Rider's Manual (US Model)

R 1200 GS

Motorcycle/Dealer Data

Motorcycle data

Model

Vehicle identification number

Color number

Initial registration

License plate

Dealer Data

Contact in Service

Ms./Mr.

Phone number

Dealer's address/phone number (company stamp)

Welcome to BMW

We congratulate you on your choice of a motorcycle from BMW and welcome you to the community of BMW riders.
Familiarize yourself with your new motorcycle so that you can ride it safely and confidently in all highway traffic situations.
Please read this Rider's Manual carefully before starting to use your new BMW motorcycle. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features.
In addition, it contains information on maintenance and care to help you maintain your vehicle's reliability and safety, as well as its value.
If you have any questions concerning your motorcycle, your authorized BMW Motorrad retailer is always happy to provide advice and assistance.

We wish you many miles of safe and enjoyable riding

BMW Motorrad.

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Table of Contents

You can also consult the index at the end of this Rider's Manual if you want to find a particular topic or item of information.

General instructions

Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and repair work carried out on your vehicle will be documented in Chapter 11. Proof of the maintenance work performed is a prerequisite for generous treatment of claims. When the time comes to sell your BMW, please remember to hand over this Rider's Manual; it is an important part of the motorcycle.

Abbreviations and symbols

Indicates warnings that you must comply with for reasons of your safety and the safety of others, and to protect your product against damage.

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

◀ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

Reference to a page with more detailed information.

◁ Indicates the end of accessory or equipment-dependent information.

Tightening torque.

Technical data.

OE Optional equipment
BMW Motorrad optional extras are already completely installed during motorcycle production.

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

EWS Electronic immobilizer.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.

ASC Automatic Stability Control.

ESA Electronic suspension adjustment.

TPC/ RDC Tire Pressure Control (TPC).

Equipment

When you ordered your BMW motorcycle, you chose various items of custom equipment. This Rider's Manual describes optional equipment (OE) offered by BMW and selected optional accessories (OA). This explains why the manual may also contain descriptions of equipment which you have not ordered. Please note, too, that your motorcycle might not be exactly as illustrated in this manual on account of country-specific differences.
If your BMW is equipped with options or accessories not described in this Rider's Manual, then this equipment is described in separate operating instructions.

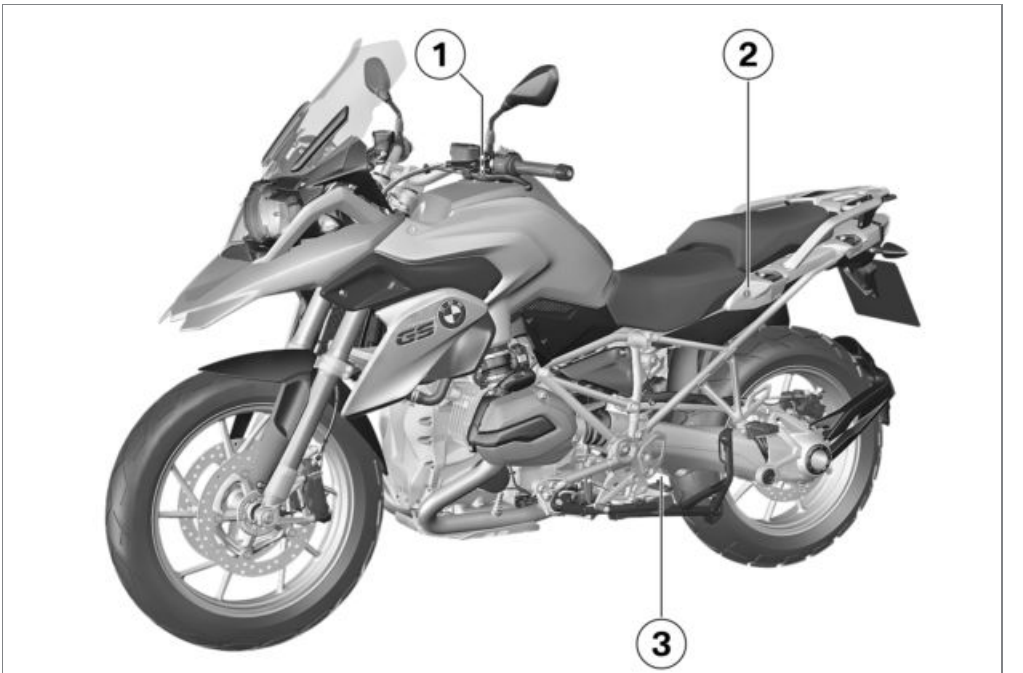
Technical data

All dimensions, weights and outputs in the Rider's Manual refer to the German Standardization Institute (DIN) and comply with its tolerance regulations. Versions for individual countries may differ.

Notice concerning current status

The high safety and quality standards of BMW motorcycles are maintained by constant development work on design, equipment and accessories. Because of this, your motorcycle may differ from the information supplied in the Rider's Manual. In addition, BMW Motorrad cannot guarantee the total absence of errors. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.

Overviews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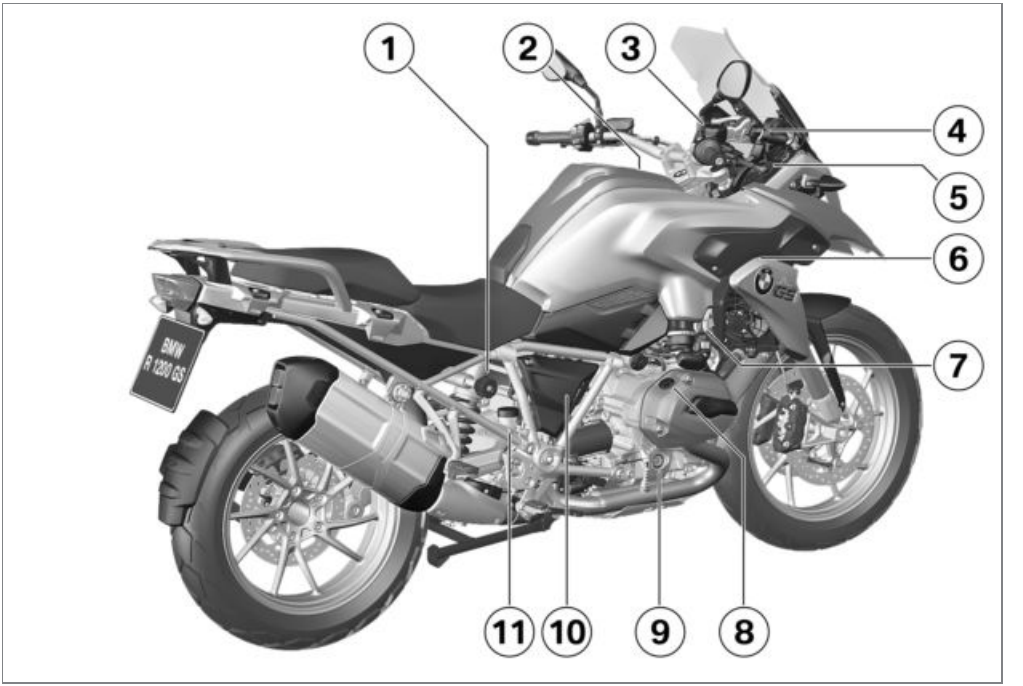
General view, left side

1 Fuel filler opening (➠ 84)
2 Seat lock (➠ 70)
3 Adjuster for rear damping (at the bottom on the spring strut) (➠ 64)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BMW
R 1200 GS

General view, right side

1 Adjuster for spring preload, rear (➠ 63)
2 Air cleaner (under center fairing panel) (➠ 131)
3 Brake-fluid reservoir, front (➠ 114)
4 Height adjuster for windshield (➠ 63)
5 Onboard socket (➠ 98)
6 Vehicle Identification Number (on steering-head bearing)
Type plate (on steering-head bearing)
7 Coolant level indicator (➠ 116)
Coolant tank (➠ 116)
8 Engine oil fill location (➠ 111)
9 Engine oil level indicator (➠ 111)
10 Battery (behind side panel) (➠ 133)
Auxiliary terminal for jump starting (behind side panel) (➠ 132)
11 Brake-fluid reservoir, rear (➠ 115)

Multifunction switch, left

1 Headlight flasher and high-beam headlight (➠ 51)

2 Not included in standard equipment
– with cruise control OE
Cruise control (➠ 59)

3 Hazard warning flashers (➠ 52)

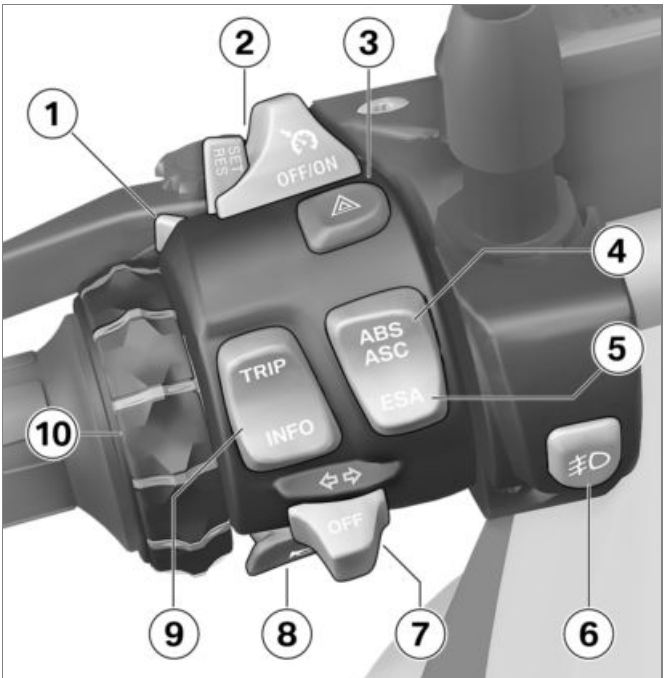
4 ABS (➠ 54)
– with riding modes OE
ASC (➠ 55)

5 Not included in standard equipment
– with dynamic ESA OE
ESA (➠ 65)

6 Not included in standard equipment
– with additional LED headlight OA
Auxiliary headlight (➠ 51)

7 Turn signals (➠ 52)

8 Horn



9 Multifunction display (➠ 44)

10 Not included in standard equipment
– with preparation for navigation system[OE]
Navigation system (➠ 105)

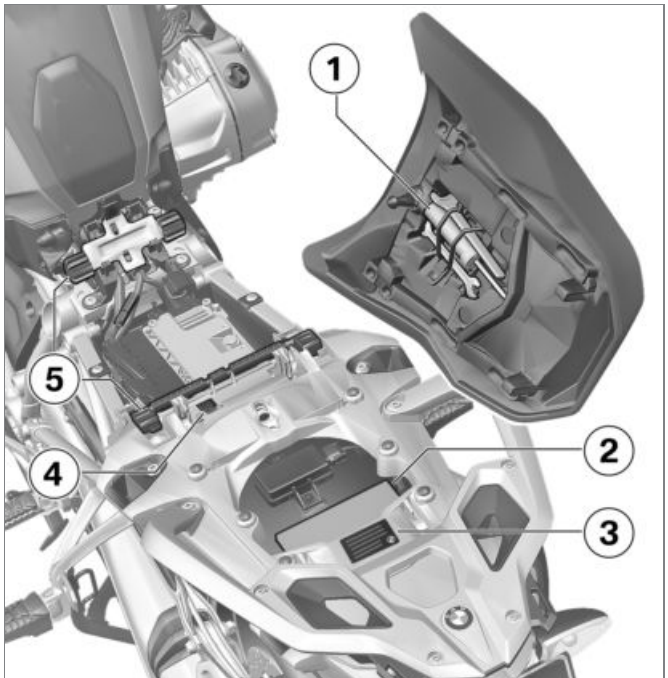
Multifunction switch, right

1 Not included in standard equipment
– with heated handlebar grips OE
Heated grips (➠ 53)

2 Not included in standard equipment
– with riding modes OE
Riding mode (➠ 56)

3 Emergency on/off switch (kill switch) (➠ 53)

4 Starting the engine (➠ 78)

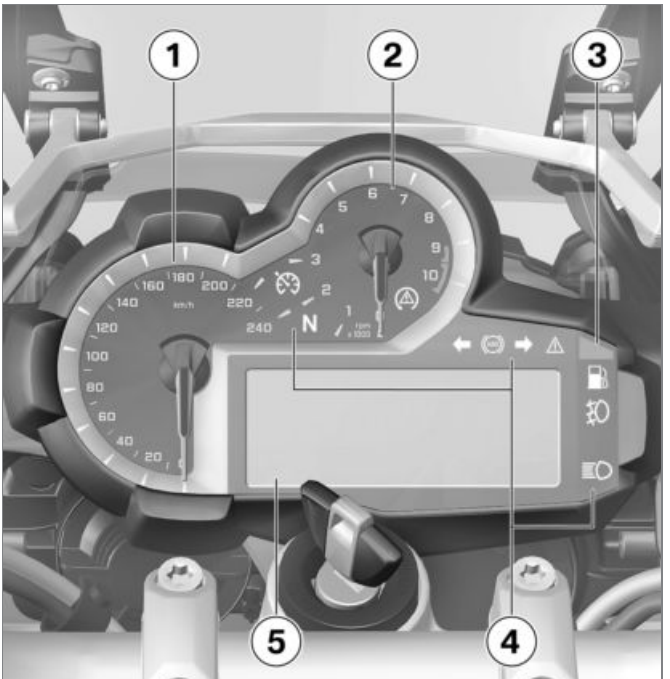


Underneath seat

1 Onboard tool kit
2 Rider's Manual (US Model) (➠ 110)
3 Tire inflation pressure table
4 Payload table
5 Adjuster for the rider's seat height (➠ 72)

Instrument cluster

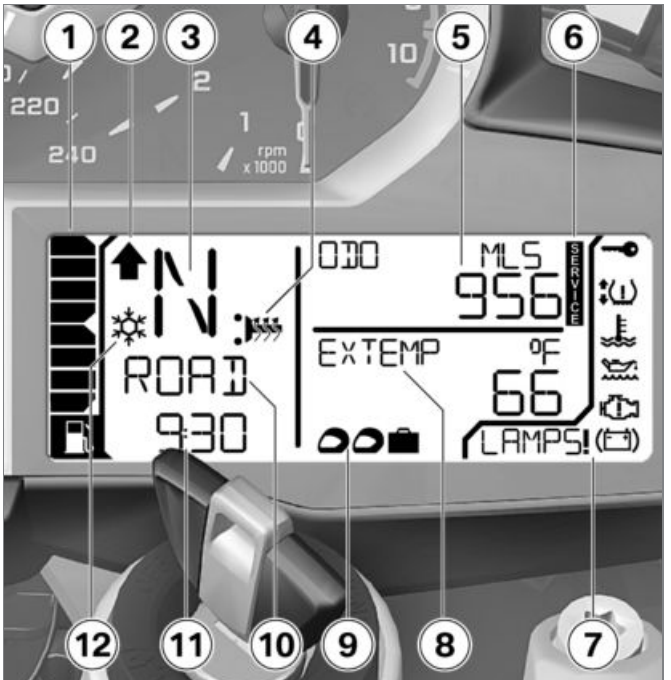
1 Speedometer
2 Tachometer
3 Ambient light sensor (for brightness adjustment of instrument lighting)
– with anti-theft alarm[OE]
Anti-theft alarm system indicator lamp (see anti-theft alarm system operating instructions)
4 Warning and indicator lamps (➠ 25)
5 Multifunction display (➠ 20)



Displays

Multifunction display

1 Fuel fill level indicator
2 Upshift recommendation (➠ 23)
3 Gear indicator display, "N" indicates "neutral."
4 Not included in standard equipment
– with heated handlebar grips OE
Grip heating level
5 Display area of the odometer
Display of the SETUP settings
6 Service display
7 Warning symbols
8 Display area of the on-board computer
Display of the SETUP settings
9 Not included in standard equipment
– with dynamic ESA OE
Display of the ESA setting



10 Not included in standard equipment
– with riding modes OE
Display of the active riding mode

11 Clock

12 Outside temperature warning

Service display

If the time remaining until the next service is within one month, or if the next service is due within 621 mls (1000 km), service date **1** and the remaining kilometers (mileage) **2** appear for a short period of time after the Pre-Ride-Check.

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

If the service display appears more than a month before the service date, the stored date must be adjusted in the instrument cluster. This situation can occur if the battery was disconnected.◀

Fuel reserve

The fuel level in the fuel tank, when the fuel warning lamp switches on, depends on the driving dynamics. The more the fuel is moved within the tank (due to frequently changing inclined positions, frequent braking and accelerating), the more difficult it is to determine the reserve quantity. For this reason, the reserve quantity cannot be accurately indicated.

After the fuel warning lamp is switched on, the range is automatically displayed.
The distance, which can still be

driven with the reserve quantity, depends on the driving style (on the consumption) and on the fuel level, when the warning lamp was switched on.

Outside temperature

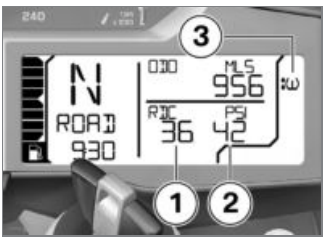
Engine heat can lead to spurious readings of outside temperature when the motorcycle is stationary. When the effects of engine heat on the monitored temperature become excessive the display responds by temporarily reverting to −− as the display reading.

In the case of outside temperatures below 37 °F (3 °C), risk of ice formation exists. The display automatically switches from any other mode to outside temperature reading **1**, when the temperature drops below this threshold for the first time. The displayed value flashes.

In addition, the ice crystal symbol **2** is displayed.

Tire inflation pressures

– with Tire Pressure Control (TPC/RDC)[OE]



The displayed tire inflation pressures refer to a tire temperature of 68 °F (20 °C). The figure on the left side **1** indicates the front tire's inflation pressure, while the figure on the right **2** shows the inflation pressure in the rear tire. When you switch on the ignition, −− −− appears in the display. This is because active transmission of inflation-pressure data does not start until the motor-

cycle speed exceeds 19 mph (30 km/h) at least once.

If the **3** symbol appears at the same time, the display is a warning. The critical tire-inflation pressure flashes.

If the critical value is at the limit of the permissible tolerance, the general warning lamp also lights up in yellow. If the monitored tire inflation pressure is outside the specified range the general warning lamp will flash in red.

Additional information on the BMW Motorrad Tire Pressure Monitor is provided starting on page (➠ 95).

Oil level indicator

The oil level indicator **1** provides information on the oil level in the engine. It can only be displayed when the vehicle is stopped.

The conditions for the oil level indicator are as follows:
- Engine at operating temperature.
- Engine idling for at least ten seconds.
- Side stand retracted.
- Motorcycle is vertical.

