



BMW Motorrad



The Ultimate
Riding Machine

Rider's Manual R nineT

Motorcycle data/dealership details

Motorcycle data

Model

Vehicle Identification Number

Colour code

Date of first registration

Registration number

Dealership details

Person to contact in Service department

Ms/Mr

Phone number

Dealership address/phone number (company stamp)

Welcome to BMW

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

About this Rider's Manual

Please read this Rider's Manual carefully before starting to use your new BMW. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features. In addition, it contains information on maintenance and care to help you maintain your vehicle's reliability and safety, as well as its value.

Suggestions and criticism

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

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

BMW Motorrad.

01 41 8 550 811



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General instructions

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Overview

An important aspect of this Rider's Manual is that it can be used for quick and easy reference. Consulting the extensive index at the end of this Rider's Manual is the fastest way to find information on a particular topic or item. To first read an overview of your motorcycle, please go to chapter 2. All maintenance and servicing work on the motorcycle is documented in Chapter 11. This record of the maintenance work you have had performed on your motorcycle is a precondition for generous treatment of goodwill claims. When the time comes to sell your BMW, please remember to hand over this Rider's Manual; it is an important part of the motorcycle.

Abbreviations and symbols



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



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



Indicates the end of an item of information.



Instruction.



Result of an activity.



Reference to a page with more detailed information.



Indicates the end of a passage relating to specific accessories or items of equipment.



Tightening torque.



Technical data.

OE

Optional extra
The motorcycles are assembled complete with all the BMW Motorrad optional extras originally ordered.

OA

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

EWS Electronic immobiliser.

DWA Anti-theft alarm (Diebstahlwarnanlage).

ABS Anti-lock brake system.

Equipment

When you purchased your BMW motorcycle, you chose a model with individual equipment. This Rider's Manual describes the optional extras (OE) offered by BMW and selected optional accessories (OA). This explains why the manual may also contain descriptions of equipment which you have not ordered. Please note, too, that your motorcycle might not be exactly as illustrated in this manual on account of country-specific differences. If your motorcycle contains equipment that has not been described, its description can be found in a separate manual.

Technical data

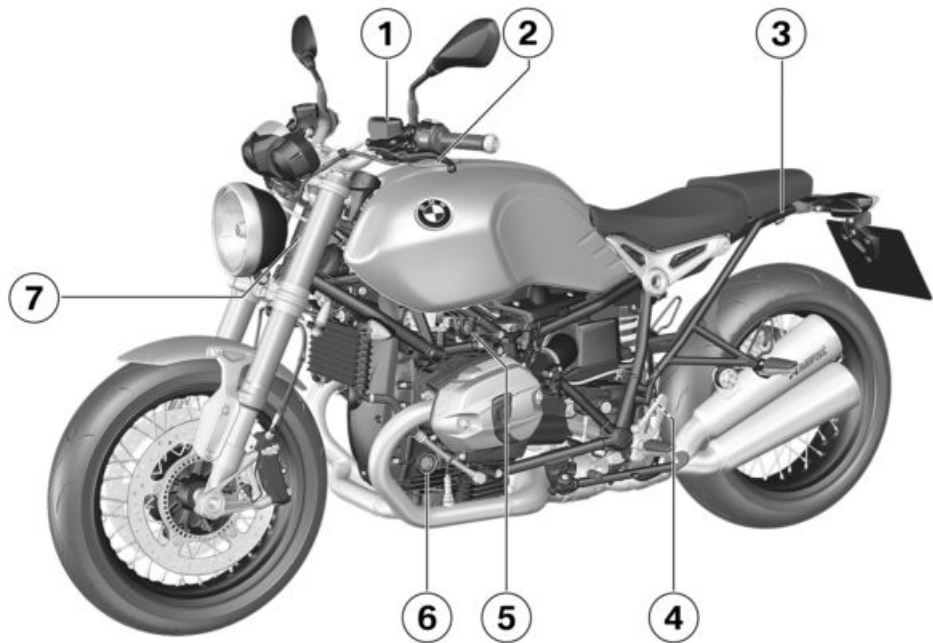
All dimensions, weights and power ratings stated in the Rider's Manual are quoted to the standards and comply with the tolerance requirements of the Deutsches Institut für Normung e.V. (DIN). Versions for individual countries may differ.

Actuality

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

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General view, left side

- 1 Checking clutch function
( 77)
- 2 Refuelling ( 60)
- 3 Removing rear-seat frame
( 97)
- 4 Adjusting the damping
characteristic for rear
wheel ( 38)
- 5 Power sockets ( 96)
- 6 Checking engine oil level
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- 7 Type plate (left side, on
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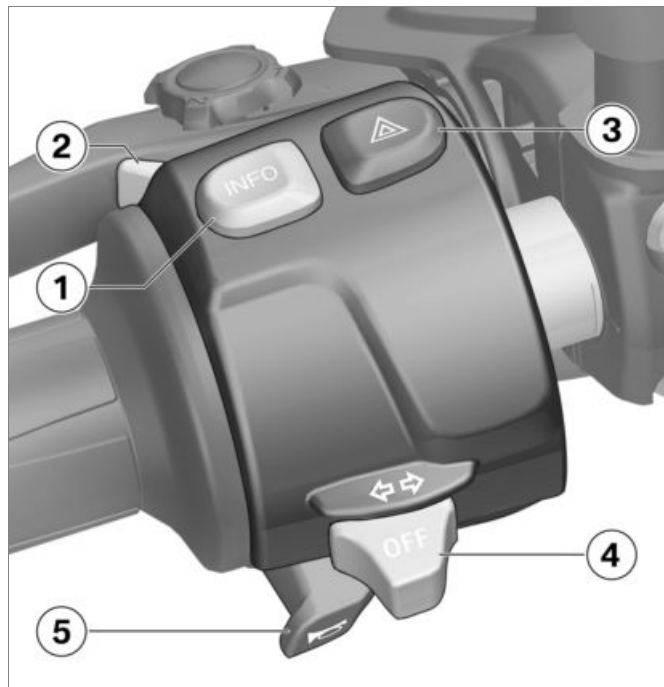


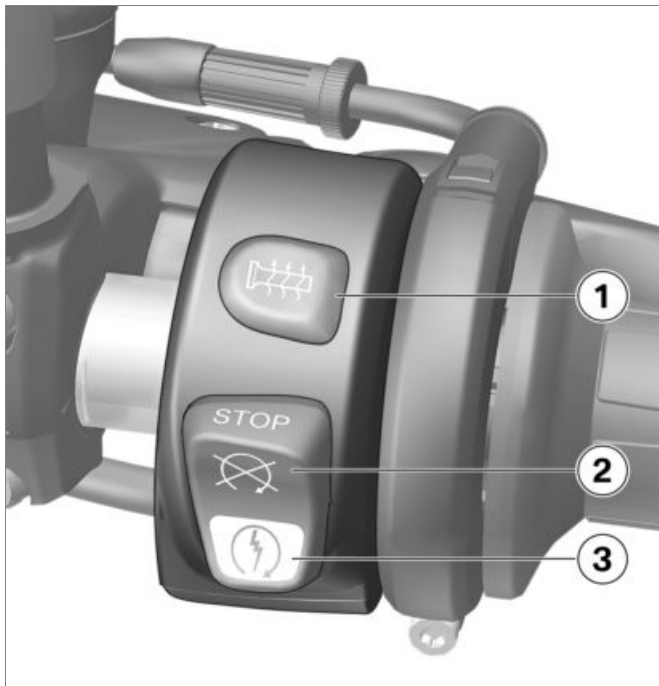
General view, right side

- 1 Checking brake-fluid level, front brakes (▮▮▮▮➔ 75)
- 2 Topping up the engine oil (▮▮▮➔ 72)
- 3 VIN (front right, low on rear frame)
- 4 Checking the brake-fluid level, rear brakes (▮▮▮▮➔ 76)
- 5 Adjust spring preload (▮▮▮➔ 38)
- 6 Removing rear seat (▮▮▮➔ 41)

