Rider's Manual (US Model)

C 650 GT

BMW Motorrad

The Ultimate Riding Machine

Motorcycle/Retailer Data

Motorcycle data

Model

Vehicle identification number

Color number

First registration

Registration number

Retailer Data

Contact in Service

Ms./Mr.

Phone number

Retailer's address/phone number (company stamp)

Welcome to BMW

We congratulate you on your choice of a Maxi-Scooter from BMW and welcome you to the community of BMW riders.
Please read this Rider's Manual carefully before starting to use your new Maxi-Scooter. It contains important information on operation that enables you to make the best possible use of all your Scooter's technical features.
In addition, it contains information on maintenance and care to help you maintain your vehicle's reliability and safety, as well as its value.
If you have any questions concerning the Maxi-Scooter communication system, your authorized BMW Motorrad retailer is always happy to provide you with advice and assistance.

We hope that you enjoy your BMW Maxi-Scooter and wish you a safe and pleasant journey.

BMW Motorrad.

01 41 8 543 757

Table of Contents

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

General instructions

Overview

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

Abbreviations and symbols

Indicates warnings that must be complied - for reasons of your safety and the safety of others, and to protect your motorcycle against damage.

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

◀ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

Reference to a page with more detailed information.

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

Tightening torque.

Technical data.

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

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

ABS Anti-Lock Brake System.

TPC/ RDC Tire Pressure Control (TPC).

EWS Electronic immobilizer.

DWA Anti-theft alarm.

Equipment

When you ordered your Maxi-Scooter, 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 vehicle might not be exactly as illustrated in this manual on account of country-specific differences.

If your Scooter is equipped with options or accessories not described in this Rider's Manual, then this equipment is described in separate operating instructions.

Technical data

All dimensions, weights and outputs in the Rider's Manual refer to the Deutsches Institut für Normung e. V. (DIN) and comply with its tolerance regulations. Versions for individual countries may differ.

Notice concerning current status

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

Overviews


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General view, left side

1 Brake-fluid reservoir for rear brake (➠ 82)
2 Fuel fill location (under cover) (➠ 60)
3 Adjustable pelvis support (➠ 50)
4 Adjusting spring preload (➠ 48)
5 Engine oil fill location and oil dipstick (under step plate) (➠ 76)


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General view, right side

1 Brake-fluid reservoir for front brake (➠ 81)

2 Type plate (on the right of the head tube)

3 Battery (under fairing side panel) (➠ 97)
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4 Vehicle Identification Number (on right frame tube)

5 Coolant level indicator (through cutout in fairing side panel) (➠ 83)

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7 – with seat heating OE
Operating passenger seat heater (➠ 45)

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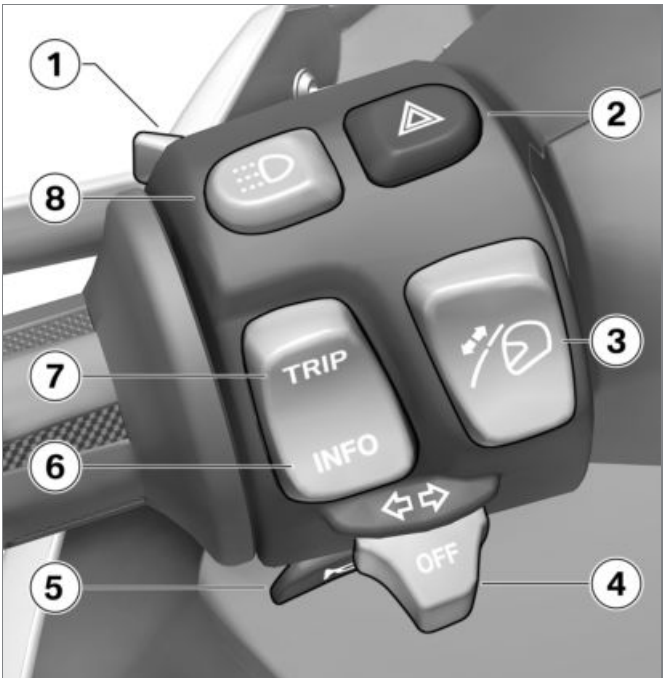
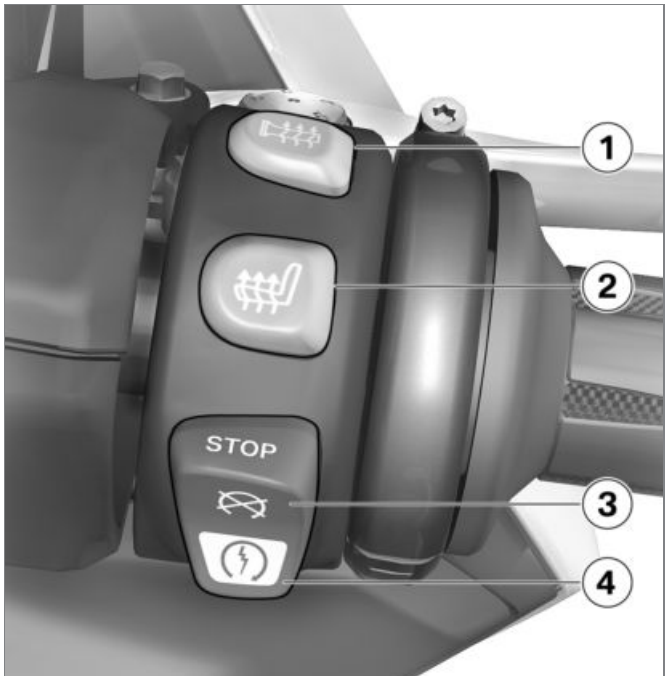
1 Operation of high-beam headlight and headlight flasher (➠ 41)
2 Using hazard warning flashers (➠ 43)
3 Windshield (➠ 46)
4 Turn indicators (➠ 42)
5 Horn
6 INFO, operation of onboard computer (➠ 40)
7 TRIP, operation of odometer (➠ 40)
8 – with daytime driving light OE
Operation of daytime driving light (➠ 42)





Multifunction switch, right

1 – with heated handlebar grips[OE]
Heated hand grip (➠ 44)

2 – with seat heating[OE]
Operation of seat heating (➠ 44)

3 Emergency-off switch (kill switch) (➠ 43)

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1 Speedometer
2 Multifunction display (➠ 20)
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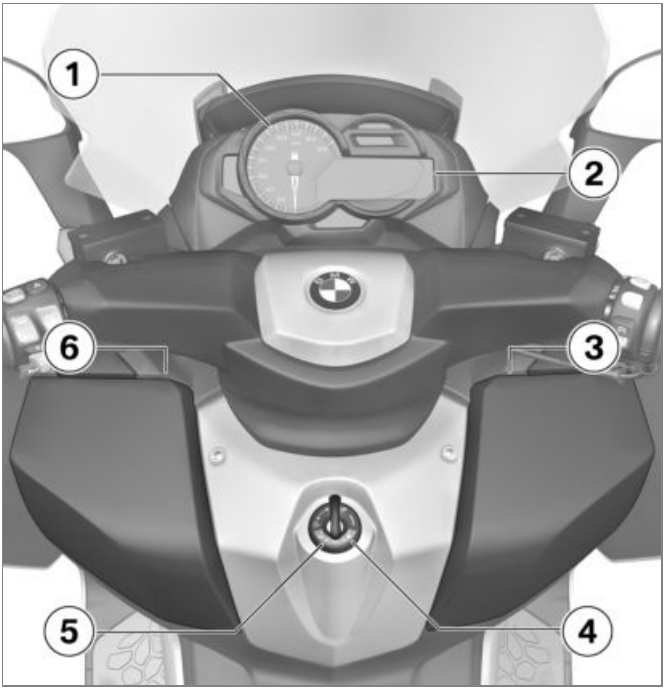
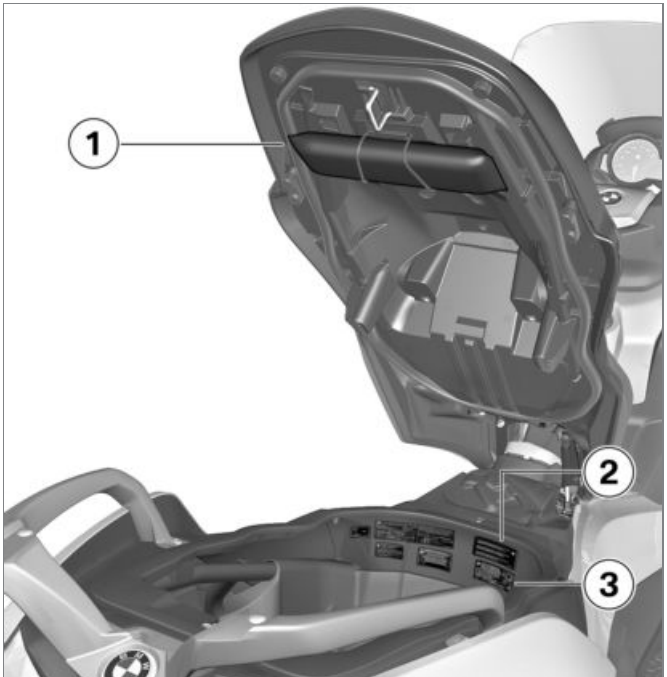
3 Owner's Manual (in the storage compartment) (➠ 47)
4 Tank cover release (integrated in steering and ignition lock) (➠ 60)
5 Seat release (integrated in steering and ignition lock) (➠ 49)
6 Storage compartment (➠ 47)
Outlet (in the storage compartment) (➠ 70)





Underneath seat

1 Onboard tool kit (➠ 76)
2 Payload table
3 Tire inflation pressure table

Status indicators

Multifunction display

1 Fuel fill level indicator

2 – with seat heating[OE]
Display of set seat heating level (➠ 44)