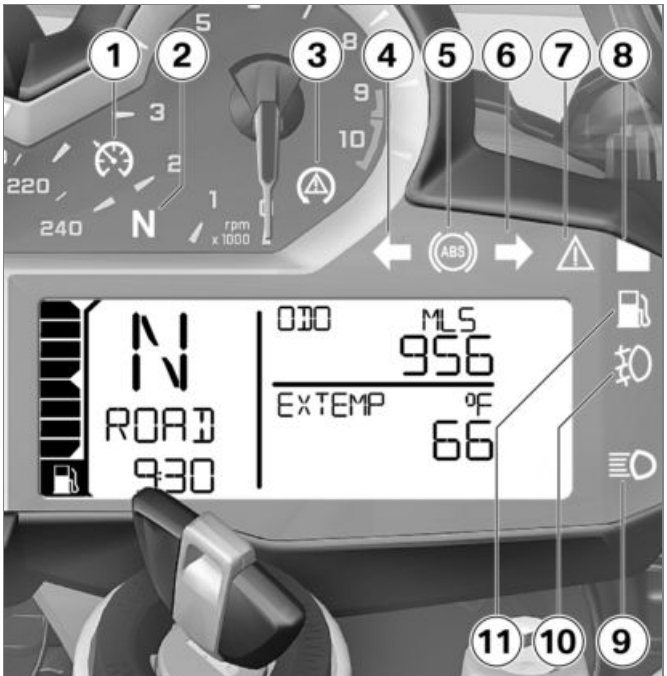
The readings mean:
OK: Oil level correct.
CHECK: Check oil level during next refueling stop.
---: No measurement possible (above-mentioned conditions not met).

If the oil level must be checked, symbol **2** is displayed, until the oil level is detected again as correct.

Upshift recommendation

The upshift recommendation must be switched on in the display settings (➠ 46).

Upshift recommendation **1** signals the economically best point in time for upshifting.



Warning and indicator lamps

1 Not included in standard equipment
– with cruise control[OE]
Cruise control

2 Idle

3 Not included in standard equipment
– with riding modes[OE]
ASC

4 Turn indicator, left

5 ABS

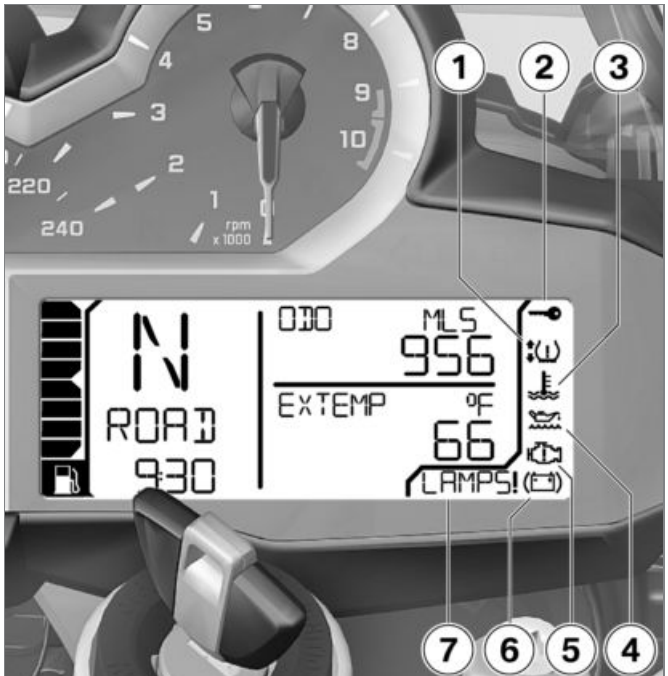
6 Turn signal, right

7 General warning lamp, appears together with warning symbols in display panel (➠ 28)

8 Not included in standard equipment
– with anti-theft alarm[OE]
Anti-theft alarm system (DWA) (see separate operating instructions)

9 High-beam headlight
10 Not included in standard equipment
– with additional LED headlight OA
Auxiliary headlight
11 Fuel reserve

The ABS symbol can be shown differently depending on the country.◀



Warning symbols in the display panel

1 Not included in standard equipment
– with Tire Pressure Control (TPC/RDC)[OE]
Tire inflation pressure (➠ 37)

2 Electronic immobilizer (➠ 33)

3 Coolant temperature (➠ 34)

4 Engine oil level (➠ 34)

5 Electronic engine management (➠ 33)

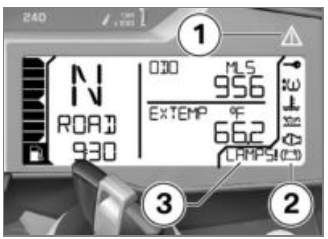
6 Battery charging (➠ 133)

7 Warnings (➠ 28)

Warning lamps

Display of the warning lamps

Warnings are displayed with the corresponding warning lamps.



Warnings for which no separate warning lamp is provided are signaled by the general warning lamp **1** and are accompanied by a warning symbol in area **2** or by a warning notice in area **3**. The universal warning lamp shows red or yellow, depending on the urgency of the warning.

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

The following page contains a list of potential warnings.

Overview of warning indicators

Warning and indicator lamps	Warning symbols in the display	Meaning
 lights up yellow	 appears on the display	Electronic immobilizer is active (➠ 33)
 lights up		Fuel down to reserve (➠ 33)
 lights up yellow	 appears on the display	Engine in emergency-operation mode (➠ 33)
 flashes yellow	 flashes	Severe fault in the engine management system (➠ 34)
	 appears on the display	Engine oil level too low (➠ 34)
	OILLVL CHECK is indicated	
 lights up red	 Temperature symbol is displayed	Coolant temperature too high (➠ 34)
 lights up red	 appears on the display	Battery charging voltage insufficient (➠ 35)

Warning and indicator lamps	Warning symbols in the display	Meaning
 lights up yellow	LAMP_ ! is indicated	Bulb defective (➠ 35)
	 appears on the display	Outside temperature warning (➠ 35)
 flashes		ABS self-diagnosis not completed (➠ 36)
 lights up		ABS deactivated (➠ 36)
 lights up		ABS error (➠ 36)
 flashes rapidly		ASC intervention (➠ 36)
 flashes slowly		ASC self-diagnosis not completed (➠ 37)
 lights up		ASC deactivated (➠ 37)

Warning and indicator lamps	Warning symbols in the display	Meaning
 lights up		ASC error (➠ 37)
 lights up yellow	 appears with one or two arrows	Tire inflation pressure is at limit of approved range (➠ 37)
	The critical tire inflation pressure flashes	
flashes red	appears with one or two arrows	Tire inflation pressure is outside approved range (➠ 38)
	The critical tire inflation pressure flashes	
	"– –" or "– – – –" is indicated	Transmission error (➠ 38)
 lights up yellow	 appears with one or two arrows	Sensor defective or system error (➠ 39)
	"– –" or "– – – –" is indicated	

Warning and indicator lamps	Warning symbols in the display	Meaning
 lights up yellow	RDC ! is indicated	Battery of tire-inflation pressure sensor weak (➠ 39)
	DWALO ! is indicated	Anti-theft alarm battery low charge (➠ 40)
 lights up yellow	DWA ! is indicated	Anti-theft alarm system battery discharged (➠ 40)

Electronic immobilizer is active


The general warning lamp lights up yellow.


The EWS warning symbol appears on the display.

Possible cause:

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

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

Fuel down to reserve


The fuel warning lamp lights up.


Fuel shortage can lead to engine misfires. This can result in unexpected engine deactivation (accident hazard) and damage to the catalytic converter.

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

Possible cause:

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

 Reserve fuel quantity
– Approx. 1.1 gal (Approx. 4 l)

- Refueling (➠ 84).

Engine in emergency-operation mode


The general warning lamp lights up yellow.


The engine symbol is displayed.


The engine is in the emergency operating mode. Unusual engine response is a possibility.

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 can no longer be started. Otherwise, the engine runs in the emergency operating mode.

- Continued driving is possible, however the accustomed engine performance may not be available.
- Avoid high load and engine speed ranges if possible.
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Severe fault in the engine management system


The general warning lamp flashes yellow.


The engine symbol flashes.

The engine is in the emergency operating mode. Unusual engine response is a possibility.

Adapt your style of riding accordingly. Avoid accelerating sharply and overtaking.◀

Possible cause:

The engine control unit has diagnosed a fault, which can lead to a severe secondary fault. Otherwise, the engine runs in the emergency operating mode.

- Continued driving is possible, however it is not recommended.
- Avoid high load and engine speed ranges if possible.
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Engine oil level too low


The oil can symbol is displayed.

OILLVL CHECK is indicated.

Possible cause:

The electronic oil level sensor has detected a low engine oil level. During the next refueling stop:

- Checking engine oil level (➠ 111).

If oil level is too low:

- Top up engine oil (➠ 111).

If the oil level is correct:

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

Coolant temperature too high


The general warning lamp lights up red.


The temperature symbol is displayed.

Driving with an overheated engine can result in engine damage.

Be sure to observe the measures listed below.◀

Possible cause:

The coolant temperature is too high.

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

Battery charging voltage insufficient


The general warning lamp lights up red.


The battery symbol is displayed.


A discharged battery leads to the failure of various motorcycle systems, e.g. lighting, engine or ABS. This can result in dangerous driving situations.
If possible, do not continue driving.◀

The battery is not being charged. If you continue driving, the vehicle electronics will discharge the battery.
Possible cause:

Alternator or alternator drive defective

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

Bulb defective


The general warning lamp lights up yellow.

`LAMP_ !` is indicated.
- `LAMPR !`: Brake light, rear light, turn indicator or license plate illumination defective.
- `LAMPF !`: Lowbeam headlamp, high-beam headlamp, parking lamps or front turn indicator defective.
- `LAMPS !`: Several bulbs defective.


A defective bulb places your safety at risk because it is easier for other users to oversee the motorcycle.
Replace defective bulbs as quickly as possible.◀

Possible cause:

One or several bulbs are defective.

- Determine defective bulbs via visual inspection.
- Replace defective bulbs.

Outside temperature warning


The ice crystal symbol is displayed.

Possible cause:

The ambient temperature measured at the vehicle is lower than 37.4 °F (3 °C).


The outside temperature warning does not mean that there is no risk of black ice forming at measured temperatures above 37 °F (3 °C).
At low outside temperatures, black ice must especially be expected on bridges and in shady road areas.◀

• Think well ahead when driving.

ABS self-diagnosis not completed


The ABS warning lamp flashes.

Possible cause:

The self-diagnosis routine was not completed; the ABS function is not available. The motorcycle must reach a speed of at least 3.1 mph (5 km/h) before the ABS self-diagnosis routine can be completed.

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

ABS deactivated


The ABS warning lamp lights up.

Possible cause:

The ABS system has been deactivated by the rider.

• Switch on ABS function.

ABS error


The ABS warning lamp lights up.

Possible cause:

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

• Continued driving is possible while taking the failed ABS function into account. Observe additional information on situations which can lead to an ABS error (➠ 93).

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

ASC intervention

– with riding modes OE


The ASC warning lamp flashes rapidly.

Possible cause:

ASC has detected instability at the rear wheel and responded by reducing the torque.

The warning lamp flashes longer than the duration of the ASC intervention. This feature continues to furnish the rider with visual feedback confirming that the system has initiated active closed-loop intervention even after the critical situation has passed.

• It remains possible to continue riding. Think well ahead when driving.

ASC self-diagnosis not completed

– with riding modes OE


The ASC warning lamp flashes slowly.

Possible cause:

The ASC function is not available, because the self-diagnosis has not been completed. To check the wheel sensors, the motorcycle must be driven at least 3 mph (5 km/h) for several meters.

- Ride off slowly. The ASC warning lamp must go out after a few meters.

If the ASC warning lamp continues to flash:

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

ASC deactivated

– with riding modes OE


The ASC warning lamp lights up.

Possible cause:

The ASC system has been deactivated by the rider.

- Activating the ASC function

ASC error

– with riding modes OE


The ASC warning lamp lights up.

Possible cause:

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

- It remains possible to continue riding. Please be aware that ASC functionality is no longer available. Observe additional information on situations which can lead to an ASC error (➠ 94).
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Tire inflation pressure is at limit of approved range

– with Tire Pressure Control (TPC/RDC) OE


The general warning lamp lights up yellow.


The tire symbol with one or two arrows appears.

The critical tire-inflation pressure flashes.

The up arrow indicates an inflation pressure problem on the front wheel. The down arrow indicates an inflation pressure problem on the rear wheel.

Possible cause:

The measured tire inflation pressure is in the limit area of the permissible tolerance.

- Correct tire inflation pressure in accordance with instructions on back of cover of Rider's Manual.

Before adjusting the tire inflation pressure, observe the information on temperature compensation and on inflation pressure adjustment in the chapter "Technology in detail".◀

Tire inflation pressure is outside approved range

– with Tire Pressure Control (TPC/RDC)[OE]

The general warning lamp flashes red.

The tire symbol with one or two arrows appears.

The critical tire-inflation pressure flashes.

The up arrow indicates an inflation pressure problem on the front wheel. The down arrow indicates an inflation pressure problem on the rear wheel.

Possible cause:

The measured tire inflation pressure is outside the permissible tolerance.

- Check tire for damage and drivability.

If it is still possible to drive with tire:

Incorrect tire inflation pressure result in poorer handling of the motorcycle.

Always adapt your driving style to the incorrect tire inflation pressure.◀

- Correct tire inflation pressure at next opportunity.

Before adjusting the tire inflation pressure, observe the information on temperature compensation and on inflation pressure adjustment in the chapter "Technology in detail".◀

- Have the tire checked for damage by an authorized workshop, preferably an authorized BMW Motorrad retailer.

If you are unsure about the drivability of the tire:

- Do not continue driving.
- Inform roadside service.

Transmission error

– with Tire Pressure Control (TPC/RDC)[OE]

"––" or "–– ––" is indicated.

Possible cause:

The vehicle's speed has not exceeded the threshold of approx. 19 mph (30 km/h). The TPC/RDC sensors do not send their signal until after this speed has

been exceeded for the first time (95).
- Watch the RDC display at a higher rate of speed. A continuous error is only present if the general warning lamp also lights up. In this case:
- Have fault eliminated at a specialist service facility, preferably an authorized BMW Motorrad dealer.

Possible cause:

There is a fault in the radio connection to the TPC/RDC sensors. Possible causes are radio systems in the surrounding area, which interfere with the connection between the TPC/RDC control unit and the sensors.
- Watch the TPC/RDC display in another environment. A continuous error is only present if the general warning lamp also lights up. In this case:
- Have fault eliminated at a specialist service facility, preferably an authorized BMW Motorrad dealer.

Sensor defective or system error

– with Tire Pressure Control (TPC/RDC)[OE]


The general warning lamp lights up yellow.


The tire symbol with one or two arrows appears.

"−−" or "−− −−" is indicated.

Possible cause:

Wheels without installed TPC/RDC sensors are mounted.
- Retrofit wheel set with TPC/RDC sensors.

Possible cause:

One or two TPC/RDC sensors have failed.
- Have fault eliminated at a specialist service facility, preferably an authorized BMW Motorrad dealer.

Possible cause:

A system fault has occurred.
- Have fault eliminated at a specialist service facility, preferably an authorized BMW Motorrad dealer.

Battery of tire-inflation pressure sensor weak

– with Tire Pressure Control (TPC/RDC)[OE]


The general warning lamp lights up yellow.

RDC ! is indicated.


This error message is only displayed for a short time following the pre-ride check.◀

Possible cause:

The battery of the tire inflation pressure sensor no longer has its full capacity. The operation of the tire inflation pressure control is only ensured for a limited time.

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

Anti-theft alarm battery low charge

– with anti-theft alarm OE

DWALO ! is indicated.


This error message is only displayed for a short time following the pre-ride check.◀

Possible cause:

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

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

Anti-theft alarm system battery discharged

– with anti-theft alarm OE


The general warning lamp lights up yellow.

DWA ! is indicated.


This error message is only displayed for a short time following the pre-ride check.◀

Possible cause:

The anti-theft alarm system battery has no capacity. The operation of the anti-theft alarm system is no longer ensured with the vehicle battery disconnected.

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

Operation

Steering and ignition lock

Keys

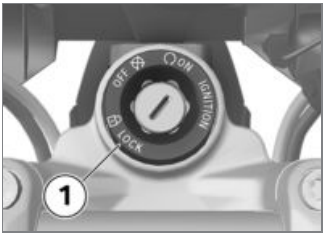
Two different main keys and one emergency key are provided with the vehicle. The emergency key features a light, compact design, allowing it to be carried in a wallet, etc. This key is intended for use when no main key is immediately available, and is not suitable for continuous use.
Should you lose your keys please refer to the information regarding the electronic immobilizer (EWS) (➠ 44).

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

Locking handlebars

⚠ If the motorcycle is on the side stand, the surface of the ground will determine whether it is better to turn the handlebars to the left or right. However, the motorcycle is more stable on a level surface with the handlebars turned to the left than with the handlebars turned to the right.
On level ground, always turn the handlebars to the left to set the steering lock.◀

- Turn handlebars to full left or right lock position.

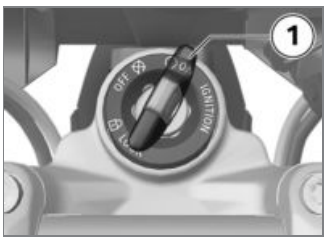


- Turn key to position **1** while moving handlebars slightly.

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

Ignition

Switching on ignition

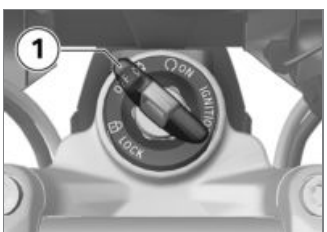


- Turn key to position **1**.
» Parking lamps and all function circuits switched on.
» Engine can be started.
» Pre-Ride Check in progress. (➠ 79)
» ABS self-diagnosis in progress. (➠ 80)
– with riding modes OE
» ASC self-diagnosis in progress. (➠ 80)◁

Welcome light

- Switch on ignition.
» The parking lamp briefly lights up.
– with additional LED headlight OA
» The auxiliary headlights and the rear parking lamp briefly light up.◁

Switching off ignition



- Turn key to position **1**.
» Light switched off.
» Handlebars not locked.
» Key can now be removed.
» Electrically powered accessories remain operational for a limited period of time.
» Battery can be recharged via onboard socket.
» After the ignition is switched off, the instrument cluster remains switched on for a short period of time and indicates possibly present fault codes.