Multifunction switch, left

- 1 Multifunction display (➡ 21)
- 2 High-beam headlight and headlight flasher (➡ 33)
- 3 Hazard warning flashers (➡ 34)
- 4 Turn indicators (➡ 34)
- 5 Horn



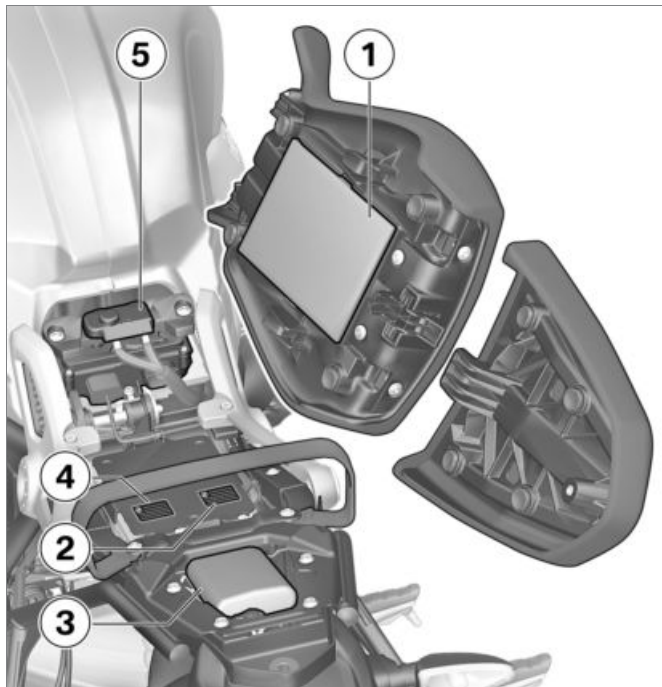


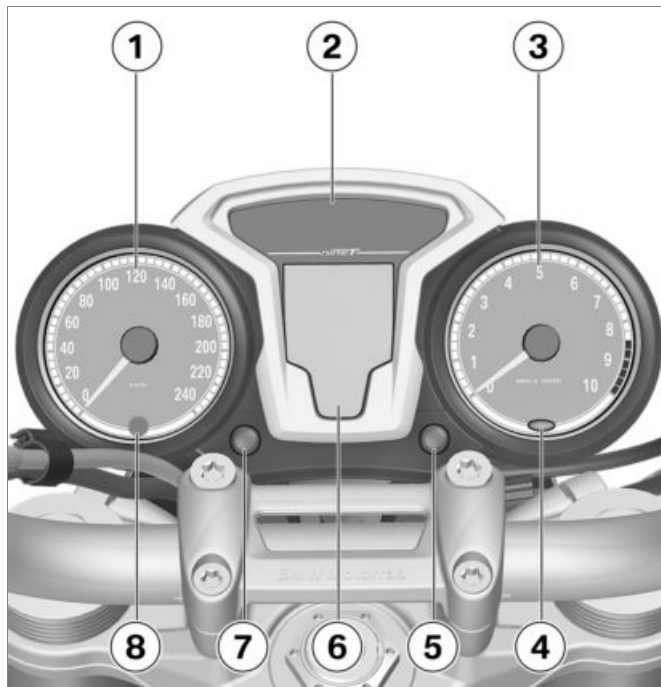
Multifunction switch, right

- 1** – with heated handlebar grips^{OA}
Operating the heated handlebar grips (➡ 36)
- 2** Emergency off switch (kill switch) (➡ 35)
- 3** Starter button (➡ 56)

Underneath the seat

- 1 Rider's Manual
- 2 Payload table
- 3 Toolkit (➡ 68)
- 4 Table of tyre pressures
- 5 Battery-positive connection point (➡ 91)





Instrument panel

- 1** Speedometer
- 2** Warning and telltale lights (➡ 20)
- 3** Rev. counter
- 4** Ambient-light brightness sensor (for adapting the brightness of the instrument lighting)
- 5** Clock (➡ 31)
- 6** Multifunction display (➡ 21)
- 7** Reading (➡ 32)
- 8** Telltale light
– with anti-theft alarm^{OE}
Anti-theft alarm (DWA)

Status indicators

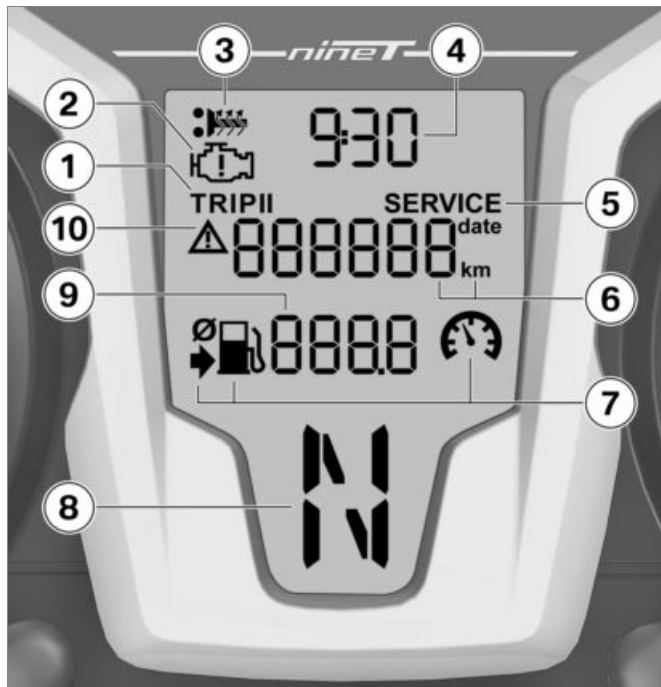
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Warning and telltale lights

- 1 Turn indicators, left
- 2 General warning light, in combination with warnings in the display (➡ 23)
- 3 Neutral
- 4 High-beam headlight (➡ 33)
- 5 Turn indicators, right
- 6 ABS (➡ 27)
- 7 Warning light for fuel down to reserve (➡ 26)
- 8 Warning light for battery charge current (➡ 26)

▶ The ABS symbol might differ, depending on the specifics of national regulations.◀





Multifunction display

- 1 Trip meter (➡ 32)
- 2 Warning for engine electronics (➡ 26)
- 3 – with heated handlebar grips^{OA}
Operating the heated handlebar grips (➡ 36)
- 4 Clock (➡ 31)
- 5 Service-due indicator (➡ 22)
- 6 Odometer and tripmeters
- 7 Telltale lights (➡ 22)
- 8 Gear indicator; "N" indicates neutral
- 9 Values area
- 10 Warning (➡ 23)

Meaning of symbols



Average consumption



Average speed



Current consumption

Service-due indicator



If the next service is due in less than one month, the date for the next service **1** is shown briefly

after the Pre-Ride Check completes.



If the vehicle covers long distances in the course of the year, under certain circumstances it might be necessary to have it serviced at a date in advance of the forecast due date. If the countdown distance to the early service is within the defined displayable range, this countdown distance **1** appears briefly on the display after the Pre-Ride Check completes.



Maximum countdown distance to next service:

1000 km

100 km (A countdown indicates when the next service will be due.)

Fuel reserve

The amount of fuel present in the fuel tank when the fuel warning light is switched on is dependent on vehicle dynamics. The more the fuel moves inside the tank (due to regularly changing angles of heel, frequent braking and acceleration), the more difficult it becomes to determine the reserve volume. For this reason, the fuel reserve volume cannot be displayed exactly.