3 Text field for warnings (➠ 24)

4 Warning symbols (➠ 24)

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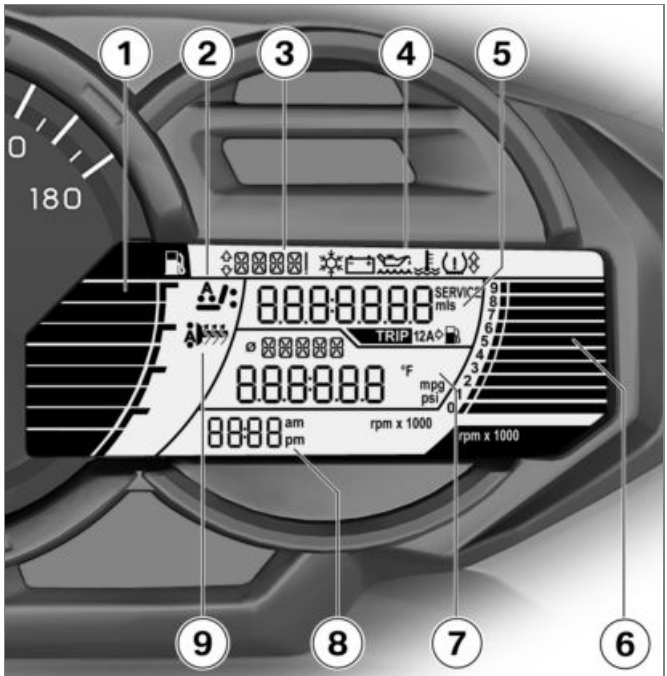
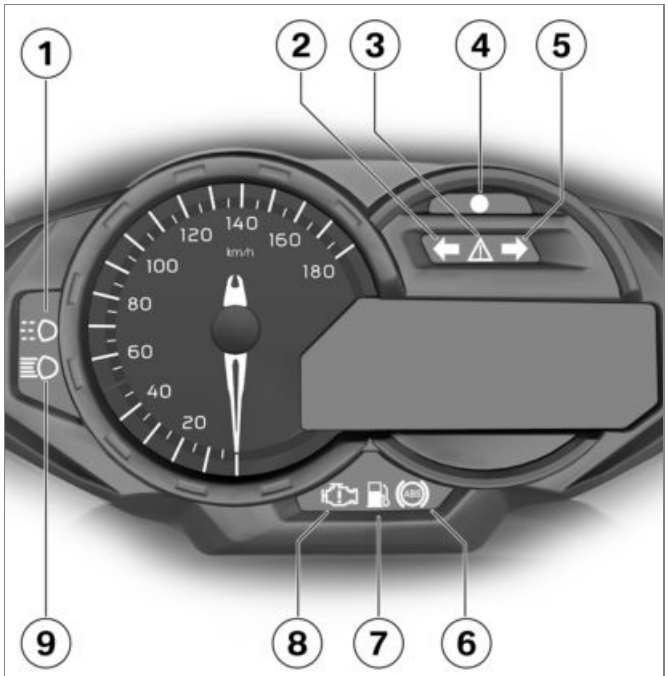
6 Tachometer

7 Onboard computer displays (➠ 40)

8 Clock (➠ 39)

9 – with heated handlebar grips[OE]
Display of set heated handlebar grip level (➠ 44)





Warning and indicator lamps

1 – with daytime driving light OE
Daytime driving light indicator light (➠ 42)

2 Indicator lamp for left turn indicator

3 General warning light (➠ 24)

4 Anti-theft alarm indicator light (see anti-theft alarm operating instructions)

5 Indicator lamp for right turn indicator

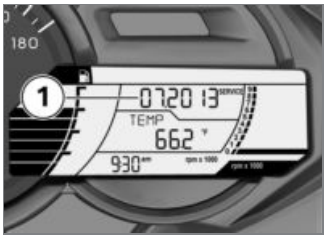
6 ABS warning lamp (➠ 30)

7 Fuel-reserve warning lamp (➠ 29)

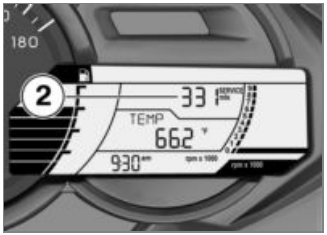
8 Warning light for engine electronics (➠ 29)

9 Headlight high beam indicator lamp

Service display



If the time remaining until the next service will elapse within one month, the service date **1** appears briefly following the pre-ride check. In this example the display means "July, 2013."

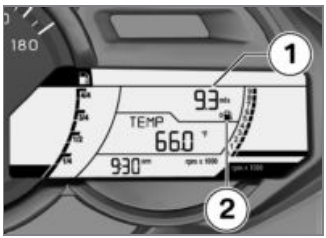


If the vehicle covers high annual mileages then shorter service intervals may be required. When the odometer reading for the re-calculated early service falls to within 1000 km, the remaining miles (kilometers) **2** are counted down in 100-km increments and briefly displayed following the pre-ride check.

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

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

Distance covered since the fuel reached the reserve level



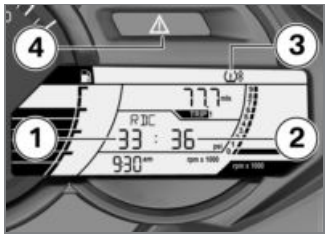
After reaching the fuel reserve quantity, the kilometers covered since this point in time are indicated **1** with the **2** symbol. This odometer is reset and no longer appears as soon as the tank is refueled to a level higher than the reserve level.

Ambient temperature

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

Tire inflation pressures

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



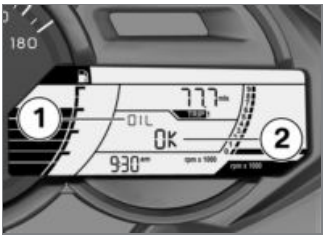
The displayed tire inflation pressures are based on a tire temperature of 20 °C. The figure on the left side **1** indicates the front tire's inflation pressure, while the figure on the right **2** shows the inflation pressure in the rear tire. Immediately after switching on the ignition, "– – : – –" is displayed, as the transfer of the inflation pressure values does not begin until a speed of 30 km/h is exceeded for the first time.

If the general warning light **4** flashes red and if the symbol **3** is also displayed,

then a warning indicator is concerned. The upper arrow next to the tire symbol indicates a problem at the front wheel, and the lower arrow indicates a problem at the rear wheel.

Additional information on the BMW Motorrad Tire Pressure Monitor is provided starting on page (➠ 68).

Oil level indicator



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

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

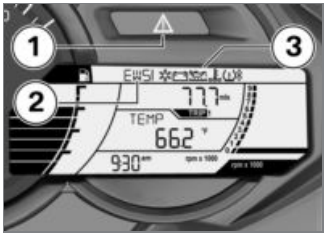
The possible displays at position **2** mean:
OK: Oil level correct.
CHECK: Check oil level during next refueling stop.
– – –: No measurement possible (above-mentioned conditions not met).

If the oil level is too low, the corresponding warning symbol is displayed.

Warning indicators

Display

Warnings are displayed with the corresponding warning lamps.



Warnings for which no separate warning lamp is provided are signaled by the universal warning lamp **1** and are accompanied by a warning notice at position **2** or one of the warning symbols **3** in the multifunction display. The universal warning lamp lights up in either red or yellow depending on the urgency of the warning. If several warnings are active, all corresponding warning lamps and warning symbol are displayed; warnings appear alternately. The following page contains a list of potential warnings.

Overview of warning indicators

Warning and indicator lamps	Warning symbols in the display	Meaning
 Lights up yellow	EWS ! is indicated	Electronic immobilizer is active (➠ 29)
 Lights up		Fuel down to reserve (➠ 29)
 appears on the display		Engine in emergency-operation mode (➠ 29)
 Lights up yellow	 appears on the display	Engine oil level too low (➠ 29)
	OIL CHECK is indicated	
 Flashes		ABS self-diagnosis not completed (➠ 30)
 Lights up		ABS error (➠ 30)
 Lights up yellow	 + LAMP ! is displayed	Tail light defective (➠ 30)

Warning and indicator lamps	Warning symbols in the display	Meaning
 Lights up yellow	 + LAMP ! is displayed	Headlight bulb defective (➠ 31)
 Lights up yellow	 + LAMP ! is displayed	Taillight and headlight bulb defective (➠ 31)
	 appears on the display	Ice warning (➠ 31)
 Flashes red	 appears on the display	Front tire inflation pressure is outside approved range (➠ 31)
	The critical tire inflation pressure flashes	
 Flashes red	 appears on the display	Rear tire inflation pressure is outside approved range (➠ 32)
	The critical tire inflation pressure flashes	
 Flashes red	 appears on the display	Tire inflation pressure of both tires is outside approved range (➠ 33)

Warning and indicator lamps	Warning symbols in the display	Meaning
	tire inflation pressures flash	Tire inflation pressure of both tires is outside approved range (➠ 33)
	"––" or "––:––" is indicated	Transmission error (➠ 33)
 Lights up yellow	 appears on the display	Sensor defective or system error (➠ 34)
	"––" or "––:––" is indicated	
 Lights up yellow	RDC! is indicated	Battery of tire-inflation pressure sensor weak (➠ 34)
	DWA! is indicated	Anti-theft alarm battery low charge (➠ 35)
 Lights up yellow	DWA! is indicated	Anti-theft alarm battery discharged (➠ 35)

Electronic immobilizer is active


General warning light shows yellow.

EWS ! is indicated.
Possible cause:

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

- Remove other ignition keys located on the ignition key.
- Use the reserve key.
- Have the defective key replaced, preferably by an authorized BMW Motorrad retailer.

Fuel down to reserve


Fuel reserve symbol lights up.


Fuel shortage can lead to engine misfires. This can result in unexpected engine deactivation (accident hazard) and damage to the catalytic converter.
Do not drive to the extent that the fuel tank is completely empty.◀

Possible cause:

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

 Fuel reserve
– Approx. 3.2 quarts (Approx. 3 l)

- Refueling (➠ 60).

Engine in emergency-operation mode


Engine symbol appears on the display.


The engine is in the emergency operating mode. Unusual engine response is a possibility.
Adapt your style of riding accordingly. Avoid accelerating sharply and overtaking.◀

Possible cause:

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

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

Engine oil level too low


General warning light shows yellow.


Oil level symbol appears on the display.

OIL CHECK is indicated.
Possible cause:
The electronic oil level sensor has detected a low engine oil level. Check the engine-oil level with the dipstick the next time you stop to refuel:
- Checking engine oil level (➠ 76).

If oil level is too low:
- Top up engine oil.

ABS self-diagnosis not completed


ABS warning lamp flashes.

Possible cause:
The self-diagnosis routine was not completed; the ABS function is not available. The Scooter must reach a speed of at least 5 km/h before the ABS self-diagnosis routine can be completed.
- Ride off slowly. It must be noted that the ABS function is not available until the self-diagnosis has been completed.

ABS error


ABS warning lamp lights up.

Possible cause:
The ABS control unit has detected an error. The ABS function is not available.
- Continued driving is possible while taking the failed ABS function into account. Observe additional information on situations which can lead to an ABS error (➠ 67).
- Have the malfunction corrected as soon as possible at a specialist service facility, preferably an authorized BMW Motorrad retailer.

Tail light defective


General warning light shows yellow.


+ LAMP ! is displayed.

A defective bulb places your safety at risk because it is easier for other users to not see the Scooter.
Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

Possible cause:
Taillight or brake light defective.
- Determine defective lamp with visual inspection.

If the taillight is defective:
- The diode taillight must be replaced. Please contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

If the brake light is defective:

- Replacing brake light bulbs (➠ 94).

Headlight bulb defective


General warning light shows yellow.


+ LAMP ! is displayed.


A defective bulb places your safety at risk because it is easier for other users to not see the Scooter.
Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

Possible cause:

Low-beam headlight or high-beam headlight defective.

- Replacing low-beam and high-beam bulb (➠ 93).

Possible cause:

Parking light defective.

- The diode parking light must be replaced. Please contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

Taillight and headlight bulb defective


General warning light shows yellow.


+ LAMP ! is displayed.

Possible cause:

The taillight and a headlight bulb are defective.

- See the fault descriptions above.

Ice warning


Ice crystal symbol appears on the display.

Possible cause:

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


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

- Think well ahead when driving.

Front tire inflation pressure is outside approved range

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


General warning light flashes red.


Tire symbol with arrow pointing upward is displayed.

The critical tire-inflation pressure flashes.

Possible cause:

The measured front tire inflation pressure is outside the permissible tolerance.

- Check tire for damage and drivability.

If it is still possible to drive with tire:

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

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

- Correct tire inflation pressure at next opportunity.

