BMW Motorrad

bmw-motorrad.com

The Ultimate Riding Machine

Rider's Manual (US Model)

R 1200 GS Adventure

Motorcycle/Retailer Data

Motorcycle Data

Model

Vehicle identification number

Color number

Initial registration

License plate

Retailer Data

Contact in Service

Ms./Mr.

Phone number

Retailer's address/phone number (company stamp)

Welcome to BMW

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

About this Rider's Manual

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

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

Suggestions and complaints

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

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

BMW Motorrad.

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Table of Contents

General instructions

Overview

This Rider's Manual has been designed to provide quick and efficient orientation. The quickest way for you to find information on specific topics is to consult the comprehensive index at the back of the manual. If you would like to start with a quick overview of your motorcycle, this information has been provided in chapter 2. All maintenance and repair work carried out on your motorcycle will be documented in chapter 11. Documentation confirming performance of scheduled maintenance is a precondition for generous handling of out-of-warranty claims and goodwill warranty treatment.
When the time comes to sell your BMW, remember to hand over this Rider's Manual; it is an important part of the motorcycle.

Abbreviations and symbols

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

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

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

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

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

◀ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

Reference to a page with more detailed information.

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

Tightening torque.

Technical data.

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

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

EWS Electronic immobilizer.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.

ASC Automatic Stability Control.

ESA Electronic Suspension Adjustment.

TPC Tire Pressure Control (TPC/RDC).

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 motorcycle comes with equipment not described here, you can find the descriptions in a separate manual.

Technical data

All dimensions, weights and outputs in the Rider's Manual relate to the German DIN standards and comply with their tolerance specifications. Versions for individual countries may differ.

Notice concerning current status

The outstanding levels of safety and quality furnished by every BMW motorcycle are the result of ongoing advanced development focusing on continuous improvement in design and engineering as well as equipment and accessories. For this reason, some aspects of your motorcycle may vary from the descriptions in this Rider's Manual. In addition, BMW Motorrad cannot guarantee the total absence of errors. For this reason BMW is unable to recognize any claims stemming

from the information, illustrations and descriptions in this manual.

Overviews


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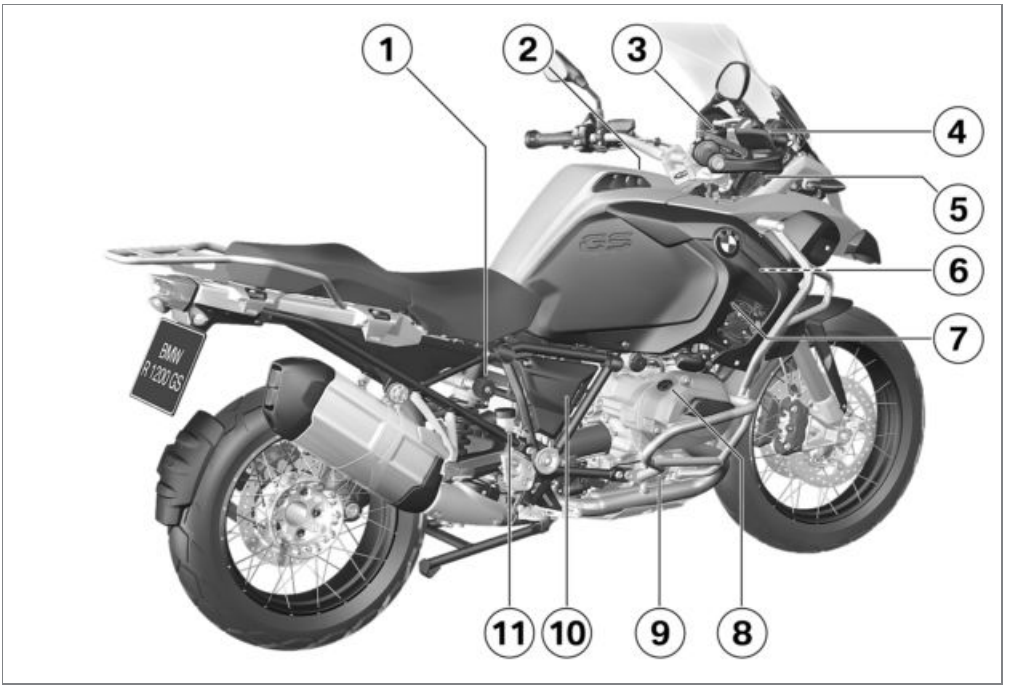
General view, left side

1 Fuel filler opening (➠ 95)
2 Seat lock (➠ 72)
3 Adjuster for rear damping (at the bottom on the spring strut) (➠ 81)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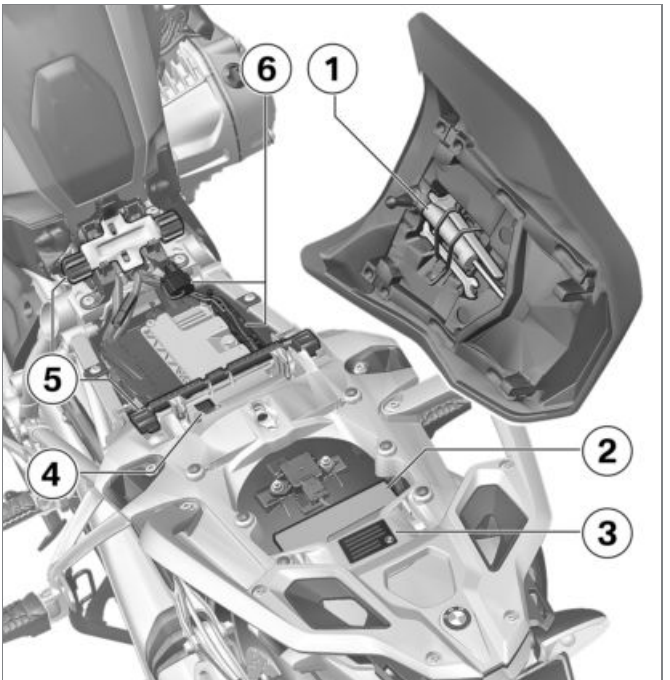
BMW
R 1200 GS

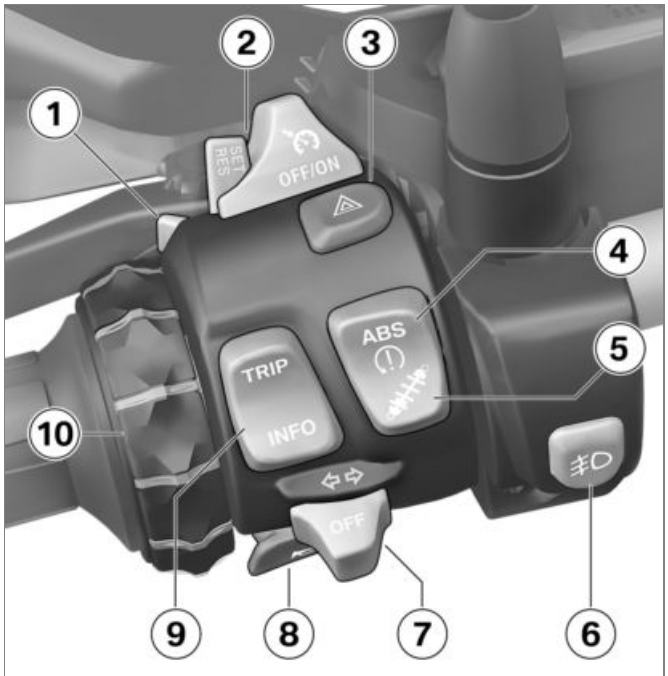
General view, right side

1 Adjuster for spring preload, rear (➠ 80)
2 Air cleaner (under center fairing panel) (➠ 131)
3 Brake-fluid reservoir, front (➠ 120)
4 Height adjuster for windshield (➠ 77)
5 Power socket (➠ 146)
6 Vehicle Identification Number (at fork bearing)
Data plate (at fork bearing)
7 Coolant level indicator (➠ 122)
Coolant tank (➠ 122)
8 Oil fill location (➠ 117)
9 Engine oil level indicator (➠ 116)
10 Behind side trim panel:
Battery (➠ 138)
Positive battery connection point (➠ 137)
Diagnostic connector (➠ 143)
11 Brake-fluid reservoir, rear (➠ 121)

Underneath seat

1 Standard tool kit (➠ 114)
2 Rider's Manual (US Model)
3 Tire inflation pressure table
4 Load capacity table
5 Adjuster for the rider's seat height (➠ 73)
6 Fuses (➠ 142)





Multifunction switch, left

1 High-beam headlight and headlight flasher (➠ 50)

2 – with cruise control OE
Cruise-control system (➠ 67).

3 Hazard warning lights system (➠ 52)

4 ABS (➠ 59)
ASC (➠ 60)

5 – with Dynamic ESA OE
Dynamic ESA range of adjustment (➠ 62)

6 – with additional LED headlight OA
Additional headlight (➠ 51).

7 Turn indicators (➠ 52)

8 Horn

9 Multifunction display (➠ 53)

10 – with preparation for navigation system[OE]
Operating the navigation system (➠ 153)
Multi-Controller

Multifunction switch, right

1 – with heated handlebar grips[OE]
Heated handlebar grips (➠ 71).

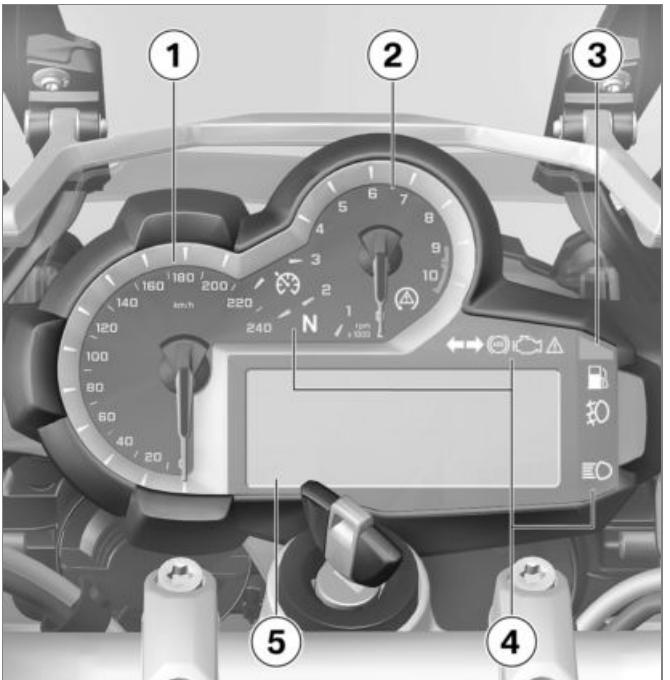
2 Riding mode (➠ 64)

3 Emergency on/off switch (kill switch) (➠ 50)

4 Starter button
Starting the engine (➠ 87).

Instrument cluster

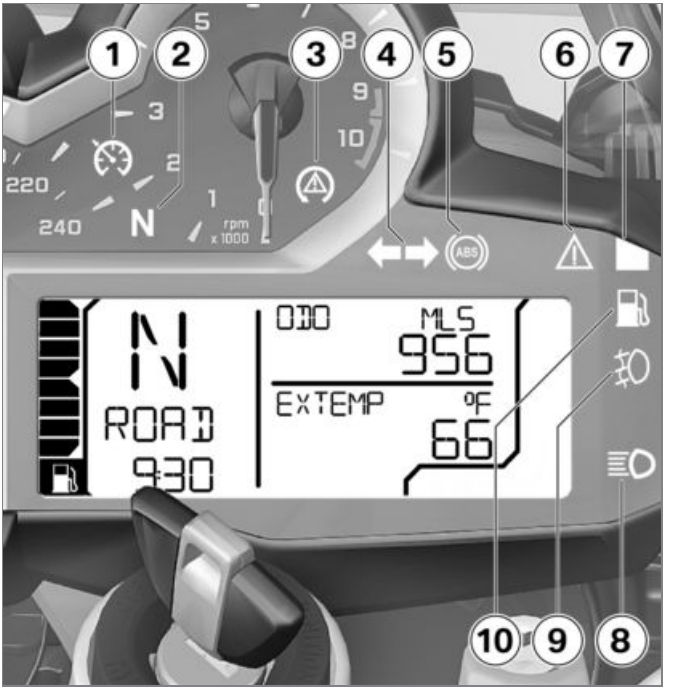
1 Speedometer
2 Tachometer
3 Photosensor (for adjusting brightness of instrument lighting)
– with anti-theft alarm system (DWA)[OE]
Alarm system LED
– with Keyless Ride[OE]
Indicator light for radio-operated key
Switching on ignition (➠ 47).
4 Indicator and warning lights (➠ 20)
5 Multifunction display (➠ 22)



Displays

Indicator and warning lights

1 – with cruise control[OE]
Cruise-control system (➠ 67).
2 Neutral position (idling)
3 ASC (➠ 60)
4 Turn indicators
5 ABS (➠ 59)
6 General warning light (in conjunction with warning symbols on display) (➠ 24)
7 – with anti-theft alarm system (DWA)[OE]
Alarm signal (➠ 69)
– with Keyless Ride[OE]
Indicator light for radio-operated key
Switching on ignition (➠ 47).
8 High-beam headlamp (➠ 50)



9 – with additional LED headlight[OA]
Additional headlight (➠ 51).

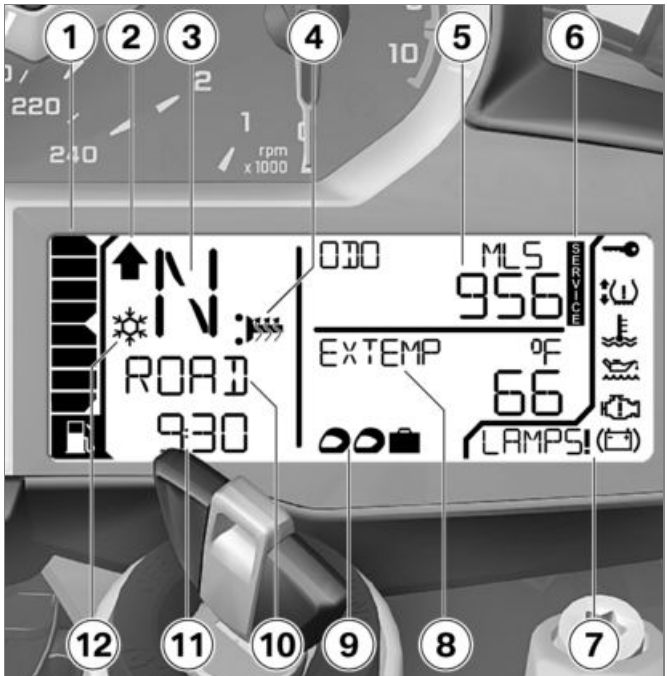
10 Fuel reserve (➠ 39)

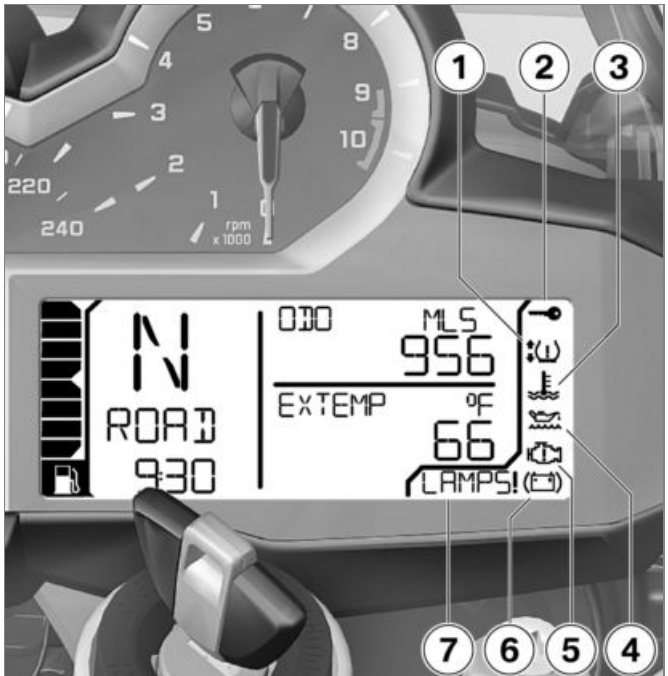
NOTICE

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

Multifunction display

1 Fuel level
2 Upshift recommendation (➠ 41)
3 Gear indicator, shows "N" in neutral (idling)
4 – with heated handlebar grips[OE]
Heated handlebar grips (➠ 71).
Heated grip settings
5 Odometer (➠ 53)
6 Service display (maintenance interval) (➠ 181)
7 Warning symbols (➠ 24)
8 Onboard computer
9 ESA setting (➠ 62)
10 Riding mode (➠ 64)
11 Clock (➠ 56)
12 Outside temperature warning (➠ 40)





Warning symbols in the display panel

1 – with Tire Pressure Control (TPC/RDC)[OE]
Tire inflation pressure (➠ 41)

2 EWS (➠ 29)

3 Coolant temperature (➠ 30)

4 Engine oil level (➠ 38)

5 Electronic engine management (➠ 30)

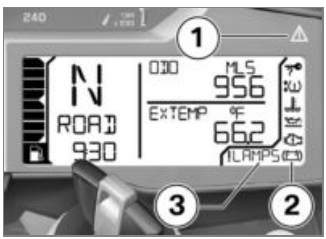
6 Battery charging (➠ 139)

7 Warnings (➠ 24)

Warning lights

Displays

Warnings are displayed with appropriate warning lights.