After the fuel warning light has switched on, the range already travelled (reserve trip) is displayed automatically.

The distance that can still be travelled using the reserve volume depends on the style of driving (usage) and the amount of fuel remaining at the time the light came on (see explanation above).

The odometer for the fuel reserve is reset when the amount of fuel after refuelling is greater than the reserve volume.

Warnings

Mode of presentation

Warnings are indicated by the corresponding warning lights.



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

A reading in top values area **2** that constitutes a warning is accompanied by warning triangle **3**. These warnings appear in alternation with the odometer readings (→ 32).

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

The possible warnings are listed on the next pages.

Warnings, overview

Warning and telltale lights

Warning symbols in the display

Meaning

	Lights up yellow	 + "EWS" appears on the display	Electronic immobiliser active (→ 26)
	Lights up		Fuel down to reserve (→ 26)
	Lights up yellow	 Appears on the display	Engine in emergency-operation mode (→ 26)
	Lights up		Insufficient battery charge current (→ 26)
	Lights up yellow	 + "LAMP" appears on the display	Bulb faulty (→ 27)
	Lights up yellow	dWA appears on the display	Anti-theft alarm battery flat (→ 27)
	Flashes		ABS self-diagnosis not completed (→ 27)

Warning and telltale lights

Warning symbols in the display

Meaning



Lights up

ABS fault (→ 28)

Electronic immobiliser active



General warning light shows yellow.



+ "EWS" appears on the display.

Possible cause:

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

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

Fuel down to reserve



Warning light for fuel down to reserve shows.



A shortage of fuel can result in misfires. This can cause the engine to switch off

unexpectedly (risk of accident) and damage the catalytic converter.

Do not run the fuel tank dry.◀

Possible cause:

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



Reserve fuel

approx. 3 l

- Refuelling (▮ 60).

Engine in emergency-operation mode



General warning light shows yellow.



Engine symbol appears on the display.



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

Adapt your style of riding accord-

ingly. Avoid accelerating sharply and overtaking.◀

Possible cause:

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

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

Insufficient battery charge current



Warning light for battery shows.



A discharged battery can render various systems unavailable, for example the lights, the engine or the ABS. This can result in dangerous situations. Do not continue your journey.◀

Possible cause:

Alternator or alternator drive belt defective

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

Bulb faulty



General warning light shows yellow.



+ "LAMP" appears on the display.



A bulb failure on the motorcycle is a safety risk, because it is easy for other road users to overlook the vehicle. Replace defective bulbs as

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

Possible cause:

Bulb faulty

- Visually inspect to ascertain which bulb is defective.
- Replacing bulbs for low-beam and high-beam headlight (► 87).
- Replacing bulb for parking light (► 88).
- Replacing bulbs for front and rear turn indicators (► 89).
- Replacing LED rear light (► 91).

Anti-theft alarm battery flat

– with anti-theft alarm^{OE}



General warning light shows yellow.

The text warning dWA appears, accompanied by a warning-tri-

angle symbol to indicate that this is a warning.



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

Possible cause:

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

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

ABS self-diagnosis not completed



ABS warning light flashes.

Possible cause:

The ABS function is not available, because self-diagnosis did not complete. The motorcycle has to move forward

a few metres for the wheel sensors to be tested.

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

an authorised BMW Motorrad dealer.

ABS fault



ABS warning light shows.

Possible cause:

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

- You can continue to ride the vehicle, but make due provision for the fact that the ABS function is not available. Bear in mind the more detailed information on situations that can lead to an ABS fault (➡ 65).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably

Operation

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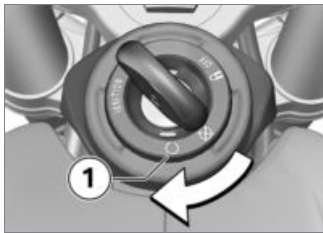
Ignition switch/steering lock

Keys

You receive 2 ignition keys and a special key for removing the rear seat (► 41).

Please consult the information on the electronic immobiliser "EWS" if a key is lost or mislaid (► 31). Ignition switch/steering lock and the fuel filler cap lock are operated with the same key.

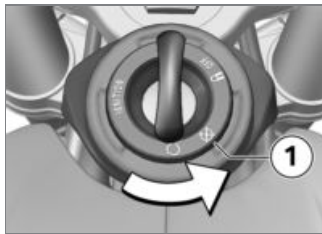
Switching on ignition



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

- » Parking lights and all function circuits switched on.
- » Engine can be started.
- » Pre-ride check is performed. (► 56)
- » ABS self-diagnosis is performed. (► 57)

Switching off ignition



- Turn the ignition key to position **1**.
- » Lights switched off.
- » Handlebars not locked.
- » Ignition key can be removed.

- » Electrically powered accessories remain operational for a limited period of time.
- » The battery can be recharged via the socket.

Lock the handlebars



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

On level ground, always turn the handlebars to the left to set the steering lock. ◀

- Turn the handlebars to the full left or right lock position.



- Turn the ignition key to position **1**, while moving the handlebars slightly.
- » Ignition, lights and all function circuits switched off.
- » Handlebars locked.
- » Ignition key can be removed.

Electronic immobiliser EWS

The electronic design of the motorbike allows it to access data stored in the ignition key by means of a ring antenna located in the ignition switch/steering lock. The engine control unit

will not permit the engine to be started unless the key is identified as "authorised".

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

If you lose your key, you can have it barred by your authorised BMW Motorrad dealer. If you wish to do this, you will need to bring all other keys for the motorbike with you. The engine cannot be started by a barred key, but a key that has been barred can subsequently be reactivated.

You can obtain extra keys only through an authorised BMW

Motorrad dealer. The keys are part of an integrated security system, so the dealer is under an obligation to check the legitimacy of all applications for replacement/extra keys.

Clock

Setting the clock



Attempting to set the clock while riding the motorcycle can lead to accidents. Set the clock only when the motorcycle is stationary.◀

- Switching on ignition (III 30).



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

Reading

Select display

- Switching on ignition (III 30).



- Press button **1** to select the reading in top section of display **2**.

The following values can be displayed:

- Total kilometres (shown)
- Tripmeter 1 (Trip I)
- Tripmeter 2 (Trip II)

– Warnings, if applicable

Resetting tripmeter

- Switching on ignition (III 30).



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

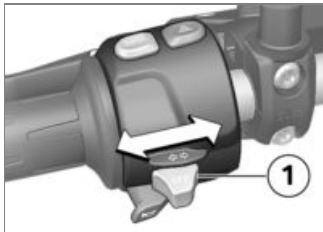
Resetting the average values

- Switching on ignition (III 30).

Turn indicators

Operating the turn indicators

- Switching on ignition (➡ 30).



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



Turn-indicator cancellation

The turn indicators are cancelled automatically after the defined time and distance.

min 10 s

min 300 m

Hazard warning flashers

Operating hazard warning flashers

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

▶ If you press a turn-indicator button with the ignition switched on, the turn-indicator function is activated instead of the hazard warning flashers, and remains active until you release

the button. The hazard warning flashers recommence flashing as soon as the button is released.◀

- Switching on ignition (➡ 30).



- Press button **1** to switch on the hazard warning flashers.
- » Ignition can be switched off.
- Press button **1** again to switch off the hazard warning flashers.