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

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

If you are unsure about the drivability of the tire:

- Do not continue driving.
- Inform roadside service.

Rear tire inflation pressure is outside approved range

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

General warning light flashes red.

Tire symbol with arrow pointing downward is displayed.

The critical tire-inflation pressure flashes.

Possible cause:

The measured rear tire inflation pressure is outside the permissible tolerance.

- Check tire for damage and drivability.

If it is still possible to drive with tire:

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

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

- Correct tire inflation pressure at next opportunity.

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

- Have the tire checked for damage by a specialized workshop,

preferably an authorized BMW Motorrad retailer.

If you are unsure about the drivability of the tire:

- Do not continue driving.
- Inform roadside service.

Tire inflation pressure of both tires is outside approved range

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

General warning light flashes red.

Tire symbol with arrows pointing upward and downward is displayed.

Tire inflation pressures flash.

Possible cause:

The measured tire inflation pressure of both tires is outside the permissible tolerance.

- Check tire for damage and drivability.

Are the tires still suitable for driving:

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

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

- Correct tire inflation pressure at next opportunity.

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

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

If you are unsure about the drivability of the tires:

- Do not continue driving.
- Inform roadside service.

Transmission error

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

"––" or "––:––" is indicated.

Possible cause:

The vehicle's speed has not exceeded the threshold of approx. 30 km/h. The TPC/RDC sensors do not send their signal until after this speed has been exceeded for the first time (➠ 68).

- Watch TPC/RDC display at higher speed. A permanent fault has not occurred until the general warning light also lights up. In this case:
- Have fault eliminated by a specialized workshop, 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 permanent fault has not occurred until the general warning light also lights up. In this case:
- Have fault eliminated by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Sensor defective or system error

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

General warning light shows yellow.

Tire symbol appears on the display.

"– –" or "– – : – – " is indicated.

Possible cause:

Wheels without installed TPC/RDC sensors are mounted.

- Retrofit wheel set with TPC/RDC sensors.

Possible cause:

One or two TPC/RDC sensors have failed.

- Have fault eliminated by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Possible cause:

A system fault has occurred.

- Have fault eliminated by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Battery of tire-inflation pressure sensor weak

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

General warning light shows yellow.

RDC ! is indicated.

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

Possible cause:

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

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

Anti-theft alarm battery low charge

– with anti-theft alarm OE

DWA ! is indicated.

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

Possible cause:

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

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

Anti-theft alarm battery discharged

– with anti-theft alarm OE

⚠ General warning light shows yellow.

DWA ! is indicated.

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

Possible cause:

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

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

Operation

Steering and ignition lock

Keys

You receive two ignition keys.

– with Topcase[OA]

A Topcase with a lock for the same key can be ordered on request. Please contact a specialist service facility for this purpose, preferably an authorized BMW Motorrad retailer.

Switching on ignition

- Turn key to position **ON**.
» Parking lights and all function circuits switched on.
» Engine can be started.
» Pre-ride check is performed. (➠ 56)
» ABS self-diagnosis in progress. (➠ 57)

Switching off ignition

- Turn key to position **OFF**.
» Light is switched off, parking lamps and lighting for the rear storage compartment stay lighted up for a little while.
» Handlebars not locked.
» Key can now be removed.

Locking handlebars

- Turn handlebars to left.

- Turn key to position **3** while moving handlebars slightly.
» Ignition, lights and all electrical circuits switched off.
» Handlebars locked.
» Left-hand storage compartment locked.
» Key can now be removed.

Time and date

Setting time

- Switch off engine and switch on ignition.

- Press button **1** (TRIP) repeatedly until total mileage **3** is shown.
- Press and hold button **1** (TRIP) until first value of clock **4** to be set flashes.
- Set flashing value with buttons **1** (TRIP) and **2** (INFO).
- Press and hold button **1** (TRIP) each time until next value flashes.
- Set flashing value with buttons **1** (TRIP) and **2** (INFO).
- Press and hold button **1** (TRIP) until display no longer flashes.

» Setting is completed.

Setting can be ended after each step:

- Do not press buttons until display no longer flashes.

» The settings made up until now will be applied.

Setting time and date

- Switch off engine and switch on ignition.

Date and time are set directly after each other.◀

- Press button **2** (INFO) repeatedly until date **3** is displayed.

The indicated sequence of day, month and year may vary depending on the country.◀

- Press and hold button **2** (INFO) until first value of date **3** to be set flashes.
- Set flashing values with buttons **1** (TRIP) and **2** (INFO).
- Press and hold button **2** (INFO) each time until next value flashes.
- After time has been set, press and hold button **2** (INFO) until display no longer flashes.

» Setting is completed.

Setting can be ended after each step:

- Do not press buttons until display no longer flashes.

» The settings made up until now will be applied.

Display

Selecting display readings

- Switch on ignition.

- Press button **1** (TRIP) to select display in area **3**.

The following data can be displayed:

– Total distance covered
– Tripmeter 1 (Trip 1)
– Tripmeter 2 (Trip 2)
– Auto tripmeter (Trip A), is automatically reset when at least five seconds pass after switching off the ignition and the date has changed.
– after reaching reserve quantity: distance driven since then

- Press button **2** (INFO) to select the display in area **4**.

The following data can be displayed:

– Ambient temperature (TEMP)
– Average speed (ØSPEED)
– Average consumption (ØFUEL)
– Current consumption (FUEL)
– Date (Date)
– Oil level indicator (OIL)
– with Tire Pressure Control (TPC/RDC)[OE]

Tire inflation pressures (option) (TPM/RDC)

Resetting tripmeter

- Switch on ignition.
- Select desired odometer.

- Press the button **1** and continue to hold it until the

odometer in the sector **3** resets.

Resetting average data

- Switch on ignition.
- Select average fuel consumption or average speed.

- Press and hold button **2** (INFO) until displayed value in area **4** has been reset.

Lights

Low-beam headlight and parking light

The parking lights come on automatically when the ignition is switched on.
After switching off the ignition, the parking lamps remain lit for a short time.

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

The low-beam headlight switches on automatically when the engine is switched on.

– with daytime driving light[OE]
During the day, the daytime driving light can be switched on as an alternative to the low-beam headlight.

Headlight high beam and flasher

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

Parking light

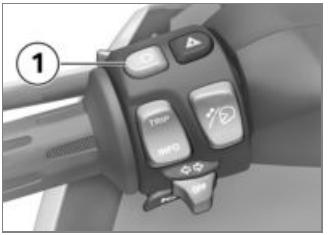
- Switch off ignition.

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

Daytime driving light

– with daytime driving light OE

- Start engine.



- Press button **1** to switch daytime driving light on and low-beam headlight off.

The daytime driving lights symbol appears on the display.

» The low-beam headlight and the background lighting of the instrument cluster are switched off.

- In the dark or in tunnels: press button **1** again to switch daytime driving light off and low-beam headlight on.

The daytime driving light is easier to perceive by oncoming traffic than the low-beam headlight. This improves visibility during the day.◀

Turn indicators

Operating turn indicator

- Switch on ignition.

- Press button **1** toward left to switch on left-hand turn indicator.
- Press button **1** toward right to switch on right-hand turn indicator.

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

Hazard warning flashers

Operating hazard warning flashers

- Switch on ignition.

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

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

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

» Ignition can be switched off.

- Switch on ignition and press button **1** again to switch off hazard warning flashers.

Emergency-off switch (kill switch)

1 Emergency-off switch (kill switch)

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

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

a Engine switched off
b Operating position

Heated handlebar grips

– with heated handlebar grips OE

Operating heated handlebar grips

• Start engine.

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

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

The handlebar grips can be heated manually at two levels or automatically. The second manual level is used for fast heat-up of the grips; then the switch should be switched back to the first level. The following displays are available:

Heating output is automatically controlled in dependence on outside temperature, speed and engine speed.

100 % heating output

50 % heating output

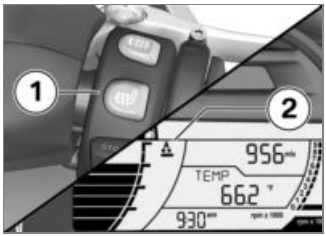
Seat heating

– with seat heating OE

Operating driver's seat heater

• Start engine.

Seat heating can be activated only when the engine is running.◀



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

The driver's seat can be heated at two manual levels or automatically. The second manual level is used for fast heat-up of the seat; then the switch should be switched back to the first level. The following displays are available:

A Heating output is automatically controlled in dependence on outside temperature, speed and engine speed.

100 % heating output

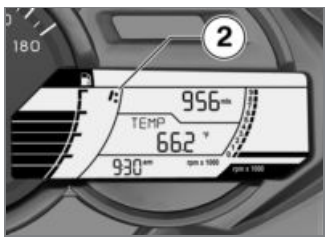
50 % heating output

Operating passenger seat heater

- Start engine.

Seat heating can be activated only when the engine is running.◀

- Press button **1** on side with two dots to switch on high heating output (HIGH).
- Press button **1** on side with one dot to switch on low heating output (LOW).
- Move button **1** into center position to switch off seat heater.



The set level **2** is shown in the display. The second level is used for fast heat-up of the seat; then the switch should be switched back to the first level. The following displays are available:

50 % heating output

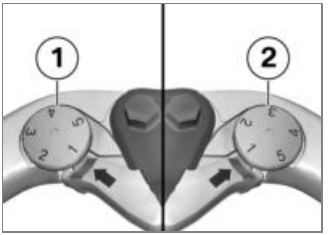
100 % heating output

Brakes

Adjusting handbrake lever

Changing the position of the brake-fluid reservoir can allow air to penetrate the brake system.
Do not reposition the handlebar controls on the handlebars or the handlebars in their mounts.◀

Adjusting the handbrake lever while driving can lead to accidents.
Only adjust the handbrake lever when the Scooter is stationary.◀



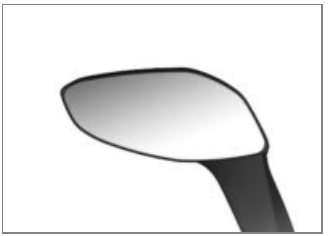
- Turn adjusting screw **1** of left-hand brake lever or adjusting screw **2** of right-hand brake lever into desired position.

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

» Adjustment options:
– from Position 1: largest distance between handlebar grip and brake lever
– up to Position 5: smallest distance between handlebar grip and brake lever

Mirrors

Adjusting mirrors



- Move mirror into desired position by applying light pressure at edge.

Windshield

Adjusting windshield

- Start engine.

- Press button **1** at top to raise windshield.
- Press button **1** at bottom to lower windshield.

Storage compartments

Operating front storage compartments

- To open a storage compartment, press corresponding release lever **1** downward.
- To close a storage compartment, press corresponding door into locking device.

The left-hand storage compartment is locked together with the steering lock.◀

Operating rear storage compartment

- Open seat.

The lighting of the storage compartment is switched on when the ignition is switched on.
After switching off the ignition, the storage compartment lighting remains lit for a short time.◀

- To store two helmets in the storage compartment, position the helmets as shown in the picture.
- Close seat.