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

You will find an overview of the potential warnings on the following pages.

Overview of warning indicators

Indicator and warning lights	Warning symbols in the display panel	Meaning
	 appears on the display	Outside temperature warning (➠ 29)
 lights up yellow	 appears on the display	Electronic immobilizer is active (➠ 29)
 lights up yellow	 appears in the display	Radio-operated key outside reception range (➠ 29)
 lights up yellow	 appears in the display	Replace battery of radio-operated key (➠ 30)
 lights up red	 appears on the display	Coolant temperature too high (➠ 30)
 lights up yellow	 appears on the display	Engine in emergency-operation mode (➠ 30)
 lights up yellow	`!LAMP_` is indicated	Light source defect (➠ 31)
	`DWALO !` is indicated	Anti-theft alarm battery low charge (➠ 31)

Indicator and warning lights	Warning symbols in the display panel	Meaning
 lights up yellow	DWA ! is indicated	Anti-theft alarm system battery discharged (➠ 32)
 lights up yellow	 Displayed with one or two arrows and critical tire pressure indicator also flashes	Tire inflation pressure is at limit of approved range (➠ 32)
flashes red	Displayed with one or two arrows and critical tire pressure indicator also flashes	Tire inflation pressure is outside approved range (➠ 33)
 lights up yellow	 appears with one or two arrows	Sensor defective or system error (➠ 33)
	"– –" or "– – – –" is indicated	Transmission error (➠ 34)
 lights up yellow	RDC ! is indicated	Battery of tire-inflation pressure sensor weak (➠ 34)

Indicator and warning lights	Warning symbols in the display panel	Meaning
 flashes		ABS self-diagnosis not completed (➠ 35)
 lights up		ABS error (➠ 35)
 lights up		ABS deactivated (➠ 35)
 flashes rapidly		ASC intervention (➠ 35)
 flashes slowly		ASC self-diagnosis not completed (➠ 35)
 lights up		ASC deactivated (➠ 36)
 lights up		ASC error (➠ 36)
 lights up yellow	ESA! is indicated	ESA error (➠ 36)

Indicator and warning lights	Warning symbols in the display panel	Meaning
	 The gear indicator flashes.	Gear not programmed (➠ 36)
 Lights up		Fuel down to reserve (➠ 37)
 flashes yellow	 Flashes	Severe fault in the engine management system (➠ 37)
	 appears on the display	Engine oil level too low (➠ 38)
	OILLVL CHECK is indicated	
 lights up red	 appears on the display	Battery charging voltage insufficient (➠ 38)

Outside temperature warning


The ice crystal symbol is displayed.

Possible cause:


The outside temperature measured on the motorcycle is less than:

Approx. 37 °F (Approx. 3 °C)

WARNING

Risk of black ice, even above 37 °F (3 °C)

Accident hazard

- At a low outside temperature, icy conditions must expected on bridges and in shady road areas.◀
- Think well ahead when driving.

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.
- Using emergency key.
- Have the defective key replaced, preferably by an authorized BMW Motorrad retailer.

Radio-operated key outside reception range

– with Keyless Ride OE


The general warning lamp lights up yellow.


appears in the display.

Possible cause:

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

- Check battery in radio-operated key.

– with Keyless Ride OE

- Replace battery of radio-operated key (➠ 49).
- Use reserve key for further driving.

– with Keyless Ride OE

- Battery of radio-operated key is completely drained or radio-operated key has been lost (➠ 48).
- Should the warning symbol appear while driving, keep calm. Driving can be continued; the engine will not switch off.

- Have the defective radio-operated key replaced by an authorized BMW Motorrad retailer.

Replace battery of radio-operated key


The general warning lamp lights up yellow.


appears in the display.

Possible cause:

- The battery for the radio-operated key is no longer charged to full capacity. Operation of the radio-operated key is only ensured for a limited time.

– with Keyless Ride OE

- Replace battery of radio-operated key (➠ 49).

Coolant temperature too high


The general warning lamp lights up red.


The temperature symbol is displayed.

ATTENTION

Riding with overheated engine

Engine damage

- Be sure to observe the measures listed below.◀

Possible cause:

Coolant level is too low.

- Checking coolant level (➠ 122).

If coolant level is too low:

- Have the coolant level refilled and the coolant system checked at a specialist service facility, preferably an authorized BMW Motorrad retailer.

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.

Engine in emergency-operation mode


The general warning lamp lights up yellow.


The engine symbol is displayed.

WARNING

Unusual handling when engine is in emergency operating mode

Accident hazard

- Adapt riding style: avoid rapid acceleration and passing maneuvers.◀

Possible cause:

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

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

Light source defect

The general warning lamp lights up yellow.

! LAMP_ is indicated.

– ! LAMPR: Brake light, taillight, turn indicator or license plate illumination defective.
– ! LAMPF: Low-beam headlight, high-beam headlight, parking lights or front turn indicator defective.
– ! LAMPS: Several bulbs defective.

WARNING

Overlooking the motorcycle in traffic due to failure of a light on the motorcycle

Safety risk

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

Possible cause:

One or more bulbs are defective.

- Determine defective bulbs via visual inspection.
- Replacing low and high-beam light sources in headlight (➠ 132).
- Replacing light source for parking light (➠ 134).
- Replacing the LED headlight (➠ 136).
- Replacing front and rear turn indicator light sources (➠ 135).
- Replacing LED tail light (➠ 136).

Anti-theft alarm battery low charge

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

DWALO ! is indicated.

NOTICE

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

Possible cause:

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

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

Anti-theft alarm system battery discharged

– with anti-theft alarm system (DWA) OE

The general warning lamp lights up yellow.

DWA ! is indicated.

NOTICE

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

Possible cause:

The anti-theft alarm system battery is completely discharged. Operation of the anti-theft alarm system is no longer ensured when the motorcycle's battery is disconnected.

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

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 tyre pressure also 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.

NOTICE

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 tyre pressure also flashes

WARNING

Tire inflation pressure is outside approved range.

Poorer handling characteristic of the motorcycle.

- Adapt your style of riding accordingly.◀

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 approved tolerance range.

- Check tire for damage and suitability for continued use.

If it is still possible to drive with tire:

- Correct tire inflation pressure at the next opportunity.

NOTICE

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

NOTICE

The TPC/RDC warning message can be deactivated in the off-road mode.◀

- Have the tire checked for damage at an authorized service facility, preferably an authorized BMW Motorrad retailer.

If you are unsure about the tire's suitability for continued riding:

- Do not continue riding.
- Contact roadside service.

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.

Possible cause:

Wheels without installed TPC/RDC sensors are mounted.

- Retrofit wheel set with TPC/RDC sensors.

Possible cause:

1 or 2 TPC/RDC sensors have failed or a system error has occurred.

- Have fault eliminated at a specialist service facility, preferably an authorized BMW Motorrad retailer.

Transmission error

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

"––" or "–– ––" is indicated.

Possible cause:

The motorcycle has not reached the minimum speed (➠ 108).

 TPC/RDC sensor is not active
min 19 mph (min 30 km/h) (The TPC/RDC sensor does not transmit a signal to the motorcycle until this minimum speed has been exceeded.)

- Watch the TPC/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 retailer.

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.

Battery of tire-inflation pressure sensor weak

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

 The general warning lamp lights up yellow.

RDC ! is indicated.

NOTICE

This fault message is only shown for a short time immediately 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.

ABS self-diagnosis not completed


ABS indicator light flashes.

Possible cause:

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

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

ABS error


ABS indicator light lights up.

Possible cause:

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

- It remains possible to continue riding. Observe additional information on special conditions that can lead to an ABS error message (➠ 103).
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

ABS deactivated


ABS indicator light lights up.

Possible cause:

The ABS system has been deactivated by the rider.

- Switch on ABS function.

ASC intervention


ASC indicator and warning light flashes rapidly.

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

ASC self-diagnosis not completed


ASC indicator and warning light flashes slowly.

Possible cause:

ASC self-diagnosis routine not completed

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

- 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

The ASC indicator and warning light light up.

Possible cause:

The ASC system has been deactivated by the rider.

- Activating the ASC function

ASC error

The ASC indicator and warning light light 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 (➠ 106).
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

ESA error

The general warning lamp lights up yellow.

ESA! is indicated.

Possible cause:

The ESA control unit has detected an error. Motorcycle damping is in this condition very firm and riding is rather uncomfortable - in particular on rough roads.

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

Gear not programmed

– with Pro shift assistant OE

The gear indicator flashes. The Pro gearshift assistant is not functioning.

Possible cause:

– with Pro shift assistant OE

The transmission sensor has not been programmed completely.

- Shift to idle N and let engine run at least 10 seconds while the motorcycle is stationary so that idle can be programmed in.
- Use clutch control to shift to all gears and drive at least 10 seconds in each gear.

» The gear indicator stops flashing when the transmission sensor has been programmed successfully.

– If the transmission sensor has been programmed completely, the Pro gearshift assistant will operate as described (➠ 110).

- If the programming procedure is unsuccessful, have the fault eliminated at a specialist workshop, preferably an authorized BMW Motorrad retailer.

Fuel down to reserve

Fuel-reserve warning lamp lights up.

WARNING

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

Accident hazard, damage to catalytic converter

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

Possible cause:

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

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

- Refueling procedure (➠ 95).

Severe fault in the engine management system

The general warning lamp flashes yellow.

The engine symbol flashes.

WARNING

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

Accident hazard

- Adapt riding style: Ride slowly, avoid rapid acceleration and passing maneuvers.
- If possible, have the motorcycle picked up and the malfunction source eliminated by a specialized service facility, preferably an authorized BMW Motorrad Retailer.◀

Possible cause:

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

- 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 service facility, 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 that the engine's oil level is too low. At next refueling stop:

- Check engine oil level (➠ 116).

If oil level is too low:

- Topping up engine oil (➠ 117).

If the oil level is correct:

- Contact 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.

WARNING

Discharged battery causes various motorcycle systems to fail, such as the lighting, engine or ABS

Accident hazard

- Do not continue riding.◀

The battery is not being charged. If you continue driving, the motorcycle electronics will discharge the battery.

NOTICE

If the 12 V battery is installed incorrectly, or if the terminals are swapped (e.g. when jump-starting), the fuse for the alternator regulator may blow.◀

Possible cause:

Defect in alternator or the alternator drive assembly, or the voltage regulator fuse has been triggered.

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

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 light lights up in yellow, appearing together with the date and mileage (kilometrage) display. The "Service" message is displayed continuously.

NOTICE

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

Fuel 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 initially activated (see the explanation above).
The odometer for the fuel reserve is reset if the fuel level after refueling is greater than the reserve quantity.

Oil level indicator

The oil level display **1** provides information on the oil level in the engine. This display can only be activated when the vehicle is stopped.

The conditions required for using the oil level display are as follows:
– Engine at normal operating temperature.
– Engine idling for at least ten seconds.
– Side stand retracted.
– Motorcycle standing vertically on level surface.

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.

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.

WARNING

Risk of black ice, even above 37 °F (3 °C)

Accident hazard

- At a low outside temperature, icy conditions must expected on bridges and in shady road areas.◀

Tire inflation pressure

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

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. Immediately after switching on the ignition, "-- --" is displayed. The transfer of the inflation pressure values does not begin until a speed of 18 mph (30 km/h) is exceeded for the first time. The displayed tire inflation pressures refer to a tire air temperature of 68 °F (20 °C).

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

If the level concerned is borderline in terms of the permissible tolerance, the general warning light also lights up yellow. If the monitored tire inflation pressure is outside the specified range the general warning light will flash red.

Additional information on the BMW Motorrad Tire Pressure Control is provided starting on page (➠ 108).

Upshift recommendation

The upshift recommendation must be switched on in the display settings (➠ 54).

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

Operation

Steering and ignition lock

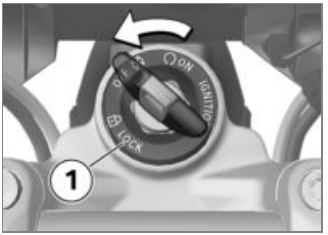
Keys

You are provided with 2 ignition keys.
Should you lose your keys, refer to the information regarding the electronic immobilizer (EWS) (➠ 45).
A single key fits the steering and ignition lock, the fuel filler cap and the seat lock.

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

Locking handlebars

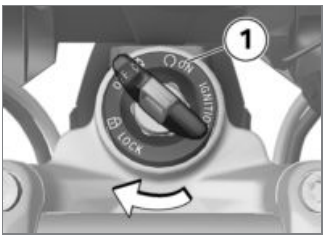
- Turn handlebars to left.



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

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

Switching on ignition



- Insert key into the steering and ignition lock. Turn key to position **1**.

» Parking lights and all function circuits are switched on.
» Pre-Ride-Check in progress (➠ 88)
» ASC self-diagnosis in progress (➠ 89)

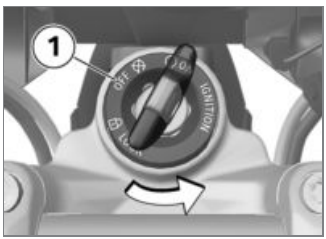
Welcome light

- Switch on the ignition.

» The parking lamp briefly lights up.

– with LED headlights OE
» The supplementary LED headlights briefly light up.◁

Switch off ignition



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

– with additional LED headlight OA
- The supplementary LED headlights switch off shortly after the ignition is switched off.◁

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.

NOTICE

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

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

check the legitimacy of all applications for replacement/extra keys.

Ignition with Keyless Ride

– with Keyless Ride OE

Keys

NOTICE

The indicator light for the radio-operated key flashes as long as the radio-operated key is being searched for.
If the radio-operated key or the emergency key is detected, it goes out.
If the radio-operated key or the emergency key is not detected, it lights up briefly.◀

You are provided with one radio-operated key and one emergency key. Should you lose your keys, refer to the information regarding the electronic immobilizer (EWS) (➠ 45).
The ignition, tank filler cap and anti-theft alarm system are controlled with the radio-operated key. The seat lock, topcase and case can be operated manually.

NOTICE

When the range of the radio-operated key is exceeded (e.g. in case or topcase), the motorcycle cannot be started and the central locking system cannot be locked/unlocked.
If the range is exceeded, the ignition is switched off after approx. 1.5 minutes and the central locking system is **not** locked.
It is advisable to carry the radio-operated key directly on your person (e.g. in a jacket pocket) and to also carry the emergency key as an alternative.◀

Range of Keyless Ride radio-operated key
– with Keyless Ride OE
Approx. 3.3 ft (Approx. 1 m)◁

Locking handlebars

Requirement

Handlebars are turned to the left.
Radio-operated key is within reception range.

- Press and hold button **1**.

» Steering lock audibly locks.
» Ignition, lights and all electrical circuits switched off.

- To unlock the steering lock, briefly press button **1**.

Switching on ignition

Requirement

Radio-operated key is within reception range.

- The ignition can be activated in **two** ways.

Version 1:

- Briefly press button **1**.

» Parking lights and all function circuits are switched on.

– with LED headlights OE

» LED additional headlights are switched on.◁

» Pre-Ride-Check in progress (➠ 88)

» ASC self-diagnosis in progress (➠ 89)

Version 2:

- Steering lock is locked, press and hold button **1**.

» Steering lock is unlocked.

» Parking lights and all function circuits switched on.

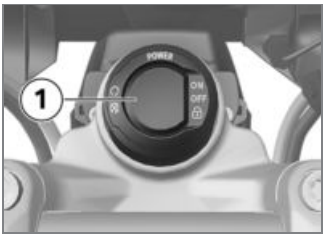
» Pre-Ride-Check in progress (➠ 88)

» ASC self-diagnosis in progress (➠ 89)

Switch off ignition

Requirement

Radio-operated key is within reception range.



- The ignition can be deactivated in **two** ways.

Version 1:

- Briefly press button **1**.

» Light is switched off.

» Handlebars are not locked.

Version 2:

- Turn handlebars to left.
- Press and hold button **1**.

» Light is switched off.

» Steering lock is locked.

EWS Electronic immobilizer

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

NOTICE

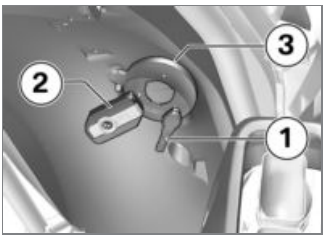
A further key attached to the same ring as the radio-operated key used to start the engine could "irritate" the electronics, in which case the enabling signal for starting is not issued. The warning with the key symbol appears in the multifunction display. Always store further vehicle keys separately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

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

The engine can no longer be started using a disabled radio-operated key; however, a disabled radio-operated key can be enabled again.

Emergency and spare keys are only available through an authorized BMW Motorrad retailer. As the radio-operated keys are part of an integrated security system, the retailer is under an obligation to check your legitimacy.

