turn the key clockwise and remove.

Maximum payload and maximum permissible speed

Note the maximum permissible payload and the speed limit for riding with cases fitted, as stated on the label inside the case.

Contact your authorised BMW Motorrad dealer if you cannot find your combination of vehicle and cases on the label. The values for the combination described here are as follows:

Maximum permissible speed for riding with cases fitted to the motorcycle
max 180 km/h

Payload per case
max 10 kg

Aluminium topcase

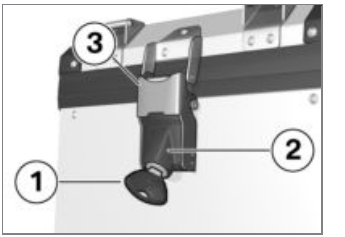
Topcase and off-roading

– with aluminium topcase[OA]

It is advisable to either remove the topcase or fit the backrest cushion available as an optional accessory if you intend off-roading.

Opening topcase

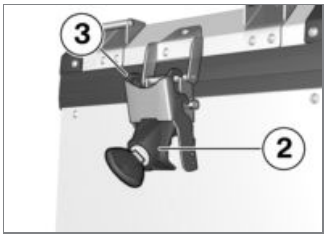
– with aluminium topcase[OA]



- Turn key **1** counter-clockwise.
- Push lock housing **2** upwards in order to release the catch **3**.
- Pull the latch **3** backwards and open the lid.

Closing topcase

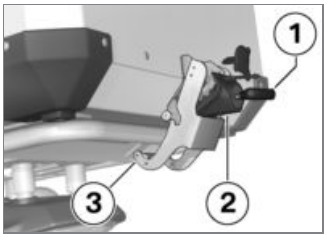
– with aluminium topcase[OA]



- Close the topcase lid.
- Set the latch **3** on the lid.
- Push lock housing **2** down, making sure that the latch toggle grips firmly in the lid.
- To secure the lock, turn the key clockwise and remove.

Removing topcase

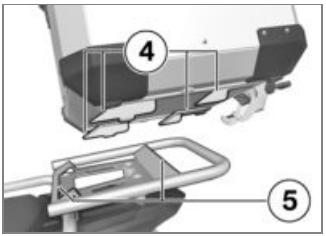
– with aluminium topcase OA



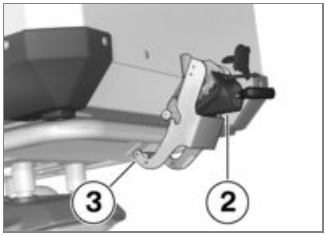
- Turn key **1** counter-clockwise.
- Push lock housing **2** downwards in order to release the catch **3**.
- Pull the latch **3** backwards.
- Pull the topcase to the rear and then lift it up to remove.

Installing topcase

– with aluminium topcase OA



- Set the topcase on the topcase rack and push it forward in such a way that mounts on topcase rack **5** and on topcase **4** engage each other.



- Set the latch **3** on the topcase holders.
- Push lock housing **2** up, making sure that the latch toggle grips firmly on the carrier.
- To secure the lock, turn the key clockwise and remove.

Maximum payload and maximum permissible speed

Note the maximum permissible payload and the speed limit for riding with topcase fitted, as stated on the label inside the topcase.

Contact your authorised BMW Motorrad dealer if you cannot find your combination of vehicle and topcase on the label.
The values for the combination described here are as follows:

Maximum permissible speed for riding with topcase fitted to the vehicle
max 180 km/h
Payload of topcase
max 5 kg

Auxiliary headlights

– with LED auxiliary headlights OA

Operating auxiliary headlights

NOTICE

The auxiliary headlights have approval as fog lights and their use is permissible in bad weather conditions only. Always comply with the road traffic regulations in force in the country in which the vehicle is used.◀

- Start the engine.

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

The telltale light for the auxiliary headlights is on.

» If the auxiliary headlights were turned on before the motor was switched off, they will be automatically switched back off.