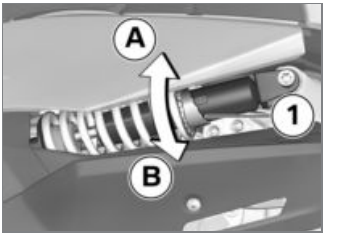
Spring preload

Setting

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

Adjusting spring preload at rear wheel

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



- If you want to increase the spring preload, turn adjusting ring **1** with the tools from the onboard toolkit in direction **A**.
- If you want to decrease the spring preload, turn adjusting ring **1** with the tools from the onboard toolkit in direction **B**.

Basic setting of spring preload, rear
– Increase from lowest preload by 4 notches (Full tank of gas, with rider 187 lbs (85 kg))

Tires

Checking tire pressure

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

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

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

- Check tire pressures against data below.

Tire pressure, front
– 34.8 psi (2.4 bar) (With tire cold)

Tire pressure, rear
– 36.3 psi (2.5 bar) (Single rider, with cold tires)
– 42.1 psi (2.9 bar) (Driver with passenger and/or load, with cold tire)

If tire pressure is too low:

- Correct tire pressure.

Headlight

Adjusting headlight for RHD/LHD traffic

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

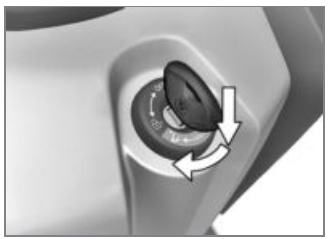
Headlight range and spring preload

The headlight range generally remains constant due to the adjustment of the spring preload to the loading state.
If you are unsure whether the headlight range is correct, consult a specialized workshop, preferably an authorized BMW Motorrad retailer.

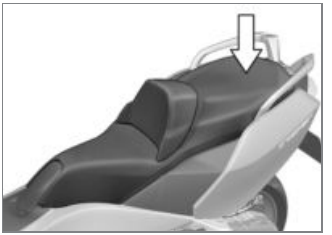
Seat

Operating seat

- Switch off ignition.



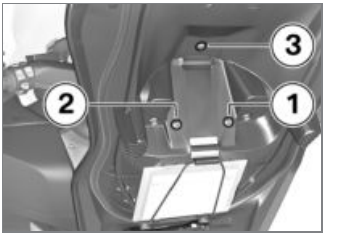
- Press vehicle key downward and then turn clockwise.



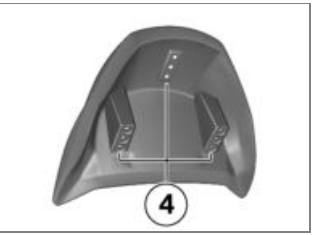
- If seat is jammed, press down at rear and then raise at rear.
- To close, press seat into locking device at rear.

Adjust the pelvis support

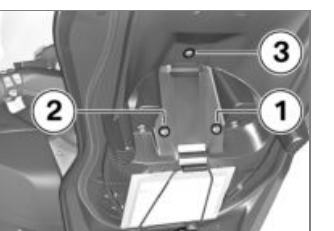
- Open seat.



- Loosen screw **1** by ten turns.
- Loosen screw **2** by ten turns.
- Loosen screw **3** by ten turns.
- Repeat this sequence until the pelvis support can be removed. Do not remove screws from the seat.



- Align the mounts **4** on the pelvis support in the desired position using the screws on the seat.



- Tighten screw **1** five turns.
- Tighten screw **2** five turns.

- Tighten screw **3** five turns.
- Repeat this sequence until the pelvis support is installed. Here, tighten the screws only hand-tight.

– Pelvis support on the seat (➠ 110)

- Close seat.

Riding

Safety instructions

Rider's equipment

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

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

Loading

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

- Adjust spring preload and tire inflation pressure for current gross vehicle weight.

– with luggage carrier OA

- Comply with maximum payload of luggage rack.

 Payload of luggage rack
– max 20 lbs (max 9 kg)◁

– with Topcase OA

- Observe maximum payload and permissible top speed of Topcase.

 Payload of Topcase
– max 11 lbs (max 5 kg)

 Speed limit for driving with Topcase
– max 81 mph (max 130 km/h)◁

Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your scooter:
– Settings of spring-strut and shock absorber system
– Imbalanced load
– Loose clothing
– Insufficient tire inflation pressure
– Poor tire tread
– Etc.

Risk of poisoning

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

Inhaling exhaust fumes therefore represents a health hazard and can even cause loss of consciousness with fatal consequences.
Do not inhale exhaust fumes.

Do not run the engine in closed rooms.◀

Burn hazard

Engine and exhaust system become very hot when the vehicle is in use. There is a risk of burn injuries by contact with hot surfaces, particularly at the muffler.
When you park the scooter make sure that no-one comes into contact with the engine and exhaust system.◀

Catalytic converter

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

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

Danger of overheating

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

Modifications

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

Checklist

Use the following checklist to check important functions, settings and wear limits before you ride off:
– Brakes
– Brake fluid levels for front and rear brake
– Spring preload
– Tread depth and tire pressure
– Secure luggage attachment

At regular intervals:

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

Starting

Starting the engine

• Switch on ignition.
» Pre-ride check is performed. (➠ 56)
» ABS self-diagnosis in progress. (➠ 57)
• Operate brake.

• Press starter button **1**.

Vehicle cannot be started with side stand extended. If side stand is extended with engine running, engine stops.◀

» Engine starts.
» Consult the troubleshooting chart if the engine refuses to start. (➠ 108)

Pre-ride check

After the ignition is switched on, the instrument cluster conducts a test of the pointer instruments and the warning and indicator lights, i.e. the "Pre-Ride-Check". This test routine stops if the engine is started before it is completed.

Phase 1

The speedometer pointer is moved up to the end stop. The indicator and warning lights are switched on.

Phase 2

The speedometer pointer is moved back. The switched-on indicator and warning lights are switched off.

If the pointer has not been moved, or if one of the warning and indicator lights has not been switched on:

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

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

ABS self-diagnosis

The readiness for operation of the BMW Motorrad ABS is checked by the self-diagnosis. The self-diagnosis routine runs automatically when you switch on the ignition. To check the wheel sensors, the Scooter must be driven a few yards.

Phase 1

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

ABS warning lamp flashes.

Phase 2

» Checking wheel sensors while starting off.

ABS warning lamp flashes.

ABS self-diagnosis completed

» The ABS warning lamp goes out.

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

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

Riding

At engine speeds below the starting speed of approx. 2000 rpm, the centrifugal clutch opens and the Scooter is idling.It the engine speed is increased above the starting speed, the clutch closes and the Scooter starts off.Scooter

In the range from approx. 31 mph (50 km/h) to approx. 68 mph (110 km/h), the engine operates at a constant speed in the range of the maximum torque. The change in the speed is achieved by adjusting the gear ratio in the steplessly adjustable transmission. This only slightly changes the engine noise in this speed range.
Initial speeds above approx. 110 km/h are achieved by increasing the engine speed.

Breaking in

Engine

- Drive in frequently changing load ranges prior to your first inspection.
- Try to do most of your riding during this initial period on

twisting, fairly hilly roads, avoiding highways if possible.
- After 300 - 750 miles (500 - 1200 km), have the first inspection performed.

Brake pads

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

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

Tires

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

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

Brakes

How do you achieve the shortest stopping distances?

During braking the load distribution changes dynamically between the front and the rear wheel. 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. 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. The front wheel can lock up.

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

Descending mountain passes

There is a danger of the brakes fading if you use only the rear brakes when descending mountain passes.

Under extreme conditions, the brakes could overheat and suffer severe damage.
Use both front and rear brakes, and make use of the engine's braking effect as well.◀

Wet, soiled brakes

Moisture and dirt on the brake disks and the brake pads result in a decrease in the braking action.
Delayed or poorer braking action must be expected in the following situations:
– When driving in the rain and through puddles.
– After washing the vehicle.
– When driving on roads spread with salt.
– After working on the brakes due to oil or grease residues.
– When driving on soiled roads or offroad.

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

Scooter Parking

Side stand

• Switch off engine.

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

• Extend side stand and park Scooter.
» The parking brake prevents the vehicle from rolling.

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

• If the slope of the road permits, turn the handlebars to the left.

Center stand

• Switch off engine.

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

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

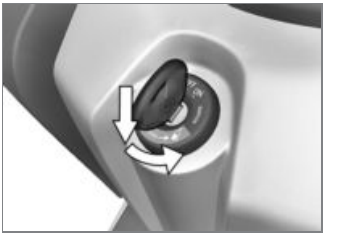
• Extend center stand and jack up Scooter.

Refueling

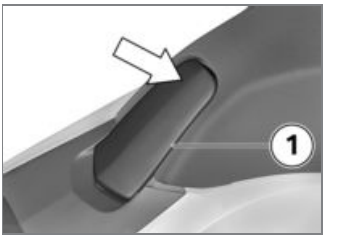
Fuel is highly flammable. Fire at the fuel tank can result in fire and explosion.
Do not smoke. Never bring a naked flame near the fuel tank.◀

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

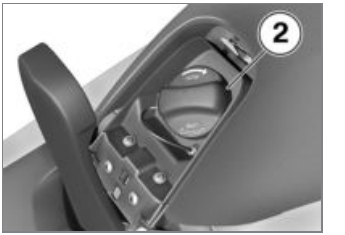
- Make sure ground is level and firm and place Scooter on its center stand.



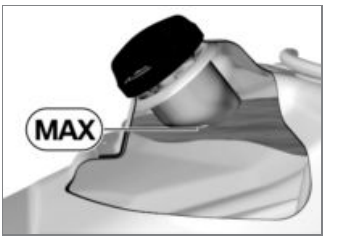
- Press vehicle key downward and then turn counterclockwise.



- In case of jamming, press tank cover **1** toward rear and then fold open toward front.



- Open fuel filler cap **2**.



Fuel expands when exposed to heat. When the tank is overfilled, fuel can escape and get onto the road. This results in a danger of falling.

Do not overfill the fuel tank.◀

Leaded fuel will destroy the catalytic converter.
Use only unleaded fuel.◀

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

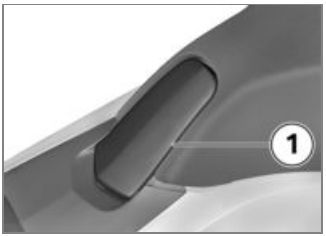
When refueling after running on reserve, make sure that you top up the tank to a level above reserve, as otherwise the sensor will not be able to register the new level and the fuel warning lamp will not be switched off.◀

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

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

Fuel reserve
– Approx. 3.2 quarts (Approx. 3 l)

- Close fuel filler cap **2**.



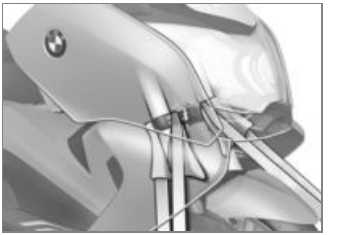
- Press tank cover **1** into locking device.

Secure vehicle for transport

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

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

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



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

- Lay straps at front over lower fork bridge on both sides and tension.

- Lay strap at rear right around retaining pin of muffler and tension.

- Lay strap at rear left around spring strut mount and tension.
- Tension all straps evenly; the vehicle should be pulled down

against its springs with the suspension compressed as much as possible.

Technology in detail

Brake system with BMW Motorrad ABS

How does ABS work?