Battery of radio-operated key is completely drained or radio-operated key has been lost



- Should you lose your keys, refer to the information regarding the electronic immobilizer (**EWS**) .
- Should you loose the radio-operated key while driving, the motorcycle can be started by using the emergency key.
- If the battery of the radio-operated key is completely drained, the motorcycle can be started by touching the rear wheel

cover with the radio-operated key.
- Hold emergency key **1** or completely drained radio-operated key **2** on rear wheel cover at level of antenna **3**.

NOTICE

The emergency key or the drained radio-operated key must **contact** the rear wheel cover.◀

Period in which the engine must be started. Then unlocking must be repeated.
30 s

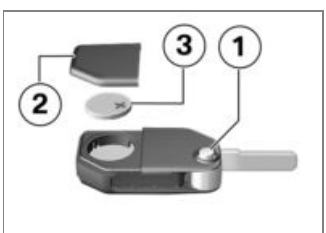
» Pre-Ride-Check in progress.
– Key has been detected.
– Engine can be started.
- Starting the engine (➠ 87).

Replace battery of radio-operated key

If the key fob transmitter fails to react when the button is pressed briefly or is pressed and held:
- The battery of the key fob transmitter no longer has its full charging capacity.

» Replace battery.

appears in the display.



- Press button **1**.

» Key bit folds open.
- Press battery cover **2** upward.
- Remove battery **3**.
- Dispose of the old battery in accordance with legal regulations. Do not dispose of the battery in the household waste.

ATTENTION

Unsuitable or improperly inserted batteries

Component damage
- Use a battery compliant with the manufacturer's specifications.
- When inserting the battery, make sure that the polarity is correct.◀
- Insert the new battery with the positive side up.

Battery type
For Keyless Ride radio-operated key
CR 2032

- Install battery cover **2**.

» Red LED in instrument cluster flashes.
» The key fob transmitter is working again.

Emergency on/off switch (kill switch)

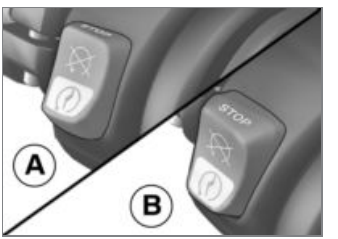
1 Emergency on/off switch (kill switch)

WARNING

Operation of the emergency ON/OFF switch when riding
Danger of falling due to blocking of rear wheel

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

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



A Engine switched off
B Operating position

Lights

Lowbeam headlamp and parking lamps

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

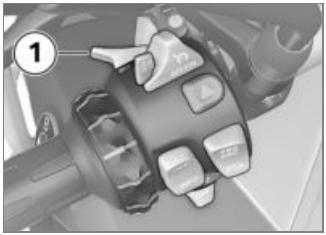
NOTICE

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

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

High-beam headlight and headlight flasher

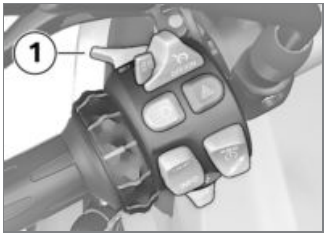
• Switch on ignition (➠ 44).



- Press switch **1** toward front to switch on high-beam headlight.
- Pull switch **1** toward rear to actuate headlight flasher.

Headlight courtesy delay feature

- Switch off ignition.



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

» The vehicle lights light up for a minute and then switch off again automatically.

– This can be used after parking the vehicle in order to illuminate the path to the house door, for instance.

Parking lights

- Switch off ignition (➠ 45).

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

Additional headlight

– with additional LED headlight OA

Requirement

The auxiliary headlights are only active when the low beam is active.

NOTICE

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

- Starting the engine (➠ 87).

- 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.

Hazard warning lights system

Operate hazard warning flashers

- Switch on ignition (➠ 44).

NOTICE

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

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

» Ignition can be switched off.

- To switch off the hazard warning flashers, switch on the ignition as required, then press the button **1** once again.

Turn indicators

Operating turn indicators

- Switch on ignition (➠ 44).

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

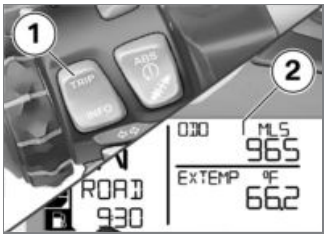
- Press button **1** into center position to switch off turn indicators.

Turn indicator cancellation
The turn indicators automatically switch off when the defined driving time and distance have been reached.

Multifunction display

Selecting display readings

- Switch on ignition (➠ 44).



- 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 distance 1 (TRIP I)
– Trip distance 2 (TRIP II)
– Range (RANGE)
– SETUP menu (SETUP), while stationary only
– with Pro onboard computer[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)

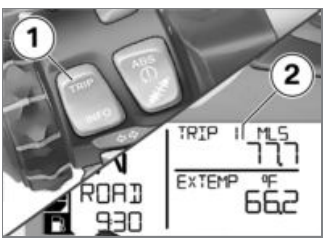
– with Tire Pressure Control (TPC/RDC)OE
– Tire inflation pressures (option) (TPC/RDC)◁

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

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

Resetting trip odometer

• Switch on ignition (➠ 44).



• 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 (➠ 44).

• 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 (➠ 44).

- 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 system (DWA)[OE]

– DWA: Switches alarm system on (ON) or 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 Pro onboard computer[OE]

– BC CUSTOM: Starts 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**.

Set clock

- Switch on ignition (➠ 44).

⚠ WARNING

Adjusting the clock while riding

Accident hazard

- Adjust the clock only when the motorcycle is stationary.◀
- 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**.

NOTICE

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.

NOTICE

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

Set date

- Switch on ignition (➠ 44).

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

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

NOTICE

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 month 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.

NOTICE

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

Customize display

– with Pro onboard computer[OE]

- Switch on ignition (➠ 44).

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.

NOTICE

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 **2** briefly to respectively switch to the next menu item.

» The menu item appears in the top line of the display **3**.

» The adjusted value appears in the bottom line of the display **4**. 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 **1** 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: Outside 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: Tyre 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 **1**.
- In order to exit the individualization menu at any point in time, press and hold button **2**.

» All adjustments applied until then will be stored.

Antilock Brake System (ABS)

Deactivating ABS function

- Switch on ignition (➠ 44).

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

» The ASC symbol's status changes first. Press and hold

the **1** button until the ABS indicator light reacts. In this case, the ASC setting does not change.

ABS indicator light lights up.

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

ABS indicator light continues to be lit up.

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

Switch on ABS function

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

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

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

ABS indicator light remains off or continues to flash.

» The ABS function is switched on.

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

NOTICE

If the ABS indicator light lights up after switching the ignition off and on and then continuing to ride at more than 3 mph (5 km/h), an ABS fault has occurred.◀

NOTICE

More detailed information on BMW Motorrad Integral ABS braking systems can be found in the section "Technology in detail".◀

Automatic Stability Control (ASC)

Deactivating ASC function

- Switch on ignition (➠ 44).

- Press and hold button **1**, maintaining pressure until the ASC warning lamp's display status changes.

NOTICE

The ASC function can also be deactivated while driving.◀

The ASC indicator and warning light light up.

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

ASC indicator and warning light stays lit.

» The ASC function is switched off.

Activating ASC function

- Press and hold button **1**, maintaining pressure until the ASC warning lamp's display status changes.

ASC indicator and warning light is no longer lit; if self-diagnosis is incomplete, it begins flashing.

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

The ASC indicator and warning light remains off or continues flashing.

» The ASC function is switched on.

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

NOTICE

If the ASC indicator light lights up after the ignition is switched off and on and then the ride is continued at more than 3 mph (5 km/h), an ASC fault has occurred.◀

NOTICE

More detailed information on the BMW Motorrad Automatic Stability Control (ASC) system can be found in the section "Technology in detail".◀

Electronic suspension adjustment (ESA)

– with Dynamic ESA OE

Dynamic ESA range of adjustment

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).
Dynamic ESA calibrates itself at regular intervals when the vehicle is stationary and the engine is running to ensure that the system is functioning properly. The chassis and suspension cannot be adjusted while the system is being calibrated.

– with Pro 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.

Display suspension setting

- Switch on ignition (➠ 44).

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

» The display automatically disappears again after a short time.

Setting suspension compliance

- Switch on ignition (➠ 44).

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

To set the damping rate:

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

NOTICE

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

The following settings are available:

– SOFT: Comfortable damping
– NORMAL: Normal damping
– HARD: Sporty, performance-oriented damping

– with Pro riding modes OE

In the Enduro and Enduro Pro modes two adjustments are possible only:

– SOFT: Comfortable damping
– HARD: Sporty, performance-oriented damping

To set the spring preload:

- Starting the engine (➠ 87).
- Press and hold button **1** repeatedly until desired setting is displayed.

NOTICE

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

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 setting procedure has been completed.

Riding mode

Use of the riding modes

BMW Motorrad has developed 5 riding scenarios for your motorcycle from which you can select the one matching your situation:
– Riding on wet roads.
– Riding on dry roads.

– with Pro riding modes OE
– Sporty riding on dry roads.
– Riding under light off-road conditions.
– Sporty riding off-road.

For each of those 5 scenarios, the optimum balance between engine torque, throttle response, ABS and ASC control for the situation concerned is provided.

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

Setting riding mode

• Switch on ignition (➠ 44).

• Press button **1**.

NOTICE

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.

ATTENTION

Turning on off-road mode (Enduro and Enduro Pro) when in road mode

Risk of falling due to unstable riding conditions when braking or accelerating in the ABS or ASC control range

- Switch off-road mode (Enduro and Enduro Pro) during off-road riding on only.◀
- Press button **1** repeatedly, until the selection arrow is shown next to the desired riding mode.

NOTICE

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

The following riding modes can be selected:

– RAIN: When riding on wet roads.
– ROAD: When riding on dry roads.

– with Pro riding modes OE
» The following riding modes can also be selected:
– DYNA: For brisk riding on dry roads.
– Enduro: When driving off-road.
– Enduro PRO: When riding sporty off-road (with coding plug installed only).◁

» When the motorcycle is stationary, the selected riding mode is activated after approx. 2 seconds.
» The new riding mode is activated during operation under the following conditions:
– Throttle grip is in neutral position.
– Clutch lever is operated.
» After the new riding mode is activated, the clock is displayed again.
» The selected riding mode and the associated adaptations of the engine characteristic, ABS, ASC and Dynamic ESA settings are retained even after the ignition has been switched off.

Switching off TPC/RDC in off-road mode

– with Pro riding modes OE

Requirement

If you want to ride off-road with a reduced tire inflation pressure, it is possible to deactivate the TPC/RDC warning for the Enduro and Enduro Pro driving modes.

• Switch on ignition (➠ 44).

• 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 RDC menu item.

» The top line of the display **2** shows RDC.

» 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: the TPC warning symbol is no longer shown on the display. The tire pressure outside permissible tolerance warning is shown in the Enduro and Enduro Pro riding modes.

– OFF: the RDC warning symbol is displayed and in addition the tire pressure outside permissible tolerance warning is shown in the Enduro and Enduro Pro riding modes.

Install coding plug

– with Pro riding modes OE

• Switch off ignition (➠ 45).

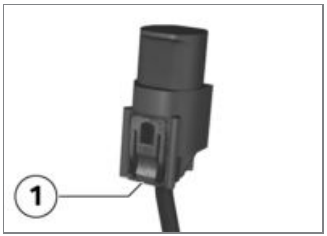
• Remove rider's seat (➠ 73).

ATTENTION

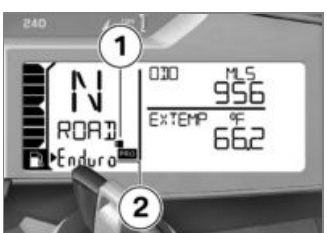
Penetration of dirt and moisture in the open connector

Malfunctions

- After removing the encoding plug, refit the cover cap.◀
- Remove cover cap of the plug connection **1**.



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



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

- Install rider's seat (➠ 74).

Cruise-control system

– with cruise control[OE]

Switch on cruise control

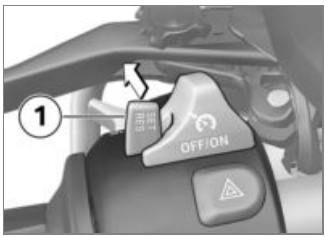
Requirement

The cruise-control system is not available again until after the Enduro or Enduro Pro driving mode has been deactivated.

- Push switch **1** to right.

» Button **2** is unlocked.

Store speed



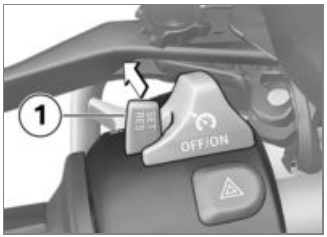
- Briefly press button **1** forward.

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.

Accelerating



- Briefly press button **1** forward.

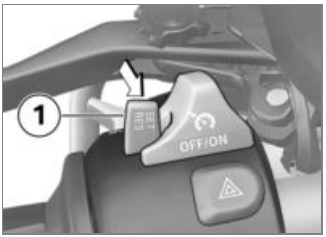
» Speed is increased by 1.2 mph (2 km/h) each time button is pressed.

- 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.

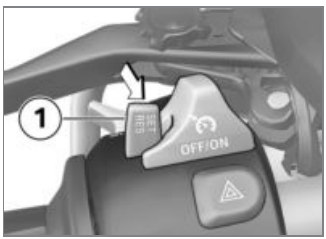
» If the button **1** is no longer pressed, the speed achieved is maintained and saved.

Deactivate cruise control

- Actuate brakes, clutch or throttle grip (take back throttle be-

yond back position) to deactivate cruise-control system.
» Cruise control indicator lamp goes out.

Resume former cruising speed



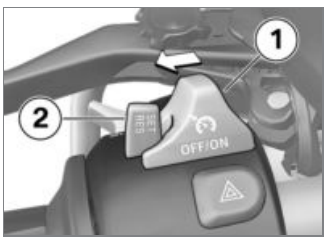
- Briefly push button **1** back to return to the speed saved beforehand.

NOTICE

Opening the throttle does not deactivate the cruise-control system. If you release the throttle grip, 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.

Switch off cruise control



- Push switch **1** to left.
» The system is deactivated.
» Button **2** is locked.

Anti-theft alarm (DWA)

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

Activation

- Switch on ignition (➠ 44).
- Customize anti-theft alarm system settings (➠ 70).
- 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).
» Alarm system is activated.

Alarm signal

The DWA alarm can be set off by:

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

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

An alarm lasts for approximately 26 seconds. During the alarm, an alarm tone sounds and the turn indicators flash. The type of alarm sound can be set 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 DWA (alarm system) LED then indicates the reason for the alarm signal for one minute.

Light signals on DWA LED:

– 1 flash: Motion sensor 1
– 2 flashes: Motion sensor 2
– 3 flashes: Ignition switched on with unauthorized motorcycle key
– 4 flashes: alarm system is disconnected from the motorcycle battery
– 5 flashes: 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 (➠ 44).

- 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.

Heated handlebar grips

– with heated handlebar grips OE

Operating heated grips

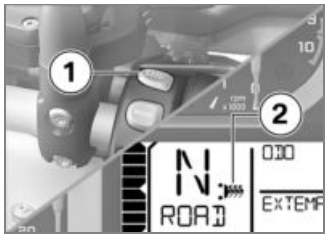
NOTICE

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

NOTICE

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

- Starting the engine (➠ 87).



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

The handlebar grips can be heated at two different levels.

50 % heating output

100 % heating output

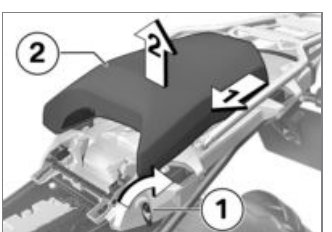
» The 2nd heating level is used for fast heat-up of the grips; then the switch should be switched back to the 1st level.

» If no further changes are made the selected heating level is adopted as the setting.
- To switch off heated grips, press button **1** until heated grip symbol **2** is no longer shown in the display.

Rider and passenger seats

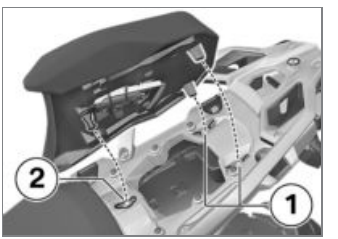
Remove passenger seat

- Remove rider's seat (➠ 73).

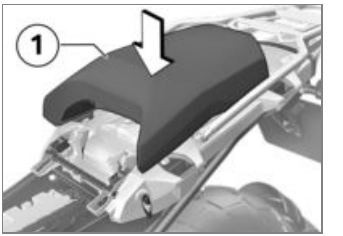


- Turn ignition key **1** clockwise.
- Slide pillion seat **2** forwards and lift up to remove
- Place pillion seat on clean surface with the fabric side facing down.

Installing passenger seat



- Fit passenger seat centered in rear mounts **1** and in front mount **2**.
- Slide pillion seat to the rear.
- Check pillion seat is properly located.

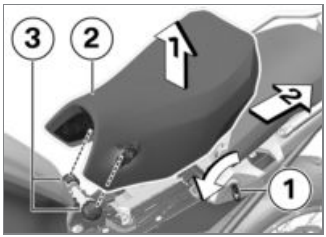


- Firmly press pillion seat **1** downwards.

» Passenger seat clicks audibly into place.

- Install rider's seat (➠ 74).