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

Care

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Cleaning easily damaged components 155
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Care products

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

ATTENTION

Use of unsuitable cleaning and care products

Damage to vehicle parts

- Do not use solvents such as cellulose thinners, cold cleaners, fuel or the like, and do not use cleaning products that contain alcohol.◀

Washing the vehicle

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

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

Make sure that the vehicle is washed frequently, especially during the winter months.

To remove road salt, clean the motorcycle with cold water immediately after every trip.

WARNING

Wet brake discs and brake pads after vehicle wash, after riding through water and in rainy conditions

Diminished braking effect, risk of accident

- Apply the brakes in good time to allow the friction and heat to dry the brake discs and brake pads.◀

ATTENTION

Effect of road salt intensified by warm water

Corrosion

- Use only cold water to wash off road salt.◀

ATTENTION

Damage due to high water pressure from high pressure cleaners or steam cleaners

Corrosion or short-circuit, damage to seals, to the hydraulic brake system, to the electrics and the seat

- Exercise restraint when using a steam jet or high-pressure cleaning equipment.◀

NOTICE

Aluminium cases and topcases do not have a surface coating. Care in accordance with the instructions set out below will help ensure the best possible appearance:
Remove road salt and corrosive deposits by cleaning with cold water immediately after every trip.◀

Cleaning easily damaged components

Plastics

ATTENTION

Use of unsuitable cleaning agents
Damage to plastic surfaces

- Do not use cleaning agents that contain alcohol, solvents or abrasives.
- Do not use insect-remover pads or cleaning pads with hard, scouring surfaces.◀

Body panels
Clean the trim panels with water and BMW plastic care emulsion.

Windscreens and lenses made of plastic
Clean off dirt and insects with a soft sponge and plenty of water.

NOTICE

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

Chrome

Use plenty of water and BMW shampoo to clean chrome, particularly if it has been exposed to road salt. 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

- Take care not to bend the radiator fins when cleaning.◀

Rubber

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

ATTENTION

Application of silicone sprays to rubber seals
Damage to the rubber seals

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

Paint care

Washing the vehicle regularly will help counteract the long-term effects of substances that can damage the paint, especially if your vehicle is ridden in areas with high air pollution or natural sources of dirt, for example tree resin or pollen.
Remove particularly aggressive substances immediately, however, as otherwise the paint can be affected or become discoloured. Substances of this nature include spilt fuel, oil, grease, brake fluid and bird droppings. We recommend BMW vehicle polish or BMW paint cleaner for this purpose.
Marks on the paintwork are particularly easy to see after the motorcycle has been washed. Remove stains of this kind immediately, using cleaning-grade benzene or petroleum spirit on a clean cloth or ball of cotton wool. BMW Motorrad recommends BMW tar remover for removing specks of tar. Remember to wax the parts treated in this way.

Protective wax coating

BMW Motorrad recommends applying only BMW car wax or products containing carnauba wax or synthetic wax.
It is time to rewax the paintwork when water "puddles" on the surface, instead of forming beads.

Laying up the motorcycle

- Clean the motorcycle.
- Fill the motorcycle's fuel tank.
- Removing battery (➠ 131).
- Spray the brake and clutch lever pivots and the main and side stand pivots with a suitable lubricant.
- Coat bright metal and chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Stand the motorcycle in a dry room in such a way that there is no load on either wheel (preferably using the front-wheel and rear-wheel stands from BMW Motorrad).

Restoring motorcycle to use

- Remove the protective wax coating.
- Clean the motorcycle.
- Installing battery (➠ 132).
- Comply with checklist (➠ 79).

Technical data

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Wheels and tyres 167
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Troubleshooting chart

The engine does not start:

Possible cause	Rectification
Side stand extended and gear engaged	Select neutral or retract the side stand.
Gear engaged and clutch not disengaged	Select neutral or pull the clutch lever.
No fuel in tank	Refuelling.
Battery flat	Charging the connected battery.
Overheating protection for starter motor has been activated. Starter motor can only be operated for a limited period of time.	Allow the starter motor to cool down for approx. 1 minute before using it again.