The maximum braking force that can be transferred to the road surface is partially dependent on the friction coefficient of the road surface. Gravel, ice, snow and wet roads offer a considerably poorer friction coefficient than a dry, clean asphalt surface. The poorer the friction coefficient of the road surface is, the longer the braking distance will be.
If the maximum transferrable braking force is exceeded when the driver increases the brake pressure, the wheels begin to lock and driving stability is lost, and a fall can result. Before this situation occurs, ABS intervenes and adjusts the brake pressure to the maximum transferrable 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 ABS must assume extremely low friction coefficients (gravel, ice, snow) so that the running wheels turn in every imaginable case and the driving stability is ensured. After detecting the actual conditions, the system adjusts the optimum brake pressure.

Lifting off rear wheel

Even during severe braking, a high level of tire grip can mean that the front wheel does not lock up until very late, if at all. Consequently, ABS does not intervene until very late, if at all. Under these circumstances the rear wheel can lift off the ground, and the outcome can be a high-siding situation in which the Scooter can flip over.


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

What are the design characteristics of the BMW Motorrad ABS?

The BMW Motorrad ABS ensures driving stability on any surface within the limits of driving physics. The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack.

Special situations

To detect the tendency of the wheels to lock up, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ABS function is deactivated for safety reasons and an ABS fault is indicated. The condition for a fault message is the completed self-diagnosis.
In addition to problems on the BMW Motorrad ABS, unusual driving conditions can also lead to a fault message.

Unusual driving conditions:

- Driving on the rear wheel (wheely) for a longer period.
- Rear wheel spinning in place with front brake pulled (burn out).
- Locked-up rear wheel for a longer period of time, e.g. when riding downhill offroad.

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

How important is regular maintenance?

Any technical system is always only as good as its maintenance condition.
To ensure that the BMW Motorrad ABS is in an optimally maintained condition, it is vital that the specified inspection intervals be complied with.◀

Reserves for safety

But remember: the potentially shorter braking distances which BMW Motorrad ABS permits must not be used as an excuse for careless riding. ABS is primarily a means of ensuring a safety margin in genuine emergencies.
Take care when cornering. When you apply the brakes on a corner, the vehicle's weight and momentum take over and even BMW Motorrad ABS is unable to counteract their effects.

Tire Pressure Control TPC/RDC

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

Function

A sensor is located in each tire, which measures the air temperature and the inflation pressure inside the tire and sends these values to the control unit.
The sensors are equipped with a centrifugal controller, which does not enable the transmission of the measured values until a speed of approx. 30 km/h is reached. Before initial reception of the tire inflation pressure, –– is shown in the display for each tire. The sensors continue to transmit the measured values for approx. 15 minutes after the vehicle comes to a stop.
The control unit can manage four sensors, and as a result two sets of wheels with TPC/RDC sensors can be driven. If a TPC/RDC control unit is installed, however the wheels have no sensors, then an error message is output.

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 ambient temperature and on the driving style and duration.

The tire inflation pressures are shown temperature-compensated in the multifunction display; they refer to a tire temperature of 20 °C. No temperature compensation takes place in the inflation pressure testers at filling stations, i.e. the measured tire inflation pressure is dependent on the tire temperature. As a result, the values displayed there do not match the values shown in the multifunction display in most cases.

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, i.e. it is low by 2.9 psi (0.2 bar).
The tester at the filling station indicates 2.4 bar. This value must be increased by 0.2 bar to 2.6 bar to produce the correct tire inflation pressure.

Accessories

General instructions

BMW Motorrad recommends the use of parts and accessories for your vehicle that are approved by BMW for this purpose.
Your authorized BMW Motorrad retailer is the right place to go for genuine BMW parts and accessories,other BMW approved products, and expert advice on their installation and use.
These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for these products.
Conversely, BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.
Observe the information on the importance of tire sizes for the ABS anti-lock brake system (➠ 85).

⚠ BMW Motorrad cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW Scooters 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 Scooters and, consequently, they are not sufficient in some circumstances.
Use only parts and accessories approved by BMW for your Scooter.◀

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

Onboard sockets

Information on using onboard sockets:

Operating electrical accessories
The battery capacity is not monitored while one or more onboard sockets are being used. If additional devices are operated over a longer period of time without the engine running, the battery may be completely discharged. The ability of the Scooter to start is then not ensured.

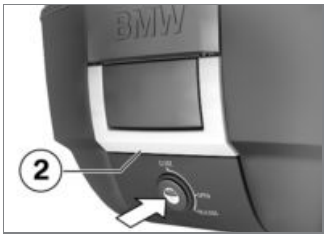
Cable routing
The cables from the onboard sockets to the auxiliary devices must be routed in such a way that they:
– Do not impede the rider
– Do not restrict the steering angle and the driving characteristics
– Cannot be trapped

Topcase

– with Topcase[OA]

Opening the Topcase

- Turn key in Topcase lock **1** to OPEN position.



- Press Topcase lock toward front.

» Topcase handle **2** pops up.

- Pull release lever behind cover **3** toward rear.

» Topcase lid opens.

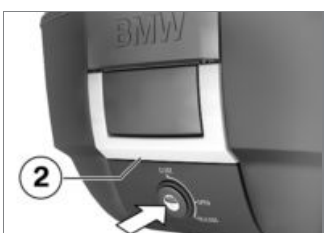
- Open Topcase lid.

Closing the Topcase

- Make sure that Topcase handle **2** is extended.
- Close Topcase lid and press into locking device. Ensure that no luggage is trapped between lid and case.
- Close Topcase handle **2**.
- Turn key in Topcase lock into CLOSE position and remove if necessary.

Removing Topcase

- Turn key in Topcase lock **1** to OPEN position.



- Press Topcase lock toward front.

» Topcase handle **2** pops up.

- Turn key in Topcase lock to RELEASE position.
- Pull release lever **4** toward rear while simultaneously lifting Topcase by carrying handle.
- Remove Topcase from Topcase carrier toward rear.

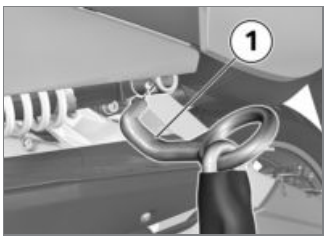
Mounting the Topcase

- Make sure that the Topcase handle **2** is extended and that the key is in the Topcase lock in the RELEASE position.
- Insert Topcase in Topcase carrier at front.
- Pull release lever **4** toward rear while simultaneously inserting Topcase in Topcase carrier at rear.
- Close Topcase handle **2**.
- Turn key in Topcase lock into CLOSE position and remove if necessary.

Scooter lock

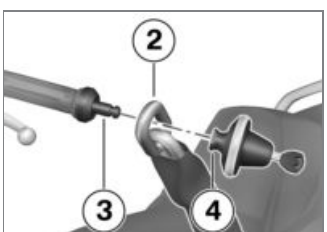
– with Scooter lock OA

Locking vehicle



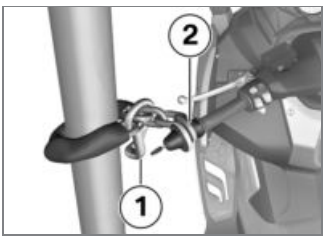
- Thread rear end piece **1** of Scooter lock into rear mount from below.
- Then turn end piece toward front.

- Turn handlebars toward left and guide Scooter lock to end of handlebars.



- Slide first chain link **2** onto handlebar mount **3** and lay on locking piece **4**.

- Lock Scooter lock and remove key.



As an alternative, the Scooter can be connected to a solid object, e.g. to a post.

- To do this, lay Scooter lock around post and pull chain through end piece **1**. Then connect first chain link **2** to handlebars as described above.

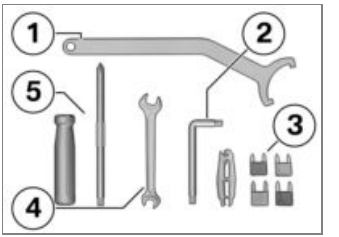
Maintenance

General instructions

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

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

Standard tool kit



1 Hook wrench
– Adjusting spring preload at rear wheel (➠ 48).

2 Torx wrench T30
– Checking engine oil level (➠ 76).
– Topping up coolant (➠ 83).

3 Spare fuses with gripper
Miniature fuses: 4 A, 7.5 A, 10 A and 15 A
– Replace the fuses.

4 Open-ended wrench
Wrench size: 8/10 mm
– Removing battery (➠ 98).

5 Reversible screwdriver insert
with Phillips PH1 and Torx T25
– Remove body panels.
– Removing battery (➠ 98).

Engine oil

Checking engine oil level

After longer Scooter immobilization periods, engine oil can collect in the oil pan; this must be pumped into the oil tank before the reading is taken. Here, the engine oil must be at operating temperature. Checking the oil level with the engine cold or after a short trip leads to misinterpretations and therefore to incorrect oil fill quantities.

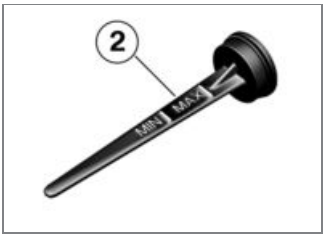
To ensure that the display of the engine oil level is correct, only check the oil level after a longer trip.◀

- Make sure ground is level and firm and place Scooter on its center stand.
- Let the engine run in neutral for one minute.
- Switch off ignition.

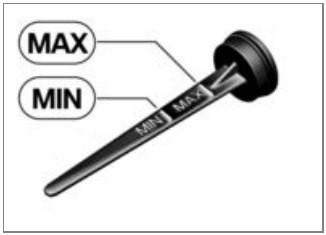
- Take off step plate support **1**.

- Remove cover **2** upward.
- Wipe area around oil filler location clean.

- Remove oil dipstick **1**.



- Clean measuring range **2** of oil dipstick with a dray cloth.
- Position oil dipstick on oil filler opening, but do not screw in.
- Remove oil dipstick and read oil level.



	Specified level of engine oil
–	between MIN and MAX marking (Engine at operating temperature)

If oil level is below MIN mark:
- Add engine oil up to specified level.

If oil level is above MAX mark:
- Have oil level corrected by a specialized workshop, preferably an authorized BMW Motorrad retailer.

- Install oil dipstick.

- Install cover **2**.

- Mount step plate support **1**.

Brake system

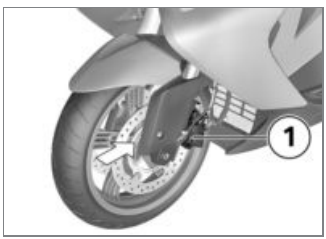
Checking brake operation

- Actuate right-hand brake lever.
» Pressure point must be clearly perceptible.
- Actuate left-hand brake lever.
» Pressure point must be clearly perceptible.
- To check parking brake, extend side stand and push Scooter back and worth.
» It must not be possible to push the Scooter

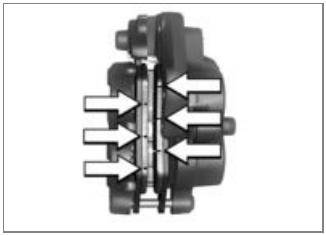
If no clear resistance points can be felt or if the Scooter can be pushed:
- Have the brakes checked at a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking front brake pad thickness

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



- Check the brake pad thickness with visual inspection. Viewing direction: left and right between wheel and front suspension toward brake pads **1**.