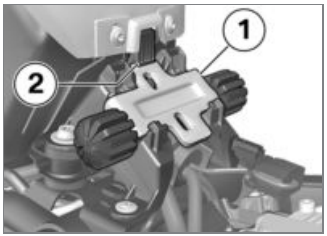
Remove rider's seat



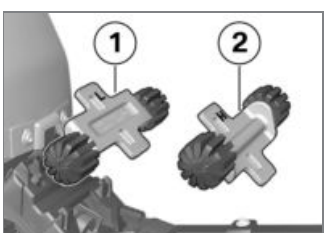
- Turn vehicle key **1** counter-clockwise and hold while lifting driver's seat **2** in rear area.
- Remove driver's seat **2** from seat bracket **3** toward rear.
- Lay driver's seat on a clean surface with the upholstered side down.

Adjust seat height and seat tilt

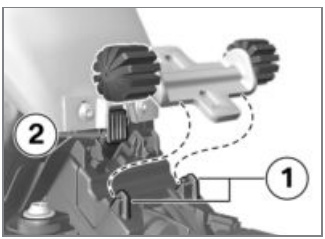
- Remove rider's seat (➠ 73).



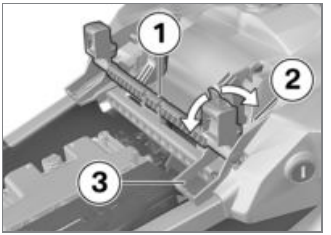
- In order to remove the front height adjustment **1**, press locking mechanism **2** down to remove the height adjustment upwards.



- 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.

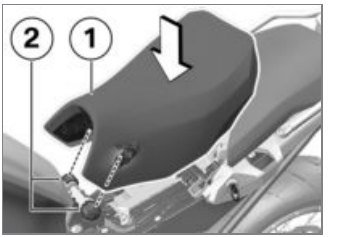


- In order to adjust the low seat position, swivel rear height adjustment **1** into position **3** (L marking).
- In order to adjust the high seat position, swivel rear height adjustment **1** into position **2** (H marking).

If seat tilt should be changed:

- Position the front and rear height adjustment differently.
- Install rider's seat (➠ 74).

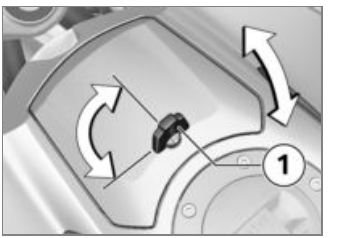
Install rider's seat



- Fit front seat **1** into seat mount **2** on left and right and place loosely on motorcycle.
- Press rider's seat slightly forward in rear area and then firmly downward until locking mechanism engages.

Storage compartment

Opening and locking stow compartment



- To open the stow compartment **1**, turn knob 90° counterclockwise and pull upwards.
- To lock the stow compartment **1**, close the compartment lid, turn knob 90° clockwise and fold down forwards onto the stow compartment lid.

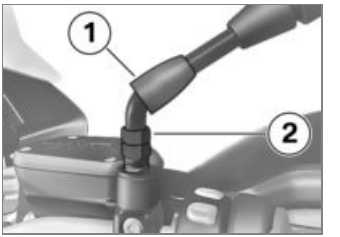
Setting

Mirrors

Adjust mirrors

- Move mirror into desired position by twisting.

Adjust 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) (Left-hand thread)	

- Slide protective cap over threaded fastener.

Headlight

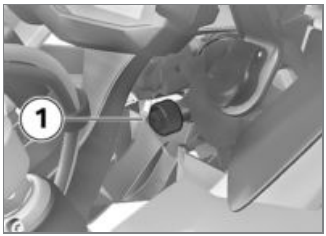
Headlamp range and spring preload

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.

NOTICE

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

Headlight range adjustment



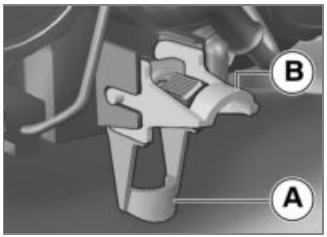
In the case of high payload, if the spring preload adjustment is not sufficient anymore to avoid blinding the oncoming traffic:

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

If the motorcycle is ridden again with lower payload:

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

– with LED headlights OE



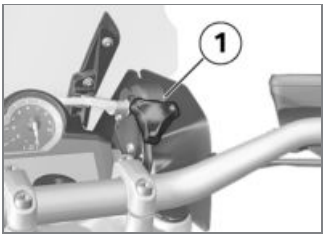
- A swiveling lever is used for the headlight range adjustment.

– **A** Neutral position

– **B** Position with heavy payload◁

Windshield

Adjust windshield



WARNING

Adjusting the windshield while driving.

Accident hazard

- Only adjust the windshield when the motorcycle is stationary.◀
- Turn adjustment wheel **1** clockwise to lower the windshield.

- Turn adjustment wheel **1** counterclockwise to raise the windshield.

Clutch

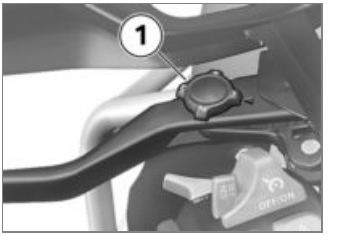
Adjusting clutch lever

WARNING

Adjusting the clutch lever while riding

Accident hazard

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



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

NOTICE

The adjustment wheel 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

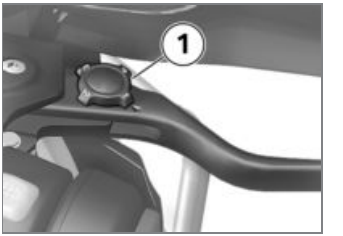
Adjusting handbrake lever

WARNING

Adjusting the brake lever while riding

Accident hazard

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



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

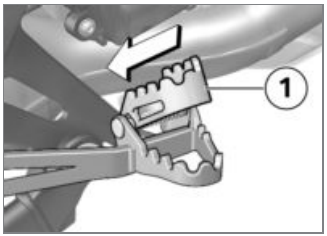
NOTICE

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

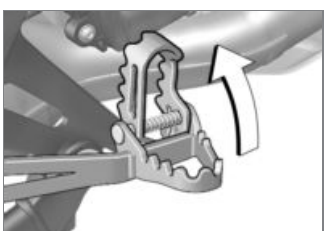
» Four settings are available:
– Position 1: smallest distance between handlebar grip and brake lever
– Position 4: largest distance between handlebar grip and brake lever

Adjusting footbrake lever

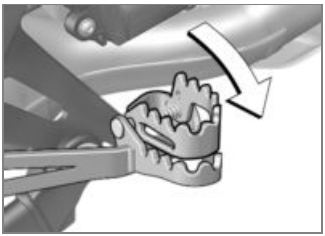
• Make sure ground is level and firm and park motorcycle.



• Slide treadplate **1** of footrest sideways to the left to unlock.



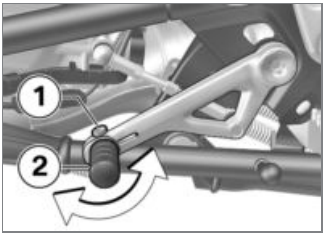
• Fold step plate upward up to detent when riding while seated.



• Fold step plate downward down to detent when riding while standing.

Shifting

Adjusting shift lever



- Slacken screw **1**.
- Turn foot piece **2** into desired position.

NOTICE

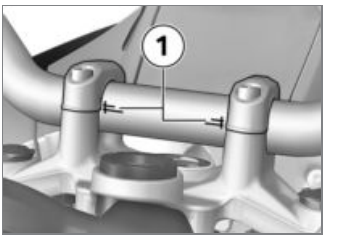
A foot piece adjusted too high or too low can cause problems when shifting. In case of shifting problems, check the adjustment of the foot piece.◀

- Tighten screw **1** to specified torque.

Treadplate (fixing) on gear lever	
6 lb/ft (8 Nm)	

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.

Spring preload

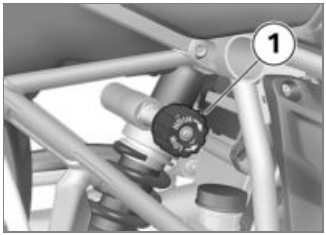
Setting

– without Dynamic ESA OE

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

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



WARNING

Uncoordinated settings of spring preload and spring strut damping.
Poorer handling.
- Adjust damping characteristic to changed spring preload.◀

WARNING

Adjusting the spring preload while riding.
Accident hazard
- Adjust the spring preload only when the motorcycle is stationary.◀
- To increase the spring preload, turn the adjustment wheel **1** in the direction of the arrow HIGH.
- To decrease the spring load, turn the adjustment wheel **1** in the direction of the arrow LOW.

Basic setting of spring preload, rear
– without Dynamic ESA OE
Turn adjustment wheel as far as possible into LOW direction. (One-up without load)
Turn adjuster wheel as far as possible in LOW direction, then rotate 15 turns in HIGH direction. (One-up with load)

Basic setting of spring preload, rear
Turn adjuster wheel as far as possible in LOW direction, then rotate 30 turns in HIGH direction. (Two-up and load)◁

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

- Park the motorcycle, ensuring that the support surface is firm and level.
- Adjust damping from the left side of the vehicle.

- To increase damping, turn adjustment screw **1** clockwise.
- To decrease damping, turn adjustment screw **1** counterclockwise.

Basic setting of rear wheel rear-wheel damping
– without Dynamic ESA OE
Turn adjustment wheel as far as possible clockwise, then 8 clicks counterclockwise. (One-up without load)
Turn adjustment wheel as far as possible clockwise, then 4 clicks counterclockwise. (One-up with load)
Turn adjustment wheel as far as possible clockwise, then 4 clicks counterclockwise. (Two-up with load)◁

Riding

Safety information

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 Dealer will be happy to advise you and has the correct clothing for every purpose.

Reduced clearance in inclined position

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

WARNING

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

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

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.

Load

WARNING

Reduced riding stability caused by overloading and uneven loading
Accident hazard
- Do not exceed the gross weight limit and observe the loading information.◀
- Adjust spring preload and damping rate for the current gross vehicle weight.
- Ensure that case volumes on left and right are equal.
- Make sure that weight is uniformly distributed between right and left.
- Pack heavy pieces of luggage and cargo as low and as close to the center of the motorcycle as possible.

- Observe the maximum payload and maximum speed as indicated on the label in the case (see also the chapter "Accessories").
- Observe the maximum payload and maximum speed as indicated on the label in the topcase (see also the chapter "Accessories").

– with tank backpack OA

- Observe maximum payload of tank rucksack.

 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
– Unevenly distributed load
– Loose clothing
– Insufficient tire inflation pressure
– Tire tread in poor condition
– Etc.

Maximum speed with studded or winter tyres

⚠ DANGER

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

Risk of accident due to tire damage at high speed.

- Observe the maximum permissible speed for the tyres.◀

With studded or winter tyres, the maximum permissible speed for the tyres must be observed.

Attach a label specifying the maximum permissible speed in the field of view of the instrument cluster.

Risk of poisoning

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

⚠ WARNING

Harmful exhaust gas

Danger of suffocation

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

Burn hazard

CAUTION

Intense heating up of engine and exhaust system while riding

Burn hazard

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

Catalytic converter

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

The following must be observed:

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

ATTENTION

Unburned fuel in the catalytic converter

Damage to catalytic converter

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

Danger of overheating

ATTENTION

Engine idling for a lengthy period while at a standstill

Overheating due to insufficient cooling; in extreme cases vehicle fire

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

Modifications

ATTENTION

Modifications to the motorcycle (e.g. engine control unit, throttle valves, clutch)

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

- Do not make any modifications.◀

Observe checklist

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

Before every journey:

- Check operation of the brake system.
- Check operation of the lighting and signal system.
- Check clutch function (➠ 122).

- Checking tire tread depth (➠ 124).
- Checking tyre pressure (➠ 123).
- Check secure holing of cases and luggage.

At every third refueling stop

– without Dynamic ESA OE

- Adjusting spring preload at rear wheel (➠ 80).
- Adjusting damping on rear wheel (➠ 82).◁

– with Dynamic ESA OE

- Setting suspension compliance (➠ 62).◁
- Check engine oil level (➠ 116).
- Checking front brake pad thickness (➠ 118).
- Checking rear brake pad thickness (➠ 119).
- Check front brake fluid level (➠ 120).
- Checking rear brake fluid level (➠ 121).
- Checking coolant level (➠ 122).

Starting

Starting the engine

- Switch on ignition.

» Pre-Ride-Check in progress (➠ 88)

» ASC self-diagnosis in progress (➠ 89)

- Engage neutral, or pull back clutch lever if a gear is engaged.

NOTICE

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

- In the case of cold start or under cold temperatures: Pull back clutch lever.

- Press starter button **1**.

NOTICE

The starting attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you attempt to start the engine again, or use jumper cables and a donor battery to start.

More detailed information can be found in the "Maintenance" chapter under "Jump-starting".◀

» Engine starts.
» If the engine fails to start, the troubleshooting table in the chapter "Technical Data" may provide assistance. (➠ 164)

Pre-Ride Check

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

Phase 1

All indicator and warning lights are switched on.

Phase 2

The universal warning light changes from red to yellow.

Phase 3

The previously activated indicator and warning lights are now switched off consecutively in reverse order.

If one of the indicator and warning lights did not turn on:

- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

ABS self-diagnosis

The self-diagnosis routine checks whether the BMW Motorcycle Integral ABS is ready for operation. The self-diagnosis routine runs automatically when you switch on the ignition. To check the wheel speed sensors, the motorcycle must be driven a few meters at a minimum speed of 3 mph (5 km/h).

Phase 1

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

ABS indicator light flashes.

Phase 2

» Check wheel sensors while starting off.

ABS indicator light flashes.

ABS self-diagnosis completed

» ABS warning light goes out.

- Check the display of all indicator and warning lights.

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 are available.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

ASC self-diagnosis

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

Phase 1

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


ASC indicator and warning light flashes slowly.

Phase 2

» Checking the diagnosable system components while the motorcycle is moving (at least 3 mph (5 km/h)).


ASC indicator and warning light flashes slowly.

ASC self-diagnosis completed

» The ASC indicator and warning light goes out.

- Check the display of all indicator and warning lights.

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 service facility, preferably an authorized BMW Motorrad Retailer.

Running in

Engine

- While running in the motorcycle, vary the throttle opening and engine-speed range frequently; avoid driving for long periods at a constant speed.
- Choose curvy, slightly hilly sections of road if possible.
- Observe the engine run-in speeds.

 Engine break-in speeds
<5000 min^{-1} (Odometer reading 0...621 miles (0...1000 km))
No full throttle (Odometer reading 0...621 miles (0...1000 km))

- 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.

WARNING

New brake pads

Extension of the braking distance, accident hazard

- Brake early.◀

Tires

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

WARNING

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

Accident hazard

- Always think well ahead and avoid extreme angles.◀

Off-road riding

After driving offroad

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

Tire inflation pressure

WARNING

When riding off-road, reduce the tire pressure when riding on paved surfaces.

Risk of accident due to poorer driving characteristics.

- Ensure proper tyre inflation pressure.◀

Brakes

WARNING

Riding on unpaved or dirty roads.

Delayed braking effect caused by dirty brake discs and brake pads.

- Brake early until the brakes are braked clean.◀

ATTENTION

Riding on unpaved or dirty roads

Increased brake pad wear
- Check the brake pad thickness more often and replace the brake pads sooner.◀

Spring preload and damping

WARNING

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

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

Air cleaner insert

ATTENTION

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

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

Shifting gears

– with Pro shift assistant OE

Pro shift assistant

Requirement

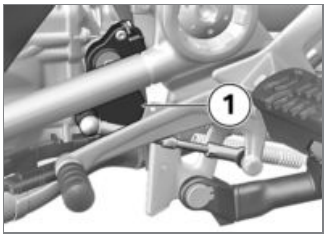
The gearshift assistant provides help with upward and downward gear shifts without the clutch or the accelerator having to be operated. This is not an automatic transmission. The rider is an essential part of the system and makes the decision as to when to change gear.

NOTICE

More detailed information on Pro Gear-shift Assistance can be found in the section "Technology in detail".◀

NOTICE

When changing gear using the Pro Gear-shift Assistance function, the cruise-control system is automatically deactivated for safety reasons.◀



- The gears are shifted into as usual with foot force on the shift lever.

» The sensor **1** on the gear-lever shaft detects the intention to change gear and initiates gearshift assistance.

» When driving at constant speed in low gears at high revs, changing gear without using the clutch can result in major load change reactions. BMW Motorrad recommends only changing gear using the clutch in such situations. The Pro gearshift assistant should not be used in the area of the rev limiter.

» No shifting support is provided in the following situations:

– With the clutch operated.
– If the gear lever is not in the zero position
– When upshifting with the throttle closed (coasting overrun mode) or when decelerating.

- To be able to make another gear change using Pro gearshift assistant, the gearshift lever must be fully released after the first gear change.

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

WARNING

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

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

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

Wet, soiled brakes

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

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

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

WARNING

Poorer braking action due to moisture and dirt

Accident hazard

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

ABS Pro

– with ABS Pro[OE]

Physical riding limits

WARNING

Braking in curves

Danger of falling despite ABS Pro

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

ABS Pro is available in all driving modes except for Enduro Pro.