Threaded fasteners

Front wheel	Value	Valid
Brake caliper to telescopic fork		
M10 x 40	38 Nm	
Clamp of quick-release axle		
M8 x 25	**Tighten screws six times in alternate sequence**	
	19 Nm	
Axle screw in front quick-release axle		
M14 x 1.5	30 Nm	

Rear wheel	Value	Valid
Locknut of the final-drive chain tensioning screw		
M8	19 Nm	
Rear quick-release axle in swinging arm		
M16 x 1.5	100 Nm	

Mirror arm	Value	Valid
Locknut (mirror) to clamping piece		
M10 x 1.5 Multi-wax spray	20 Nm	
Clamping piece (mirror) to clamping block		
M10 x 1.5	30 Nm	

Fuel

Recommended fuel grade	Super unleaded (max. 10 % ethanol, E10) 95 ROZ/RON 89 AKI
– with regular unleaded[OE]	Regular unleaded (slight power- and consumption-related restrictions) (max. 10 % ethanol, E10) 91 ROZ/RON 87 AKI
Usable fuel capacity	approx. 16 l
Reserve fuel	min 2.7 l

Engine oil

Engine oil, capacity	approx. 2.9 l, with filter change
Specification	SAE 15W-50, API SJ / JASO MA2, Additives (e.g. molybdenum-based) are not permissible because they can attack coated components of the engine, BMW Motorrad recommends BMW Motorrad ADVANTEC Pro oil.

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Oil additives	BMW Motorrad recommends not using oil additives, because they can have a detrimental effect on clutch operation. Please do not hesitate to contact your authorised BMW Motorrad dealer if you have any questions relating the choice of a suitable engine oil for your motorcycle.

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Engine

Location of engine number	Crankcase, bottom right
Engine design	Water cooled 2 cylinder four stroke engine with four valves operated via rocker arm per cylinder, two camshafts above and dry-sump lubrication
Displacement	798 cm^3
Cylinder bore	82 mm
Piston stroke	75.6 mm
Compression ratio	12 : 1
Nominal output	63 kW, at engine speed: 7500 min^{-1}
– with regular unleaded OE	61 kW, at engine speed: 7500 min^{-1}
– with power reduction to 35 kW OE	35 kW, at engine speed: 7000 min^{-1}

Torque	83 Nm, at engine speed: 5750 min^{-1}
– with regular unleaded[OE]	81 Nm, at engine speed: 5750 min^{-1}
– with power reduction to 35 kW[OE]	63 Nm, at engine speed: 4000 min^{-1}
– with power reduction to 35 kW[OE] – with regular unleaded[OE]	61 Nm, at engine speed: 4000 min^{-1}
Maximum engine speed	max 9000 min^{-1}
Idle speed	1250^{+50} min^{-1}, vehicle at standstill
Exhaust emissions standard	EU 4

Clutch

Clutch type	Multiplate clutch running in oil bath

Transmission

Gearbox type	Claw-shift 6-speed transmission, integrated into engine block
Gearbox transmission ratios	1.943 (35/68 teeth), Primary transmission 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

Final drive

Type of final drive	Chain drive
Type of rear suspension	Two-arm cast-aluminium swinging arm
Final drive, number of teeth (Pinion / sprocket)	16/42

Frame

Frame type	Tubular spaceframe
Type plate location	Steering head, front top
Position of the Vehicle Identification Number	Frame, front right, on steering head

Chassis and suspension

Front wheel	
Type of front suspension	Upside-down fork
Spring travel, front	230 mm, at wheel
– with lowered suspension OE	192 mm, at wheel
Rear wheel	
Type of rear suspension	Two-arm cast-aluminium swinging arm
Type of rear suspension	Direct-acting central spring strut with steplessly adjustable, rebound-stage damping
– with Electronic Suspension Adjustment (ESA) OE	Direct-acting central spring strut with electronically adjustable, rebound-stage damping
Spring travel at rear wheel	215 mm, at wheel
– with lowered suspension OE	190 mm, at wheel