Headlight courtesy delay feature

- Switch off ignition.
– with additional LED headlight OA
» The auxiliary headlights and the rear parking lamp continue to light up for some time.◁

EWS Electronic immobilizer

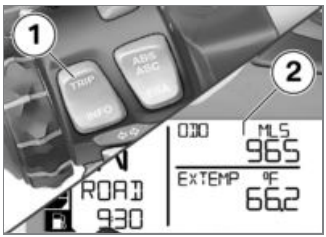
The motorcycle's electronic circuitry monitors the data stored in the ignition key through a ring antenna incorporated in the steering and ignition lock. The engine management system does not enable engine starting until this key has been recognized as "authorized" for your motorcycle.

A further key attached to the same ring as the ignition key used to start the engine could "irritate" the electronics, in which case the enabling signal for starting is not issued. The EWS warning is shown in the multifunction display.
Always store further vehicle keys separately from the ignition key.◀

If you lose a vehicle key, you can have it disabled by your BMW Motorrad partner. When having a key disabled you should also bring all of the motorcycle's remaining keys with you.
The engine can no longer be started using a disabled key; however, a disabled key can be enabled again.
Replacement and spare keys are only available through an authorized BMW Motorrad dealer. The keys are part of an integrated security system, so the retailer is under an obligation to check the legitimacy of all applications for replacement/extra keys.

Multifunction display

Selecting display readings



- Press button **1** briefly to select the display in the top line of display **2**.

In the case of standard equipment, the following values can be displayed and selected per push of a button:
– Total mileage (ODO)
– Trip odometer 1 (TRIP I)
– Trip odometer 2 (TRIP II)
– Range (RANGE)
– SETUP menu (SETUP), while stationary only

– with onboard computer Pro OE

The following information is additionally displayed using the onboard computer Pro:

– Automatic odometer (TRIP A)
– Current fuel consumption (CONS C)
– Current speed (SPEED)◁

• Press button **1** briefly to select the display in the bottom line of display **2**.

In the case of standard equipment, the following values can be displayed and selected per push of a button:

– Outside temperature (EXTEMP)
– Engine temperature (ENGTMP)
– Average consumption 1 (CONS 1)
– Average consumption 2 (CONS 2)
– Average speed (Ø SPEED)

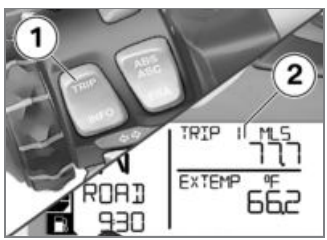
– with Tire Pressure Control (TPC/RDC) OE
– Tire inflation pressures (option) (TPM/RDC)◁

– Date (DATE)
– Oil level indicator (OILLVL)

– with onboard computer Pro OE
– Onboard electrical system voltage (VOLTGE)◁
– with onboard computer Pro OE
– Stopwatch overall time (ALTIME)◁
– with onboard computer Pro OE
– Stopwatch driving time (RDTIME)◁

Resetting tripmeter

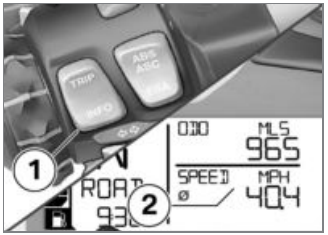
• Switch on ignition.



• Repeat pressing button **1** briefly, until the odometer to be reset is shown in the top line of the display **2**.
• Press and hold button **1** until displayed value has been reset.

Resetting average data

• Switch on ignition.



- Repeat pressing button **1** briefly, until the average value to be reset is shown in the bottom line of the display **2**.
- Press and hold button **1** until displayed value has been reset.

Configuring functions

- Switch on ignition or bring motorcycle to a stop.

- Repeat pressing button **1** briefly, until in the top line of the display **2** SETUP ENTER is shown.
- Press and hold button **1** to start the SETUP menu.

» The following is indicated in the display depending on the equipment selected.

- Press button **1** briefly to respectively switch to the next menu item.

» The menu item appears in the top line of the display **2**.

» The adjusted value appears in the bottom line of the display **3**.

- Press button **4** briefly to change the adjusted value.

The following menu items can be selected:

– with anti-theft alarm[OE]

– DWA: Switch anti-theft alarm system on (ON) respectively off (OFF)◁

– with preparation for navigation system OE
– GPS TM: If a navigation system is installed: apply GPS time and GPS date (ON) respectively do not apply them (OFF)◁
– CLOCK: Setting the clock
– DATE: Setting the date
– ECOSFT: Show upshift recommendation in the display (ON) respectively do not show it (OFF)
– BRIGHT: Adjust display brightness from normal (0) to bright (5)
– EXIT: Exit SETUP menu

– with onboard computer Pro OE
– BC CUSTOM: Start display customization◁

- In order to exit the SETUP menu, press and hold menu item SETUP EXIT, button **1**.
- In order to exit the SETUP menu at any time, press and hold button **2**.

Setting the clock

- In the SETUP menu, select the SETUP CLOCK menu item.

- Press and hold button **2**, until the hours flash in the bottom line of display **3**.

▷ If "– – **:** – –" is indicated instead of the time, the power supply to the instrument cluster was interrupted (e.g., the battery was disconnected).◀

- Increase the flashing value using button **1** respectively decrease it using button **2**.
- Press and hold button **2**, until the minutes flash in the bottom line of display **3**.

- Increase the flashing value using button **1** respectively decrease it using button **2**.
- Press and hold button **2**, until the minutes stop flashing.

» The adjustment is completed.

- In order to cancel the adjustment at any time, press and hold button **1**, until the original value is displayed again.

The adjustment is canceled, if you ride off before the adjustment is completed.◀

Setting the Date

- In the SETUP menu, select the SETUP DATE menu item.

- Press and hold button **2**, until the month flashes in the bottom line of display **3**.

If "–– . –– . ––" is indicated instead of the date, the power supply to the instrument cluster was interrupted (e.g., the battery was disconnected).◀

- Increase the flashing value using button **1** respectively decrease it using button **2**.
- Press and hold button **2**, until the day flashes in the bottom line of display **3**.
- Increase the flashing value using button **1** respectively decrease it using button **2**.
- Press and hold button **2**, until the year flashes in the bottom line of display **3**.
- Increase the flashing value using button **1** respectively decrease it using button **2**.
- Press and hold button **2**, until the year stops flashing.

» The adjustment is completed.

- In order to cancel the adjustment at any time, press and hold button **1**, until the original value is displayed again.

The adjustment is canceled, if you ride off before the adjustment is completed.◀

Customize the display

– with onboard computer Pro OE

In the individualization menu it is possible to adjust, which information should be shown in which display line.

- In the SETUP menu, select the SETUP BC BASIC menu item.

- Press button **1** briefly to start the individualization menu.

» SETUP BC CUSTOM is indicated.

- Press button **1** briefly again to exit the individualization menu.

If SETUP BC BASIC is selected, the factory setting becomes active again. The CUSTOM individualization remains stored.◀

- Press and hold button **1** to display the first menu item.

» SETUP BC ODO is indicated.

- Press button **1** briefly to respectively switch to the next menu item.

» The menu item appears in the top line of the display **2**.

» The adjusted value appears in the bottom line of the display **3**. The following values can be adjusted.

– TOP: The value is indicated in the top line of the display.

– BELOW: The value is indicated in the bottom line of the display.

– BOTH: The value is indicated in both lines of the display.

– OFF: The value is not indicated.

• Press button **4** briefly to change the adjusted value.

The following menu items can be selected. The factory setting is indicated in parentheses. Some menu items are displayed only, if the respective optional equipment is installed.

– ODO: Odometer (TOP, setting OFF is not possible)
– TRIP 1: Tripmeter 1 (TOP)
– TRIP 2: Tripmeter 2 (TOP)
– TRIP A: Automatic tripmeter (TOP)
– EXTEMP: Ambient temperature (BELOW)
– ENGTMP: Engine temperature (BELOW)
– RANGE: Range (TOP)
– CONS R: Average consumption for range calculation (OFF)
– CONS 1: Average consumption 1 (BELOW)
– CONS 2: Average consumption 2 (BELOW)
– CONS C: Current fuel consumption (TOP)
– ØSPEED: Average speed (BELOW)
– SPEED: Current speed (TOP)
– RDC: Tire inflation pressures (BELOW)
– VOLTGE: Onboard electrical system voltage (BELOW)
– ALTIME: Stopwatch overall time (BELOW)
– RDTIME: Stopwatch driving time (BELOW)
– DATE: Date (BELOW)
– SERV T: Date of next service (OFF)
– SERV D: Remaining mileage until next service (OFF)
– OILLVL: Oil level indicator (BELOW)
– EXIT: Exit individualization menu

• In order to exit the individualization menu, press and hold menu item SETUP EXIT, button **2**.

• In order to exit the individualization menu at any point in time, press and hold button **1**.

» All adjustments applied until then will be stored.

Lights

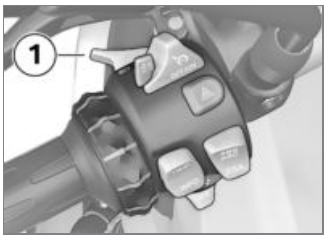
Lowbeam headlamp and parking lamps

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

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

The lowbeam headlamp switches on automatically when the engine is switched on.

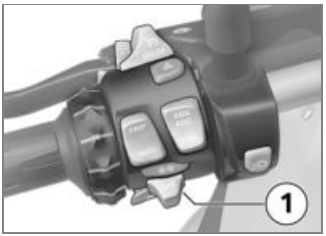
High-beam headlamp and headlight flasher



- Press switch **1** toward front to switch on high beams.
- Pull switch **1** rearward to operate headlight flasher.

Parking lamp

- Switch off ignition.

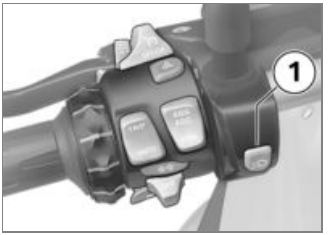


- Immediately after switching off the ignition press the **1** button and maintain pressure until the parking lamp come on.
- Switch ignition on and then off again to switch off parking lamp.

Auxiliary headlight

– with additional LED headlight OA

Precondition: the auxiliary headlight is only active, if the lowbeam headlamp is active.



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

The indicator lamp for the auxiliary headlight lights up.

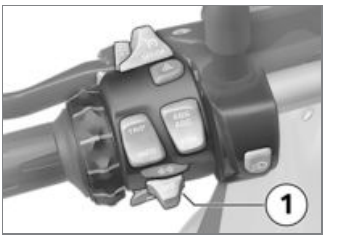
- Press button **1** again to switch off the auxiliary headlights.

The additional headlights with LED technology are equipped with overheating protection. If a certain temperature is exceeded, the headlights reduce the luminosity and even switch off in extreme cases. After cooling sufficiently, the full luminosity is once again available.◀

Turn signals

Operating turn indicator

- Switch on ignition.



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

After driving for approx. ten seconds or after covering a distance of approx. 980 ft (300 m), the turn indicators are automatically switched off.◀

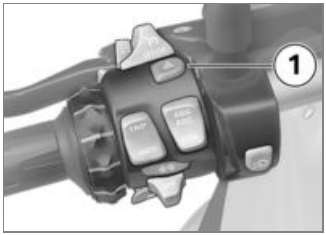
Hazard warning flashers

Operating hazard warning flashers

- Switch on ignition.

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

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



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

» Ignition can be switched off.

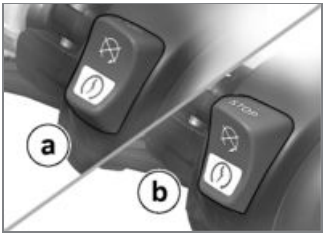
- Press button **1** again to switch off hazard warning flashers.

Emergency on/off switch (kill switch)

1 Emergency on/off switch (kill switch)

Operating the emergency ON/OFF switch when riding can cause the rear wheel to lock and thus cause a fall.
Do not operate the emergency ON/OFF switch when riding.◀

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



a Engine switched off
b Operating position

Heated handlebar grips

– with heated handlebar grips OE

Operate heated grips

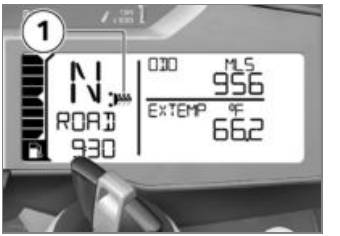
- Start engine.

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

The increase in power consumption caused by the heated hand grips can drain the battery if you are riding at low engine speeds. If the battery is

inadequately charged, the heated hand grips are switched off to ensure starting capability.◀

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



The handlebar grips can be heated at two different levels. The adjusted level is shown in the multifunction display, at position **1**.

50 % heating output

100 % heating output

» The second heating level is used for fast heat-up of the grips; then the switch should be switched back to the first level.

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

BMW Motorrad Integral ABS

Switch off ABS function

- Stop motorcycle or switch on ignition with motorcycle stationary.

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

– with riding modes OE

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

The ABS warning lamp lights up.

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

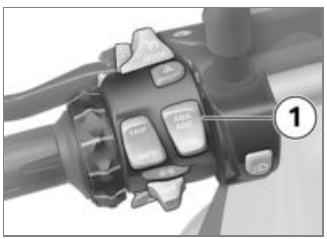
The ABS warning lamp continues to light up.

» ABS function is deactivated, integral function continues to be active.

Behavior with ABS deactivated

With the ABS function switched off, first only the control on the front wheel is deactivated. If the motorcycle is then only braked with the handbrake lever, ABS control continues to be active for the rear wheel also braked via the integral function. The ABS control for the rear wheel is not switched off until the footbrake lever is actuated.

Switch on ABS function



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

The ABS warning lamp goes out; if self-diagnosis has not been completed, it begins to flash.

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

The ABS warning lamp remains off or continues to flash.

» ABS function is switched on.

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

If the ABS warning lamp lights up after switching the ignition off and on and then continued driving over 3 mph (5 km/h), an ABS error has occurred.◀

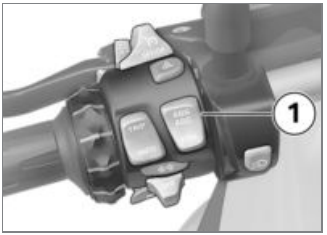
ASC Automatic Stability Control

– with riding modes OE

Deactivate ASC function

- Switch on ignition.

The ASC function can also be deactivated while driving.◀



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

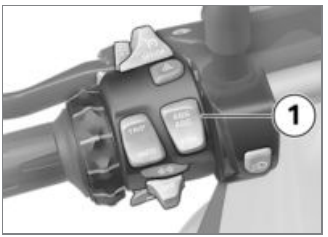
The ASC warning lamp lights up.

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

The ASC warning lamp continues to light up.

» ASC function is deactivated.

Activate ASC function



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

The ASC warning lamp does not light up anymore; if self-diagnosis has not been completed, it begins to flash.

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

The ASC warning lamp still does not light up respectively continues flashing.

» ASC function is activated.

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

If the ASC warning lamp lights up after switching the ignition off and on and then continued driving over 3 mph (5 km/h), an ASC error has occurred.◀

Riding mode

– with riding modes OE

Riding mode

BMW Motorrad developed for your motorcycle five usage scenarios, from which you can select the one matching your situation:

– Riding on wet roads.
– Riding on dry roads.
– Sporty riding on dry roads.
– Riding under light off-road conditions.
– Sporty riding offroad.

For every of these scenarios, the respectively optimum interaction of engine torque, throttle response, ABS control and ASC control is provided.

– with dynamic ESA OE
The suspension settings is adjusted to the selected scenario as well.

Set riding mode

Off-road mode (Enduro and Enduro Pro) is not intended for normal road operation. Switching the off-road mode (Enduro and Enduro Pro) on during road operation can result in unstable riding conditions when braking in ABS or accelerating in ASC. This results in a danger of falling.
Switch off-road mode (Enduro and Enduro Pro) during off-road riding on only.◀

- Switch on ignition.

- Press button **1**.

Details on the selectable driving modes are provided in the chapter "Technology in Detail".◀

The selection arrow **1** and the first selectable riding mode **2** are displayed.

- Press button **1** repeatedly, until the selection arrow is

shown next to the desired riding mode.

The following riding modes can be selected:

– RAIN: When riding on wet roads.
– ROAD: When riding on dry roads.
– DYNA: When riding dynamically on dry roads.
– Enduro: When driving offroad.
– Enduro PRO: When riding sporty offroad (with coding plug installed only).

• When selecting the Enduro PRO mode, remember the restrictions on ABS control intervention at the rear wheel (see the chapter "Technology in detail").

» When the vehicle is stationary, the selected riding mode is activated after approx. two seconds.

» The new riding mode is activated during operation under the following conditions:

– Throttle grip in neutral position
– Clutch disengaged

» After the new riding mode is activated, the clock is displayed again.

» The configured riding mode with the corresponding adaptations of the engine characteristics, ABS, ASC and dynamic ESA is maintained, even after the ignition is switched off.

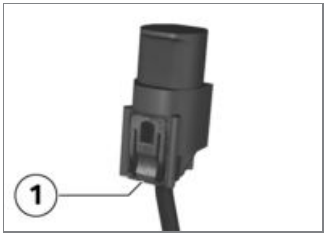
Install coding plug

• Switch off ignition.
• Remove rider's seat (➠ 71).

Dirt and moisture can get into the open plug and cause malfunctions.

Remount the cover cap after removing the coding plug.◀

• Remove cover cap of the plug connection **1**.



- To do so, press locking device **1** down and pull the cap off.
- Insert the coding plug.
- Switch on ignition.

Symbol **1** for the coding plug appears on the display. Riding mode **2** Enduro PRO can be selected.

» The selected riding mode remains active even after the ignition is switched off.
- Install rider's seat (➠ 71).

Cruise control

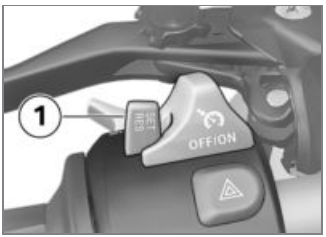
– with cruise control[OE]

Switching on cruise control

- Push switch **1** to right.

» Button **2** is operational.

Setting road speed



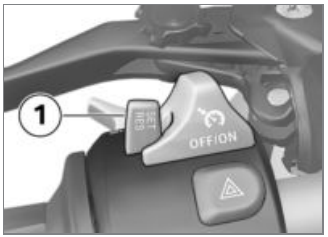
- Briefly press button **1** forward.

	Adjustment range for cruise control
– 19...130 mph (30...210 km/h)	

Indicator lamp for cruise-control system lights up.

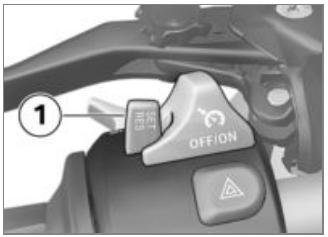
» The motorcycle maintains your current cruising speed and the setting is saved.