Falling cannot be excluded

Although ABS Pro represents valuable support and an enormous safety advantage for the rider when braking in the inclined position, it by no means redefines the physical riding limits. It is still possible to exceed those limits through misjudgments or riding errors. In extreme cases this my result in a fall.

Use on public roads

ABS Pro helps make riding your motorcycle on public roads even safer. When braking due to unexpected hazards in curves, locking-up and slipping of the wheels is prevented within the scope of the physical riding limits.

NOTICE

ABS Pro was not developed to increase the individual braking performance in the inclined position in the limit range.◀

Parking your motorcycle

Side stand

- Switch off engine.

ATTENTION

Poor ground conditions in area of stand

Component damage cause by tipping over

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

ATTENTION

Loading of the side stand with additional weight

Component damage cause by tipping over

- Do not sit on the motorcycle when it is parked on the side stands.◀
- Fold out side stand and park motorcycle.
- Turn handlebars to the left.
- On slopes point the motorcycle uphill and engage 1st gear.

Center stand

- Switch off engine.

ATTENTION

Poor ground conditions in area of stand

Component damage cause by tipping over

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

ATTENTION

Center stand folds if subject to sharp movements.

Component damage cause by tipping over

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

Refueling

Fuel specifications

Requirement

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

ATTENTION

Refueling with leaded fuel

Damage to catalytic converter

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

ATTENTION

Use of Ethanol E85 as fuel

Damage to the engine and fuel supply

- Do not refuel with E85, i.e. fuel with an ethanol content of 85 %, or with Flex Fuel.◀
- Fuels with a maximum ethanol content of 10 %, meaning "E10," may be used for refueling. Ethanol should satisfy the quality standards for US (ASTM 4806–xx) and Canada (CGSB-3.511–xx). “xx” - comply with the current standard in each case.

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

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.) (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI

Refueling procedure

WARNING

Fuel is highly flammable

Fire and explosion hazard

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

WARNING

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

Accident hazard

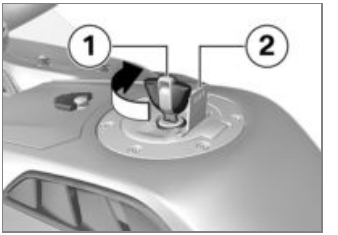
- Do not overfill the fuel tank.◀

ATTENTION

Contact of fuel and plastic surfaces

Damage to surfaces (become unattractive or cloudy)

- Immediately clean plastic surfaces after contact with fuel.◀
- Place motorcycle on the center stand, ensuring that it is resting on a firm and level support surface.



- Open protective cap **2**.
- Unlock cap of fuel tank **1** with ignition key by turning it clockwise, and fold it up.

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

NOTICE

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

NOTICE

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

Usable fuel quantity
Approx. 7.9 gal (Approx. 30 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.

Refueling procedure

– with Keyless Ride OE

Requirement

Steering lock is unlocked.

WARNING

Fuel is highly flammable

Fire and explosion hazard

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

WARNING

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

Accident hazard

- Do not overfill the fuel tank.◀

ATTENTION

Contact of fuel and plastic surfaces

Damage to surfaces (become unattractive or cloudy)

- Immediately clean plastic surfaces after contact with fuel.◀
- Place motorcycle on center stand, ensuring that it is resting on a firm and level support surface.

– with Keyless Ride OE

- Switch off ignition (➠ 47).

NOTICE

After the ignition is switched off, the fuel filler cap can be opened within the specified run-on time even without the radio-operated key being within the reception area.◀

 After-running period for opening the fuel filler cap
2 min

» There are **2 ways** to open the fuel filler cap:

– Within the run-on time.

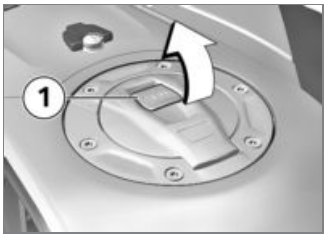
– After the run-on time expires.

Version 1

– with Keyless Ride OE

Requirement

Within the run-on time



- Slowly pull lug **1** of fuel filler cap upward.
» Fuel filler cap unlocked.
- Open fuel filler cap completely.

Version 2

– with Keyless Ride[OE]

Requirement

After run-on time expires

- Bring radio-operated key into reception range.
- Slowly pull up lug **1**.
» The indicator light for the radio-operated key flashes as long as the radio-operated key is being searched for.
- Slowly pull lug **1** of fuel filler cap upward again.
» Fuel filler cap unlocked.
- Open fuel filler cap completely.

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

NOTICE

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

NOTICE

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

Usable fuel quantity
Approx. 7.9 gal (Approx. 30 l)

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

- Press fuel filler cap of fuel tank down firmly.
» Fuel filler cap audibly engages.
» Fuel filler cap automatically locks after run-on time expires.

» The engaged fuel filler cap locks immediately when the steering lock is locked or during starting.

Fastening motorcycle for transport

- Protect all components over which straps are run against abrasion, e.g. using adhesive tape or soft cloths.

ATTENTION

Motorcycle tips to the side when raising

Component damage cause by tipping over

- Secure the motorcycle against tipping to the side, preferably with the assistance of a second person.◀
- Push motorcycle onto transport surface, and do not place on side stand or center stand.

ATTENTION

Pinching of components
Component damage

- Do not pinch components, e.g. brake lines or wiring harnesses.◀
- Fasten 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

General notes

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

Antilock Brake System (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.

ATTENTION

Attempt at a burn-out despite integral function
Damage to rear-wheel brake and clutch
• Do not perform burn-out.◀

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.

WARNING

Lifting off of the rear wheel due to heavy braking

Accident hazard

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

What are the design characteristics of the BMW Motorrad 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 error is indicated. A self-diagnosis routine must be com-

pleted before the error will be displayed.
Apart from problems with the BMW Motorrad ABS, unusual riding conditions can also cause a fault message to be generated:
– Warm-up on the center 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 occur due to an unusual driving condition, the ABS function can be reactivated by switching the ignition off and then on again.

How important is regular maintenance?

⚠ WARNING

Failure to have maintenance performed on the brake system regularly.
Accident hazard
- To ensure that the ABS is in a properly maintained condition, it is vital that the specified service intervals be observed.◀

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.

⚠ WARNING

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

Further development of ABS to ABS Pro

– with ABS Pro OE

In the past, the BMW Motorrad ABS system provided for a very high level of safety while braking during straight-ahead riding. Now ABS Pro also offers increased safety even when braking in curves. ABS Pro prevents locking-up of the wheels even in case of rapid brake actuation. ABS Pro reduces abrupt changes in steering forces, especially during panic braking, and therefore decreases the risk of unwanted wheelies occurring.

ABS control

From a technical standpoint, ABS Pro adjusts the ABS control to the angle of inclination of the motorcycle in dependence on the respective riding situation. Signals for the roll and yaw rate and the lateral acceleration are used to determine the inclination of the motorcycle.

With an increasing inclination, the braking pressure gradient is increasingly limited at the start of braking. This results in a slower pressure buildup. In addition, the pressure modulation in the range of the ABS control is more uniform.

Advantages for the driver

The advantages of ABS Pro for the rider are sensitive response and high braking and riding stability with the best possible deceleration, even in curves.

Automatic Stability Control (ASC)

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?

BMW Motorrad ASC is designed as an assistance system for the rider and for riding on public roads. The extent to which the rider affects ASC control can be considerable (weight shifts when cornering, loose luggage on the motorcycle), especially when approaching the limits imposed by the laws of physics.

The Enduro riding mode should be activated for off-road riding. In this mode the controlling intervention by the ASC is carried out later, enabling controlled drifting. The system is not optimized for the special conditions encountered under extreme weather during off-road and race-track use. BMW Motorrad ASC can be switched off under these conditions.

⚠ WARNING

Risky riding style

Accident hazard despite ASC

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

Special situations

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

The system compares the rotation speeds of the front and rear wheels to detect any tendency for the rear wheel to spin or lose traction. If the system registers implausible data for an extended period of time it will deactivate the ASC functionality as safety precaution and a display will alert you to an ASC error. A self-diagnosis routine must be completed before the error will be displayed.
The following unusual driving conditions may lead to automatic deactivation of BMW Motorrad ASC:

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

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

With extremely knobbly tires, it is possible that due to the greater degree of slip the ASC will intervene before the optimum traction is obtained. In such cases the BMW Motorrad ASC should be switched off.

If the front wheel loses contact with the ground under extreme acceleration, the ASC reduces the engine torque until the front wheel makes contact with the ground again.
BMW Motorrad recommends that you respond to this condition by twisting back the throttle grip somewhat to return to stable dynamic operating conditions as quickly as possible.

On a slippery surface, the throttle grip should never be suddenly twisted back completely unless the clutch is disengaged at the same time. The engine's braking torque could cause the rear wheel to lock, resulting in unstable motorcycle conditions. This situation cannot be controlled by the BMW Motorrad ASC.

Riding mode

Selection

In order to adjust the motorcycle to the road condition, one of 5 riding modes can be selected:
– RAIN
– ROAD (standard mode)

– with Pro riding modes OE
– DYNAMIC
– Enduro
– Enduro Pro (if coding plug is installed only)

For each of the 5 riding modes, adapted settings for the ABS and ASC systems and for 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 any riding mode; the explanations below apply to the behavior of the motorcycle while these systems are active.

Throttle response
– In RAIN and Enduro riding modes: restrained
– In ROAD and Enduro Pro riding modes: direct
– In DYNAMIC riding mode: dynamic

ABS
– The rear wheel lift assistant is active in all riding modes.
– In RAIN, ROAD and DYNAMIC riding modes, ABS is set to road operation.
– In Enduro riding mode, ABS is set to off-road operation using road tires.
– In Enduro Pro riding mode, there is no ABS control at rear wheel when footbrake lever is operated. ABS is aligned to off-road operation using massive-bar tyres.

– with ABS Pro OE
– In RAIN and ROAD riding modes, ABS Pro is fully available. The inclination the motorcycle has when braking in curves is reduced to a minimum.
– In DYNAMIC riding mode, ABS Pro is only available if friction levels are high. Support is reduced compared to ROAD riding mode and is instead designed to achieve the greatest possible braking effect.
– In Enduro riding mode, ABS Pro is only available to a limited extent and only if friction levels are high.
– In Enduro Pro riding mode, ABS Pro is inactive.

ASC
– The front wheel lift assistant is active in all riding modes.
– In RAIN, ROAD and DYNAMIC riding modes, ASC is set to road operation.
– In Enduro and Enduro Pro riding modes, ASC is set to off-road operation.

– with Dynamic ESA OE

Dynamic ESA
– In RAIN, ROAD and DYNAMIC riding modes, HARD, NORMAL and SOFT damping variants are available for selection.
– RAIN mode default setting: SOFT
– ROAD mode default setting: NORMAL
– DYNAMIC mode default setting: HARD
– In Enduro and Enduro Pro riding modes, HARD and SOFT damping variants are available for selection.
– Enduro mode default setting: SOFT
– Enduro Pro mode default setting: HARD

Changing setting

The riding modes can only be changed while driving under the following condition:
– No drive torque at rear wheel.
– No brake pressure in the braking system.

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

First the desired riding mode is preselected. The new selection is not activated until the specified conditions are present in all affected systems.
The selection menu does not disappear in the display until the riding mode has been switched over.

Tire pressure control (TPC/RDC)

– with Tire Pressure Control (TPC/RDC) OE

Operation

A sensor located in each tire monitors the air temperature and the inflation pressure inside the tire and transmits this information 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 monitored data for approx. 15 minutes after the motorcycle comes to a stop.
An error message will appear if an TPC control unit is installed, but no sensors are installed at the wheels.

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 that appear in the multifunction display are generated with temperature compensation; they are adjusted for 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 tire temperature. As a result, in most cases the values displayed there do not match the values shown 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.

Shift assistant

– with Pro shift assistant[OE]

Pro shift assistant

Your motorcycle is equipped with a Pro gearshift assistant originally developed for racing but now specially adapted for touring use. It allows you upshift and downshift under almost any load conditions and in virtually all engine-speed ranges without operating the clutch or accelerator.

Benefits

– 70-80 % of all gear changes can be performed without using the clutch.
– Less movement between pilot and pillion due to shorter gear-change intervals.
– Throttle does not have to be closed when changing gear under acceleration.
– During deceleration and downshifts (throttle plate closed) the system blips the throttle to obtain the correct engine speed.
– Shifting times are faster than when the clutch is used to change gears.

For the system to detect the rider's intention to change gear, the previously stationary gear lever must be moved in the desired direction against the force of the spring and with a certain amount of "overtravel" at a standard to rapid travel speed, and then maintained in this position until execution of the shift is completed. No additional increase in shifting force is necessary during the gear shifting process. After the gear change is completed, the gear lever must be fully released before the Pro gearshift assistant can execute a new gear change. The load factor (throttle grip position) should remain constant both prior to and during execution of shifts using the Pro gearshift assistant. Changing the position of the throttle grip while the shift is in progress can lead to cancellation of the function and/or shifting errors. The Pro gearshift assistant does not provide support when gear changes are made using the clutch.

Downshifts

– Downshifts are assisted up to the speed at which the engine reaches maximum rpm in the gear to be engaged. Over-revving is thus prevented.

 Maximum engine speed
max 9000 min^{-1}

Upshifts

- Upshifting is supported until the idling speed is reached in the target gear.
- This prevents the idling speed from being dropped below.

 Idle speed
1150 min^{-1} (Engine at operating temperature)

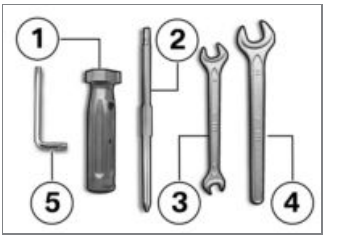
Maintenance

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

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

Onboard toolkit



1 Screwdriver handle
– Use with screwdriver bit.
– Topping up engine oil (➠ 117).

2 Reversible screwdriver insert
Phillips PH1 and Torx T25
– Remove bulb for front and rear turn indicator (➠ 135).
– Remove battery cover (➠ 140).
– Topping up coolant (➠ 122).

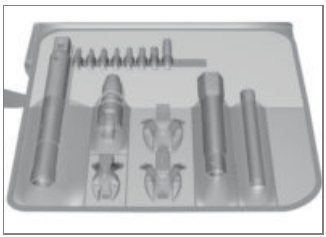
3 Open-ended wrench
Wrench size: 8/10 mm
– Removing battery (➠ 140).

4 Open-ended wrench
Wrench size: 14
– Adjust mirror arm (➠ 76).

5 Torx wrench T30
– Lower gear lever adjustment.

Service tool kit

– with service toolkit[OA]



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

Front wheel stand

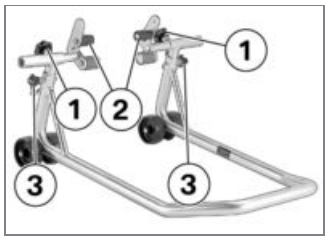
Mounting front wheel stand

ATTENTION

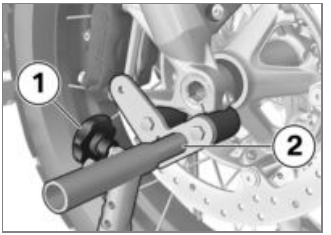
Use of the BMW Motorrad front wheel stand without an additional center or auxiliary stand

Component damage cause by tipping over

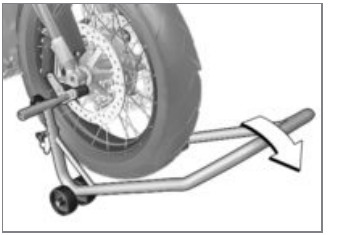
- Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad front wheel stand.◀
- Place motorcycle on the center stand, ensuring that it is resting on a firm and level support surface.
- Use basic stand with front wheel mount. The base stand and its accessories are available through your authorized BMW Motorrad retailer.



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



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



ATTENTION

Center stand retracts if motorcycle is lifted too high.
Component damage cause by tipping over

- 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.

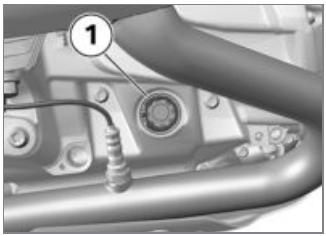
Engine oil

Check engine oil level

ATTENTION

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

- Only check the oil level after a longer journey or when the engine is warm.◀
- 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**.

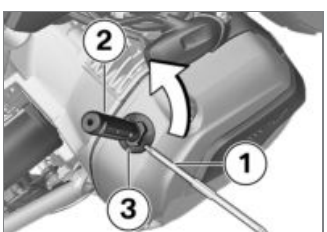
Specified level of engine oil
Between MIN- and MAX mark

If the oil level is below MIN mark:
- Topping up engine oil (➠ 117).

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

Topping up engine oil

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



- Wipe area around oil fill location to clean it.
- To be able to apply force more easily, insert the interchangeable screwdriver bit **1**, Torx end first, into the screwdriver handle **2** (from motorcycle toolkit).
- Locate the specified tool from the vehicle toolkit on the oil fill location **3** and turn counterclockwise.
- Check engine oil level (➠ 116).