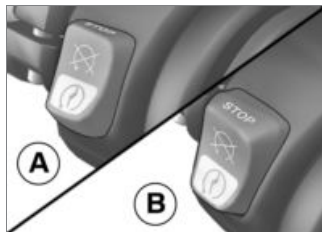
Emergency off switch (kill switch)



- 1** Emergency off switch (kill switch)

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

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



- A** Engine switched off
B Normal operating position (run)

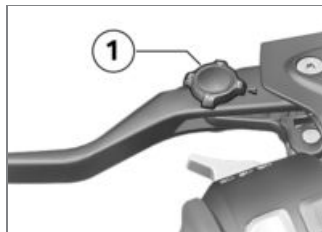
 You cannot start the engine unless the kill switch is in the run position.◀

Clutch

Adjusting the clutch lever

 If the position of the clutch fluid reservoir is changed, air can enter the clutch system. Do not twist the handlebar fitting or the handlebars.◀

 Attempting to adjust the clutch lever while riding the motorcycle can lead to accidents. Do not attempt to adjust the clutch lever unless the motorcycle is at a standstill.◀



- Turn adjusting screw **1** to the desired position.

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

- » Four settings are available:
 - **Position 1:** narrowest span between handlebar grip and clutch lever.

- **Position 4:** widest span between handlebar grip and clutch lever.

Brakes

Adjusting the front brake lever

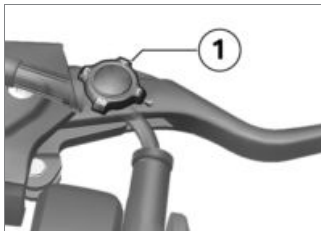


Changing the position of the brake-fluid reservoir can allow air to penetrate the brake system.

Do not twist the handlebar fitting or the handlebars.◀



Attempting to adjust the handbrake lever while riding the vehicle can lead to accidents. Do not attempt to adjust the handbrake lever unless the motorcycle is at a standstill.◀



- Turn adjusting screw **1** to the desired position.



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

- » Four settings are available:
 - **Position 1:** narrowest span between handlebar grip and handbrake lever.
 - **Position 4:** widest span between handlebar grip and handbrake lever.

Heated handlebar grips

- with heated handlebar grips^{OA}

Operating the heated handlebar grips

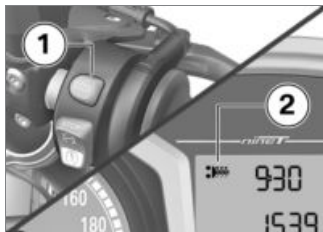


The heating in the heated handlebar grips can be activated only when the engine is running.◀



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

- Start engine (▶▶▶ 56).



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

The handlebar grips have two-stage heating.



50% heating power



100% heating power

- » Stage 2 is for heating the grips quickly: it is advisable to switch back to stage 1 as soon as the grips are warm.
- » The selected heating stage will be saved if you allow a certain

length of time to pass without making further changes.

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

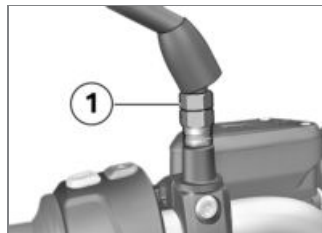
Mirrors

Adjusting mirrors



- Turn the mirror to the correct position.

Adjusting mirror arm



- Push the protective cap up over the threaded fastener on the mirror arm.
- Use the tool from the on-board toolkit to slacken nut **1**.
- Turn the mirror arm to the appropriate position.
- Tighten nut **1**, while holding the mirror arm to ensure that it does not move out of position.



Mirror (lock nut) to adapter

22 Nm

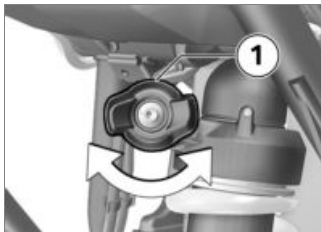
- Push the protective cap over the threaded fastener.

Spring preload

Adjustment

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

Adjusting spring preload for rear wheel



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



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

- If you want to increase spring preload, turn knob **1** clockwise.
- If you want to reduce spring preload, turn knob **1** counter-clockwise.

▶ See the section entitled "Technical data - Running gear" for a recommendation on how to set up the suspension.◀

Damping

Adjustment

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

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

Adjusting the damping characteristic for rear wheel

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

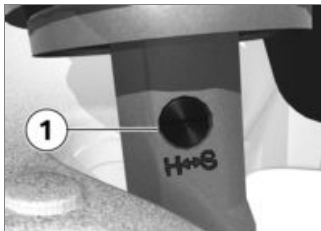


⚠ Note that there is a danger of coming into contact with the hot exhaust silencer when you adjust damping. Allow the silencer to cool.◀

⚠ Heated/hot parts can cause burns.

Wear protective gloves when handling heated parts.◀

- Adjust the damping characteristic, using the tool from the on-board toolkit to turn adjusting screw **1**.



- If you want to increase damping, turn adjusting screw **1** clockwise.
- If you want to reduce damping, turn adjusting screw **1** counter-clockwise.

▶ See the section entitled "Technical data - Running gear" for a recommendation on how to set up the suspension.◀

Tyres

Checking tyre pressure

⚠ Incorrect tyre pressures impair the motorcycle's handling characteristics and increase the rate of tyre wear. Always check that the tyre pressures are correct.◀

⚠ At high road speeds, tyre valves installed perpendicular to the wheel rim have a tendency to open.

In order to avoid sudden deflation, fit valves installed perpendicular to the rim with valve caps complete with rubber seals and make sure the valve caps are screwed firmly on to the valves.◀

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

- Check tyre pressures against the data below.

 Tyre pressure, front
2.5 bar (tyre cold)
 Tyre pressure, rear
2.5 bar (one-up, tyre cold)
2.9 bar (two-up, tyre cold)

If tyre pressure is incorrect:

- Correct tyre pressure.

Headlight

Adjusting headlight for driving on left/driving on right

This motorcycle has a symmetric-beam low-beam headlight. If the motorcycle is ridden in a country where the opposite rule of the road applies, its symmetric low-

beam headlight means that no measures are necessary to prevent the headlight beam from dazzling oncoming traffic.

Headlight beam throw and spring preload

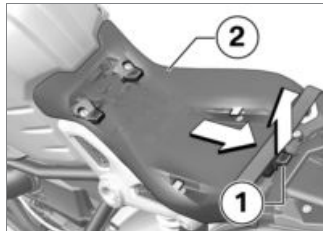
Headlight beam throw is generally kept constant when spring preload is adjusted to suit load. However, a spring preload adjustment might not suffice if the motorcycle is very heavily loaded. Under these circumstances, headlight beam throw has to be adjusted to suit the weight carried by the motorcycle.

 If there are doubts about the correct headlight range, seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

Front and rear seats

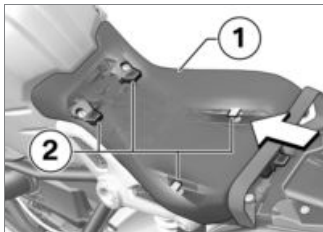
Removing front seat

- Remove the rear seat ( 41).



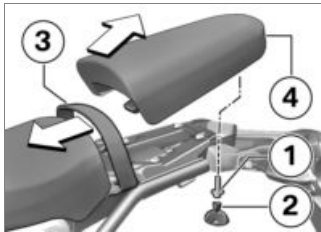
- Pull latch **1** up.
- Pull front seat **2** to the rear and remove.

Installing front seat



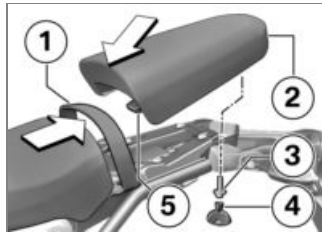
- Engage front seat **1** in the lugs **arrows**.
- Push down on front seat **1**, applying pressure to the rear of the seat.
 - » The front seat engages with an audible click.
- Install the rear seat (➡ 41).

Removing rear seat



- Remove screw **1** with special key **2** for the seat.
- Pull grab strap **3** toward the front seat and work rear seat **4** to the rear to remove.