Brakes

Front wheel	
Type of front brake	Hydraulically operated twin disc brake with 2-piston floating calipers and floating brake discs
Brake-pad material, front	Sintered metal
Brake disc thickness, front	5.0 mm, when new min 4.5 mm, wear limit
Rear wheel	
Type of rear brake	Hydraulically actuated disc brake with 1-piston floating caliper and fixed disc
Brake-pad material, rear	Organic material
Brake disc thickness, rear	5.0 mm, when new min 4.5 mm, wear limit
Blow-by clearance of the footbrake lever	2...2.5 mm, between footbrake lever and stop

Wheels and tyres

Recommended tyre sets	Your authorised BMW Motorrad dealer will be happy to supply an up-to-date list of the approved wheel/tyre combinations, or you can check the information posted on the bmw-motorrad.com website.
Speed category, front/rear tyres	V, required at least: 240 km/h
Front wheel	
Front wheel type	Spoked wheel, MT H2
Front wheel rim size	2.15" x 21" MTH2
Tyre designation, front	90/90-21
Load index, front tyre	min. 42
Permissible front-wheel imbalance	max 5 g
Balance weight for front wheel (One half of the weights must be attached to the left and the other half to the right of the wheel rim)	max 80 g

Rear wheel	
Rear-wheel type	Spoked wheel, MT H2
Rear wheel rim size	4.25" x 17" MTH2
Tyre designation, rear	150/70 R 17
Load index, rear tyre	min 66
Permissible rear-wheel imbalance	max 45 g
Balance weight for the rear wheel (One half of the weights must be attached to the left and the other half to the right of the wheel rim)	max 80 g
Tyre pressure	
Tyre pressure, front	2.2 bar, One-up, tyre cold 2.5 bar, Two-up and/or with luggage, tyre cold
Tyre pressure, rear	2.5 bar, One-up, tyre cold 2.9 bar, Two-up and/or with luggage, tyre cold

Electrical system

Main fuse	30 A, voltage regulator
Fuses	Electronic fuses protect all the circuits. If an electronic fuse trips and de-energises a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.
Electrical rating of on-board sockets	5 A
Battery	
Battery type	AGM (Absorbent Glass Mat) battery
Battery rated voltage	12 V
Battery rated capacity	12 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK DCPR 8 E
Electrode gap of spark plug	0.9...1.0 mm, when new
Light source	
Bulb for high-beam headlight	H7 / 12 V / 55 W
Bulbs for the low-beam headlight	H7 / 12 V / 55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for tail light/brake light	LED

Maximum number of defective LEDs in rear-light unit	6, brake light/rear light
Light source for the number 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

Front-seat height	880 mm, without rider at unladen weight
– with comfort seat OE	895 mm, without rider at unladen weight
– with seat, low OE	850 mm, without rider at unladen weight
– with lowered suspension OE	820 mm, without rider at unladen weight
Rider's inside-leg arc, heel to heel	1930 mm, without rider at unladen weight
– with seat, low OE	1880 mm, without rider at unladen weight
– with comfort seat OE	1960 mm, without rider at unladen weight
– with lowered suspension OE	1790 mm, without rider at unladen weight

Weights

Vehicle kerb weight	217 kg, DIN unladen weight, ready for road, 90 % load of fuel, without OE
Maximum payload	227 kg
– with lowered suspension[OE]	227 kg

Riding specifications

Top speed	>200 km/h
– with power reduction to 35 kW[OE]	165 km/h

Service

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Confirmation of service 192

BMW Motorrad Service

BMW Motorrad has an extensive network of dealerships in place to look after you and your motorcycle in more than 100 countries. Authorised BMW Motorrad dealerships have the technical information and the technical know-how to reliably carry out all maintenance and repair work on your BMW.

You can locate your nearest authorised BMW Motorrad dealership by visiting our website: **bmw-motorrad.com**

WARNING

Maintenance and repair work not in compliance with correct procedure

Risk of accident due to consequential damage

- BMW Motorrad recommends having work of this nature carried out on the vehicle by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

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

Your authorised BMW Motorrad dealer can provide information on BMW services and the work undertaken as part of each service.