Acceleration



- Briefly press button **1** forward.
» Speed is increased by 1.2 mph (2 km/h) each time button is pressed.
- Press button **1** forward and hold.
» The motorcycle accelerates steplessly.
» If the button **1** is no longer pressed, the speed achieved is maintained and saved.

Decreasing speed



- Briefly press button **1** backward.
» Speed is decreased by 1.2 mph (2 km/h) each time button is pressed.
- Press button **1** back and hold.
» The motorcycle decelerates steplessly.
» If the button **1** is no longer pressed, the speed achieved is maintained and saved.

Deactivating cruise control

- Actuate brakes or clutch or throttle grip (take back throttle beyond back position) to deactivate cruise-control system.
» Cruise control indicator lamp goes out.

Resume former cruising speed

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

Opening the throttle does not deactivate the cruise-control system. If you release the twistgrip the motorcycle will decelerate only to the cruising speed saved in memory, even though you might have intended slowing to a lower speed.◀

Indicator lamp for cruise-control system lights up.

Switching off cruise control

- Push switch **1** to left.

» The system is deactivated.

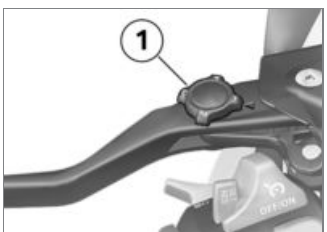
» Button **2** is locked.

Clutch

Adjusting clutch lever

Adjusting the clutch lever while driving can lead to accidents.

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



- Turn adjusting screw **1** into desired position.

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

» Four settings are available:

– Position 1: smallest distance between handlebar grip and clutch lever

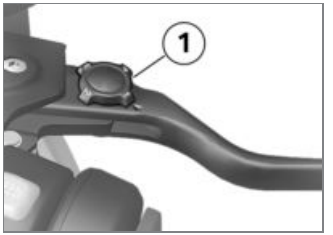
– Position 4: largest distance between handlebar grip and clutch lever

Brakes

Adjust handbrake lever

Adjusting the handbrake lever while driving can lead to accidents.

Only adjust the handbrake lever when the motorcycle is stationary.◀



- Turn adjusting screw **1** into desired position.

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

» Four settings are available:

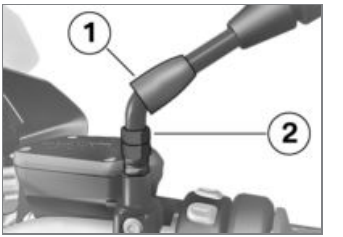
– Position 1: smallest distance between handlebar grip and brake lever
– Position 4: largest distance between handlebar grip and brake lever

Mirrors

Adjusting mirrors

- Move mirror into desired position by twisting.

Adjusting mirror arm



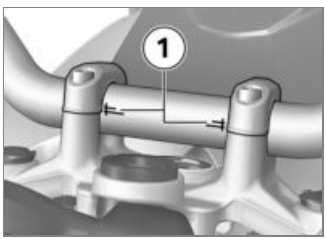
- Slide protective cap **1** up over screw connection on mirror arm.
- Loosen the nut **2**.
- Turn mirror arm into desired position.
- Tighten the nut to the specified torque while holding the mirror arm to ensure that it does not move out of position.

Mirror (locknut) on adapter
– 16 lb/ft (22 Nm)

- Slide protective cap over threaded fastener.

Handlebars

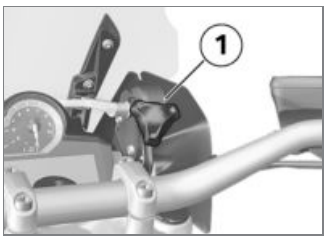
Adjustable handlebars



The inclination of the motorcycle handlebars can be adjusted within the **1** markings. Consult an authorized workshop, preferably an authorized BMW Motorrad retailer, for adjustment of the handlebars.

Windshield

Adjusting windshield



Windshield adjustments while riding represent an accident hazard.
Adjust windshield while stopped only.◀

- Turn handwheel **1** clockwise to lower the windshield.
- Turn handwheel **1** counterclockwise to raise the windshield.

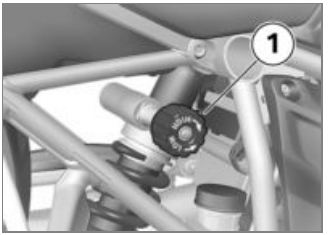
Spring preload

Setting

It is essential to set the spring preload 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 at rear wheel

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



Your motorcycle's handling will suffer if you do not match the spring-preload and damping-characteristic settings. Adjust the damping characteristic to suit the spring preload.◀

Adjusting the spring preload while the motorcycle is being ridden can lead to accidents. Adjust the spring preload only when the motorcycle is stationary.◀

- To decrease spring preload, turn handwheel **1** in direction of arrow LOW.
- To increase spring preload, turn handwheel **1** in direction of arrow HIGH.

Basic setting of spring preload, rear
– without dynamic ESA OE
– Turn adjustment wheel as far as possible into LOW direction (Full tank of gas, with rider 209 lbs (95 kg))◁

Damping

Setting

The damping must be adjusted to the road conditions and the spring preload.

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

Adjusting damping on rear wheel

- Make sure ground is level and firm and park motorcycle.
- Adjust damping from the left side of the vehicle.

- Turn adjusting screw **1** clockwise to increase damping.
- Turn adjusting screw **1** counterclockwise to decrease damping.

Basic setting of rear wheel rear-wheel damping
– without dynamic ESA OE
– Turn the adjusting screw as far as possible clockwise, then 8 clicks counterclockwise. (Full tank of gas, with rider 209 lbs (95 kg))◁

Dynamic ESA, Electronic Suspension Adjustment

– with dynamic ESA OE

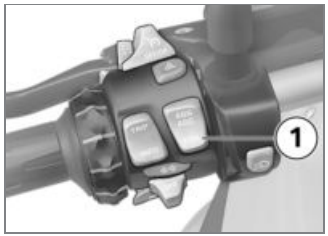
Settings

Using the electronic suspension adjustment Dynamic ESA you can conveniently adjust your motorcycle to the load.
Using leveling sensors, Dynamic ESA detects movements of the running gear and responds to them by adjusting the damper valves. As a result, the running gear is adjusted to the conditions of the ground.
Based on the NORMAL default setting, damping can be additionally adjusted harder (HARD) or softer (SOFT).

– with riding modes OE
The running gear adjustment as well as the number of selectable damping variants depend on the selected riding mode. Damping set by the riding mode can be changed by the rider.
If the coding plug is not installed, the default set by the riding mode is set after every mode change. If the coding plug is installed, the rider's adjustments for every mode are maintained.

Displaying suspension setting

• Switch on ignition.



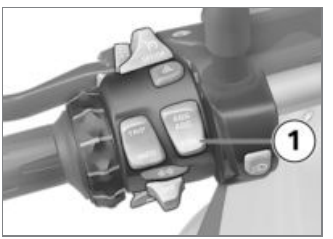
• Press button **1** briefly to display current adjustment.

Damping is displayed in the multifunction display in area **1**, and spring preload is indicated in area **2**.

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

Adjusting the suspension

• Switch on ignition.



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

To set the damping rate:

• Repeat pressing button **1** briefly until desired setting is displayed.

The damping can be adjusted while the motorcycle is being ridden.◀

The following settings are available:

– SOFTER: Comfortable damping
– NORMAL: Normal damping
– HARDER: Sporty, performance-oriented damping

– with riding modes OE

In the ENDURO and ENDURO PRO modes two adjustments are possible only:

– SOFTER: Comfortable damping
– HARDER: Sporty, performance-oriented damping

To set the spring preload:

• Start the engine:

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

• Press and hold button **1** repeatedly until desired setting is displayed.

The following settings are available:

One-up

One-up with luggage

Two-up (with luggage)

• Wait for the adjustment routine to finish before starting off again.

» If the button **1** is not pressed for an extended period, the damping rate and the spring preload will be adjusted to the displayed settings. The ESA display flashes during the adjustment routine.

• At very low temperatures, unload the motorcycles before increasing the spring preload,

and have the passenger dismount if necessary.
» The ESA display disappears once the adjustment procedure has been completed.

Anti-theft alarm system (DWA)

– with anti-theft alarm OE

Activation

- Switch on ignition.
- Customize anti-theft alarm system settings (➠ 68).
- Switch off ignition.

» If DWA is activated, DWA is automatically activated after the ignition is switched off.
» Activation takes approximately 30 seconds to complete.
» Turn indicators are illuminated twice.
» Confirmation tone sounds twice (if programmed).
» Anti-theft alarm system is activated.

Alarm

The alarm can be triggered by
– the motion sensor
– an attempt to use an unauthorized key to switch on the ignition
– disconnecting the alarm system from the motorcycle battery (alarm system battery takes over the power supply - alarm sound only, no illumination of the turn signals)

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

An alarm lasts for approximately 26 seconds. During the alarm, an alarm tone sounds and the turn signals flash. The alarm tone type can be adjusted by an authorized BMW Motorrad retailer.

If an alarm was triggered while the motorcycle was unattended, the rider is notified accordingly by an alarm tone sounding once when the ignition is switched on. The anti-theft alarm system indicator lamp then signals the reason for the alarm for one minute. The meanings of the flash codes are as follows:
– Flashes 1x: Motion sensor 1
– Flashes 2x: Motion sensor 2
– Flashes 3x: Ignition switched on with unauthorized key
– Flashes 4x: Alarm system is disconnected from the motorcycle battery
– Flashes 5x: Motion sensor 3

Deactivation

- Emergency on/off switch (kill switch) in normal operating position.
- Switch on ignition.

» Turn indicators light up once.
» Confirmation tone sounds once (if programmed).
» Anti-theft alarm system is deactivated.

Customize anti-theft alarm system settings

- Switch on ignition or bring motorcycle to a stop.

- Repeat pressing button **1** briefly, until in the top line of the display **2** SETUP ENTER is shown.
- Press and hold button **1** to start the SETUP menu.

- Press button **1** briefly to respectively select the DWA menu item.

» The top line of the display **2** shows DWA.
» The adjusted value appears in the bottom line of the display **3**.

- Press button **4** briefly to change the adjusted value.

The following settings are available:

– On: Anti-theft alarm system is activated respectively is activated automatically when the ignition is switched off.

– Off: DWA is deactivated.

Tires

Checking tire pressure

Incorrect tire inflation pressure results in poorer handling characteristics of the motorcycle and reduces the life of the tires.
Ensure proper tire inflation pressure.◀

At high road speeds, tire valves installed perpendicular to the wheel rim have a tendency to open as a result of centrifugal force.
In order to avoid a sudden loss of tire inflation pressure, fit a valve cap with rubber sealing ring to the rear tire and make sure that the cap is screwed on firmly.◀

- Make sure ground is level and firm and park motorcycle.
- Check tire pressures against data below.

 Tire pressure, front
– 36.3 psi (2.5 bar) (With tire cold)
 Tire pressure, rear
– 42.1 psi (2.9 bar) (With tire cold)

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

Headlight

Adjusting headlamp for RHD/LHD traffic

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

Headlamp range and spring preload

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

If there are questions whether the headlight range is correct, consult a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

Headlamp range adjustment

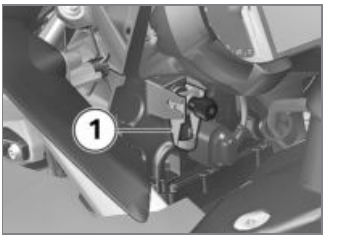
In the case of high payload, if the spring preload adjustment is not sufficient anymore to avoid blinding the oncoming traffic:

- Turn adjustment wheel **1** counterclockwise to lower the headlamp beam.

If the motorcycle is ridden again with lower payload:

- Have the headlamp default setting readjusted by an authorized workshop, preferably an authorized BMW Motorrad retailer.

– with LED headlights OE



Beam throw can also be adjusted by means of a pivot lever instead of the adjuster knob.

- To shorten beam throw for riding with the motorcycle heavily loaded, set pivot lever **1** to the horizontal position.

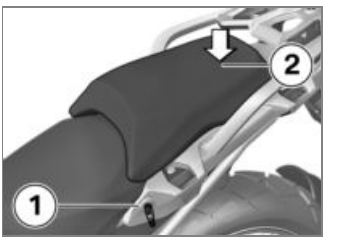
If the motorcycle is ridden again with lower payload:

- Turn pivot lever **1** to the vertical position◁

Rider and passenger seats

Remove passenger seat

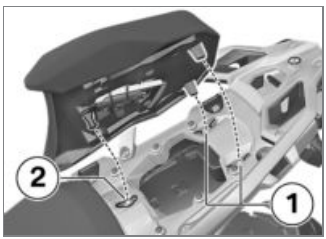
- Make sure ground is level and firm and park motorcycle.



- Turn seat lock **1** to the right with ignition key and hold while pressing passenger seat downward in rear area **2** to support unlocking.
- Lift passenger seat at front and release key.
- Take off passenger seat and place on a clean surface with

upholstered side facing downward.

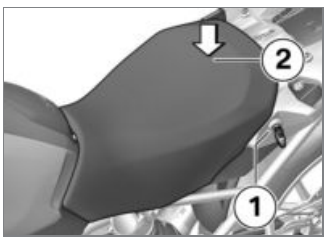
Installing passenger seat



- Fit passenger seat centered in rear mounts **1** and in front mount **2**.
- In order to position the passenger seat closer to the rider's seat, press the passenger seat above the mounts uniformly forward and down, until the locking mechanism engages.
- In order to position the passenger seat further away from the rider's seat, press the passenger seat above the mounts uniformly backward and down, until the locking mechanism engages.

Removing rider's seat

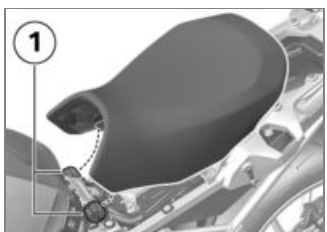
- Remove passenger seat (➠ 70).



- Turn seat lock **1** to the left with ignition key and hold while pressing rider's seat downward in rear area **2** to support unlocking.
- Raise rider's seat at rear and release key.
- Take off rider's seat and place on a clean surface with upholstered side facing downward.

Installing rider's seat

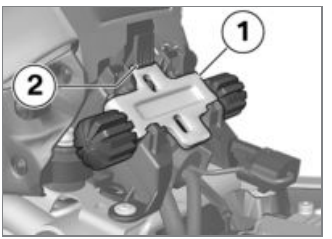
- Remove passenger seat (➠ 70).
- Adjust seat height and seat tilt (➠ 72).



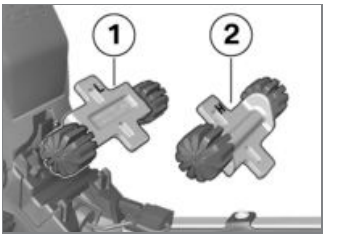
- Fit rider's seat in mounts **1** on left and right and loosely place on motorcycle.
- Press rider's seat slightly forward in rear area and then firmly downward until locking mechanism engages.

Adjust seat height and seat tilt

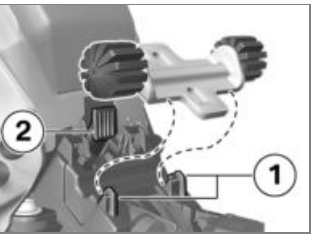
- Remove rider's seat (➠ 71).



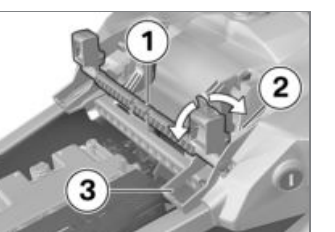
- In order to remove the front height adjustment **1**, press locking mechanism **2** down to remove the height adjustment upwards.



- In order to adjust the low seat position, install the front height adjustment in orientation **1** (L marking).
- In order to adjust the high seat position, install the front height adjustment in orientation **2** (H marking).



- First, slide the front height adjustment under mounts **1**. Then press locking mechanism **2**, until it engages.



- In order to adjust the low seat position, swivel rear height ad-

justment **1** into position **3** (L marking).

- In order to adjust the high seat position, swivel rear height adjustment **1** into position **2** (H marking).

If seat tilt should be changed:

- Position the front and rear height adjustment differently.

Riding

Safety instructions

Rider's equipment

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

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

Reduced clearance in inclined position

– with lowering[OE]

Motorcycles with lowered running gear have less ground clearance in all positions than motorcycles with standard running gear.

Danger of accident due to the motorcycle contacting the ground unexpectedly early. Observe the reduced ground clearance of lowered motorcycles in all positions.◀

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

The lowering of the motorcycle shortens the spring travel (see the chapter "Technical Data"). A possible reduction in the accustomed driving comfort may result. Especially when riding with a passenger, the spring preload should be adjusted accordingly.

Loading

Overloading and imbalanced loads can adversely affect the motorcycle's handling. Do not exceed the gross weight limit and observe the loading information.◀

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

– with case[OA]

- Ensure that case volumes on left and right are equal.
- Make sure that weight is uniformly distributed between right and left.
- Pack heavy luggage and cargo as low and as close to the center of the motorcycle as possible.
- Observe maximum payload and top speed as indicated on label in case.◁

– with topcase OA
• Observe maximum payload and top speed as indicated on label in topcase.◁

– with tank rucksack OA
• Observe maximum payload of tank rucksack and corresponding top speed.

 Payload of tank rucksack
– max 11 lbs (max 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:
– Settings of spring-strut and shock absorber system
– Imbalanced load
– Loose clothing
– Insufficient tire inflation pressure
– Poor tire tread
– Etc.

Maximum speed with massive-bar tires

The maximum speed specified for the motorcycle may be higher than the maximum speed permissible for the tires. Excessively high speeds can lead to tire damage and accidents. Observe the maximum permissible speed for the tires.◀

With massive-bar tires, the top speed permissible for the tire must be observed.
Attach maximum permissible speed decal in field of view.

Risk of poisoning

Exhaust fumes contain carbon monoxide, which is colorless and odorless but highly toxic.

Inhaling exhaust fumes therefore represents a health hazard and can even cause loss of consciousness with fatal consequences.
Do not inhale exhaust fumes.
Do not run the engine in closed rooms.◀

Burn hazard

Engine and exhaust system become very hot when the vehicle is in use. There is a risk of burn injuries by contact with hot surfaces.
After parking the motorcycle, make sure that nobody comes into contact with the engine and exhaust system.◀

Catalytic converter

If misfiring causes unburned fuel to enter the catalytic converter, there is a danger of overheating and damage.
For this reason, observe the following points:
– Do not run the fuel tank dry
– Do not run the engine with the spark-plug cap removed
– Stop the engine immediately if it misfires
– Use unleaded fuel only
– Comply with all specified maintenance intervals.