Install the rear seat



- Insert rear seat **2** into the rear frame, making sure that lug **5** of the rear seat is seated in the frame.
- Tighten screw **3** with special key **4** for the seat until it is hand-tight.
- Pull grab strap **1** over the rear seat.

Anti-theft alarm DWA

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Overview

– with anti-theft alarm^{OE}

General information about the anti-theft alarm (DWA)

Any attempt to move the motorcycle, change its position, start it without an authorised key or disconnect the starter battery will trigger the alarm. The sensitivity of the system is parameterised so that slight vibrations will not trigger the alarm. Once the system has been activated, any attempt to tamper with the motorcycle is indicated acoustically by the siren and visually by all four turn indicators flashing in unison. You can change some of your DWA alarm system's parameters to suit your personal preferences.

Conserving power in the vehicle's starter battery

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

Radio interference

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

Controls



- 1 LED (➡ 17)
- 2 Right button (➡ 46)
- 3 Left button (ribbed) (➡ 45)

Activation

– with anti-theft alarm^{OE}

Activation with motion sensor



The alarm function is activated

- by pressing button **1** on the remote control once, or
- by switching off the ignition (if programmed); when the ignition is switched off 30 seconds elapse before the start of the activation phase

Activation is confirmed

- by the turn indicators flashing twice and
- by the alarm tone sounding twice.

If you want to activate the alarm function more than one minute after switching off the ignition, you must press button **1** for longer than one second. If it is not armed within approximately one hour, the DWA anti-theft alarm shuts down in order not to draw power unnecessarily from the battery. If you want to activate the alarm function after the anti-theft alarm has shut down in this way, you have to switch the ignition on and then off again.

Activation phase

The anti-theft alarm needs 15 seconds to achieve fully active status. No alarm is triggered during this time.

Conserving battery power



If you want to activate the alarm function more than one minute after switching off the ignition, you must press button **1** for longer than one second. If it remains deactivated for approximately one hour, the DWA anti-theft alarm shuts down in order not to draw power unnecessarily from the battery. If you want to activate the alarm function after the anti-theft alarm has shut down in this way, you have to switch the ignition on and then off again.

Motion sensor when motorcycle is to be transported

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

Deactivating motion sensor



- Press button **1** on the remote control a second time during the activation phase.
 - » Turn indicators flash three times.
 - » Alarm tone sounds three times.
 - » Motion sensor is deactivated.

Alarm function

- with anti-theft alarm^{OE}

Alarm triggers

An alarm can be triggered by:

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

Alarm



An alarm lasts for 26 seconds. The system is active again another 12 seconds later. You can interrupt an alarm by pressing button **1** on the remote control.

This function does not change the status of the anti-theft alarm.

While an alarm is in progress an alarm tone sounds and the turn indicators flash. You can program the type of alarm tone.

Reason for an alarm

Once you have deactivated the alarm function, the DWA anti-theft alarm status indicator is active for a period of one minute to show you reasons for alarms, if any, that were triggered in your absence:

- Flashes 1x: Motion sensor; motorcycle was rocked forward/back
- Flashes 2x: Motion sensor; motorcycle was rocked to the side
- Flashes 3x: Ignition switched on with unauthorised key

- Flashes 4x: Disconnection of the DWA anti-theft alarm from the motorcycle's battery

Information on alarm triggering

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

Deactivation

- with anti-theft alarm ^{OE}

Deactivating alarm function



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

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

▶ If the alarm function is deactivated by the remote control and the ignition is not subsequently switched on, the alarm function automatically goes active again after 30 seconds if

"Activation after ignition OFF" is programmed.◀

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

Conserving battery power

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

Programming

- with anti-theft alarm^{OE}

Programming options

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

- Confirmation alarm tone after activation/deactivation of the anti-theft alarm (DWA) in addition to visual confirmation by turn indicators flashing
- Rising and falling or intermittent alarm tone
- Automatic activation of the alarm function after the ignition is switched off

Default settings

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

- Confirmation alarm tone after activation/deactivation of the anti-theft alarm (DWA): No
- Alarm tone: Intermittent
- Automatic activation of the alarm function after the ignition is switched off: No

Programming anti-theft alarm (DWA)



- Deactivate the alarm function.
- Switch on the ignition.
- Press button **1** three times.
- » Acknowledgement tone sounds once.
- Within ten seconds, switch off the ignition.
- Press button **2** three times.
- » Acknowledgement tone sounds once.
- Within ten seconds, switch on the ignition.
- » Acknowledgement tone sounds three times.

» The programming function is active.

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

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

Yes:

- Press button **1**.

No:

- Press button **2**.

- **Step 2:**

No function allocated to this step.

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

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

Rising and falling:

- Press button **1**.

Intermittent:

- Press button **2**.

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

Yes:

- Press button **1**.

No:

- Press button **2**.

Under what circumstances is programming aborted?

Programming is aborted

- if the ignition is switched off before completion of the last step in the programming sequence.
- **or** automatically if more than 30 seconds are allowed to elapse between any two consecutive steps in the programming routine.

The new settings are not saved if programming is aborted.

Saving programming

Programming is saved

- if the ignition is switched off after completion of the last step in the programming sequence.
- **or** automatically 30 seconds after completion of the last

step in the programming routine.

The DWA status indicator light stops flashing and four acknowledgement tones sound.

Registration of the remote control

– with anti-theft alarm^{OE}

When is it necessary to register a remote control?

If you want to register an additional remote control or register a remote control as a replacement for one that has been mislaid, you must always register all the remote control units with the DWA anti-theft alarm. You can register a maximum of 4 remote control units.

Registering remote control



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

You can now register a maximum of 4 remote control units with the DWA anti-theft alarm. Registration is a three-step process and has to be repeated for each remote control unit.

- Press and hold down button **1** and button **2**.
- » LED flashes for ten seconds.
- As soon as the LED goes out, release button **1** and button **2**.
- » LED lights up.
- Press button **1** or button **2**.
- » Alarm tone sounds once.
- » LED goes out.
- » Remote control has been registered.
- Repeat this three-step procedure for each additional remote control.

Termination of registration

Registration is terminated when

- 4 remote control units have been registered
- the ignition is switched off
- 30 seconds elapse without a button being pressed after the ignition has been switched off
- 30 seconds elapse without a button being pressed after a remote control unit has been registered

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

Synchronising

- with anti-theft alarm ^{OE}

When is it necessary to synchronise the remote control?

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

Synchronising remote control



- Press and hold down button **1** and button **2**.
 - » LED flashes for ten seconds.
- As soon as the LED goes out, release button **1** and button **2**.
 - » LED lights up.
- Press button **1** or button **2**.
 - » LED goes out.
- Remote control has been synchronised.

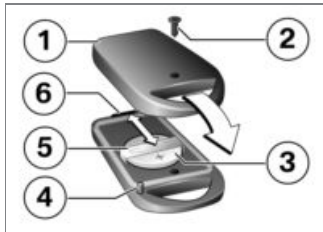
Battery

– with anti-theft alarm^{OE}

When does the battery have to be changed?

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

Changing battery



- Remove screw **2** and remove bottom part of housing **1**.

- Slide old battery **5** forward from under retainer **3**.

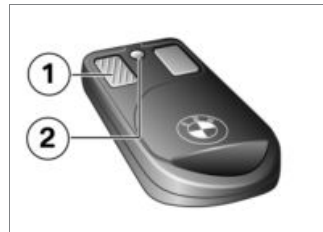
 Using a battery of the wrong type or inserting the battery with the polarity reversed can cause irreparable damage to the device.

Use only the specified type of battery (see "Technical Data").