Front brake-pad wear limit

– min 0.04 in (min 1.0 mm) (Only friction material without carrier plate. Wear markings (grooves) must be clearly visible.)

If the wear indicators are no longer clearly visible:

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

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

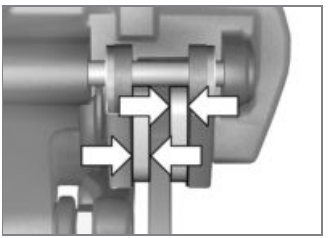
- Have the brake pads replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking rear brake pad thickness

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

- Check the brake pad thickness with visual inspection. Viewing

direction: from lower right toward brake pads **1**.



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

If the wear indicating marks are no longer visible:

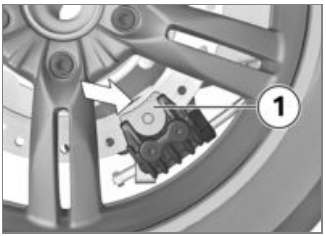
Dropping below the minimum pad thickness leads to reduced braking performance and may result in damage to the brakes.

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

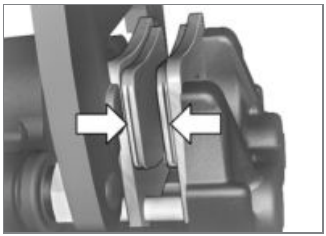
- Have the brake pads replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking brake pad thickness of parking brake

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



- Check the brake pad thickness with visual inspection. Viewing direction: from right toward brake pads **1**.



Brake-pad wear limit of parking brake

– min 0.04 in (min 1.0 mm) (Wear markings (grooves) must be clearly visible.)

If brake pads have dropped below minimum pad thickness:

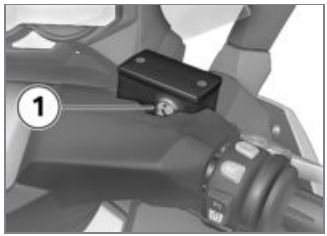
⚠ If the pad thickness drops below the minimum thickness, then braking performance is reduced and the Scooter may move despite the side stand being extended..
To prevent the Scooter from falling over, do not drop below the minimum pad thickness.◀

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

Checking brake fluid level of front brake

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

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



- Read off brake fluid level on right-hand brake-fluid reservoir **1**.

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

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

If brake fluid level falls below the approved level:

- Have the defect corrected as soon as possible by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking brake fluid level for rear brake

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

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

- Read off brake fluid level on left-hand brake-fluid reservoir **1**.

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

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

If brake fluid level falls below the approved level:

- Have the defect corrected as soon as possible by a special-

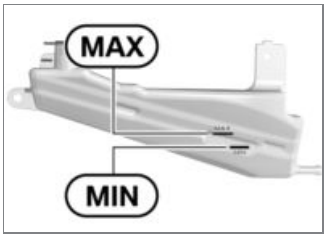
ist service facility, preferably an authorized BMW Motorrad retailer.

Coolant

Checking coolant level

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

- Read off coolant level on expansion tank through opening **1** below right-hand step plate.



Setpoint setting for coolant in expansion tank

– between MIN and MAX marking (With cold engine)

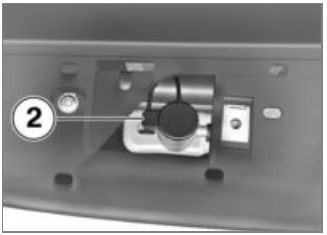
If coolant level drops below approved level:

- Add coolant.

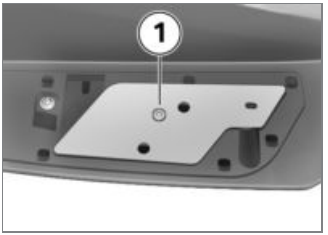
Topping up coolant

- Take off step plate support **1**.

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



- Open cap **2** of coolant expansion tank and add coolant up to specified level.
- Checking coolant level (➠ 83).
- Close cap of coolant expansion tank.



- Lay on cover and install screw **1**.

- Mount step plate support **1**.

Rims and tires

Checking rims

- Park the Scooter while always checking that the ground under the stand is level and firm when doing so.
- Visually inspect rims for defects.
- Have damaged rims checked and, if necessary, replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking tire tread depth

⚠ The handling of your Scooter can already change for the worse before the legally prescribed minimum tread depth is reached.

Have tires replaced even before the minimum tread depth is reached.◀

- Make sure ground is level and firm and place Scooter on its center stand.
- Measure tire tread depth in main tread grooves with wear indicators.

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

When the minimum tread depth is reached:

- Replace the worn tires.

Wheels

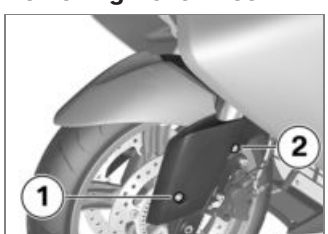
Tire recommendation

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

Affect of wheel size on ABS

The wheel sizes play a major role with the ABS system. Especially the diameter and width of the wheels are stored in the control unit as the basis for all necessary calculations. A change in these sizes due to conversion to others than the wheels installed as standard equipment can seriously affect the control comfort of the system.
The sensor wheels required for wheel speed detection must also match the system installed and may not be replaced.
If you want to equip your Scooter with different wheels, please speak to a specialized workshop, and preferably a BMW Motorrad retailer. In some cases the data stored in the control unit can be adapted to the new wheel sizes.

Removing front wheel

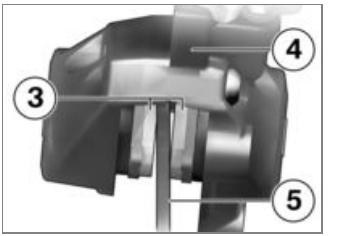


- Remove screws **1** and **2** on left and right and take off front wheel cover toward front.

- Remove screw **1** and extract the ABS sensor from its socket.
- Mask off area of wheel rim that could be scratched in process of removing brake calipers.

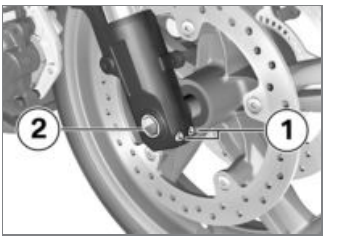
Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disk on reassembly.
Do not operate the handbrake lever when the brake calipers have been removed.◀

- Remove screws **2** of brake calipers on left and right.



- Push brake pads **3** apart slightly by turning the brake caliper **4** back and forth against the brake rotor **5**.
- Carefully pull brake calipers back to remove them from the brake rotors.

- Make sure ground is level and firm and place Scooter on its center stand.
- Raise front of Scooter until front wheel can turn freely. BMW Motorrad recommends the BMW Motorrad front-wheel stand for lifting the Scooter.
- Mounting front wheel stand (➠ 91).



- Unscrew right-hand axle clamping screws **1**.
- Remove quick-release axle **2** while supporting wheel.
- Roll front wheel forward to remove.

Installing front wheel

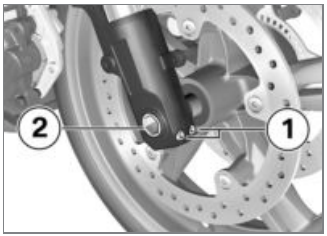
Malfunctions may occur during control interventions by ABS if a wheel other than the standard wheel is installed.

Please see the information on the effect of wheel sizes on the ABS system at the beginning of this chapter.◀

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

⚠ The front wheel must be installed right way round to rotate in the correct direction. Observe the direction of rotation arrows on the tires or on the rim.◀

- Roll front wheel into front wheel guide.



- Lift front wheel and install quick-release axle **2** with torque.

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

- Tighten axle clamping screws **1** to appropriate torque.

Clamping screws (quick-release axle) in telescopic forks
– Tightening sequence: Tighten evenly and alternately

Clamping screws (quick-release axle) in telescopic forks
– 6 lb/ft (8 Nm)

- Remove front wheel stand.
- Slide the brake calipers onto the rotors.

- Install screws **2** on left and right with appropriate torque.

Brake caliper on fork leg
– 21 lb/ft (28 Nm)

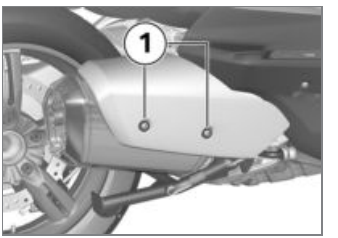
The cable of the wheel speed sensor could chafe through if it comes into contact with the brake disk.
Make sure that sensor cable is routed correctly.◀

- Insert ABS sensor in its socket and install screw **1**.
- Remove adhesive tape from wheel rim.
- Press handbrake lever firmly a number of times until resistance point is noticeable.

- Mount front wheel cover and install screws **1** and **2** on right and left.

Removing rear wheel

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



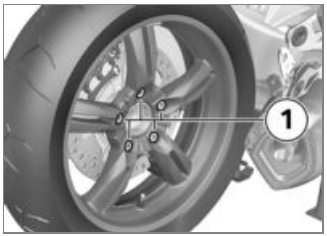
Danger of burns from the hot exhaust system.
Do not touch the exhaust system. If necessary, do not continue work until the exhaust system has cooled down.◀

- Remove screws **1**.

- Remove screw **2** and take off cover.

- Remove screw **3** while bracing nut on back.
- Slacken screw **4**.

- Turn end muffler out.
- Engage first gear or extend side stand to activate parking brake.



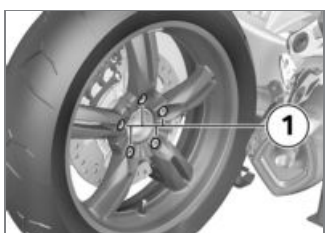
- Remove five screws **1** on rear wheel, holding wheel as you do so.
- Lower rear wheel to the ground and roll out toward rear.

Installing rear wheel

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

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

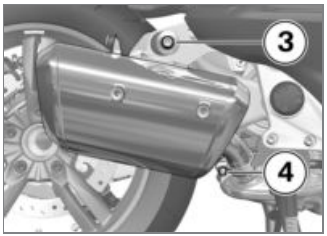
- Roll and mount rear wheel onto rear wheel support.



- Fit five screws **1** and tighten diagonally with specified torque.

Rear wheel on output shaft
– Tightening sequence: diagonally
– 44 lb/ft (60 Nm)

- Turn end muffler into starting position and align so that screwdriver handle of onboard toolkit fits between rear wheel and muffler.



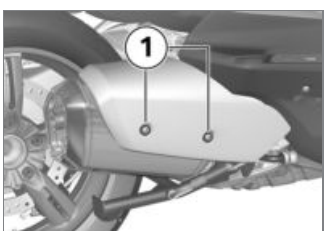
- Install screw **3** with appropriate torque while bracing nut on back.

Muffler on bracket
– 15 lb/ft (20 Nm)

- Tighten screw **4** to specified torque.

End muffler on front muffler
– 14 lb/ft (19 Nm)

- Position cover and install screw **2**.

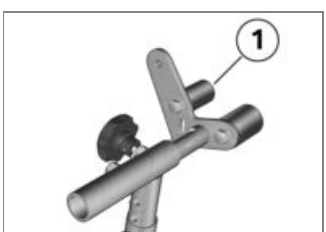


- Install screws **1**.