Unburned fuel will destroy the catalytic converter.
Note the points listed for protection of the catalytic converter.◀

Danger of overheating

Cooling would be inadequate if the engine were allowed to idle for a lengthy period with the motorcycle at a standstill: overheating would result. In extreme cases, the motorcycle could catch fire.
Do not allow the engine to idle unnecessarily. After starting, ride off immediately.◀

Modifications

Modifications of the motorcycle (e.g. engine management system, throttle valves, clutch) can cause damage to the affected components and failure of safety-related functions. Damage caused in this way is not covered by the warranty.
Do not make any modifications.◀

Checklist

Use the following checklist to check important functions, settings and wear limits before you ride off:

– Brakes
– Front and rear brake fluid levels
– Coolant level
– Clutch
– Damping setting and spring preload
– Tread depth and tire inflation pressure
– Firm seating of cases and luggage

At regular intervals:
– Engine oil level (every time you refuel)
– Brake pad wear (during every third stop for refueling)

Starting

Starting the engine

• Switch on ignition.
» Pre-Ride Check in progress. (➠ 79)
» ABS self-diagnosis in progress. (➠ 80)

– with riding modes OE
» ASC self-diagnosis in progress. (➠ 80)◁
• Engage neutral, or pull back clutch lever if a gear is engaged.

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

• In the case of cold start or under cold temperatures: pull back clutch lever.

• Press starter button **1**.

▷ The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you start the engine, or use jump leads and a donor battery to start.◀

» Engine starts.
» Consult the troubleshooting chart if the engine refuses to start. (➠ 144)

Pre-Ride-Check

In the "Pre-Ride-Check", the instrument cluster executes a test routine to check the status of the instrument dials, the warning lamps and the multifunction display. This test routine stops if the engine is started before it is completed.

» Phase 1:
– All warning and indicator lamps are switched on.
– All segments are shown in the multifunction display.
– The general warning lamp lights up red.

» Phase 2:
– The general warning lamp changes from red to yellow.

» Phase 3:
– The multifunction display and the warning and indicator lamps change to their regular display.

If symbols are not shown or warning lamps are not indicated:

If it was not possible to switch on the warning lights, possible malfunctions cannot be indicated.
Watch all warning and indicator lights on the display.◀

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

ABS self-diagnosis

The self-diagnosis routine is determining whether the BMW Motorrad Integral ABS is ready for operation. The self-diagnosis routine launches automatically when you switch on the ignition.

Phase 1

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

The ABS warning lamp flashes.

Phase 2

» Checking wheel sensors while starting off. The motorcycle must reach a speed of at least 3 mph (5 km/h) before the ABS self-diagnosis routine can be completed.

The ABS warning lamp flashes.

ABS self-diagnosis completed

» The ABS warning lamp goes out.

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

- It remains possible to continue riding. Please be aware that neither the ABS nor the integral function is available.
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

ASC self-diagnosis

– with riding modes OE

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

Phase 1

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

 The ASC warning lamp flashes slowly.

Phase 2

» Checking the diagnosable system components while driving. So that the ASC self-diagnosis can be completed, the motorcycle must be driven at a speed of at least 3 mph (5 km/h) with the engine running.

 The ASC warning lamp flashes slowly.

ASC self-diagnosis completed

» The ASC symbol is no longer displayed.

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

- It remains possible to continue riding. Please be aware that ASC functionality is no longer available.
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Breaking in

Engine

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

 Engine break-in speeds
– <5000 min^{-1}

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

 Mileage until running-in check
– 311...746 miles (500...1200 km)

Brake pads

New brake pads must be run in before they achieve their optimum friction force. This initial reduction in braking efficiency can be compensated for by exerting greater pressure on the brake levers.

 New brake pads can extend stopping distance by a significant margin.
Brake early.◀

Tires

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

New tires do not provide full tire traction. Accident hazards exist in particular on wet roads and at extreme angles. Always think well ahead and avoid extreme angles.◀

Offroad riding

When driving offroad

Rims

As a touring Enduro model, this motorcycle has also been designed for light offroad use on unpaved roads. However, heavier offroad use can result in damage to the standard cast aluminum rims.

For heavier offroad use, use the cross-spoke wheels available as optional equipment.◀

After driving offroad

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

Tire inflation pressure

A tire inflation pressure reduced for offroad driving leads to poorer handling of the motorcycle on paved roads and can result in accidents.
Ensure proper tire inflation pressure.◀

Brakes

When the motorcycle is ridden on loose surfaces or muddy roads, the brakes may fail to take effect immediately because of dirt or moisture on the disks or brake pads.

Brake early until the brakes are braked clean.◀

Driving on unpaved or dirty roads leads to increased brake pad wear.
Check the brake pad thickness more often and replace the brake pads sooner.◀

Spring preload and damping

Spring preload and damping values that have been changed for offroad use reduce handling characteristics on paved surfaces.
Before returning to on-road use, reset correct spring preload and correct damping.◀

Rims

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

Air cleaner insert

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

Use under very dusty conditions (deserts, savannas, etc.) requires the use air cleaner inserts specially developed for these kinds of applications.

Brakes

How do you achieve the shortest stopping distances?

The dynamic load distribution between the front and rear wheel changes during braking. The heavier you brake, the greater the weight transfer to the front wheel. Increases in the load at an individual wheel are accompanied by a rise in the effective braking force that the wheel can provide.
To achieve the shortest possible braking distance, the front brake must be applied quickly and with increasing force. This procedure provides ideal exploitation of the extra weight transfer to the front wheel. The clutch should also be disengaged at the same time.
With the "forced braking" often practiced in which the brake pressure is generated as quickly as possible and with great force, the dynamic load distribution cannot follow the increased deceleration and the braking force cannot be completely transferred to the road surface.
Locking up of the front wheel is prevented by the BMW Motorrad Integral ABS.

Descending mountain passes

There is a danger of the brakes fading if you use only the rear brakes when descending mountain passes.
Under extreme conditions, the brakes could overheat and suffer severe damage.
Use both front and rear brakes, and make use of the engine's braking effect as well.◀

Wet, soiled brakes

Moisture and dirt on the brake rotors and the brake pads result in a decrease in the braking action.
Delayed or poorer braking action must be expected in the following situations:
– When driving in the rain and through puddles.
– After washing the vehicle.

– When driving on roads spread with salt.
– After working on the brakes due to oil or grease residues.
– When driving on soiled roads or offroad.

Poor braking action due to moisture and dirt.
Brake until brakes are dry or clean; clean if necessary.
Brake early until the full braking action is available again.◀

Parking your motorcycle

Side stand

• Switch off engine.

If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand.
Always check that the ground under the stand is level and firm.◀

• Fold out side stand and park motorcycle.

The side stand is designed to support only the weight of the motorcycle.
Do not lean or sit on the motorcycle with the side stand extended.◀

• If the slope of the road permits, turn the handlebars to the left.
• On slopes point the motorcycle uphill and engage 1st gear.

Center stand

• Switch off engine.

If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand.
Always check that the ground under the stand is level and firm.◀

Excessive movements could result in the center stand retracting, and the motorcycle would topple as a result.
Do not sit on the motorcycle while it is resting on the center stand.◀

• Fold out center stand and jack up motorcycle.

Refueling

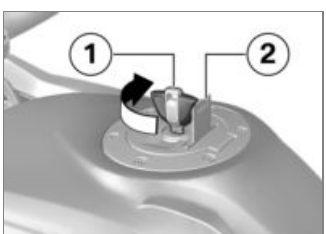
Fuel is highly flammable. Fire at the fuel tank can result in fire and explosion.
Do not smoke. Never bring a naked flame near the fuel tank.◀

Fuel expands when exposed to heat. When the tank is overfilled, fuel can escape and get onto the road. This results in a danger of falling.
Do not overfill the fuel tank.◀

Fuel attacks plastic surfaces, making them cloudy or unattractive.
Immediately wipe off plastic parts after contact with fuel.◀

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

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



- Open protective cap **2**.

- Unlock cap of fuel tank **1** with ignition key by turning it clockwise, and fold it up.

- Refuel with quality listed below at most until lower edge of filler neck is reached.

When refueling after running on reserve, make sure that you top up the tank to a level above reserve, as otherwise the sensor will not be able to register the new level and the fuel warning lamp will not be switched off.◀

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

Usable fuel quantity
– Approx. 5.3 gal (Approx. 20 l)

Reserve fuel quantity
– Approx. 1.1 gal (Approx. 4 l)

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

Fuel specifications

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

Leaded fuel will destroy the catalytic converter.
Do not refuel with any leaded gasoline or gasoline with metallic additives, e. g. manganese or Iron.◀

Ethanol E85 might damage the engine and fuel supply system.
Do not refuel with E85, i.e., fuel with an ethanol content of 85 %, or with Flex Fuel.◀

- Fuels with a maximum ethanol content of 10 %, i. e., E10, may be used for refueling.

Recommended fuel quality

– Super unleaded, (max. 10 % ethanol, E10)
– 89 AKI (95 ROZ/RON)
– 89 AKI

Alternative fuel quality

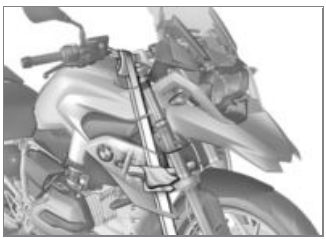
– Regular unleaded (restrictions with regard to power and fuel consumption. If the engine should for example be operated with 91 RON in countries with lower fuel quality, the motorcycle must be respectively programmed first by your authorized BMW Motorrad retailer.)
– 87 AKI (91 ROZ/RON)
– 87 AKI

Fastening motorcycle for transport

- Protect all component surfaces against which straps are routed against scratching. For example, use adhesive tape or soft cloths.

The motorcycle can tip away to the side and fall over.
Secure motorcycle against tipping away to the side, preferably with the help of a second person.◀

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



Components can be damaged.
Do not pinch components, e.g. brake lines or wiring harnesses.◀

- Fasten front straps to both sides of the handlebars.
- Guide straps through leading link and then tension.

- Fasten rear straps on both sides to the passenger footpegs and then tighten them.
- Tension all straps evenly; the vehicle should be pulled down against its springs with the suspension compressed as much as possible.

Technology in detail

Riding mode

– with riding modes[OE]

Selection

There are five riding modes to choose from for adjusting the motorcycle to the weather, road conditions and driving style:
– RAIN
– ROAD (standard mode)
– DYNAMIC
– Enduro
– Enduro PRO (if coding plug is installed only)

For every of the five riding modes, aligned settings for the ABS and ASC systems as well as the throttle response are available.

– with dynamic ESA[OE]

The Dynamic ESA alignment depends on the selected riding mode as well.

ABS and/or ASC can be switched off in each mode; the following explanations always refer to the activated systems.

Throttle response
– In the RAIN and ENDURO modes: reserved.
– In the ROAD and ENDURO PRO modes: direct.
– In the DYNAMIC mode: dynamic.

ABS
– The rear wheel lift assistant is active in all modes.
– In the RAIN, ROAD and DYNAMIC modes, ABS is aligned to road operation.
– In the ENDURO mode, ABS is aligned to off-road operation using street tires.
– In the ENDURO PRO mode, no ABS control is applied to the rear wheel, if the foot-brake lever is actuated. ABS is aligned to off-road operation using massive-bar tires.

ASC
– The front wheel lift assistant is active in all modes.
– In the RAIN, ROAD and DYNAMIC modes, ASC is aligned to road operation.
– In the ENDURO, and ENDURO PRO modes, ASC is aligned to off-road operation.

– with dynamic ESA[OE]

Dynamic ESA
– In the RAIN, ROAD and DYNAMIC modes, damping variants HARD, NORMAL and SOFT can be selected.

– RAIN default: SOFT.
– ROAD default: NORMAL.
– DYNAMIC default: HARD.
– In the ENDURO and ENDURO PRO modes, damping variants HARD and SOFT can be selected.
– ENDURO default: SOFT.
– ENDURO PRO default: HARD.

Switchover

While riding, the switchover process for the functions in the engine management system, the ABS and the ASC is only possible in certain operating modes:
– no drive torque at rear wheel
– no brake pressure in the brake system

To obtain this condition:
– the motorcycle must be stopped with the ignition switched on,

or

– Throttle grip must be turned back,
– Brake levers may not be actuated,
– the clutch must be actuated.

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

Brake system with BMW Motorrad Integral ABS

Partially integral brake

Your motorcycle is equipped with a partially integral brake configuration. Both front and rear brakes are applied simultaneously when you pull the handbrake lever.

The footbrake lever acts only on the rear brake.
The BMW Motorrad Integral ABS adapts the braking force distribution between the front and rear wheel brake to the loading of the motorcycle during braking with ABS control.

Spinning of the rear wheel with the front brake pulled (burn out) is made impossible by the integral function. The result may be damage to the rear wheel brake and the clutch. Avoid burn-outs.◀

How does ABS work?

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

the road surface is, the longer the braking distance will be.
If the maximum transferable braking force is exceeded when the rider increases the brake pressure, the wheels begin to lock and driving stability is lost, and a fall can result. Before this situation occurs, ABS is activated and the brake pressure is adjusted to the maximum transferable braking force. This enables the wheels to continue to turn and maintains driving stability regardless of the road surface condition.

What happens when rough roads are encountered?

Bumpy or rough roads can briefly lead to a loss of contact between the tires and the road surface, until the transferable braking force is reduced to zero. If braking is carried out in this situation, ABS must reduce the brake pressure to ensure driving stability when restoring contact to the road. At this point in time, the BMW Motorrad Integral ABS must assume extremely low friction coefficients (gravel, ice, snow) so that the running wheels turn in every imaginable case and the driving stability is ensured. After detecting the actual conditions, the system adjusts the optimum brake pressure.

How is the BMW Motorrad Integral ABS noticeable to the rider?

If the ABS system must reduce the braking forces due to the conditions described above, then vibrations can be felt at the handbrake lever.
If the handbrake lever is pulled, then braking pressure is built up at the rear wheel with the integral function. If the footbrake lever is first actuated after this, the brake pressure already built up can be felt earlier than the counter-pressure, than when the footbrake lever is actuated before or together with the handbrake lever.

Lifting off rear wheel

However, during extremely heavy and rapid deceleration it is possible that the BMW Motorrad Integral ABS will not prevent the rear wheel from lifting off the ground. In these cases, the motorcycle can also flip end over end.

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

What are the design characteristics of the BMW Motorrad Integral ABS?

The BMW Motorrad Integral ABS ensures driving stability on any surface within the limits of driving physics. The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack. Handling should be adopted to driving skills and road conditions.

Special situations

To detect the tendency of the wheels to lock up, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ABS function is deactivated for safety reasons and an ABS fault is indicated. The condition for a fault code is the completed self-diagnosis.

In addition to problems on the BMW Motorrad Integral ABS, unusual driving conditions can also lead to a fault code.

Unusual driving conditions:

- Heating up on the main or auxiliary stand at idle or with gear engaged.
- Rear wheel locked-up for a longer period of time by engine brake, e.g. when riding downhill on slippery surfaces.

Should a fault code result due to one of the driving conditions described above, the ABS function can be reactivated by switching the ignition off and then on again.

How important is regular maintenance?

Any technical system is always only as good as its maintenance condition.

To ensure that the BMW Motorrad Integral ABS is in an optimally maintained condition, it is vital that the specified inspection intervals be complied with.◀

Reserves for safety

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

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

Engine management with BMW Motorrad ASC

– with riding modes OE

How does ASC work?

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

What are the design characteristics of the BMW Motorrad ASC?

The BMW Motorrad ASC is an assistance system for the rider and is designed for driving on public roads. Especially in at the limits of driving physics, the rider has a considerable influence on the control options of the ASC (shifting weight in curves, loose loads).
The ENDURO riding mode should be activated when driving offroad. In this mode the controlling intervention by the ASC is carried out later, enabling controlled drifting.
The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack. ASC BMW Motorrad can be deactivated for these cases.

Even with ASC, the laws of physics cannot be overridden. The rider is always responsible for adapting his/her driving style.
Do not reduce the additional safety provided with risky driving.◀

Special situations

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

To detect spinning or slipping away of the rear wheel, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ASC function is deactivated for safety reasons and an ASC fault is indicated. The condition for a fault code is the completed self-diagnosis.
In the following unusual driving conditions, the BMW Motorrad ASC can be automatically deactivated.

Unusual driving conditions:

- Driving on the rear wheel (wheelie) for a longer period with ASC deactivated.
- Rear wheel spinning in place with front brake engaged (burn out).
- Heating up on the main or auxiliary stand at idle or with gear engaged.

The ASC is reactivated by switching the ignition on and off and then driving at a speed above 6 mph (10 km/h).

With extremely massive-bar tires, an ASC intervention can occur before the optimum propulsion is achieved due to the greater slip involved. In these cases the BMW Motorrad ASC should be deactivated.

If the front wheel loses contact to the ground during extreme acceleration, the ASC reduces the engine torque until the front wheel touches the ground again. In this case, BMW Motorrad recommends turning back the throttle grip somewhat to achieve a stable driving state again as quickly as possible.

On a slippery surface, the throttle grip should never be suddenly turned back completely without pulling the clutch at the same time. The engine braking torque can cause the rear wheel to block, resulting in an unstable driving state. This case cannot be controlled by the BMW Motorrad ASC.

Tire Pressure Control TPC/RDC

– with Tire Pressure Control (TPC/RDC)[OE]

Function

A sensor is located in each tire, which measures the air temperature and the inflation pressure inside the tire and sends these values to the control unit.
The sensors are equipped with a centrifugal controller, which does not enable the transmission of the measured values until after a speed of approx. 18 mph (30 km/h) is exceeded for the first time. Before initial reception of the tire inflation pressure, –– is shown in the display for each tire. The sensors continue to transmit the measured values for approx. 15 minutes after the vehicle comes to a stop.
The control unit can manage four sensors, and as a result two sets

of wheels with TPC/RDC sensors can be driven. If a TPC/RDC control unit is installed, however the wheels have no sensors, then a fault code is output.

Tire inflation pressure ranges

The TPC/RDC control unit distinguishes between three inflation pressure ranges matched to the motorcycle:

- Inflation pressure within the permissible tolerance.
- Inflation pressure at the limits of the permissible tolerance.
- Inflation pressure outside the permissible tolerance.