ATTENTION

Use of too little or too much engine oil

Engine damage

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

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

- Check engine oil level (➠ 116).
- Install cap of oil fill location.

Brake system

Checking brake operation

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

If no clear pressure points are perceptible:

ATTENTION

Improper working on the brake system

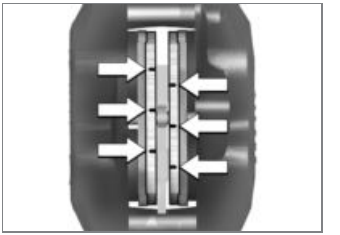
Endangering of the operating safety of the brake system

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

Checking front brake pad thickness

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

- 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:

WARNING

Dropping below the minimum pad thickness

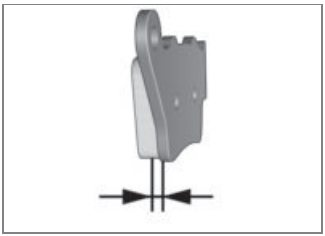
Reduced braking action, damage to the brake

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

Checking rear brake pad thickness

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

- 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:

WARNING

Dropping below the minimum pad thickness

Reduced braking action, damage to the brake

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

Check front brake fluid level

WARNING

Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Check brake fluid level regularly.◀
- 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**.

NOTICE

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

Front brake fluid level
Brake fluid, DOT4
The brake fluid level must not fall below the MIN mark. (Brake-fluid 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.

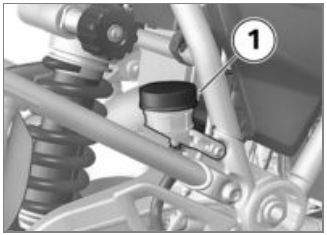
Checking rear brake fluid level

WARNING

Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Check brake fluid level regularly.◀
- 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**.

NOTICE

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.

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.

Coolant

Checking coolant level

CAUTION

Working on hot cooling system

Burn hazard

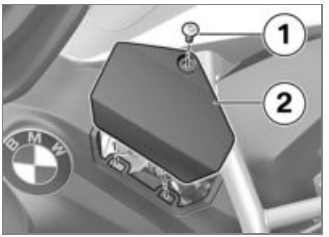
- Only carry out work on the cooling system when it has cooled down.◀
- Park motorcycle, ensuring that support surface is firm and level.

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

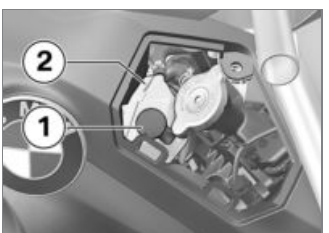
If coolant level drops below approved level:

- Add coolant.

Topping up coolant

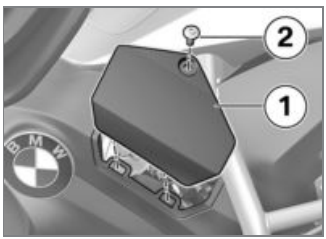


- Remove screw **1** and remove cover **2**.



- Open cap **1** of coolant expansion tank **2** and add coolant up to specified level.

- Checking coolant level (➠ 122).
- Close cap of coolant expansion tank.



- Place cover **1** in position.
- Install screw **2**.

Tires

Checking tyre pressure

⚠ WARNING

Incorrect tire inflation pressure

Poorer handling characteristic of motorcycle, reduction of tire service life

- Ensure proper tire inflation pressure.◀

⚠ WARNING

Automatic opening of vertically installed valve cores at high speeds.

Sudden loss of tyre inflation pressure.

- Use valve caps with rubber sealing ring and screw on firmly.◀
- Park motorcycle, ensuring that support surface is firm and level.
- Check tyre 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 tyre pressure is too low:

- Correct tyre pressure.

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

WARNING

Riding with heavily worn tyres

Risk of accident due to poorer rideability

- If necessary, replace the tyres before the legally specified minimum tread depth is reached.◀
- Make sure ground is level and firm and park motorcycle.
- Measure tire tread depth in main tread grooves with wear indicators.

NOTICE

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

When the minimum tread depth is reached:

- Replace the worn tires.

Checking spokes

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

If the tone does not remain consistent:

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

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.

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

Observe the notes on maximum speed with studded or winter tires (➠ 85).

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

bmw-motorrad.com

Affect of wheel sizes on suspension control systems

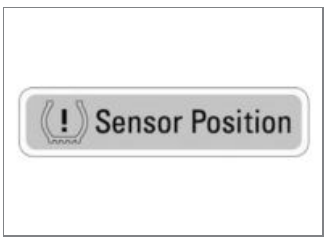
The wheel sizes play a major role for the ABS and ASC suspension control systems. The diameter and width of the wheels stored in the control unit have particular significance as the basis for all necessary calculations. A change in these sizes resulting from conversion to wheels not installed as standard equipment can seriously affect the control efficiency of these systems.

The sensor rings required for wheel speed detection must also match the installed control systems and may not be replaced.

If you want to equip your motorcycle with different wheels, please contact a specialist service facility, preferably a BMW Motorrad retailer. In some cases the data stored in the control units can be adapted for the new wheel sizes.

TPC/RDC sticker

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



ATTENTION

Improper tire removal

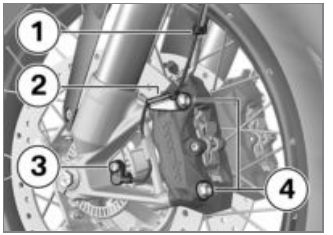
Damage to the TPC/RDC sensors

- Inform a specialist service facility or an authorized BMW Motorrad retailer on the fact that the wheel is equipped with a TPC/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.



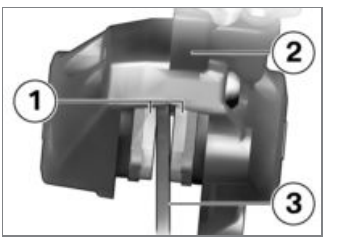
- Detach wheel speed sensor lead from retaining clips **1** and **2**.
- Remove screw **3** and take wheel speed sensor out of bore.
- Mask off areas of wheel rim that could be scratched in the process of removing the brake calipers.

ATTENTION

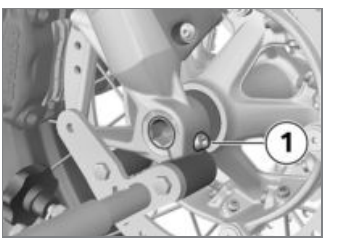
Unintentional pressing together of brake pads

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

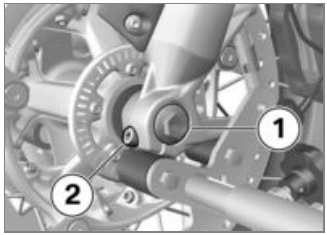
- Do not actuate the brakes with the brake caliper removed.◀
- Remove securing screws **4** of left and right brake calipers.



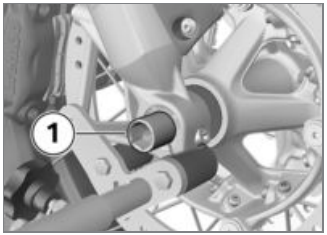
- Push brake pads **1** slightly apart by turning the brake caliper **2** back and forth against the brake rotor **3**.
- Carefully pull brake calipers back and outward to remove them from the brake rotors.
- Raise front of motorcycle, preferably using a BMW Motorrad front wheel stand, continuing until the wheel rotates freely.
- Mounting front wheel stand (➠ 115).



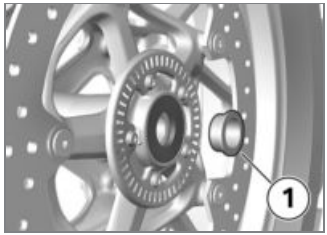
- Remove right-hand axle clamping screw **1**.



- Remove the 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

⚠ WARNING

Use of a wheel which does not comply with series specifications

Malfunctions during control interventions by ABS and ASC

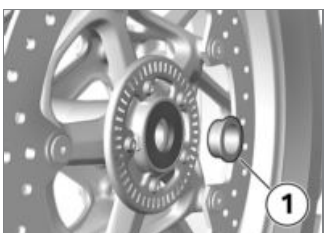
- Please see the information on the effect of wheel sizes on the ABS and ASC chassis control systems at the beginning of this chapter.◀

ATTENTION

Tightening of screwed connections with incorrect tightening torque

Damage or loosening of screwed connections

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



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

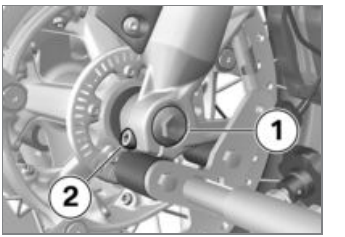
ATTENTION

Front wheel installation opposite the running direction

Accident hazard

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

- 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 (➠ 115).



- 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)

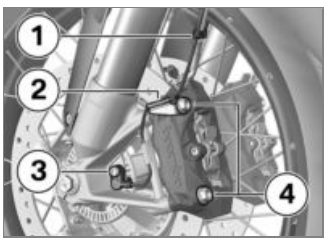
- Tighten left axle clamping screw **2** with appropriate torque.

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.

⚠ WARNING

Brake pads do not contact the brake disc

Risk of accident due to delayed braking effect.

- 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.
- Locate wheel speed sensor lead in the retaining clips **1** and **2**.
- Insert wheel speed sensor in bore and install screw **3**.

Wheel speed sensor on fork
Joint compound: Micro-encapsulated or medium-strength screw lock
6 lb/ft (8 Nm)

Removing rear wheel

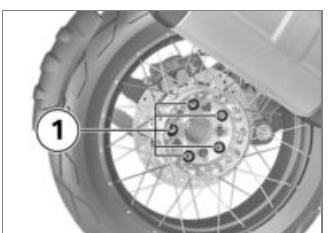
- Make sure ground is level and firm and place motorcycle on its center stand.
- Shift into first gear.

CAUTION

Hot exhaust system

Burn hazard

- Do not touch hot 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

WARNING

Use of a wheel which does not comply with series specifications

Malfunctions during control interventions by ABS and ASC

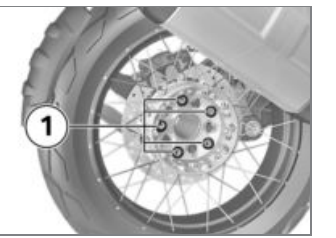
- Please see the information on the effect of wheel sizes on the ABS and ASC chassis control systems at the beginning of this chapter.◀

ATTENTION

Tightening of screwed connections with incorrect tightening torque

Damage or loosening of screwed connections

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



WARNING

Mixed installation of wheel bolts for spoked wheels and cast wheels

Accident hazard

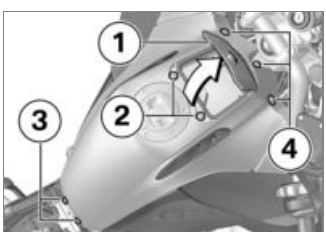
- Use only wheel bolts with the same permitted length code numbers.
- Do not lubricate the lug bolts.◀

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

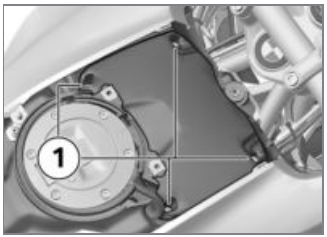
Tighten rear wheel on wheel flange
Tightening sequence: tighten diagonally
44 lb/ft (60 Nm)

Air filter

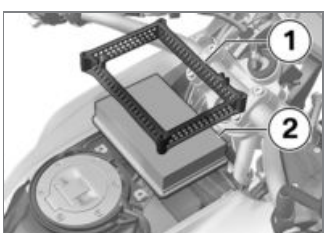
Replacing air cleaner insert



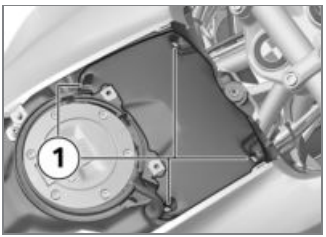
- Remove rider's seat (➠ 73).
- Open stow compartment lid **1**.
- Remove screws **2**, **3** and **4**.
- Remove fuel tank cover.



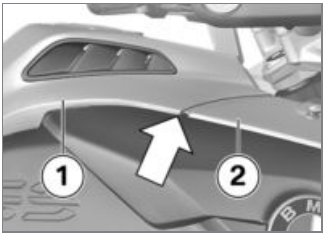
- Remove screws **1**.
- Remove air cleaner housing cover.



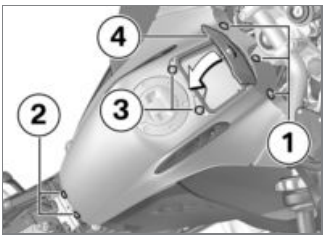
- Remove frame **1** and air filter element **2**.
- Insert new air filter element **2** and frame **1**.



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



- Place fuel tank cover **1** in position, taking care that guide (**arrow**) is underneath upper front wheel cover **2**.



- Install screws **1**, **2** and **3**.
- Close stow compartment lid **4**.
- Install rider's seat (➠ 74).

Light sources

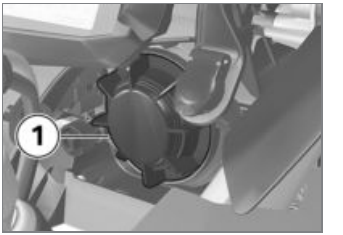
Replacing low and high-beam light sources in headlight

– without LED headlights[OE]

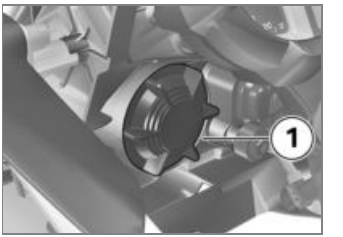
NOTICE

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

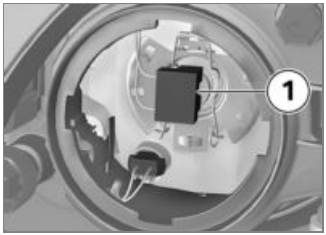
- Park motorcycle, ensuring that support surface is firm and level.
- Switch off ignition.



- To replace main-beam headlight bulb, remove cover **1** by turning it counterclockwise.



- Remove cover **1** by turning it counterclockwise to replace high-beam headlight bulb.



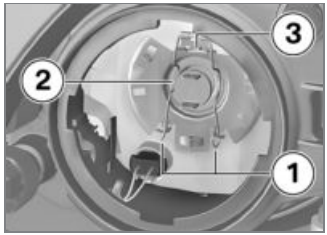
- Disconnect plug **1**.

- Remove spring strap **1** from detent and fold to side.
- Remove bulb **2**.
- Replace defective light source.

Bulbs for low-beam headlight
H7 / 12 V / 55 W
– with LED headlights OE
LED◁

Bulb for high-beam headlight
H7 / 12 V / 55 W
– with LED headlights OE
LED◁

- To avoid leaving contamination deposits on the new bulb's glass surface, always hold it by its base.

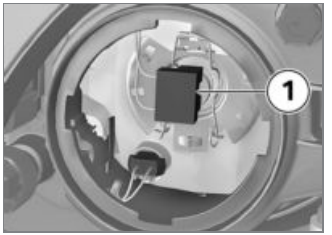


- Insert bulb **2** while ensuring that the lug **3** is in the correct position.

NOTICE

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

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

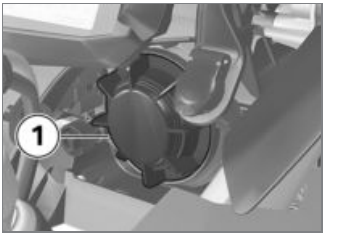


- Connect connector **1**.
- Position cover panel and install it by turning clockwise.

Replacing light source for parking light

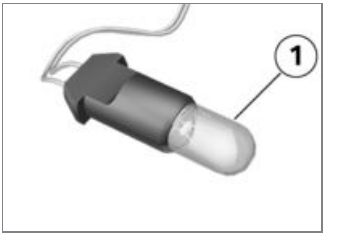
– without LED headlights OE

- 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 light source.

Bulb for parking light
W5W / 12 V / 5 W
– with LED headlights OE
LED◁

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

- Insert bulb **1** in bulb socket.

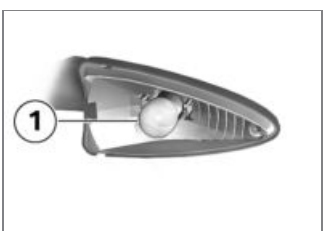
- Insert bulb holder **1** into the headlight housing.
- Position cover panel and install it by turning clockwise.

Replacing front and rear turn indicator light sources

- 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 mirror housing by turning it counter-clockwise.

- Replace defective light source.

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

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

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

- Fit bulb **1** in mirror housing by turning it clockwise.

- Locate lens in mirror housing inner side first and close.

- Fit the screw **1**.

Replacing LED tail 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.

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.◁

Replace additional LED headlight

– 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.