When inserting the battery, always make sure polarity is correct. ◀

- Slip the new battery into position, making sure that the positive terminal of the battery is facing up.
- Position the bottom part of the housing at projection **6** of the front edge and close the housing, noting two guide pins **4**.
- Install screw **2**.
- » The LED on the remote control lights up, indicating that the

remote control has to be synchronised.



- To synchronise the remote control, make sure that it is within range of the receiver and press button **1** twice.
- » LED **2** starts flashing and then goes out after a few seconds.
- » The remote control is again ready for use.

Riding

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Safety instructions

Rider's equipment

The following clothing will protect you for every journey:

- Helmet
- Motorcycling jacket and trousers
- Gloves
- Boots

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

Load correctly



Overloading and imbalanced loads can adversely affect the motorcycle's handling. Do not exceed the permissible gross weight and be sure to comply with the instructions on loading. ◀

- Set spring preload, damping characteristic and tyre pressures to suit total weight.
- Pack heavy items at the bottom and toward the inboard side.
- with tank rucksack^{OA}
- Note the maximum permissible payload of the tank rucksack.



Payload of tank rucksack

≤5 kg◀

- with rear softbag^{OA}
- Note the maximum payload of the rear softbag.



Payload of rear softbag

max 5 kg◀

Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle, e.g.:

- Spring-strut and shock-absorber system not set up correctly
- Imbalanced load
- Loose clothing
- Insufficient tyre pressure
- Poor tyre tread
- On-board luggage systems such as a tank rucksack or rear softbag. Observe the speed limit indicated on the label in the respective luggage system.

Risk of poisoning

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

 Inhaling the 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 an enclosed space.◀

Risk of burn injury

 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. When you park the motorcycle 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.

The following guidelines must be observed:

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

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

Risk 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. Ride away immediately after starting the engine.◀

Tampering

 Tampering with motorcycle settings (e.g. electronic engine management unit, throttle valves, clutch) can cause damages to the components in question and lead to failure of safety-relevant functions. Damage caused in this way is not covered by the warranty. Do not tamper with the vehicle in any way that could result in tuned performance.◀

Checklist

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

Before each journey:

- Brakes
- Brake-fluid levels, front and rear

- Clutch function
- Damping characteristic setting and spring preload
- Tyre tread depth and tyre pressures
- Security of the tank rucksack or rear softbag.

At regular intervals:

- Engine oil level (every refuelling stop)
- Brake-pad wear (every third refuelling stop).

Starting

Start engine

- Switching on ignition (➡ 30).
- » Pre-ride check is performed. (➡ 56)
- » ABS self-diagnosis is performed. (➡ 57)
- Select neutral or, if a gear is engaged, pull the clutch lever.

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

- Cold starts and low temperatures:
 - » Pull the clutch lever.



- Press starter button 1.

▶ The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you start the

engine, or use jump leads and a donor battery to start. See the subsection on jump starting in "Maintenance".◀

- » The engine starts.
- » Consult the troubleshooting chart below if the engine refuses to start. (➡ 110)

Pre-ride check

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

Phase 1

The rev. counter and speedometer needles both swing to the limit values on their scales. At the same time, all the warning lights and telltale lights are switched on in succession.

Phase 2

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

Phase 3

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

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

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

ABS self-diagnosis

BMW Motorrad ABS performs self-diagnosis to ensure its operability. Self-diagnosis is performed automatically when you switch on the ignition. The motorcycle has to move forward a few metres for the wheel-speed sensors to be tested.

Phase 1

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



ABS warning light flashes.

Phase 2

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



ABS warning light flashes.

ABS self-diagnosis completed

The ABS warning light goes out.

- Check all the warning and telltale lights.

After the ABS self-diagnosis completes, an indicator showing an ABS fault will appear.

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

Running in Engine

- Until the first running-in check, vary the throttle opening and engine-speed range frequently; avoid riding at constant engine rpm for prolonged periods.

- Try to do most of your riding during this initial period on twisting, fairly hilly roads.
- Comply with the rpm limits for running in.



Running-in speeds

<5500 min⁻¹ (Odometer reading 0...200 km)

<6500 min⁻¹ (Odometer reading 200...400 km)

<7500 min⁻¹ (Odometer reading 400...600 km)

maximum engine rpm for short bursts (Odometer reading 600...900 km)

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



Mileage until the first running-in check

500...1200 km

Brake pads

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



New brake pads can extend stopping distance by a significant margin. Apply the brakes in good time.◀

Tyres

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



New tyres do not provide full grip straight away. Wet roads and extremely sharp inclines pose a risk of accident.

Ride carefully and avoid extremely sharp inclines.◀

Brakes

How can stopping distance be minimised?

Each time the brakes are applied, a load distribution shift takes place with the load shifting forward from the rear to the front wheel. The sharper the motorcycle decelerates, the more load is shifted to the front wheel. The higher the wheel load, the more braking force can be transmitted without the wheel locking. To optimise stopping distance, apply the front brakes rapidly and keep on increasing the force you apply to the brake lever. This makes the best possible use of the dynamic increase in load at the front wheel. Remember to pull the clutch at the same time. In the extreme sudden-stop braking situations that are trained so

frequently braking force is applied as rapidly as possible and with the rider's full force applied to the brake levers; under these circumstances the dynamic shift in load distribution cannot keep pace with the increase in deceleration and the tyres cannot transmit the full braking force to the surface of the road. BMW Motorrad ABS prevents the front wheel from locking up.

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 and dirty brakes

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

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

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



Wetness and dirt result in poor braking efficiency.

Apply the brakes lightly while riding to remove wetness and dirt, or dismount and clean the brakes.

Think ahead and brake in good time until full braking efficiency is restored.◀

Parking your motorcycle

Side stand

- Switch off the engine.



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.◀



The side stand is designed to support only the weight of the motorcycle.

Do not lean or sit on the motorcycle with the side stand extended.◀

- Extend the side stand and prop the motorcycle on the stand.

- If the camber of the roadway permits, turn the handlebars all the way to the left.
- On a gradient, the motorcycle should always face uphill; select 1st gear.

Refuelling

Fuel grade

For optimum fuel consumption, fuel should be sulphur-free or as low-sulphur as possible.

 **Leaded fuel will destroy the catalytic converter.**

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

- You can run the engine on fuel with a maximum ethanol content of 10 %, i.e. E10.



Recommended fuel grade

Premium plus unleaded (max. 10 % ethanol, E10)
98 ROZ/RON
91 AKI



Alternative fuel grade

Premium unleaded (slight power restriction and possibly higher fuel consumption) (max. 10 % ethanol, E10)
95 ROZ/RON
89 AKI

Refuelling



Fuel is highly flammable. A naked flame close to the fuel tank can cause a fire or explosion.

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



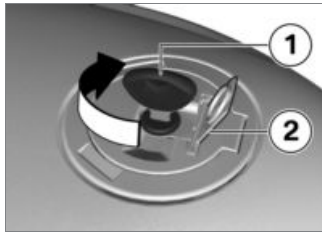
Fuel expands when hot. Fuel escaping from an overfilled tank could make its way onto the road surface. This could cause a fall.

Do not overfill the fuel tank. ◀



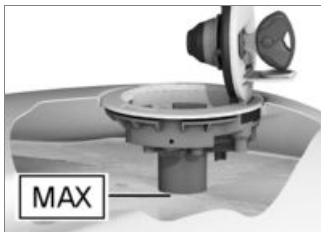
Fuel attacks plastics, which become dull or unsightly. Wipe plastic parts immediately after contact with fuel. ◀

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



- Open the protective cap **2**.

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



- Refuel with fuel of the grade stated below; do not fill the tank past the bottom edge of the filler neck.