Temperature compensation

The tire inflation pressure is temperature dependent, i.e. it increases or decreases together with the tire temperature. The tire temperature is dependent on the outside temperature and on the driving style and duration. The tire inflation pressures are shown temperature-compensated in the multifunction display; they refer to a tire temperature of 68 °F (20 °C). No temperature compensation takes place in the inflation pressure testers at filling stations, meaning that the measured tire inflation pressure varies according to tyre temperature. As a result, the pressure figures indicated by the gauges at filling stations will usually vary from those appearing in the multifunction display.

Adjusting inflation pressure

Compare the TPC/RDC value in the multifunction display with the value on the back cover of the Rider's Manual. The difference between the two values must be compensated with the air pressure tester at the filling station.

Example: according to the Rider's Manual, the tire inflation pressure is to be 36.3 psi (2.5 bar), however 33.4 psi (2.3 bar) is shown in the multifunction display. This means the tires are underinflated by 2.9 psi (0.2 bar). The tester at the filling station indicates 34.8 psi (2.4 bar). This value must be increased by 2.9 psi (0.2 bar) to 37.7 psi (2.6 bar) in order to produce the correct tire inflation pressure.

Accessories

General instructions

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Your authorized BMW Motorrad retailer is the right place to go for genuine BMW parts and accessories,other BMW approved products, and expert advice on their installation and use.
These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for these products.
Conversely, BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.
Observe the information on the importance of tire sizes for suspension control systems (➠ 119).

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

Whenever you are planning modifications, comply with all the legal requirements. The vehicle must not infringe on national road-vehicle construction and use regulations of your country.

Onboard power sockets

Information on using onboard power sockets:

Automatic deactivation
Onboard sockets are switched off automatically under the following conditions:
– if the battery's voltage falls below the level required to start the vehicle
– if the maximum electrical load specified in the "Technical data" is exceeded
– during starting

– with additional onboard socket OA

If several onboard sockets are being operated, the total current may not exceed the maximum loadability.

Operating electrical accessories

You can start using electrical accessories only when the ignition is switched on. The accessory remains operational if the ignition is subsequently switched off. Onboard sockets are switched off approx. 15 minutes after switching off the ignition to reduce the strain on the onboard electrical system.

Cable routing

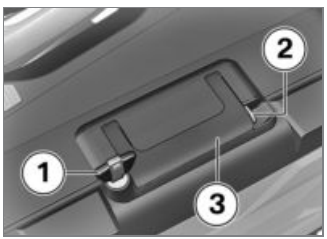
The cords from the power sockets to the devices must be routed in such a way that they:

– do not interfere with the rider's freedom of movement
– do not limit steering angles and handling characteristics
– cannot be caught or trapped

Case

– with case OA

Opening case



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

- Press yellow button **1** downward while opening case lid.

Closing case

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

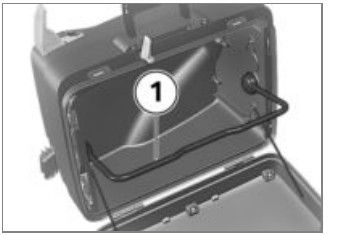
» The lid clicks audibly into place.

If the carrying handle is folded down when the slot of the case lock is oriented in the direction of travel, the lock tab can be damaged.
Before folding down the carrying handle, make sure that the slot of the case lock is perpendicular to the direction of travel.◀

- Fold carrying handle **1** down.
- Turn key in case lock in the direction of travel and remove.

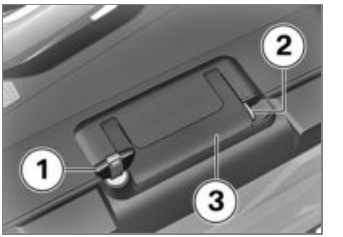
Adjusting case volume

- Open and empty case.

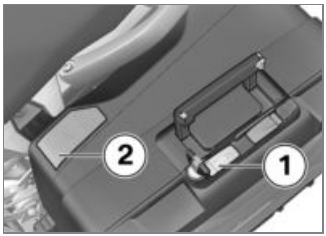


- Engage pivot lever **1** in upper end position to obtain smaller volume.
- Engage pivot lever **1** in lower end position to set larger volume.
- Close case.

Removing case

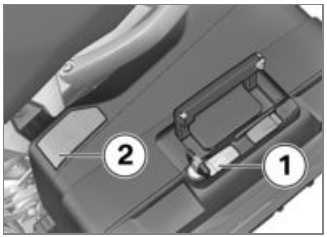


- Turn key **1** in case lock perpendicular to direction of travel.
- Hold down yellow locking device **2** and fold out carrying handle **3**.

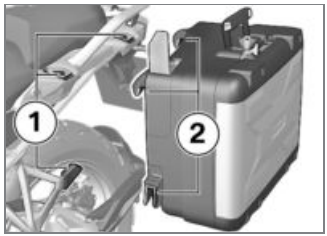


- Pull up red release lever **1**.
» Locking flap **2** pops up.
- Fold locking flap all the way open.
- Remove case from mount by its handle.

Mounting case



- Pull up red release lever **1**.
» Locking flap **2** pops up.
- Fold locking flap all the way open.



- Insert case from the top into mounts **1** and **2**.

- Press locking flap **1** down until resistance can be felt.

- Next, press locking flap and red release lever **2** down at the same time.

» Locking flap clicks into place.

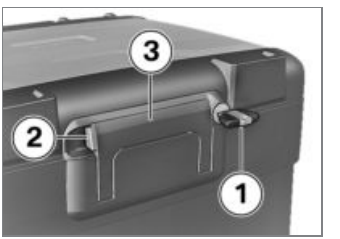
If the carrying handle is folded down when the slot of the case lock is oriented in the direction of travel, the lock tab can be damaged.
Before folding down the carrying handle, make sure that the slot of the case lock is perpendicular to the direction of travel.◀

- Fold carrying handle **1** down.
- Turn key in case lock in the direction of travel and remove.

Topcase

– with topcase OA

Opening the topcase

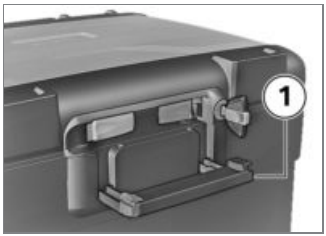


- Turn key **1** in topcase lock into vertical position.
- Hold down yellow locking device **2** and fold out carrying handle **3**.

- Press yellow button **1** forward while opening the topcase lid.

Closing the topcase

- Close topcase lid with firm pressure.



If the carrying handle is folded down when the slot of the Topcase lock is horizontal, the lock tab can be damaged. Before folding down the carrying handle, make sure that the slot of the Topcase lock is vertical.◀

- Fold carrying handle **1** down.

» Carrying handle audibly engages.

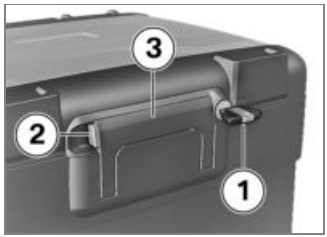
- Turn key in topcase lock into horizontal position and remove.

Adjusting topcase volume

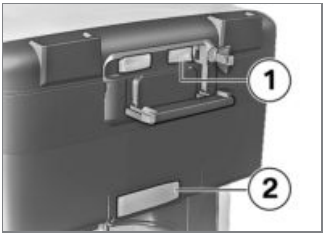
- Open and empty topcase.

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

Removing topcase



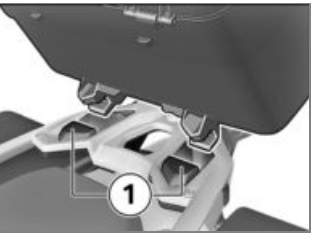
- Turn key **1** in topcase lock into vertical position.
- Hold down yellow locking device **2** and fold out carrying handle **3**.



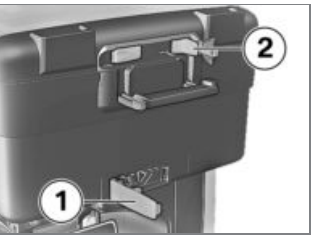
- Pull red lever **1** toward rear.
» Locking flap **2** pops up.
- Fold locking flap all the way open.
- Remove topcase from mounting by its handle.

Mounting the topcase

- Pull red lever **1** toward rear.
» Locking flap **2** pops up.
- Fold locking flap all the way open.



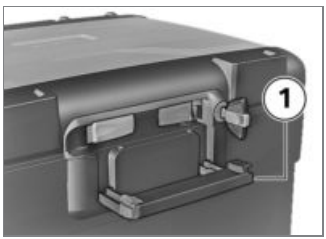
- Hook topcase into front holders **1** of topcase retaining plate.
- Press topcase onto topcase retaining plate at rear.



- Press locking flap **1** forward until resistance can be felt.

- Next, press locking flap and red release lever **2** forward at the same time.

» Locking flap clicks into place.



If the carrying handle is folded down when the slot of the Topcase lock is horizontal, the lock tab can be damaged. Before folding down the carrying handle, make sure that the slot of the Topcase lock is vertical.◀

- Fold carrying handle **1** down.

» Carrying handle audibly engages.

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

Navigation system

– with preparation for navigation system OE

Operating the navigation system

If BMW Motorrad Navigator is installed, some of its functions can be directly operated from the handlebars using the Multi-Controller.

The Multi-Controller is operated using six motions:

– Turning up and down.
– Short actuation to the left and right.
– Long actuation to the left and right.

Turning the Multi-Controller increases respectively decreases the volume of a BMW Motorrad communication system connected via Bluetooth. During volume adjustment, a bar is indicated in the Navigator display.

Menu items in the BMW special menu are selected by turning the Multi-Controller.

Short actuation of the Multi-Controller to the left respectively to the right switches between the main pages of the Navigator:
– Start page
– Media player
– BMW special menu
– Navigation
– Trip computer

Long actuation of the Multi-Controller corresponds to the activation of certain functions on the Navigator display. These functions are marked with small arrows above the respective touch field or by a plus respectively minus sign.


A function is triggered by long actuation to the right.


A function is triggered by long actuation to the left.


A function is triggered by long actuation to the right.


A function is triggered by long actuation to the left.

In detail, the following functions can be operated:

Start page
– Actuation to the left: start detour (if navigation is running).
– Actuation to the right: telephone functions (if a telephone is connected).

Media player
– Actuation to the left: play previous title.
– Actuation to the right: play next title.

BMW special menu
– Repeat last navigation announcement.
– Store current way point as favorite.
– Navigate home.
– Switch navigation announcements on respectively off (off: a crossed out speaker is shown in the display).
– Switch navigation display off respectively on.

Navigation
– Actuation to the left: enlarge section of map (zoom in).
– Actuation to the right: reduce section of map (zoom out).

Trip computer
– Actuation to the left: browse up.
– Actuation to the right: browse down.

Special functions

Integration of the BMW Motorrad Navigatorhas produced a number of deviations from the descriptions in the user guide for the Navigator.

Reserve fuel level warning

The settings for the fuel gauge enable you to define a distance that is covered per tankful of fuel. The motorcycle sends the figure for residual range possible with the fuel remaining in the fuel tank to the Navigator, so it is no longer necessary to enter this value.

Time and date

The Navigator sends time and date to the motorcycle. Transfer of this data into the instrument cluster must be activated in the SETUP menu of the instrument cluster.

Security settings

The BMW Motorrad Navigator IV can be secured against unauthorized use with a four-digit PIN (Garmin Lock). If this function is activated, while the Navigator is cradled on the motorcycle and the ignition is switched on you are prompted to add the motorcycle to the list of secured vehicles. If you answer "Yes" at this prompt the Navigator saves the VIN of this vehicle in its internal memory.

A maximum of five VINs can be saved in this way.

Subsequently, the PIN does not have to be entered when the Navigator is switched on by ignition ON while cradled in any of these vehicles.

If the Navigator is removed from the vehicle while switched on, a security prompt asking for the PIN to be entered is issued.

Screen brightness

Screen brightness is adjusted by the motorcycle while the unit is cradled. There is no provision for manual input.

Maintenance

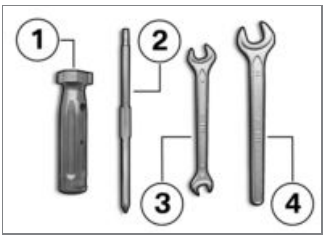
General instructions

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

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

Onboard tool kit

Standard tool kit



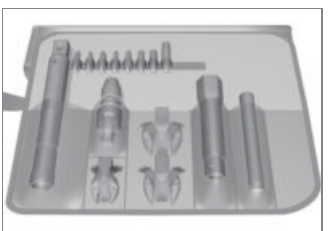
1 Screwdriver handle
– Use with screwdriver bit.
– Top up engine oil (➠ 111).

2 Reversible screwdriver insert
with Phillips PH1 and Torx T25
– Remove front and rear turn signal bulb (➠ 129).
– Remove the battery cover (➠ 135).

3 Open-ended wrench
Wrench size: 8/10 mm
– Remove battery (➠ 135).

4 Open-ended wrench
Wrench size: 14 mm
– Adjust mirror arm (➠ 62).

Service tool kit



For expanded service work (e.g., removing and installing wheels), BMW Motorrad has put together a service tool kit matched to your motorcycle. You can purchase

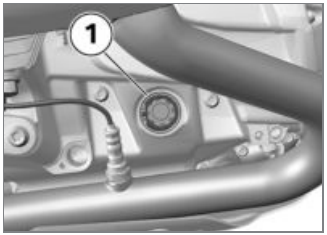
this tool kit from your authorized BMW Motorrad retailer.

Engine oil

Checking engine oil level

The oil level varies with the temperature of the oil. The higher the temperature, the higher the level of oil in the sump. Checking the oil level with the engine cold or after a short trip leads to misinterpretations of the oil fill quantity.
To ensure that the display of the engine oil level is correct, only check the oil level with the engine at operating temperature.◀

- Switch off engine at operating temperature.
- Make sure ground is level and firm and place motorcycle on center stand.
- Wait five minutes to allow oil to drain to the oil pan.



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

	Specified level of engine oil
–	between MIN and MAX marking

If the oil level is below MIN mark:
- Top up engine oil (➠ 111).

If oil level is above MAX mark:
- Have the oil level corrected at an authorized service facility, preferably an authorized BMW Motorrad dealer.

Top up engine oil

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

- Clean the area adjacent to the oil filler opening.
- Use the screwdriver handle from the toolkit to remove

cap **1** from the engine-oil filler neck.
- Checking engine oil level (➠ 111).

⚠ Both too little and too much engine oil can lead to engine damage.
Always make sure that the oil level is correct.◀

- Add engine oil up to specified level.

Engine oil, quantity for topping up
– max 1 quarts (max 0.95 l) (Difference between MIN and MAX)

- Checking engine oil level (➠ 111).
- Reinstall engine oil fill location cap.

Brake system

Checking brake operation

- Actuate the handbrake lever.
» Pressure point must be clearly perceptible.
- Actuate the footbrake lever.
» Pressure point must be clearly perceptible.

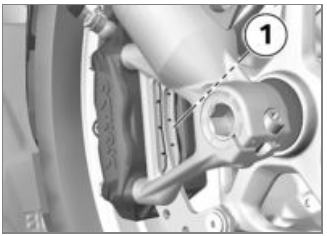
If no clear pressure points are perceptible:

⚠ Incorrect working practices endanger the reliability of the brakes.
Have all work on the brake system carried out by specialists.◀

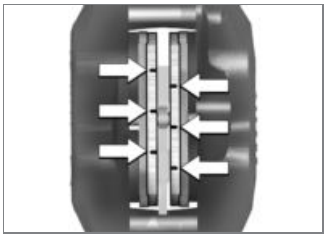
- Have the brakes checked at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Check front brake pad thickness

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



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



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

If the wear indicators are no longer clearly visible:

Dropping below the minimum pad thickness leads to reduced braking performance and may result in damage to the brakes.

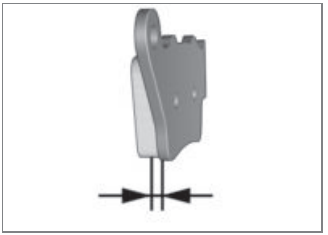
In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀

- Have the brake pads replaced at an authorized service facility, preferably an authorized BMW Motorrad dealer.

Check rear brake pad thickness

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

- Conduct a visual inspection of the brake pad thickness. Viewing direction: between splash guard and rear wheel toward brake pads **1**.



Rear brake-pad wear limit

– 0.04 in (1.0 mm) (Only friction material without carrier plate.)

If wear limit is reached:

Dropping below the minimum pad thickness leads to reduced braking performance and may result in damage to the brakes.

In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀

- Have the brake pads replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking front brake fluid level

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency.

Check brake fluid level regularly.◀

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

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

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

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

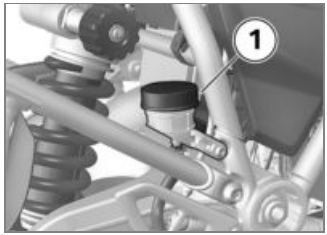
If brake fluid level falls below the approved level:

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

Checking rear brake fluid level

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency.
Check brake fluid level regularly.◀

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



- Check level of brake fluid in rear brake-fluid reservoir **1**.

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

Rear brake fluid level

– Brake fluid, DOT4

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

If brake fluid level falls below the approved level:

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

Coolant

Checking coolant level

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

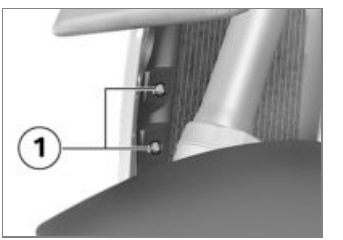
Danger of burns on hot engine.
Maintain distance from hot engine.
Do not touch hot engine.◀

- Read off coolant level on expansion tank **1**.

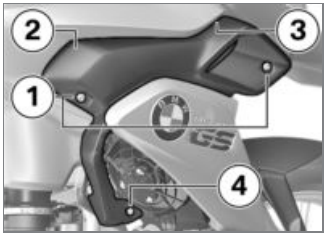
If coolant level drops below approved level:

- Add coolant.

Topping up coolant

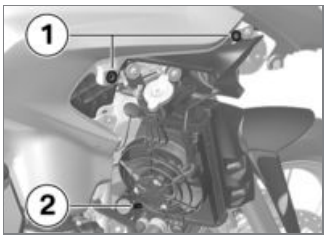


- Remove screws **1**.



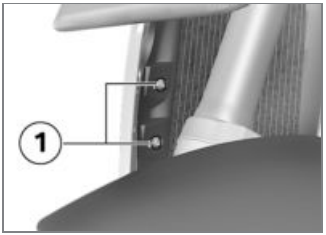
- Remove screws **1**.
- Remove the side panels at positions **2**, **3** and **4** from the holders.