BMW Motorrad Mobility services

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

Maintenance work

BMW Pre-delivery Check

Your authorised BMW Motorrad dealer conducts the BMW predelivery check before handing over the vehicle to you.

BMW Running-in Check

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

BMW Service

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

The service-due indicator in the multifunction display reminds you about one month or 1000 km in advance when the time for a service is approaching, on the basis of the programmed values.

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

The following maintenance schedule lists the scopes of maintenance work required for your vehicle:

	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 Replace air filter element
7 Check or replace air filter element
8 Oil change in the telescopic forks
9 Change brake fluid, entire system

a annually or every 10000 km (whichever comes first)
b if vehicle is 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 Motorrad Service, standard scope

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

- Performing vehicle test with BMW Motorrad diagnostic system
- Checking coolant level
- Checking/adjusting clutch play
- Checking front brake pads and brake discs for wear
- Checking rear brake pads and brake disc for wear
- Checking brake fluid level, front and rear
- Visual inspection of the brake lines, brake hoses and connections
- Checking spoke tension, adjusting if necessary
- Checking tyre pressures and tread depth
- Checking and lubricating chain drive
- Checking ease of movement of side stand
- Checking ease of movement of centre stand
- Checking steering-head bearing
- Check the lights and signalling equipment
- Function test, engine start suppression
- Final inspection and check for road safety
- Setting service-due date and service countdown distance
- Checking battery charge state
- Confirming the BMW service in the on-board literature

BMW Pre-delivery Check

Completed

on_____

Stamp, signature

BMW Running-in Check

Completed

on_____

Odometer reading_____

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

Stamp, signature

BMW Service

Completed

on_____

Odometer reading_____

Next service

at the latest

on_____

or, if reached beforehand

Odometer reading_____

_____

Stamp, signature

Item	Yes	No
BMW Motorrad Service, standard scope	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Checking or replacing air filter element (for maintenance)	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service

Completed

on_____

Odometer reading_____

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

_____
Stamp, signature

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BMW Motorrad Service, standard scope	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Checking or replacing air filter element (for maintenance)	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service

Completed

on_____

Odometer reading_____

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

_____
Stamp, signature

Item	Yes	No
BMW Motorrad Service, standard scope	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Checking or replacing air filter element (for maintenance)	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

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BMW Service

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Notes

BMW Service

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on_____

Odometer reading_____

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

_____
Stamp, signature

Item	Yes	No
BMW Motorrad Service, standard scope	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Checking or replacing air filter element (for maintenance)	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

Confirmation of service

The table is intended as a record of maintenance and repair work, the installation of optional accessories and, if appropriate, special campaign (recall) work.

Item	Odometer reading	Date

Item	Odometer reading	Date

Appendix

Certificate for electronic immobiliser 196

FCC Approval

Ring aerial in the ignition switch

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

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

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

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

Approbation de la FCC

Antenne annulaire présente dans le commutateur d'allumage

Pour vérifier l'autorisation de la clé de contact, le système d'immobilisation électronique échange des informations avec la clé de contact via l'antenne annulaire.
Le présent dispositif est conforme à la partie 15 des règles de la FCC. Son utilisation est soumise aux deux conditions suivantes :

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

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

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

Original rider's manual, printed in Germany.

Important data for refuelling:

Fuel	
Recommended fuel grade	Super unleaded (max. 10 % ethanol, E10) 95 ROZ/RON 89 AKI
– with regular unleaded[OE]	Regular unleaded (slight power- and consumption-related restrictions) (max. 10 % ethanol, E10) 91 ROZ/RON 87 AKI
Usable fuel capacity	approx. 16 l
Reserve fuel	min 2.7 l
Tyre pressure	
Tyre pressure, front	2.2 bar, One-up, tyre cold 2.5 bar, Two-up and/or with luggage, tyre cold
Tyre pressure, rear	2.5 bar, One-up, tyre cold 2.9 bar, Two-up and/or with luggage, tyre cold

For further information on all aspects of your motorcycle, visit bmw-motorrad.com

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