▶ If filling occurs after the fuel level has gone below the reserve limit, the amount filled must be greater than the reserve amount for the new fuel level to be recognised and the warning light to switch off.◀

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

	Usable fuel capacity
approx. 18 l	
	Reserve fuel
approx. 3 l	

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

Securing motorcycle for transportation

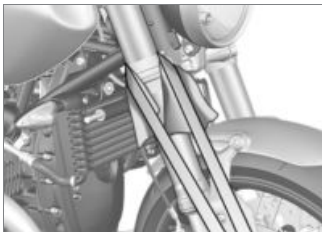
- Make sure that all components that might come into contact with straps used to secure the

motorcycle are adequately protected against scratching. Use adhesive tape or soft cloths, for example, for this purpose.



 The motorcycle can topple and fall on its side. Secure motorcycle against toppling; this is best done with the support of a 2nd person.◀

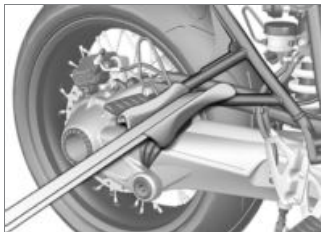
- Push the motorcycle onto the transportation flat and hold it in position: do not place it on the side stand.



Risk of damaging components.

Take care not to trap components such as brake lines or wires. ◀

- At the front, secure the straps to the bottom fork bridge on both sides.



- At the rear, secure the straps to the rear footrests on both sides and tighten the straps.
- Tighten all the straps uniformly; the motorcycle's suspension should be compressed firmly at front and rear.

Engineering details

Brake system with BMW Motorrad

ABS 64

Brake system with BMW Motorrad ABS

How does ABS work?

The amount of braking force that can be transferred to the road depends on factors that include the coefficient of friction of the road surface. Loose stones, ice and snow or a wet road all have much lower coefficients of friction than a clean and dry asphalt surface. The lower the coefficient of friction, the longer the braking distance.

If the rider increases braking pressure to the extent that braking force exceeds the maximum transferable limit, the wheels start to lock and the vehicle loses its directional stability; a fall is imminent. Before this situation can occur, ABS intervenes and adapts braking pressure to the maximum transferable braking force. The wheels continue to

turn and the driving stability is retained irrespective of the road condition.

What are the effects of surface irregularities?

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

circumstances, the system reacts instantly and adjusts braking force accordingly to achieve optimum braking.

Rear wheel lift

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



Severe braking can cause the rear wheel to lift off the ground.

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

What is the design baseline for

BMW Motorrad ABS?

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

Special situations

The speeds of the front and rear wheels are compared as one means of detecting a wheel's incipient tendency to lock. If the system registers implausible values for a lengthy period the ABS function is deactivated for safety reasons and an ABS fault message is issued. Self-diagnosis has to complete before fault messages can be issued.

Exceptional riding conditions can also lead to a fault message being issued:

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

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

How important is regular maintenance?



Invariably, a technical system cannot perform beyond the abilities dictated by its level of maintenance.

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

Reserves for safety

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



Take care when cornering. When you apply the brakes on a corner, the motorcycle's weight and momentum take over

and even BMW Motorrad ABS is unable to counteract their effects. Invariably, the rider bears responsibility for assessing road and traffic conditions and adopting his or her style of riding accordingly.

Do not take risks that would negate the additional safety offered by this system.◀

Maintenance

General instructions.....	68
Toolkit	68
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Wheels	78
Headlight	86
Lighting.....	87
Jump-starting.....	91
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General instructions

The "Maintenance" chapter describes straightforward procedures for checking and replacing certain wear parts.

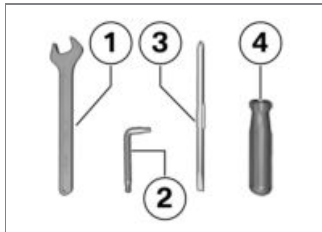
Special tightening torques are listed as applicable. The tightening torques for the threaded fasteners on your vehicle are listed in the section entitled "Technical data".

Further information on maintenance and repair work is available from your BMW Motorrad authorised dealer in the form of a DVD.

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

Toolkit

Standard toolkit



- 1** Open-ended spanner
Width across flats 14
– Adjusting mirror arm (➡ 37).
- 2** Torx wrench, T40
– Adjusting headlight

- 3** Reversible-blade screwdriver with star-head and plain tips
 - Adjusting the damping characteristic for rear wheel (➡ 38).
 - Replacing bulbs for low-beam and high-beam headlight (➡ 87).
 - Replacing bulb for parking light (➡ 88).
 - Replacing bulbs for front and rear turn indicators (➡ 89).
- 4** Screwdriver handle
 - Topping up the engine oil (➡ 72).
 - Use with screwdriver insert.

Front-wheel stand

Install the front-wheel stand



The front wheel stand is not designed to support the motorcycle without the rear-wheel stand. A motorcycle resting only on the front wheel stand and the rear wheel can topple. Place the motorcycle on the rear-wheel stand before lifting the front wheel with the front-wheel stand. ◀

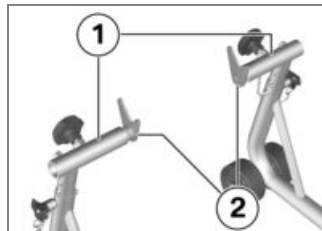
- Place the motorcycle on a front-wheel stand; BMW Motorrad recommends the BMW Motorrad front-wheel stand.
- Install the rear-wheel stand (➡ 70).



- Use the basic stand with the adapters. The basic stand and its accessory components are available from your authorised BMW Motorrad dealer.



- Insert adapter pins **1** into the front suspension on left and right.



- Turn brackets **1** with long ends facing inwards.

- 
- A black and white photograph showing the rear wheel of a motorcycle. The wheel is mounted on a metal stand that has a single small wheel at the front and a long, curved base. The motorcycle's frame and engine are partially visible on the left side of the image.

- ## Rear-wheel stand
- ### Install the rear-wheel stand

-
- Diagram of the upper body support structure. Callout 1 points to the vertical support post. Callout 2 points to the horizontal support bar. Callout 3 points to the adjustment knob on the horizontal bar.

- Remove retaining disc **2**. To do so, press release button **3**.



- Push the rear-wheel stand from the right onto the rear axle.
- Push the retaining disc on from the left, while holding the unlock button down.



! The motorcycle can topple and fall on its side.

Secure motorcycle against toppling; this is best done with the support of a 2nd person.◀

- Hold the motorcycle upright and at the same time press the handle of the stand back until both rollers of the stand are on the ground.
- Then press the handle down to the ground.

Engine oil

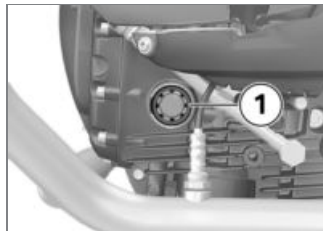
Checking engine oil level

! The oil level varies with the temperature of the oil. The higher the temperature, the higher the level of oil in the sump. Checking the oil level with the engine cold or after no more than a short ride will lead to misinterpretation of oil level. In order to ensure that the engine oil level is read correctly, check the oil level only after at engine operating temperature.◀

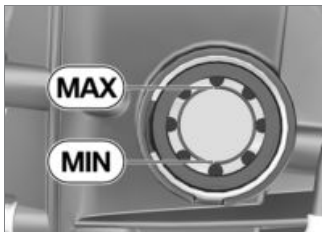
- Switch off the engine when it is at operating temperature.
- Make sure the ground is level and firm and hold the motorcycle upright.
- Wait five minutes for the oil to drain into the oil pan.

▶ As a contribution to reducing environmental impact, BMW Motorrad recommends checking the engine oil on oc-

casion after a trip of at least 50 km.◀



- Check the oil level in oil-level indicator **1**.