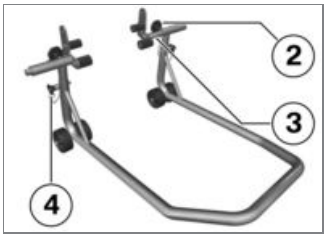
BMW Motorrad front wheel stand

Mounting front wheel stand

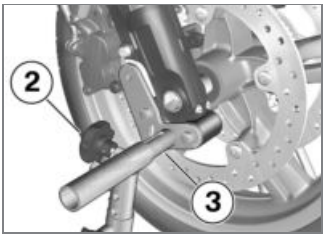
- Make sure ground is level and firm and place Scooter on its center stand.
- Use basic stand with tool number (83 30 0 402 241) in combination with front-wheel adapter (83 30 0 402 242).



- Install rubber buffer **1** on left and right in lower position.



- Loosen adjusting screws **2** on left and right.
- Push mounts **3** on left and right far enough apart that front suspension fits between them.
- Use locating pins **4** on left and right 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 **3** on left and right so that front suspension rests securely on them.
- Tighten adjusting screws **2** on left and right.

If the Scooter is raised too far at the front, the center stand lifts off the ground and the Scooter can tilt to the side.
When raising the vehicle, make sure that the center stand remains on the ground. Adjust the height of the front wheel stand if necessary.◀

- Press down front wheel stand evenly to raise Scooter.
- Ensure Scooter is standing securely.

Fuses

Removing fuse

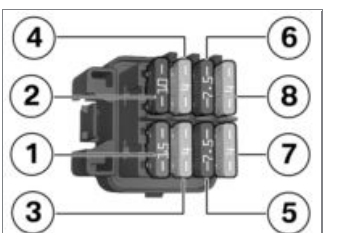
If defective fuses are bridged, this results in a danger of short-circuit and thus a danger of fire.
Replace defective fuses with new fuses.◀

- Switch off ignition.
- Removing right-hand side panel.

- Pull defective fuse out of fuse box **1** or out of fuse holder **2** with tool from onboard toolkit.
- To open fuse box, press together locking lever **3** and remove fuse cover.

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

Installing fuse



- Replace defective fuse with fuse with required amperage.

An overview of the fuse assignment and the required amperages is provided in the chapter "Technical Data". The

numbers in the graphic match the fuse numbers.◀

- Close fuse cover.

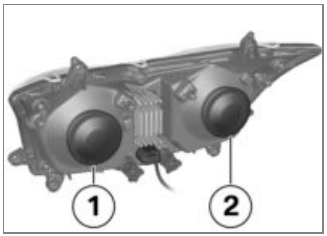
» Locking device engages.

- Installing side panel (➠ 100).

Lamps

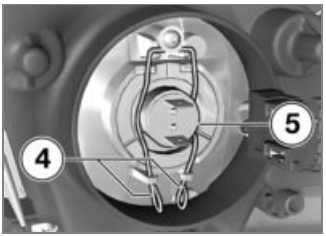
Replacing low-beam and high-beam bulb

- Make sure ground is level and firm and place Scooter on its center stand.
- Switch off ignition.
- Remove right-hand side panel to replace low-beam bulb.
- Remove left-hand side panel to replace high-beam bulb.



- To replace high-beam bulb, remove cover **1** and to replace low-beam bulb, remove cover **2**.

- Disconnect plug **3**.



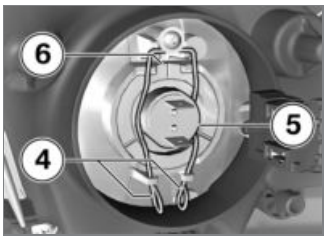
- Remove spring strap **4** from detents and fold up.
- Remove bulb **5**.
- Replace defective bulb.

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

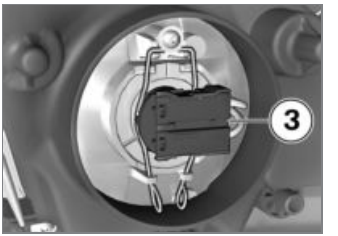
Bulb for high-beam headlight
– H7 / 12 V / 55 W

- To avoid contamination on the bulb's glass surface, never touch or hold the bulb any-

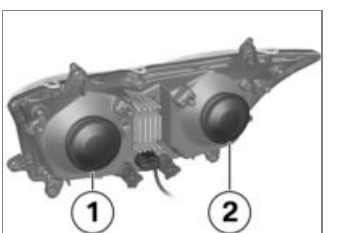
where other than on its metal socket base.



- Insert bulb **5** while ensuring that the lug **6** is in the correct position.
- Install spring straps **4** in locks.



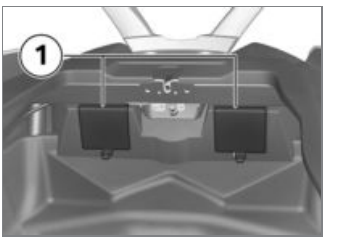
- Attach the plug **3**.



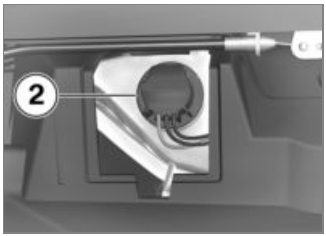
- Install cover **1** or cover **2**.
- Installing side panel (➠ 100).

Replacing brake light bulbs

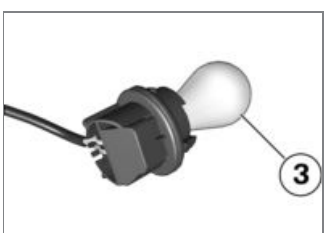
- Open seat.



- Pull locking device at lower edge of cover **1** upward and remove cover.



- Remove bulb holder **2** from lamp housing by turning it counterclockwise.



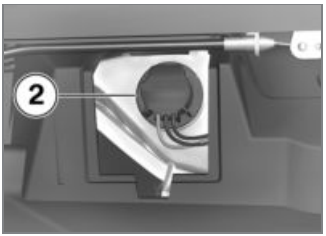
- Remove turn indicator bulb **3** from socket by turning it counterclockwise.

- Replace defective bulb.

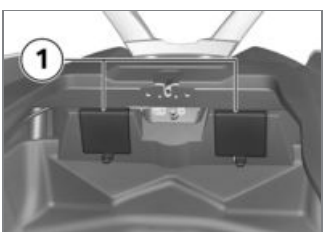
	Bulbs for flashing turn indicators, front
– LED / 12 V	

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

- Install turn indicator bulb **3** in socket by turning clockwise.



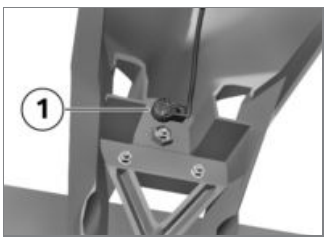
- Install bulb socket **2** in lamp housing by turning clockwise.



- Close cover **1**.

Replacing license plate light

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



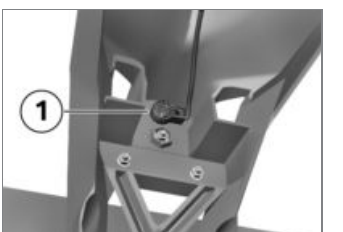
- Pull bulb socket **1** out of lamp housing.

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

	Bulb for license-plate light
– W5W / 12 V / 5 W	

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

- Mount bulb in socket.



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

Jump-starting

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

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

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

- Make sure ground is level and firm and place Scooter on its center stand.
- Removing right-hand side panel.
- Begin by connecting one end of red jumper cable to positive terminal of your vehicle and other end to positive battery terminal of other vehicle.
- Begin by connecting one end of black jumper cable to negative terminal of your vehicle with a suitable grounding point or to negative battery terminal of other vehicle.
- Allow the engine on the support vehicle to run while jump-starting.
- Start engine of vehicle with discharged battery in usual way; if engine refuses to start, wait a few minutes before repeating attempt to protect starter and supporting battery.
- Allow both engines to run for several minutes before disconnecting jumper cables.
- First disconnect jumper cable from negative terminal or ground support point, then from positive terminal or battery support point.

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

- Installing side panel (➠ 100).

Battery

Maintenance instructions

Correct upkeep, recharging and storage will prolong the life of the battery and are essential for recognition of warranty claims. Compliance with the points below is important in order to maximize battery life:

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

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

Charging connected battery

Charging the connected battery directly at the battery terminals can damage the motorcycle electronics.
To charge the battery via the battery terminals, disconnect the battery first.◀

If you switch on the ignition and the multifunction display and indicator lamps fail to light up, the battery is completely flat (battery voltage below 9 V). Attempting to charge a completely flat battery via the additional onboard socket can cause damage to the scooter's electronics.
Always charge a completely drained battery directly at the terminals of the disconnected battery.◀

- Only charge connected battery via additional onboard socket. The additional onboard socket is only available as SE.
- Comply with operating instructions of charger.

Charging disconnected battery

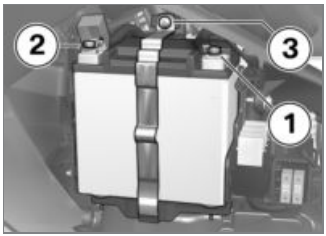
- Charge battery using a suitable charger.
- Comply with operating instructions of charger.
- Once battery is fully charged, disconnect charger's terminal clips from battery terminals.

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

Removing battery

- Switch off ignition.
– with anti-theft alarm OE
- Switch off anti-theft alarm if necessary.◁

- Removing right-hand side panel.

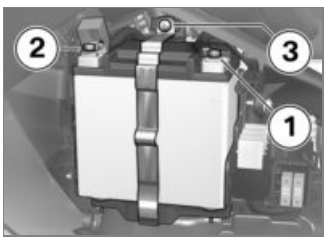


⚠ An incorrect disconnection sequence increase the risk of short-circuiting.
Always observe the proper sequence.◀

- Remove negative cable **1** first.
- Then remove positive cable **2**.
- Remove screw **3** and take off retaining hoop.
- Remove battery from holder.

Installing battery

- Place battery in battery compartment with positive terminal on left-hand side.



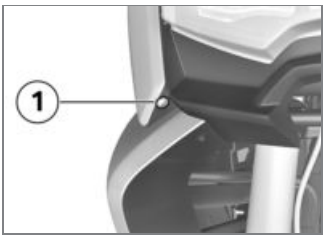
- Push retaining strap over battery and install screw **3**.

⚠ An incorrect installation sequence increases the risk of short-circuiting.
Always observe the proper sequence.◀

- First install positive cable **2**.
- Then install negative cable **1**.
- Installing side panel (➠ 100).
- Setting time and date (➠ 39).

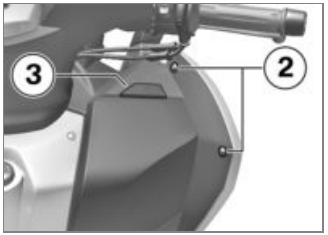
Fairings and Panels

Removing side panel



- Remove screw **1**.