Jump-starting

ATTENTION

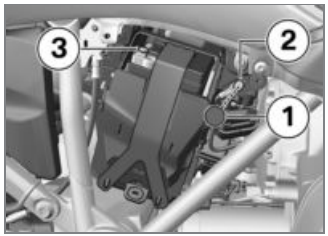
Current too high when jump-starting the motorcycle
Cable fire or damage to the motorcycle electronics
- Do not jump-start the motorcycle using the power socket, only via the battery terminal.◀

ATTENTION

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

ATTENTION

Jump-starting with a voltage higher than 12 V
Damage to the motorcycle's electronics
- The battery of the donor motorcycle must have a voltage of 12 V.◀
- Park motorcycle, ensuring that support surface is firm and level.
- Remove battery cover (➠ 140).
- Do not disconnect the battery from the onboard electrical system when jump-starting the engine.



- Remove the protective cap **1**.
- Begin by connecting one end of the red jumper cable to the auxiliary terminal for jump starting **2** on the discharged battery and the other end to the positive terminal of the donor battery.
- Connect black jumper cable to negative terminal on donor battery and then to negative terminal **3** of discharged battery.
- Run engine of donor motorcycle during jump-starting procedure.

- Start engine of motorcycle with discharged battery in usual way; if engine does not start, wait a few minutes before repeating attempt in order to protect starter motor and donor battery.
- Allow both engines to idle for a few minutes before disconnecting jumper cables.
- Disconnect jumper cable from negative terminals first, then disconnect second cable from positive terminals.

NOTICE

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

- Install the protective cap.
- Installing battery cover (➠ 141).

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.

ATTENTION

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

Total discharge of battery leading to a rejection of warranty claims

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

NOTICE

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

Charging connected battery

ATTENTION

Charging of the battery, connected to the vehicle, via the battery terminals

Damage to the motorcycle's electronics

- Disconnect the battery before charging on the battery terminals.◀

ATTENTION

Charge a fully discharged battery via the power socket or additional onboard socket

Damage to the motorcycle's electronics

- Always charge a fully discharged battery (battery voltage below 9 V; with the ignition switched on, the indicator lights and the multifunction display remain off) directly at the poles of the **disconnected** battery.◀

ATTENTION

Unsuitable chargers connected to a power socket

Damage to charger and vehicle electronics

- Use suitable BMW chargers. The correct charger is available through your authorized BMW Motorrad retailer.◀
- Charge disconnected battery via onboard socket.

NOTICE

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

- Comply with operating instructions of charger.

NOTICE

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

Charging disconnected battery

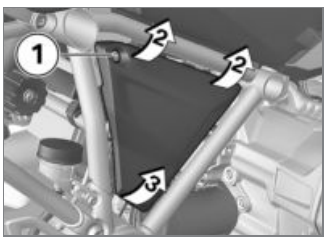
- Charge battery using a suitable charger.
- Comply with operating instructions of charger.
- Once battery is fully charged, disconnect charger's terminal clips from battery terminals.

NOTICE

In the case of longer periods when the motorcycle is not being used, the battery must be

recharged regularly. See the instructions for caring for your battery. Always fully recharge the battery before returning it to use.◀

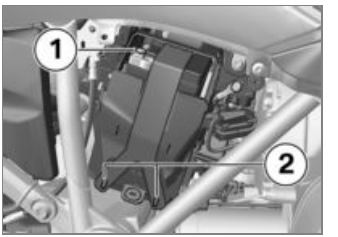
Removing battery



- Switch off ignition.
- Remove screw **1**.
- Pull battery cover at top slightly forward at the positions **2**.
- In order not to damage the battery cover and the mount, remove the battery cover upward at position **3**.

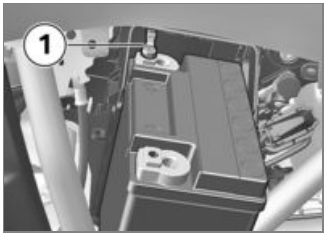
– with anti-theft alarm system (DWA)[OE]

- Switch off anti-theft alarm system if necessary.◁



- Remove negative battery cable **1** and rubber strap **2**.

- Pull mounting plate on position **1** outward and remove it upward.
- Lift battery slightly out of holder sufficiently for positive terminal to be accessible.

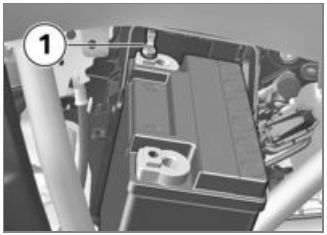


- Remove positive battery cable **1** and pull out battery.

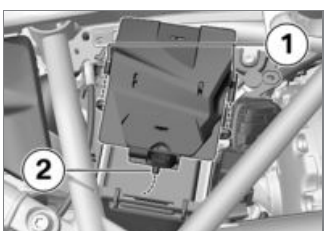
Install battery

NOTICE

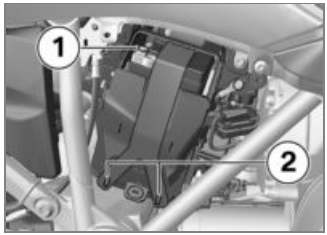
If the 12 V battery is installed incorrectly, or if the terminals are swapped (e.g. when jump-starting), the fuse for the alternator regulator may blow.◀



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



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



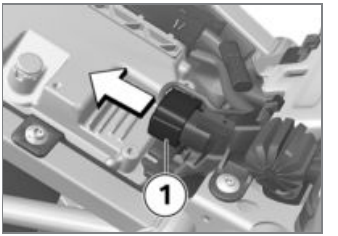
- Fasten negative battery cable **1**.
- Fasten battery with rubber strap **2**.

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

- Fit the screw **1**.
- Set clock (➠ 56).
- Set date (➠ 56).

Fuses

Replace fuses



- Switch off ignition.
- Remove rider's seat (➠ 73).
- Disconnect plug **1**.

ATTENTION

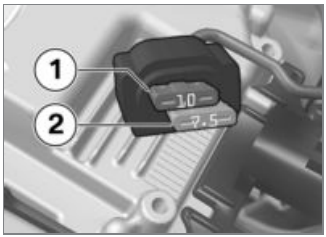
Bypassing defective fuses
Risk of short circuit and fire
- Do not bypass defective fuses.
- Replace defective fuses with new fuses.◀
- Consult the fuse assignment diagram and replace the defective fuse.

NOTICE

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

- Install connector **1**.
- Install rider's seat (➠ 74).

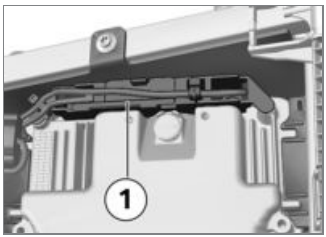
Fuse assignment



1 10 A
Instrument cluster
Anti-theft alarm system (DWA)
Ignition switch
Diagnostic socket

2 7.5 A
Multifunction switch, left
Tire Pressure Control (TPC/RDC)

Fuse for alternator regulator



1 50 A
Alternator regulator

Diagnostic connector

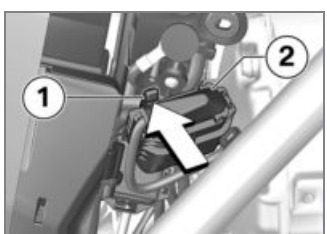
Removing the diagnostic connector

CAUTION

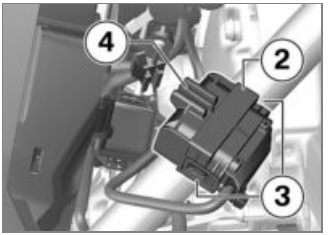
Incorrect procedure followed when disconnecting the data link connector for the On-Board Diagnostics.

Motorcycle experiences malfunctions

- Only have the data link connector disconnected by a specialist workshop or other authorized persons during your next BMW Service appointment.
- Have the work performed by appropriately trained staff.
- Refer to the vehicle manufacturer specifications.◀
- Remove battery cover (➠ 140).



- Press the hook **1** and lift out the data link connector **2**.

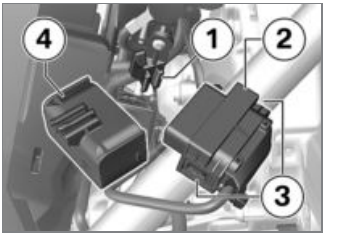


- Press the locking mechanisms **3** on both sides.
- Remove the data link connector **2** from the bracket **4**.

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

Secure the data link connector

- Disconnect the diagnosis and information system interface.



- Plug the seat data link connector **2** into the bracket **4**.

» The locking mechanisms **3** engage on both sides.

- Connect the bracket **4** to the mount **1**.

- Make sure that the hook **5** has engaged.
- Installing battery cover (➠ 141).

Accessories

General notes

⚠ CAUTION

Use of products from other manufacturers

Safety risk

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

The safety, operation and suitability of the parts and accessory products have been checked extensively by BMW. Therefore, BMW assumes responsibility for these products. BMW shall not be liable for unapproved parts and accessory products of any kind.

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

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

bmw-motorrad.com/accessories

Onboard power sockets

Connection of electrical devices

– The ignition must be switched on before electrical devices connected to the power sockets can be operated.

Cable routing

– The cables from the onboard sockets to the auxiliary devices must be routed in such a way that they do not impede the rider.
– Cable routing must not restrict the steering angle and the handling characteristics.
– Cables must not be trapped.

Automatic deactivation

– The onboard sockets are automatically switched off during starting.
– These sockets are switched off approx. 15 minutes after

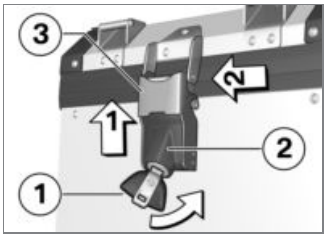
switching off the ignition to reduce the strain on the onboard electrical system. Additional devices with low power consumption are possibly not detected by the vehicle electronics. In these cases, onboard sockets are already switched off shortly after the ignition is switched off.

– In case of insufficient battery voltage, the onboard sockets are switched off to maintain the ability to start the motorcycle.
– If the maximum loadability specified in the technical data is exceeded, the onboard sockets are switched off.

Case

Open case

– with aluminum case[OA]



- Turn key **1** counterclockwise.

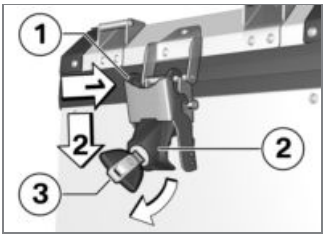
NOTICE

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

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

Closing case

– with aluminum case[OA]

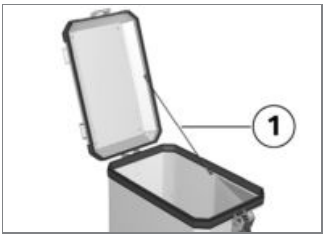


- Close case lid.
- Position locking claw **1** on lid.
- Press lock housing **2** downward while making sure that claw grips into lid.
- To lock, turn key **3** clockwise and remove.

Remove case lid

– with aluminum case[OA]

- Open case (➠ 147).



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

Install case lid

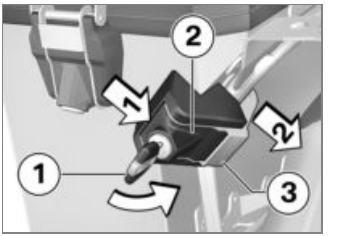
– with aluminum case OA

- Lay case lid on case.
- Close one lock of case lid.
- Open case lid toward closed side.

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

Remove case

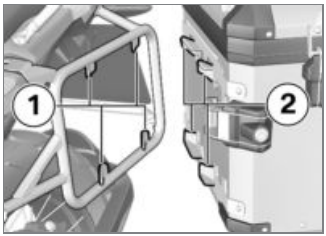
– with aluminum case OA



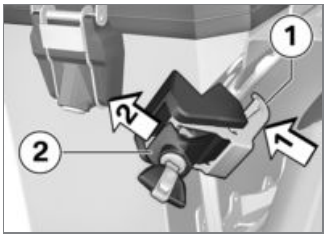
- Turn key **1** counterclockwise.
- Press lock housing **2** to side to release locking claw **3**.
- Pull locking claw **3** to side while holding case in place.
- Pull case forward as far as possible and remove to side.

Mount case

– with aluminum case OA



- Position pannier on pannier rack and slide rearwards so that the tabs on the pannier rack **1** engage with the lugs on the pannier **2**.



- Position locking claw **1** on case carrier while holding case in place.
- Press lock housing **2** to side while ensuring that claw grips around bracket.
- Turn key clockwise and remove.

Maximum payload and maximum speed

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

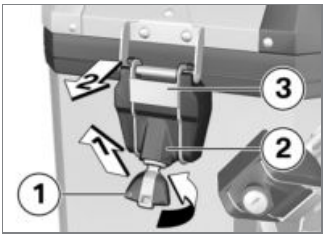
Maximum speed for riding with aluminum case
max 112 mph (max 180 km/h)

Payload per aluminum case
max 22 lbs (max 10 kg)

Topcase

Opening topcase

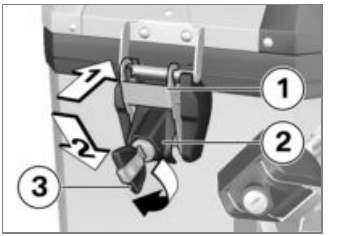
– with aluminum topcase[OA]



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

Close topcase

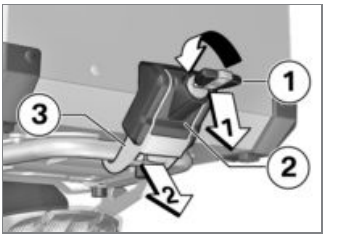
– with aluminum topcase OA



- Close topcase lid.
- Position locking claw **1** on lid.
- Press lock housing **2** downward while making sure that claw grips into lid.
- To lock, turn key **3** clockwise and remove.

Remove topcase

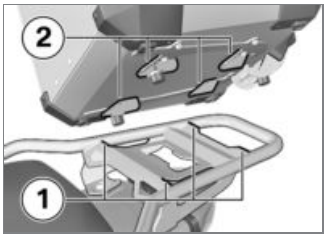
– with aluminum topcase OA



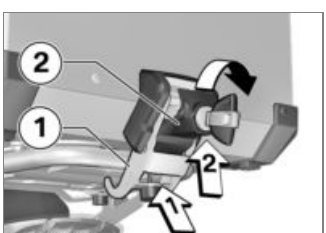
- Turn key **1** counterclockwise.
- Press lock housing **2** downward to release locking claw **3**.
- Pull locking claw **3** back.
- First pull topcase toward rear and then remove upward.

Mount topcase

– with aluminum topcase OA



- Position topcase on topcase rack and slide forward so that tabs on topcase rack **1** engage with lugs on topcase **2**.



- Position locking claw **1** on topcase carrier.
- Press lock housing **2** upward while making sure that claw grips around carrier.
- To lock, turn key clockwise and remove.

Maximum payload and maximum speed

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

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

Payload of aluminum topcase
max 11 lbs (max 5 kg)

Navigation system

– with preparation for navigation system[OE]

Securely fastening navigation device

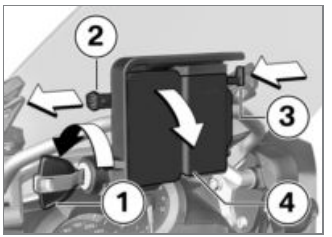
NOTICE

The navigation preparation is suitable for the BMW Motorrad Navigator IV and the BMW Motorrad Navigator V.◀

NOTICE

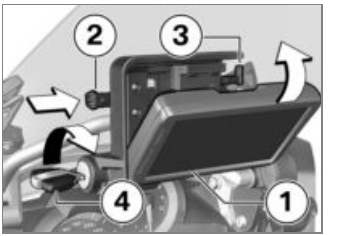
The locking system of the Mount Cradle offers no protection against theft.

Remove the navigation system and store in a safe place after every drive.◀



- Turn ignition key **1** counter-clockwise.
- Pull shut-off lock **2** to **left**.
- Press in locking device **3**.

» Mount Cradle is unlocked and cover **4** can be removed with a rotating movement toward front.



- Mount navigation device **1** in lower area and swing toward rear with a rotating movement.

» Navigation device audibly engages.

- Slide shut-off lock **2** completely to **right**.

» Locking device **3** is locked.

- Turn ignition key **4** clockwise.

» Navigation device is locked and ignition key can be removed.

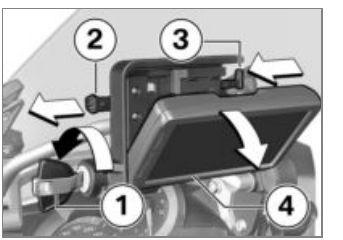
Removing navigation device and installing cover

ATTENTION

Dust and dirt on contacts of the Mount Cradle

Damage to the contacts

- Reinstall the cover after end of each drive.◀



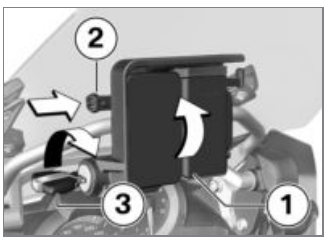
- Turn ignition key **1** counter-clockwise.
- Pull shut-off lock **2** completely to **left**.

» Locking device **3** is unlocked.

- Slide locking device **3** completely to **left**.

» Navigation device **4** is unlocked.

- Remove navigation device **4** downward with a tilting movement.



- Mount cover **1** in lower area and swing upward with a rotating movement.