- Open cap **1** of coolant expansion tank and add coolant up to specified level.
- Check coolant level (➠ 116).
- Close cap of coolant expansion tank.



- Insert side panel into mounts **1** and **2**.

- Install screws **1**.



- Install screws **1**.

Clutch

Check clutch function

- Pull back the clutch lever.

» Pressure point must be clearly perceptible.

If no clear pressure point can be felt:

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

Wheel rims and tires

Check wheel rims

- Make sure ground is level and firm and park motorcycle.
- Subject wheel rims to visual inspection for defects.
- Have damaged rims checked and, if necessary, replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking tire tread depth

The handling of your motorcycle can already change for the worse before the legally prescribed minimum tread depth is reached.
Have tires replaced even before the minimum tread depth is reached.◀

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

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

When the minimum tread depth is reached:

- Replace the worn tires.

Checking spokes

– with cross-spoke wheels OE

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

If the tone does not remain consistent:

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

Wheels

Tire recommendation

For every size of tire, BMW Motorrad has tested and approved certain makes as roadworthy. BMW Motorrad cannot evaluate the suitability of other tires, and can therefore take no responsibility for their driving safety.
BMW Motorrad recommends only using the tires tested and approved by BMW Motorrad. Extensive information is available at your authorized BMW Motorrad dealer or on the Internet at www.bmw-motorrad.com.

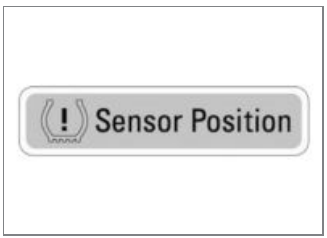
Affect of wheel sizes on chassis control systems

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

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

TPC/RDC sticker

– with Tire Pressure Control (TPC/RDC)OE

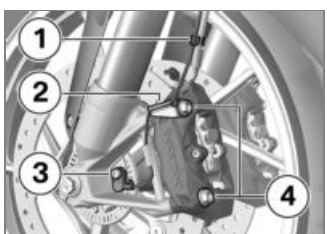


If tires are inexpertly removed, the RDC sensors may be damaged.
Inform the authorized BMW Motorrad retailer or the specialist service facility on the fact that the wheel is equipped with a RDC sensor.◀

On motorcycles equipped with TPC/RDC, a corresponding sticker is located on the wheel rim at the position of the TPC/RDC sensor. During a tire change it must be ensured that the TPC/RDC sensor is not damaged. Inform the BMW Motorrad retailer or the authorized workshop of the TPC/RDC sensor.

Removing front wheel

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

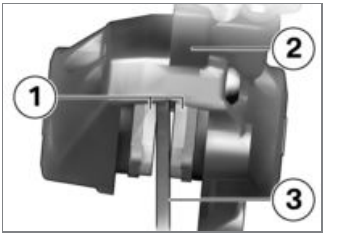


- Remove the ABS sensor wire from retaining clips **1** and **2**.

- Remove screw **3** and extract the ABS sensor from its socket.
- Mask off area of wheel rim that could be scratched in process of removing brake calipers.

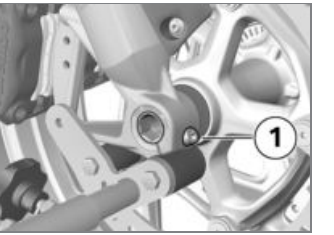
Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake rotor on reassembly.
Do not operate the handbrake lever when the brake calipers have been removed.◀

- Remove securing screws **4** of left and right brake calipers.

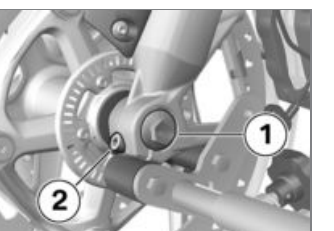


- Push brake pads **1** slightly apart by turning the brake caliper **2** back and forth against the brake rotor **3**.
- Carefully pull brake calipers back to remove them from the brake rotors.

- Raise front of motorcycle until the front wheel can turn freely. BMW Motorrad recommends the BMW Motorrad front wheel stand for lifting the motorcycle.
- Mounting front wheel stand (➠ 124).

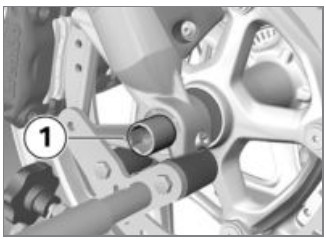


- Remove right-hand axle clamping screw **1**.

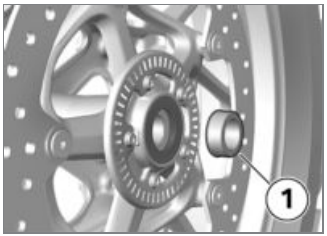


- Remove screw **1**.
- Remove left axle clamping screw **2**.

- Slightly press the quick-release axle inward for a better grip on the right side.



- Pull quick-release axle **1** out while supporting the front wheel.
- Place front wheel down and roll it forward out of the front suspension.



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

Installing front wheel

Malfunctions may occur during control interventions by ABS or ASC if a wheel other than the standard wheel is installed.
Please see the information on the effect of wheel sizes on the ABS and ASC running gear control systems at the beginning of this chapter.◀

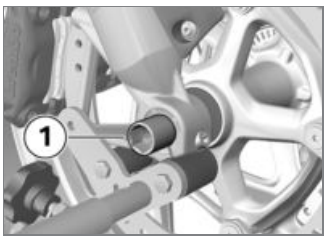
Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage. Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

- Mount spacing bushing **1** on left side in wheel hub.

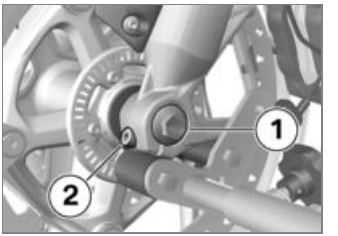
The front wheel must be installed right way round to rotate in the correct direction. Observe the direction of rota-

tion arrows on the tires or on the rim.◄

- Roll front wheel into front suspension.



- Lift front wheel and install quick-release axle **1**.
- Remove front wheel stand and firmly compress front forks. Do not actuate handbrake lever at the same time.
- Mounting front wheel stand (➠ 124).

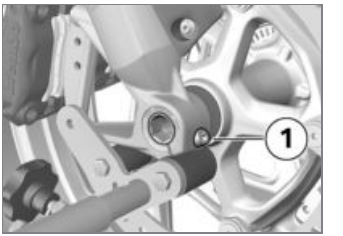


- Install screw **1** with specified torque. Brace quick-release axle on the right side at the same time.

Quick-release axle in telescopic fork
– 22 lb/ft (30 Nm)

- Tighten left axle clamping screw **2** with appropriate torque.

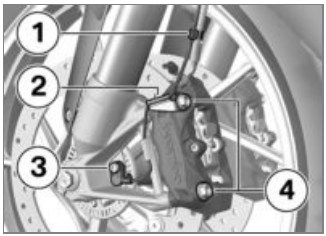
Clamping screw for quick-release axle in telescopic fork
– 14 lb/ft (19 Nm)



- Tighten the right-hand axle clamping screw **1** with the specified torque.

Clamping screw for quick-release axle in telescopic fork
– 14 lb/ft (19 Nm)

- Remove front wheel stand.
- Slide the brake calipers on the left-hand and right-had side onto the brake rotors.



- Install securing screws **4** on left and right with specified torque.

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

- Remove adhesive tape from wheel rim.

Braking efficiency is impaired if the brake pads are not correctly bedded against the disks.
Before driving off, check that the braking effect kicks in without any delay.◀

- Engage the brakes repeatedly, continuing until the brake pads seat against the rotors.
- Insert the ABS sensor wire into retaining clips **1** and **2**.
- Insert ABS sensor in its socket and install screw **3**.

Removing rear wheel

- Make sure ground is level and firm and place motorcycle on its center stand.
- Shift into first gear.

Burn risk due to hot exhaust system.
Do not touch hot parts of the exhaust system.◀

- Let rear muffler cool down.

- Remove bolts **1** of rear wheel, holding wheel as you do so.
- Roll rear wheel out toward rear.

Install rear wheel

Malfunctions may occur during control interventions by ABS or ASC if a wheel other than the standard wheel is installed.
Please see the information on the effect of wheel sizes on the ABS and ASC running gear control systems at the beginning of this chapter.◀

Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage. Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

- Place rear wheel on rear wheel support.

The lengths of the lug bolts used with cast wheels and wire wheels vary. Mixing up sets of lug bolts or using the wrong lug bolts would mean that the rear wheel would not be correctly secured and this, in turn, could result in an accident.
Use only wheel studs with the same permitted length code numbers. Do not lubricate the lug bolts.◀

- Install wheel studs **1** with specified torque.

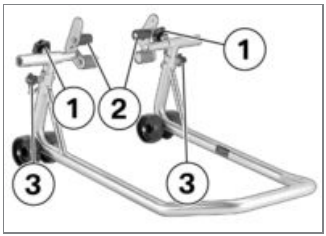
Tighten rear wheel on wheel flange
– Tightening sequence: diagonally
– 44 lb/ft (60 Nm)

Front wheel stand

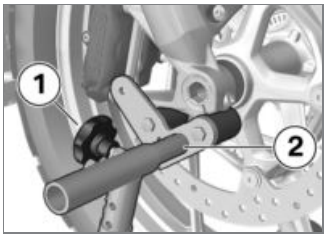
Mounting front wheel stand

The BMW Motorrad front wheel stand is not designed for holding motorcycles without a center or other auxiliary stands. A motorcycle standing on the front wheel stand and the rear wheel alone can fall over.
Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad front wheel stand.◀

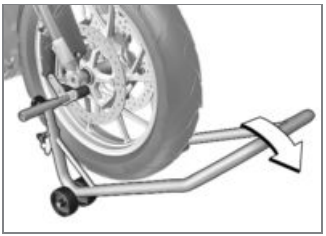
- Make sure ground is level and firm and place motorcycle on center stand.
- Use basic stand with front wheel mount. The basic stand and its accessories are available through your authorized BMW Motorrad retailer.



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



- Align two mounts **2** so that front suspension rests securely on them.
- Tighten adjustment screws **1**.



If the motorcycle is resting on the center stand: the motorcycle is raised too far at the front, the center stand lifts off the ground and the motorcycle can tip over to the side.
When raising the motorcycle, make sure that the center stand remains on the ground.◀

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

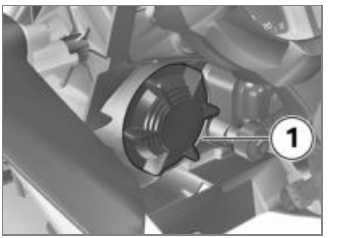
Lamps

Replacing lowbeam and high-beam headlamp bulbs

The alignment of connector, spring wire strap and bulb may differ from that shown in the following illustrations.◀

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

- Remove cover panel **1** by turning it counterclockwise to replace the lowbeam headlamp bulb.



- Remove cover panel **1** by turning it counterclockwise to replace the high-beam headlamp bulb.

- Disconnect plug **1**.

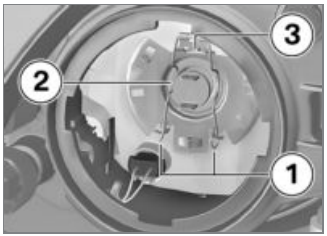
- Remove spring strap **1** from detent and fold to side.
- Remove bulb **2**.

- Replace defective bulb.

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

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

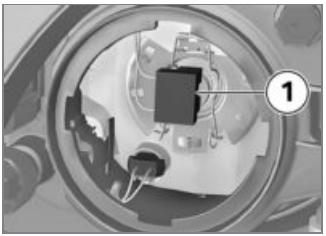
- To avoid contamination on the bulb's glass surface, never touch or hold the bulb anywhere other than on its metal socket base.



- Insert bulb **2** while ensuring that the lug **3** is in the correct position.

▷ The alignment of the bulb may differ from the illustration. ◀

- Insert spring clip **1** into catch.



- Insert plug **1**.
- Position cover panel and install it by turning clockwise.

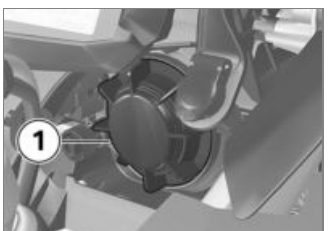
Replacing the LED headlight

– with LED headlights OE

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

Replacing parking light bulb

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



- Remove cover panel **1** by turning counterclockwise.

- Remove bulb holder **1** from the headlight housing.

- Remove bulb **1** from the socket.
- Replace defective bulb.

	Bulb for parking light
– W5W / 12 V / 5 W	

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

- Insert bulb **1** into bulb socket.

- Insert bulb holder **1** into the headlight housing.
- Position cover panel and install it by turning clockwise.

Replace the LED for brake and rear light

The LED tail light can only be completely replaced.

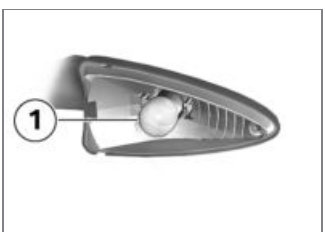
- Please contact a specialist service facility for this purpose, preferably an authorized BMW Motorrad retailer.

Remove front and rear turn signal bulb

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

- Remove screw **1**.

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



- Remove bulb **1** from light housing by turning it counterclockwise.

Installing front and rear turn indicator bulbs

- Replace defective bulb.

Bulbs for flashing turn indicators, front
– RY10W / 12 V / 10 W

Bulbs for flashing turn indicators, rear
– RY10W / 12 V / 10 W

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

- Install bulb **1** by turning clockwise in light housing.

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

- Install screw **1**.

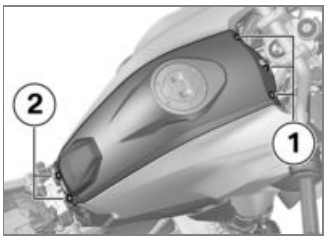
Replace auxiliary driving light

– with additional LED headlight OA

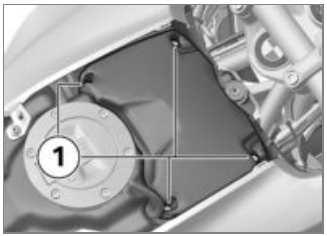
The LED additional headlights can only be completely replaced; it is not possible to replace individual LEDs.
Please contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

Air cleaner

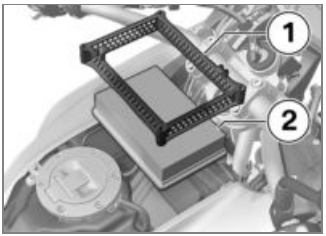
Replacing air cleaner insert



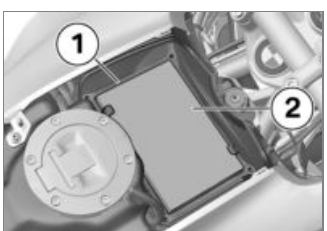
- Remove rider's seat (➠ 71).
- Remove screws **1** and screws **2**.
- Remove center fairing panel.



- Remove screws **1**.
- Remove air cleaner housing cover.

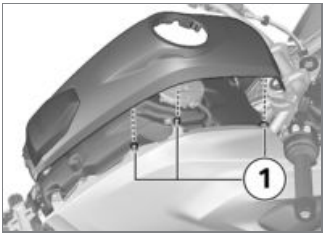


- Insert new respectively cleaned air cleaner insert **2**.
- Insert frame **1**.

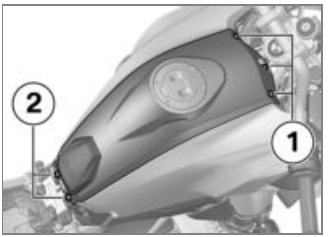


- Remove frame **1**.
- Remove air cleaner insert **2**.

- Attach air cleaner housing cover.
- Install screws **1**.



- Position center fairing panel, while paying attending to connections **1** to the side panels.



- Install screws **1** and screws **2**.
- Install rider's seat (➠ 71).

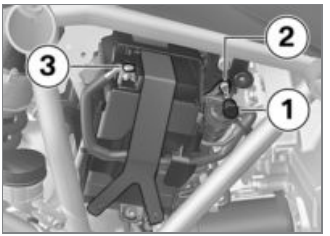
Jump-starting

The wires leading to the power socket do not have a load-capacity rating adequate for jump-starting the engine. Excessively high current can lead to a cable fire or damage to the vehicle electronics.
Do not use the socket to jump-start the engine of the motorcycle.◀

A short-circuit can result if the crocodile clips of the jump leads are accidentally brought into contact with the motorcycle.
Use only jump leads fitted with fully insulated crocodile clips at both ends.◀

Jump-starting with a donor-battery voltage higher than 12 V can damage the motorcycle electronics.
The battery of the donor vehicle must have a voltage of 12 V.◀

- Make sure ground is level and firm and park motorcycle.
- Remove the battery cover (➠ 135).
- When jump-starting the engine, do not disconnect the battery from the onboard electrical system.



- Remove the protective cap from positive terminal **1**.
- Begin by connecting one end of the red jump lead to the positive terminal **2** of the discharged battery and the other end to the positive terminal of the donor battery.

- Connect black jump lead to negative terminal of donor battery and then to negative terminal **3** of discharged battery.
- Run engine of donor vehicle during jump-starting procedure.
- Start engine of the vehicle with discharged battery in usual way; if engine does not start, wait a few minutes before repeating attempt in order to protect starter motor and donor battery.
- Allow both engines to idle for a few minutes before disconnecting jumper cables.
- Disconnect jump lead from negative terminals first, then disconnect second lead from positive terminals.

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

- Install rider's seat (➠ 71).

Battery

Maintenance instructions

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

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

If the battery is not disconnected, the onboard electronics (clock etc.) will drain the battery. This can cause the battery to run flat. If this happens, warranty claims will not be accepted.
During driving breaks of more than 4 weeks, a trickle-charger should be connected to the battery.◀

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

Charging connected battery

Charging the connected battery directly at the bat-

tery terminals can damage the motorcycle electronics.
To charge the battery via the battery terminals, disconnect the battery first.◀

If the multifunction display and indicator lamps fail to light up when you switch on the ignition, the battery is completely discharged (battery voltage below 9 V). Attempts to recharge a completely discharged battery through the onboard power socket can damage the motorcycle's electronic systems.
Always charge a completely drained battery directly at the terminals of the disconnected battery.◀

Charging the battery via the onboard socket is only possible with suitable chargers. Unsuitable chargers can result in damage to the motorcycle electronics.
Use suitable BMW chargers. The correct charger is available through the authorized BMW Motorrad retailer.◀

- Charge disconnected battery via onboard socket.

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

- Comply with operating instructions of charger.