▷ This description is provided based on the right-hand side panel, however also applies in the same way to the left side panel.◀

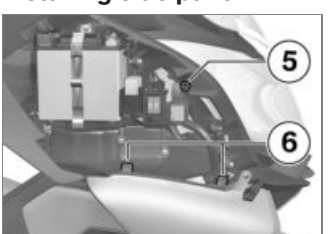


- Remove screws **2**.
- Open storage compartment **3**.

- Remove screw **4** in storage compartment.

- Pull side panel at upper edge out of mount at position **5**.
- Then lift side panel somewhat and remove.

Installing side panel

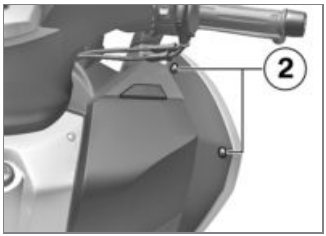


- Insert side panel in mounts **6**.

▷ This description is provided based on the right-hand side panel, however also applies in the same way to the left side panel.◀

- Tilt side panel upward and press into mount **5**.

- Install screw **4** in right-hand storage compartment.
- Close storage compartment.



• Install screws **2**.

• Install screw **1**.

Care

Care products

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

The use of unsuitable cleaning and care products can damage motorcycle components.
For cleaning, do not use any solvents such as nitro-thinners, cold cleaning agents, fuel or similar, and do not use cleaning agents that contain alcohol.◀

Washing your vehicle

BMW Motorrad recommends that you use BMW Insect Remover to soften and wash off insects and stubborn dirt from painted parts before washing the vehicle.
To prevent stains, do not wash the vehicle immediately after it has been exposed to bright sunlight and do not wash it in the sun.
Make sure that the vehicle is washed frequently, especially during the winter months.
To remove road salt, clean the Scooter with cold water immediately after every trip.

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

Warm water intensifies the effect of salt.
Only use cold water to remove road salt.◀

The high water pressure of high-pressure cleaners (steam cleaners) can damage seals, the hydraulic brake system, the electrical system and the seat.
Do not use a steam jet or high-pressure cleaning equipment.◀

Cleaning sensitive vehicle parts

Plastics

If plastic parts are cleaned using unsuitable cleaning agents, the surfaces can be damaged.
Do not use cleaning agents that contain alcohol, solvents or abrasives to clean plastic parts.

'Insect sponges' or sponges with hard surfaces can also lead to scratches.◀

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

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

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

Chrome

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

Radiator

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

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

Rubber

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

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

Paint care

Washing the vehicle regularly will help counteract the long-term effects of substances that damage the paint, especially if your vehicle is ridden in areas with high air pollution or natural sources of dirt, e.g. tree resin or pollen. However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilled fuel, oil, grease, brake fluid as well as bird droppings. BMW Car Polish or BMW Paint Cleaner are recommended for this.
Contamination of the paint finish is particularly easy to see after the vehicle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar spots with BMW Tar Remover. Then add a protective

wax coating to the paint at these locations.

Protective wax coating

To preserve the finish of your vehicle, BMW Motorrad recommends using BMW Car Wax or agents that contain carnauba or synthetic waxes.
A sure sign that the paint must be protected, is the fact that water no longer pearls up on it.

Scooter Storage

- Clean the Scooter.
- Removing battery (➠ 98).
- Spray brake lever, side-stand and center stand mount with a suitable lubricant.
- Coat bare metal and chrome-plated parts with an acid-free grease (e.g., Vaseline).
- Park vehicle in a dry room, raising it to remove weight from both wheels.

Scooter Returning to use

- Remove the protective wax coating.
- Clean the Scooter.
- Install a charged battery.
- Before starting: Observe checklist.

Technical data

Troubleshooting chart

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

Possible cause	Remedy
Side stand extended.	Retract side stand.
Starting without actuating brake	Actuate a brake lever during starting.
No fuel in tank	Refueling (➠ 60).
Battery drained	Charge battery.

Threaded fasteners

Front wheel	Value	Valid
Quick-release axle in axle mount		
M18 x 1.5	22 lb/ft (30 Nm)	
Clamping screws (quick-release axle) in telescopic forks		
M6 x 30	**Tighten evenly and alternately**	
	6 lb/ft (8 Nm)	
Brake caliper on fork leg		
M8 x 32	21 lb/ft (28 Nm)	

Rear wheel	Value	Valid
Rear wheel on output shaft		
M10 x 1.25 x 40	**diagonally**	
	44 lb/ft (60 Nm)	
Muffler on bracket		
M8 x 30	15 lb/ft (20 Nm)	
End muffler on front muffler		
M8 x 30	14 lb/ft (19 Nm)	

Seat	Value	Valid
Pelvis support on the seat		
Middle screw, M6 x 30	1 lb/ft (2 Nm)	
Outside screws, M6 x 40	1 lb/ft (2 Nm)	

Engine

Engine design	Two-cylinder, four-stroke engine, DOHC control, 4 bucket tappet operated valves, two countershafts, liquid cooling, dry-sump lubrication
Displacement	647 cc (647 cm^3)
Cylinder bore	3.1 in (79 mm)
Piston stroke	2.6 in (66 mm)
Compression ratio	11,6:1
Rated output	60 hp (44 kW), at engine speed: 7500 min^{-1}
Torque	49 lb/ft (66 Nm), at engine speed: 6000 min^{-1}
Maximum engine speed	max 8500 min^{-1}

Fuel

Recommended fuel quality	Super unleaded, (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI
Usable fuel quantity	Approx. 4.2 gal (Approx. 16 l)
Fuel reserve	Approx. 3.2 quarts (Approx. 3 l)

BMW recommends BP fuel

Engine oil

Engine oil capacity	Approx. 3.3 quarts (Approx. 3.1 l), with filter change
Products recommended by BMW Motorrad	
BMW Motorrad High Performance Oil	SAE 15W-50, API SJ / JASO MA2

BMW recommends Castrol

Clutch

Clutch design	Centrifugal clutch

Transmission

Transmission design	CVT (Continously Variable Transmission)
Primary gear ratio	1:1,06
Gear ratio of secondary transmission	1:2,72
Gear ratio of CVT transmission	1: 10,7...4,6

Rear-wheel drive

Type of final drive	Chain drive in oil bath
Number of teeth of rear-wheel drive (Pinion/ sprocket)	16 / 27
Secondary gear ratio	1,688

Running gear

Type of front suspension	Upside-down telescopic forks
Spring travel, front	4.5 in (115 mm), On wheel
Type of rear suspension	Cast-aluminum single swinging arm
Type of rear suspension	Directly linked spring strut with adjustable spring preload
Spring travel, rear	4.5 in (115 mm), On wheel

Brakes

Type of front brake	Hydraulically actuated two-rotor disk brake with 2-piston floating calipers
Brake-pad material, front	Sintered metal
Type of rear brake	Hydraulically disk brake with 2-piston floating caliper, Service brake Cable-operated disk brake with 1-piston floating caliper, Parking brake
Brake-pad material, rear	Organic

Wheels and tires

Recommended tire combinations	You can obtain an overview of the current tire approvals from your authorized BMW Motorrad retailer or on the Internet at www.bmw-motorrad.com.
Front wheel	
Front wheel design	Cast aluminum, MT H2
Front-wheel rim size	3.50" x 15"
Front tire designation	120/70 R15
Rear wheel	
Rear wheel design	Cast aluminum, MT H2
Rear-wheel rim size	4.50" x 15"
Rear tire designation	160/60 R 15
Tire inflation pressure	
Tire pressure, front	34.8 psi (2.4 bar), With tire cold
Tire pressure, rear	36.3 psi (2.5 bar), Single rider, with cold tires 42.1 psi (2.9 bar), Driver with passenger and/or load, with cold tire

Electrical system

Battery	
Battery design	AGM (Absorptive Glass Mat) battery.
Battery voltage	12 V
Battery capacity	12 Ah
Spark plugs	
Electrode gap of spark plug	$0.03^{\pm 0.01}$ in ($0.8^{\pm 0.1}$ mm)
Bulbs	
Bulbs for low-beam headlight	H7 / 12 V / 55 W
Bulb for high-beam headlight	H7 / 12 V / 55 W
Bulb for parking light	LED / 12 V
Bulbs for flashing turn indicators, front	LED / 12 V
Bulbs for flashing turn indicators, rear	LED / 12 V
Bulb for taillight/brake light	LED / PR-21W / 12 V / 21 W
Bulb for license-plate light	W5W / 12 V / 5 W

Fuses	
Fuse carrier	30 A, Fuse 9: control unit for instrument cluster/ ignition switch 30 A, Fuse 10: control unit for anti-lock brake system (ABS)
Fuse box	15 A, Fuse 1: DME main relay 10 A, Fuse 2: control unit for Digital Motor Electronics (DME) 4 A, Fuse 3: control unit for anti-theft alarm (DWA)/Tire Pressure Control (TPC) 4 A, Fuse 4: brake-light switch for front brake/rear brake/connector of optional accessories 7.5 A, Fuse 5: fan 7.5 A, Fuse 6: onboard socket(s) 4 A, Fuse 7: license plate light 4 A, Fuse 8: control unit for Digital Motor Electronics (DME)/anti-lock brake system (ABS)/instrument cluster

Frame

Frame design	Steel bridge frame with screwed-on side panels of cast light alloy
Location of the vehicle identification number	Front right frame tube
Location of type plate	Frame

Dimensions

Motorcycle length	87.3 in (2218 mm)
Motorcycle height	55.6 in (1411 mm), Across windshield at DIN unladen weight
Motorcycle width	36.1 in (916 mm), Across mirrors
Driver's seat height	31.3 in (795 mm), Without driver
Rider's inside-leg arc, heel to heel	69.7 in (1770 mm), Without driver

Weights

Unladen weight	569 lbs (258 kg), DIN unladen weight, ready for road, 90 % full tank of gas, without OE
Permissible gross weight	981 lbs (445 kg)
Maximum payload	412 lbs (187 kg)

Riding specifications

Top speed	109 mph (175 km/h)

Service

BMW Motorrad Service

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

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

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

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

BMW Motorrad Mobility Services

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

Maintenance work

BMW Pre-Delivery Check

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

BMW Running-in Check

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

BMW Service

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

For drivers 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.

Confirmation of maintenance work

BMW Pre-Delivery Check

Conducted

on_____

Stamp, Signature

BMW Running-in Check

Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

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Next service
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Odometer reading_____

Stamp, Signature

BMW Service
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Next service
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Odometer reading_____

Stamp, Signature

BMW Service
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Next service
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on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

Confirmation of service

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

Work carried out	Odometer reading	Date

Work carried out	Odometer reading	Date

Appendix

Certification Tire Pressure Control (TPC)

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

This device complies with Part 15 of the FCC Rules and with Industry Canada license-exempt RSS standard(s).
Operation is subject to the following two conditions:

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

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

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

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

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

Printed in Germany.

Fuel	
Recommended fuel quality	Super unleaded, (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI
Usable fuel quantity	Approx. 4.2 gal (Approx. 16 l)
Fuel reserve	Approx. 3.2 quarts (Approx. 3 l)
Tire inflation pressure	
Tire pressure, front	34.8 psi (2.4 bar), With tire cold
Tire pressure, rear	36.3 psi (2.5 bar), Single rider, with cold tires 42.1 psi (2.9 bar), Driver with passenger and/or load, with cold tire

BMW recommends Castrol

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