» Cover audibly engages.

- Slide shut-off lock **2** to **right**.
- Turn ignition key **3** clockwise.

» Cover **1** is secured.

Operating the navigation system

NOTICE

The following description refers to the Navigator V. The Navigator IV does not offer all options described.◀

NOTICE

Only the latest version of the BMW Motorrad communication system is supported. A software update may be required for the BMW Motorrad communication system. In this case, please contact your authorized BMW Motorrad retailer.◀

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 or decreases the volume of a BMW Motorrad communication system connected via Bluetooth on the Compass and Mediaplayer page.

Menu items on 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:
– Map view
– Compass
– Mediaplayer
– BMW special menu
– My motorcycle page

Long actuation of the Multi-Controller corresponds to the activation of certain functions on the Navigator display. These functions are marked with an right arrow or a left arrow above the corresponding touch field.


The function is triggered by long actuation to the right.


The function is triggered by long actuation to the left.

In detail, the following functions can be operated:

Map view
– Turning upward: Increase size of map section (Zoom in).
– Turn downward: zoom out map section (Zoom out).

Compass page
– Turning increases or reduces volume of a BMW Motorrad communication system connected via Bluetooth.

BMW special menu
– Speak: Repeat last navigation announcement.
– Way point: Save current way point as favorite.
– Navigate home: Starts navigation to the home address (is grayed-out if no home address is set).
– Mute: Switch automatic navigation announcements (off: the top line in the display shows a crossed-out lip icon). Navigation announcements can still be output via "Speak". All other sound outputs remain switched on.
– Switching off display: Switch off display.
– Call home: Calls the phone number stored in the navigator (only displayed when a phone is connected).
– Detour: Activates the detour function (only displayed if a route is active).
– Skip: Skips the next way point (only displayed if route is provided with way points).

My Motorcycle
– Turn: Changes the number of data displayed.
– Touching a data field on the display opens a menu for selecting the data.

– The values available for selection are dependent on the optional extras installed.

NOTICE

The Mediaplayer function is only available when using a Bluetooth device in accordance with the A2DP standard, e.g. a BMW Motorrad communication system.◀

Mediaplayer

– Long actuation to left: Play previous title.
– Long actuation to right: Play next title.
– Turning increases or reduces volume of a BMW Motorrad communication system connected via Bluetooth.

Warning and status messages

Warning and status displays of the motorcycle are indicated with a corresponding icon **1** at the upper left on the map view.

NOTICE

If a BMW Motorrad communication system is connected, an acoustic signal is also sounds in case of a warning.◀

If several warning messages are active, the number of messages is indicated below the warning triangle.

A list of all warning messages is opened by pressing on the warning triangle with more than one message.
Additional information is display when a message is selected.

NOTICE

Detailed information cannot be displayed for all warnings.◀

Special functions

Due to integration of the BMW Motorrad Navigator, there are a number of differences from the descriptions in the instruction manual for the Navigator.

Reserve fuel level warning

The settings for the fuel gauge are not available, as the reserve warning is being transferred from the vehicle to the Navigator. If the message is active, the nearest filling stations are displayed when the message is pressed.

Time and Date

The Navigator sends the 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 V can be secured against unauthorized use with a four-digit PIN (Garmin Lock). When this function is activated, once the Navigator GPS receiver is cradled on the motorcycle and the ignition is switched on you will receive a prompt asking whether the motorcycle should be added to the list of secure vehicles. If you answer "Yes" to this question, the Navigator saves the vehicle identification number (VIN) of this motorcycle in its internal memory.

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

When the Navigator is subsequently switched on by switching on the ignition on one of those motorcycles, entry of the PIN is no longer necessary.

If the Navigator is removed from the motorcycle 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. No manual input is necessary.

The automatic setting can be switch off in the display settings in the Navigator if desired.

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.

ATTENTION

Use of unsuitable cleaning and care agents

Damage to motorcycle parts

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

Washing your motorcycle

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

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

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

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

WARNING

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

Poorer braking action, accident hazard

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

ATTENTION

Increased effect of salt caused by warm water

Corrosion

- Only use cold water to remove road salt.◀

ATTENTION

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

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

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

NOTICE

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

Cleaning sensitive motorcycle parts

Plastics

ATTENTION

Use of unsuitable cleaning agents

Damage to plastic surfaces

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

Fairings and panels

Clean fairings and panels with water and BMW plastic cleaner.

Windshields and lenses are manufactured in plastic

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

NOTICE

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

Clean with water and sponge only.

Do not use chemical cleansers.

Chrome

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

Radiator

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

ATTENTION

Bending of radiator fins

Damage to radiator fins

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

Rubber parts

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

ATTENTION

Use of silicone sprays for care of rubber seals

Damage to rubber seals

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

Paint care

Washing the vehicle on a regular basis will help prevent long-term damage from harmful substances, and is especially important when your vehicle is used in areas with high levels of air pollution or where natural contaminants such as tree resin and pollen are present.

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. It is advisable to use BMW Car Polish or BMW Paint Cleaner in this case.

Contamination on the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends using BMW tar remover for removing tar spots. Then add a protective wax coating to the paint at these locations.

Protective wax coating

Paint must be protected, if water no longer pearls up on it.

To preserve the finish of your vehicle, BMW Motorrad recommends BMW Car Wax or agents that contain carnauba or synthetic waxes.

Store motorcycle

- Clean motorcycle.
- Completely fill the motorcycle's fuel tank.
- Removing battery (➠ 140).
- Spray the brake and clutch lever, and the center and side stand pivots with a suitable lubricant.
- Protect metal and chrome-plated parts with an acid-free grease (Vaseline).
- Park the motorcycle in a dry space in such a way that both wheels are under no load (preferably by using the front and rear-wheel stands available from BMW Motorrad).

Return motorcycle to use

- Remove the protective wax coating.
- Clean motorcycle.

- Install battery (➠ 141).
- Observe checklist (➠ 86).

Technical data

Troubleshooting chart

Engine does not 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 procedure (➠ 95).
Battery drained	Charging connected battery (➠ 139).
Overheating protection for starter motor has activated. Starter motor can only be actuated for a limited period.	Leave the starter motor to cool down for around 1 minute until it becomes available again.

Threaded fasteners

Front wheel	Value	Valid
Quick-release axle in telescopic fork		
M12 x 20	22 lb/ft (30 Nm)	
Clamping screw for quick-release axle in telescopic fork		
M8 x 35	14 lb/ft (19 Nm)	
Brake caliper on telescopic forks		
M10 x 65	28 lb/ft (38 Nm)	
Wheel speed sensor on fork		
M6 x 16 Micro-encapsulated or medium-strength screw lock	6 lb/ft (8 Nm)	

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

Mirrors	Value	Valid
Mirror (locknut) on adapter		
M10 x 1.25	Left-hand thread, 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)	

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.) (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 7.9 gal (Approx. 30 l)
Reserve fuel quantity	Approx. 1.1 gal (Approx. 4 l)
Emission standard	EU 4

Engine oil

Engine oil, capacity	max 1.1 gal (max 4 l), with filter replacement
Specification	SAE 5W-40, API SL/JASO MA2, Additives (for instance, molybdenum-based substances) are prohibited, because they would attack the coatings on engine components, BMW Motorrad recommends BMW Motorrad ADVANTEC Ultimate Oil.
Engine oil, quantity for topping up	max 1 quarts (max 0.95 l), Difference between MIN and MAX

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Engine

Engine number location	Lower right of engine block beneath the starter
Engine type	122EN
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

Clutch

Clutch design	Multi-disk oil-bath clutch, slipper clutch

Transmission

Transmission design	6-speed transmission with helical cut dog ring gears
Transmission gear ratios	1.000 (60:60 teeth), Primary gear ratio 1.650 (33:20 teeth), Transmission input 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	2.91 (32:11 teeth)

Frame

Frame design	Steel-tube frame with partially self-supporting drive unit, steel-tube rear frame
Location of type plate	Frame at front right (next to spring strut)
Location of the vehicle identification number	Frame at front right on steering head

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	8.3 in (210 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	8.7 in (220 mm)

Brakes

Front wheel	
Type of front brake	Hydraulically operated double disc brakes with 4-piston radial monobloc calipers and floating brake discs
Brake pad material at front	Sintered metal
Front brake-disk thickness	min 0.16 in (min 4 mm), Wear limit
Free travel of brake actuation (Front wheel brake)	Approx. 0.07 in (Approx. 1.85 mm), at piston
Rear wheel	
Type of rear brake	Hydraulically operated disc brake with 2-piston floating caliper and fixed brake disc
Brake pad material at back	Organic
Rear brake-disk thickness	min 0.18 in (min 4.5 mm), Wear limit
Blow-by clearance of footbrake lever	0.04 in (1 mm), Between frame and footbrake lever

Wheels and tires

Recommended tire combinations	An overview of the current tire approvals is available from your authorized BMW Motorrad retailer or on the Internet at bmw-motorrad.com.
Speed category of front/rear tires	V, minimum requirement: 149 mph (240 km/h)
Front wheel	
Front wheel design	Cross spoke wheel
Front-wheel rim size	3.0"x19"
Front tire designation	120/70 - 19
Load index for front tire	At least 54
Front wheel load at unladen weight	295 lbs (134 kg)
Permissible front wheel load	max 381 lbs (max 173 kg)
Permissible front-wheel imbalance	max 0.2 oz (max 5 g)

Rear wheel	
Rear wheel design	Cross spoke wheel
Rear-wheel rim size	4.50"x17"
Rear tire designation	170/60 - 17
Load index for rear tire	At least 71
Rear wheel load at unladen weight	278 lbs (126 kg)
Permissible rear wheel load	max 677 lbs (max 307 kg)
Permissible rear-wheel imbalance	max 1.6 oz (max 45 g)
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 carrier 1	10 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 (TPC/RDC)
Fuse carrier	50 A, Fuse 1: Voltage regulator
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), New 0.04 in (1.0 mm), Wear limit
Bulbs	
Bulb for high-beam headlight	H7 / 12 V / 55 W
– with LED headlights[OE]	LED
Bulbs for low-beam headlight	H7 / 12 V / 55 W
– with LED headlights[OE]	LED

Bulb for parking light	W5W / 12 V / 5 W
– with LED headlights[OE]	LED
Bulb for taillight/brake light	LED
Bulbs for flashing turn indicators, front	RY10W / 12 V / 10 W
Bulbs for flashing turn indicators, rear	RY10W / 12 V / 10 W

Alarm system

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

Dimensions

Motorcycle length	88.8 in (2255 mm), above luggage rack
Motorcycle height	57.1 in (1450 mm), Windshield in highest position
– with lowered suspension OE	55.5 in (1410 mm), Windshield in highest position
Motorcycle width	37.5 in (952 mm), across mirrors 38.6 in (980 mm), across hand protectors
Rider's seat height	35...35.8 in (890...910 mm), without rider at unladen weight
– with low seat OA	33.1...33.9 in (840...860 mm), without rider at unladen weight
– with Rally seat OA	35.2 in (895 mm), without rider at unladen weight
– with lowered suspension OE	33.1...33.9 in (840...860 mm), without rider at unladen weight
– with lowered suspension OE – with black seat OE	32.3...33.1 in (820...840 mm), without rider at unladen weight
Rider's inside-leg arc, heel to heel	76.8...78.3 in (1950...1990 mm), without rider at unladen weight
– with low seat OA	72.8...74.4 in (1850...1890 mm), without rider at unladen weight
– with Rally seat OA	77.6 in (1970 mm), without rider at unladen weight

– with lowered suspension OE	72.8...74.4 in (1850...1890 mm), without rider at unladen weight
– with lowered suspension OE – with black seat OE	71.7...73.2 in (1820...1860 mm), without rider at unladen weight

Weights

Vehicle curb weight	580 lbs (263 kg), DIN unladen weight, ready for road, fuel tank 90 % full, without OE
Permissible gross weight	1058 lbs (480 kg)
Maximum payload	478 lbs (217 kg)

Performance data

Start-off capacity on uphill grades (with permissible total weight)	20 %
Top speed	>124 mph (>200 km/h)

Service

Reporting safety defects

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

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

You can contact the NHTSA by calling the Vehicle Safety Hotline on 1–888–327–4236 (Teletypewriter TTY for the hearing impaired: 1–800–424–9153) for free, by visiting the website at http:// www.safercar.gov or by writing to Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. Further information on vehicle safety is available at http:// www.safercar.gov.

BMW Motorrad Service

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

WARNING

Improperly performed maintenance and repair work
Accident hazard caused by subsequent damage
- BMW Motorrad recommends having corresponding work on the motorcycle carried out by a specialized workshop, preferably by an authorized BMW Motorrad retailer.◀

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

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

BMW Motorrad Mobility Services

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

Maintenance procedures

BMW Pre-Delivery Check

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

BMW Running-in Check

The BMW running-in check 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 motorcycle owner and the mileage driven. Your BMW Motorrad retailer confirms that the service has been performed and enters the date for the next service.
For riders who drive long distances annually, it may be necessary to come in for service before the entered date. In this case a corresponding maximum odometer reading will also be entered in the confirmation of service. If this odometer reading is reached before the next service date, service must be performed sooner.
The service display in the multifunction display reminds you of the next service date approx. one month or 620 miles (1000 km) before the entered values.

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

The required scope of maintenance work for your motorcycle can be found in the following maintenance plan:

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

Maintenance schedule

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

a annually or every 6000 miles (whichever comes first)
b annually or every 12000 miles (whichever comes first)
c when used off-road, annually or every 6000 miles (whichever comes first)
d for the first time after one year, then every two years

Confirmation of maintenance work

BMW Service standard scope

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

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

BMW Pre-Delivery Check

Conducted

on_____

_____

Stamp, Signature

BMW Running-in Check

Conducted

on_____

Odometer reading_____

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

_____

Stamp, Signature

BMW Service

Conducted

on_____

Odometer reading_____

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

_____
Stamp, Signature

Work carried out

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

Information

BMW Service

Conducted

on_____

Odometer reading_____

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

_____
Stamp, Signature

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Changing brake fluid in entire system	☐	☐

Information

BMW Service

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at the latest
on_____
or, if reached sooner
Odometer reading_____

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Conducted

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BMW Service

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BMW Service

Conducted

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Odometer reading_____

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at the latest
on_____
or, if reached sooner
Odometer reading_____

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BMW Service

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Odometer reading_____

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Information

BMW Service

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on_____
or, if reached sooner
Odometer reading_____

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Replacing air cleaner element	☐	☐
Checking or replacing air cleaner element (maintenance)	☐	☐
Changing brake fluid in entire system	☐	☐

Information

BMW Service

Conducted

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BMW Service

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BMW Service

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Checking valve clearance	☐	☐
Replacing all spark plugs	☐	☐
Replacing air cleaner element	☐	☐
Checking or replacing air cleaner element (maintenance)	☐	☐
Changing brake fluid in entire system	☐	☐

Information

Confirmation of service

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

Work carried out	Odometer reading	Date

Work carried out	Odometer reading	Date

Appendix

FCC Approval

Ring aerial in the ignition switch

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

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

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

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

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

Approbation de la FCC

Antenne annulaire présente dans le commutateur d'allumage

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

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

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

Certifications

BMW Keyless Ride ID Device

USA, Canada

Product name: BMW Keyless Ride ID Device
FCC ID: YGOHUF5750
IC: 4008C-HUF5750

Canada:
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.

USA:
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

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

Declaration Of Conformity

We declare under our responsibility that the product

BMW Keyless Ride ID Device (Model: HUF5750)

camplies with the appropriate essential requirements of the article 3 of the R&TIE and the other relevant provisions, when used for its intended purpose. Applied Standards:

1. Health and safety requirements contained in article 3 (1) a)
   - EN 60950-1:2006+A11:2009+A1:2010+A12:2011; Information technology equipment- Safety
2. Protection requirements with respect to electromagnetic compatibility article 3 (1) b)
   - EN 301 489-1 (V1 .9.2, 09/2011), Electromagnetic compatibility and radio spectrum matters (ERM); Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
   - EN 301 489-3 (V1.4.1, 08/2002) Electromagnetic compatibility and radio spectrum matters (ERM); Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for short range devices (SRD) operating on frequencies between 9 kHz and 40 GHz
3. Means of the efficient use of the radio frequency spectrum article 3 (2)
   - EN 300 220-1 & -2 (V2.4.1, 05/2012), electromagnetic compatibility and radio spectrum matters (ERM); Short range devices (SRD); Radio equipment tobe used in the 25 MHz to 1000 MHz frequency range with power leveis ranging up to 500 mW; Part 1: Technical characteristics and test methods. Part 2: Harmonized EN covering essential requirements under article 3.2 ofthe R&TIE directive

The product is labeted wilh the CE marking: CE

Velbert, October 15th, 2013

Benjamin A. Müller
Product Development Systems
Car Access and Immobilization – Electronics
Huf Hülsbeck & Fürst GmbH & Co. KG
Steeger Straße 17, D-42551 Velbert

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.

Original Rider's Manual, printed in Germany.

Important data for refueling:

Fuel	
Recommended fuel quality	Super unleaded (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI
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.) (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 7.9 gal (Approx. 30 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

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

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Order No.: 01 40 8 358 087
04.2016, 6th edition, 07