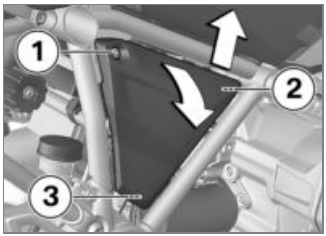
If you are unable to charge the battery via the onboard socket, you may be using a charger that is not compatible with your motorcycle's electronics. In this case, charge the battery directly at the terminals of the disconnected battery.◀

Charging disconnected battery

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

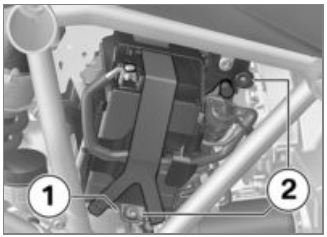
In the case of longer periods when the motorcycle is not being used, the battery must be recharged regularly. See the instructions for caring for your battery. Always fully recharge the battery before returning it to use.◀

Removing the battery cover



- Remove screw **1**.
- Slightly pull the battery cover forward at the top on positions **1** and **2**, while paying attention to mount **3**.
- Pull battery cover upward out of mount **3**.

Installing battery cover



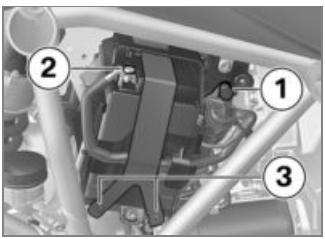
- Insert battery cover into mount **1** and press it into mounts **2**.

- Install screw **1**.

Removing battery

– with anti-theft alarm OE

- Switch off anti-theft alarm system if necessary.◁
- Switch off ignition.
- Remove the battery cover (➠ 135).



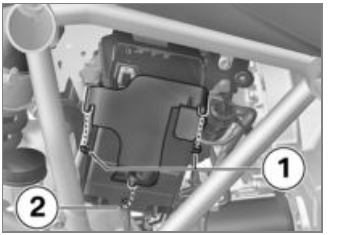
- Remove protective cap **1** from the positive terminal.
- Remove battery minus cable **2**.
- Loosen rubber release **3**.

- Pull mounting plate on position **1** outward and remove it upward.
- Slightly lift and remove battery as much from the holder that the positive terminal becomes accessible.

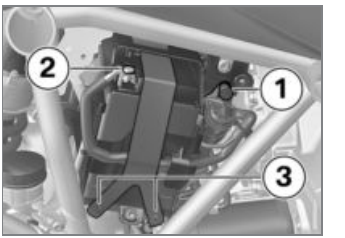
- Remove positive cable **1**.

Install battery

- Install positive cable **1**.
- Slide battery into holder.



- First, insert mounting plate into supports **1**. Next, press it under the battery at position **2**.



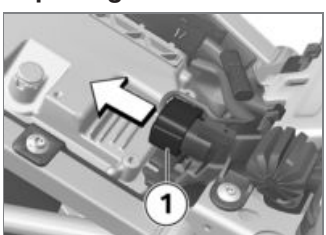
- Insert rubber release **3**.
- Attach negative battery cable **2**.

- Attach protective cap **1** of the positive terminal.
- Install battery cover (➠ 135).

- Set clock (➠ 47).
- Set the Date (➠ 48).

Fuses

Replacing fuses



- Switch off ignition.
- Remove rider's seat (➠ 71).
- Disconnect plug **1**.

⚠ If defective fuses are bridged, this results in a danger of short-circuit and thus a danger of fire.

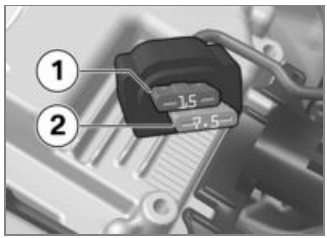
Replace defective fuses with new fuses.◀

- Consult the fuse assignment diagram and replace the defective fuse.

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

- Install connector **1**.
- Install rider's seat (➠ 71).

Fuse assignment



1 15 A
Instrument cluster, anti-theft alarm system (DWA), ignition lock, diagnostic socket

2 7.5 A
Left multifunction switch, Tire Pressure Control (RDC)

Care

Care products

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

The use of unsuitable cleaning and care products can damage motorcycle components.

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

Washing your vehicle

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

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

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

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

After washing the motorcycle, after driving through water or in the rain, braking can be delayed owing to damp brake rotors and brake pads. Brake early until the brake rotors and pads are dry.◀

Warm water intensifies the effect of salt.

Only use cold water to remove road salt.◀

The high water pressure of high-pressure cleaners (steam cleaners) can damage seals, the hydraulic brake system, the electrical system and the seat.

Do not use a steam jet or high-pressure cleaning equipment.◀

Cleaning sensitive vehicle parts

Plastics

If plastic parts are cleaned using unsuitable cleaning agents, the surfaces can be damaged.

Do not use cleaning agents that

contain alcohol, solvents or abrasives to clean plastic parts. 'Insect sponges' or sponges with hard surfaces can also lead to scratches.◀

Fairings and Panels
Clean body panels with water and BMW plastic cleaner.

Windshields and headlight lenses are manufactured in plastic
Clean off dirt and insects with a soft sponge and plenty of water.

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

Clean with water and sponge only.

Do not use chemical cleaning agents.

Chrome

Especially in the case of road salt, carefully clean chrome parts with plenty of water and BMW auto shampoo. Use chrome polish for additional treatment.

Radiator

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

Cooling fins can be bent easily.
When cleaning the radiator, ensure that the fins are not bent.◀

Rubber

Treat rubber components with water or BMW rubber protection coating agent.

Using silicone sprays for the care of rubber seals can cause damage.
Do not use silicone sprays or care products that contain silicone.◀

Paint care

Washing the vehicle on a regular basis will help prevent long-term damage from harmful substances, and is especially important when your vehicle is used in areas with high levels of air pollution or where natural contaminants such as tree resin and pollen are present.
At the same time, you should remove particularly aggressive materials immediately; otherwise changes in the paint and discoloration can occur. These include spilled fuel, oil, grease and brake fluid as well as bird droppings. BMW Car Polish and BMW Paint Cleaner are recommended for this procedure.
Contamination on the paint finish is particularly easy to see after

the vehicle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar spots with BMW Tar Remover. Then add a protective wax coating to the paint at these locations.

Protective wax coating

BMW Motorrad recommends applying BMW car wax or products containing carnauba wax or synthetic wax to preserve your paintwork.
When water fails to form beads on the paint surface this indicates it is time to apply wax.

Store motorcycle

- Clean the motorcycle.
- Remove battery (➠ 135).
- Spray the brake and clutch lever, and the center and side stand pivots with a suitable lubricant.
- Coat bare metal and chrome-plated parts with an acid-free grease (e.g., Vaseline).
- Park motorcycle in a dry room, raising it to remove weight from both wheels. Appropriate auxiliary stands are available at your authorized BMW Motorrad retailer.

Returning motorcycle to use

- Remove the protective wax coating.
- Clean the motorcycle.
- Install a charged battery.
- Observe checklist before starting.

Technical data

Troubleshooting chart

Engine does not start at all or is very difficult to start.

Possible cause	Remedy
Emergency on/off switch (kill switch)	Adjust emergency on/off switch (kill switch) to normal operating position.
Side stand extended and gear engaged	Retract side stand.
Gear engaged and clutch not disengaged	Place transmission in neutral or disengage clutch.
No fuel in tank	Refueling (➠ 84).
Battery drained	Charge connected battery (➠ 133).

Threaded fasteners

Front wheel	Value	Valid
Brake caliper on telescopic forks		
M10 x 65	28 lb/ft (38 Nm)	
Clamping screw for quick-release axle in telescopic fork		
M8 x 35	14 lb/ft (19 Nm)	

Rear wheel	Value	Valid
Tighten rear wheel on wheel flange		
M10 x 1.25 x 40	**diagonally**	
	44 lb/ft (60 Nm)	

Mirror arm	Value	Valid
Mirror (locknut) on adapter		
Left-hand thread, M10 x 1.25	16 lb/ft (22 Nm)	
Adapter on clamping block		
M10 x 14 - 4.8	18 lb/ft (25 Nm)	

Handlebars	Value	Valid
Clamping block (handlebar clamp) on fork bridge		
M8 x 35	**Tighten on block in front (in the direction of travel)**	
	14 lb/ft (19 Nm)	

Engine

Engine design	Air/liquid-cooled two-cylinder, four-stroke opposed-twin engine with two spur gear-driven overhead camshafts and one counterbalance shaft.
Displacement	1170 cc (1170 cm^3)
Cylinder bore	4 in (101 mm)
Piston stroke	2.9 in (73 mm)
Compression ratio	12.5:1
Rated output	125 hp (92 kW), at engine speed: 7750 min^{-1}
Torque	92 lb/ft (125 Nm), at engine speed: 6500 min^{-1}
Maximum engine speed	max 9000 min^{-1}
Idle speed	1150 min^{-1}, Engine at operating temperature

Fuel

Recommended fuel quality	Super unleaded, (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI
Alternative fuel quality	Regular unleaded (restrictions with regard to power and fuel consumption. If the engine should for example be operated with 91 RON in countries with lower fuel quality, the motorcycle must be respectively programmed first by your authorized BMW Motorrad retailer.) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 5.3 gal (Approx. 20 l)
Reserve fuel quantity	Approx. 1.1 gal (Approx. 4 l)

BMW recommends the use of BP fuel 

Engine oil

Engine oil, capacity	Approx. 1.1 gal (Approx. 4.2 l), with filter replacement
Products recommended by BMW Motorrad	
Castrol Power 1 Racing	SAE 5W-40, API SL / JASO MA2
Engine oil, quantity for topping up	max 1 quarts (max 0.95 l), Difference between MIN and MAX

BMW recommends Castrol

Clutch

Clutch design	Multi-disk wet clutch

Transmission

Transmission design	Helical 6-speed transmission integrated in engine housing
Transmission gear ratios	1.650, Primary gear ratio 2.438 (39:16 teeth), 1st gear 1.714 (36:21 teeth), 2nd gear 1.296 (35:27 teeth), 3rd gear 1.059 (36:34 teeth), 4th gear 0.943 (33:35 teeth), 5th gear 0.848 (28:33 teeth), 6th gear 1.061 (35:33 teeth), Transmission output ratio

Rear-wheel drive

Type of final drive	Shaft drive with bevel gears
Type of rear suspension	Cast-aluminum single swing arm with BMW Motorrad paralever
Gear ratio of final drive	2.910 (32:11 teeth)

Suspension

Front wheel	
Type of front suspension	BMW Telelever, upper fork bridge tilt decoupled, leading link mounted in engine and on telescopic fork, centrally positioned spring strut supported on leading link and frame
Design of the front-wheel suspension	Central spring strut with coil spring
– with dynamic ESA OE	Central spring strut with coil spring and expansion tank, electrically adjustable rebound-stage and compression damping
Spring travel, front	7.5 in (190 mm), On wheel
– with lowering OE	6.3 in (160 mm), On wheel

Rear wheel	
Type of rear suspension	Cast-aluminum single swing arm with BMW Motorrad paralever
Type of rear suspension	Central spring strut with coil spring, adjustable rebound-stage damping and spring preload
– with dynamic ESA[OE]	Central spring strut with coil spring and expansion tank, electrically adjustable rebound-stage and compression damping, electrically adjustable spring preload
Spring travel at rear wheel	7.9 in (200 mm)
– with lowering[OE]	6.7 in (170 mm)

Brakes

Type of front brake	Hydraulic radially actuated two-rotor disk brake with 4-piston radial monoblock calipers and floating brake rotors
Brake-pad material, front	Sintered metal
Type of rear brake	Hydraulic disk brake with 2-piston floating caliper and fixed brake rotor
Brake-pad material, rear	Organic

Wheels and tires

Recommended tire combinations	You can obtain an overview of the current tire approvals from your authorized BMW Motorrad retailer or on the Internet at www.bmw-motorrad.com.
Front wheel	
Front wheel design	Aluminum cast wheel
– with cross-spoke wheels OE	Cross spoke wheel
Front-wheel rim size	3.0"x19"
Front tire designation	120/70 - 19
Rear wheel	
Rear wheel design	Aluminum cast wheel
– with cross-spoke wheels OE	Cross spoke wheel
Rear-wheel rim size	4.50"x17"
Rear tire designation	170/60 - 17
Tire inflation pressures	
Tire pressure, front	36.3 psi (2.5 bar), With tire cold
Tire pressure, rear	42.1 psi (2.9 bar), With tire cold

Electrical system

Electrical rating of onboard sockets	max 5 A, all onboard sockets together
Fuse box	15 A, Slot 1: instrument cluster, anti-theft alarm system (DWA), ignition lock, diagnostic socket 7.5 A, Slot 2: left multifunction switch, Tire Pressure Control (RDC)
Battery	
Battery design	AGM (Absorptive Glass Mat) battery.
Battery voltage	12 V
Battery capacity	12 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK LMAR8D-J
Electrode gap of spark plug	$0.03^{\pm 0.01}$ in ($0.8^{\pm 0.1}$ mm)
Bulbs	
Bulb for high-beam headlight	H7 / 12 V / 55 W
Bulbs for low-beam headlight	H7 / 12 V / 55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for taillight/brake light	LED / 12 V
Bulbs for flashing turn indicators, front	RY10W / 12 V / 10 W
Bulbs for flashing turn indicators, rear	RY10W / 12 V / 10 W

Anti-theft alarm system

Activation time during commissioning	Approx. 30 s
Alarm duration	Approx. 26 s
Battery type	CR 123 A

Frame

Frame design	Steel-tube frame with partially self-supporting drive unit, steel-tube rear frame
Location of type plate	Front right frame (reinforcement tube)
Location of the vehicle identification number	Front frame (steering head)

Dimensions

Motorcycle length	86.2 in (2190 mm), Across splash guard
Motorcycle height	56.7 in (1440 mm), above windshield, lower position, at DIN unladen weight
– with lowering[OE]	55.7 in (1415 mm), above windshield, lower position, at DIN unladen weight
Motorcycle width	37.6 in (955 mm), Across mirrors
– with hand protector[OE]	38.6 in (980 mm), Across hand protectors
Driver's seat height	33.5...34.3 in (850...870 mm), without rider at unladen weight
– with low rider's seat[OE]	32.3...33.1 in (820...840 mm), without rider at unladen weight
– with lowering[OE]	31.1...31.9 in (790...810 mm), without rider at unladen weight
Rider's inside-leg arc, heel to heel	73.6...75.2 in (1870...1910 mm), without rider at unladen weight
– with low rider's seat[OE]	71.7...73.2 in (1820...1860 mm), without rider at unladen weight
– with lowering[OE]	69.7...71.3 in (1770...1810 mm), without rider at unladen weight

Weights

Unladen weight	525 lbs (238 kg), DIN unladen weight, ready for road, fuel tank 90 % full, without OE
Permissible gross weight	992 lbs (450 kg)
Maximum payload	467 lbs (212 kg)

Performance data

Top speed	>124 mph (>200 km/h)

Service

Reporting safety defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying BMW of North America, LLC.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or BMW of North America, LLC.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to http://www.safercar.gov; or write to: Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. You can also obtain other information about motor vehicle safety from http://www.safercar.gov.

BMW Motorrad Service

With its worldwide service network, BMW Motorrad can attend to you and your motorcycle in over 100 countries around the globe. Authorized BMW Motorrad retailers have the technical information and expertise needed to conduct reliable service and repairs covering every aspect of your BMW.
You can find the nearest authorized BMW Motorrad retailer by visiting our Internet site at "www.bmw-motorrad.com".


If this maintenance and repair work is performed inexpertly, there is a danger of damage and associated safety risks. BMW Motorrad recommends having corresponding work on your motorcycle carried out by a specialized workshop, preferably by an authorized BMW Motorrad retailer.◀

To ensure that your BMW consistently remains in optimal condition BMW Motorrad urges you to observe the recommended service intervals.
Have all maintenance and repair work confirmed in the "Service" chapter in this manual. For generous treatment of claims submitted after the warranty period has expired (goodwill), evidence of regular maintenance is essential.

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

BMW Motorrad Mobility Services

The BMW Motorrad Mobility Services furnish you and your new BMW motorcycle with extra security by offering a wide array of assistance services in the event of a breakdown (BMW Roadside Assistance, breakdown assistance, vehicle recovery and retrieval, etc.).
Contact your authorized BMW Motorrad retailer for additional information on available mobility-maintenance services.

Maintenance procedures

BMW Pre-Delivery Check

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

BMW Running-in Check

The BMW running-in check must be carried out between 300 mls (500 km) and 750 mls (1200 km).

BMW Service

BMW Service is carried out once a year. The scope of the services performed may be dependent on the vehicle owner and the mileage driven. Your BMW Motorrad retailer confirms that the service has been performed and enters the date for the next service.

For riders who drive long distances annually, it may be necessary to come in for service before the entered date. In this case a corresponding maximum odometer reading will also be entered in the confirmation of service. If this odometer reading is reached before the next service date, service must be performed sooner.

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

Confirmation of maintenance work

BMW Pre-Delivery Check

Conducted

on_____

Stamp, Signature

BMW Running-in Check

Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
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on_____

Odometer reading_____

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or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

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on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
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Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

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on_____
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Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

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at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

Confirmation of service

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

Work carried out	Odometer reading	Date

Work carried out	Odometer reading	Date

Appendix

Certification Tire Pressure Control (TPC)

FCC ID: MRXBC54MA4 IC: 2546A-BC54MA4	FCC ID: MRXBC5A4 IC: 2546A-BC5A4

This device complies with Part 15 of the FCC Rules and with Industry Canada license-exempt RSS standard(s).
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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

WARNING: Changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. The term “IC:” before the radio certification number only signifies that Industry Canada technical specifications were met.

The descriptions and illustrations in this manual may vary from your own motorcycle's actual equipment, depending upon its equipment level and accessories as well as your specific national version. No claims stemming from these differences can be recognized.
Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.
The right to modify designs, equipment and accessories is reserved.
Errors and omissions excepted.

Printed in Germany.

The most important data for a filling station stop can be found in the following chart.

Fuel	
Recommended fuel quality	Super unleaded, (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI
Alternative fuel quality	Regular unleaded (restrictions with regard to power and fuel consumption. If the engine should for example be operated with 91 RON in countries with lower fuel quality, the motorcycle must be respectively programmed first by your authorized BMW Motorrad retailer.) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 5.3 gal (Approx. 20 l)
Reserve fuel quantity	Approx. 1.1 gal (Approx. 4 l)
Tire inflation pressures	
Tire pressure, front	36.3 psi (2.5 bar), With tire cold
Tire pressure, rear	42.1 psi (2.9 bar), With tire cold

BMW recommends Castrol

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