Engine oil, specified level

Between MIN and MAX marks

If the oil level is below the MIN mark:

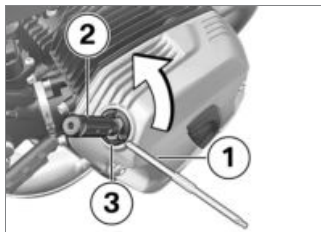
- Topping up the engine oil (→ 72).

If the oil level is above the MAX mark:

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

Topping up the engine oil

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



- Wipe the area around the filler neck clean.
- Insert cross-head end of reversible screwdriver insert **1** into screwdriver handle **2** (on-board toolkit).
- Engage this tool in cap **3** of engine-oil filler neck and turn counter-clockwise to remove.



Damage to the engine can result if it is operated without enough oil, but the same also applies if the oil level is too high.

Always make sure that the oil level is correct.◀

- Top up the engine oil to the specified level.



Engine oil, quantity for topping up

max 0.5 l (Difference between MIN and MAX)

- Checking engine oil level (→ 71).
- Install cap **3** of the oil filler neck.

Brake system

Checking function of brakes

- Pull the front brake lever.

» The pressure point must be clearly perceptible.

- Press the footbrake lever.

» The pressure point must be clearly perceptible.

If pressure points are not clearly perceptible:



Incorrect working practices endanger the reliability of the brakes.

Have all work on the brake system undertaken by trained and qualified specialists. ◀

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

Checking front brake pad thickness

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



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



 Brake-pad wear limit, front

1.0 mm (Friction pad only, without backing plate. The wear indicators (grooves) must be clearly visible.)

If the wear indicating marks are no longer clearly visible:



Brake pads worn past the minimum permissible thickness can cause a reduction in braking efficiency and under certain circumstances they can cause damage to the brake system.

In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.◀

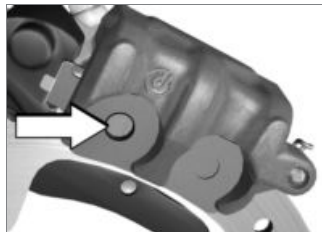
- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Checking rear brake pad thickness

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



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



Brake-pad wear limit,
rear

1.0 mm (Friction pad only, without backing plate. Make sure that the brake disc is not visible through the bore in the inboard brake block.)

If the brake disc is visible:



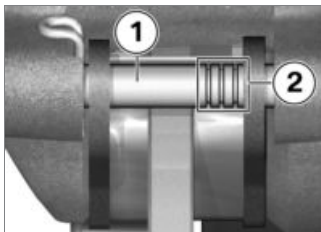
Brake pads worn past the minimum permissible thickness can cause a reduction in braking efficiency and under certain circumstances they can cause damage to the brake system.

In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.◀

- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Brake-pad wear

The rear brake has a brake-pad wear indicator.



Shaft **1** with three marker rings **2** is between the brake pads.

How to interpret the marks:

- 3 rings visible: Brake-pad thickness is at least 75 %
- 2 rings visible: Brake-pad thickness is at least 50 %
- 1 ring visible: Brake-pad thickness is at least 25 %
- No rings visible: Brake pads worn to wear limit; check as described above

Checking brake-fluid level, front brakes



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

Check the brake-fluid level at regular intervals.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Brake-fluid reservoir horizontal, motorcycle upright.



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



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



Brake fluid level, front

Brake fluid, DOT4

It is impermissible for the brake fluid level to drop below the MIN mark. (Brake-fluid reservoir horizontal, motorcycle upright.)

If the brake fluid level drops below the permitted level:

- Have the defect rectified as quickly as possible by a specialist workshop, preferably

an authorised BMW Motorrad dealer.

Checking the brake-fluid level, rear brakes



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

Check the brake-fluid level at regular intervals.◀

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



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

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



Brake fluid level, rear

Brake fluid, DOT4

Do not permit the brake fluid level to drop below the MIN mark. (Brake-fluid reservoir horizontal)

If the brake fluid level drops below the permitted level:

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

Clutch

Checking clutch function

- Pull the clutch lever.
 - » The pressure point must be clearly perceptible.
- If the pressure point is not clearly perceptible:

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

Rims and tyres

Checking rims

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Visually inspect the rims for defects.
- Have any damaged rims inspected by a specialist workshop and replaced if necessary, preferably by an authorised BMW Motorrad dealer.

Check spokes

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

If the notes vary:

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

Check the tyre tread depth



Your motorcycle's handling and grip can be impaired even before the tyres wear to the minimum tyre tread depth permitted by law.

Have the tyres changed in good time before they wear to the

minimum permissible tread depth.◀

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Measure the tyre tread depth in the main tread grooves with wear marks.



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

If the tyre tread is worn to minimum:

- Replace tyre or tyres, as applicable.

Wheels

Tyre recommendation

For each size of tyre, BMW Motorrad tests and classifies as roadworthy certain makes. BMW Motorrad cannot assess the suitability or provide any guarantee of road safety for other tyres.

BMW Motorrad recommends using only tyres tested by BMW Motorrad.

You can obtain detailed information from your authorised BMW Motorrad dealer or on the Internet at **www.bmw-motorrad.com**.

Effect of wheel size on ABS

The wheel size has a large influence on the functionality of the ABS system. In particular, the diameter and the width of a vehicle's wheels are programmed

into the control unit and are fundamental to all calculations. Any change in these influencing variables, caused for example by a switch to non-standard installed wheels, can have serious effects on the performance of the control systems.

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

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

Removing front wheel

▶ The front-wheel cover has to be detached on one side to facilitate wheel removal/installation.◀

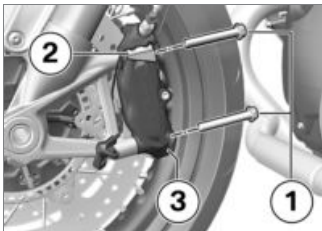
- Make sure the ground is level and firm and place the motorcycle on its stand.



- Slacken screws **1**.
- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.



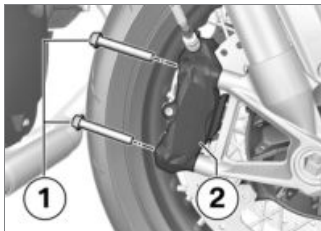
- Disengage the sensor cable **arrow** from the holder.
- Remove screw **1** and remove wheel-speed sensor **2** from its bore.



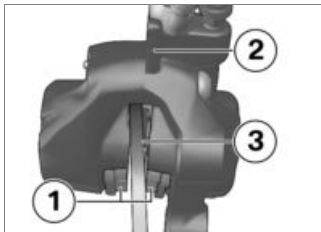
! Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disc on reassembly.

Do not operate the handbrake lever when the brake calipers have been removed.◀

- Remove screws **1** on left.
- Disengage bracket **2** for the sensor cable and brake caliper **3**.



- Remove screws **1** on right and disengage brake caliper **2**.



- Force the brake pads **1** slightly apart by rotational movement of the brake caliper **2** against brake disc **3**.

- Carefully pull the brake calipers back and out until clear of the brake discs.

! The motorcycle can topple and fall on its side.

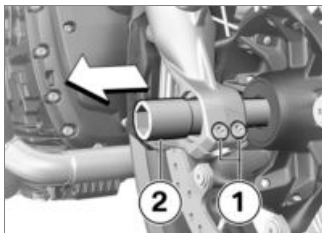
Secure motorcycle against toppling; this is best done with the support of a 2nd person.◀

- Lift the motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand (→ 70).

! The BMW Motorrad front wheel stand is not designed to support the motorcycle without the assistance of an auxiliary stand. A motorcycle resting only on the front wheel stand and the rear wheel can topple.

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

- Lift the front of the motorcycle until the front wheel is clear of the ground, preferably using a BMW Motorrad front-wheel stand.
- Install the front-wheel stand (► 69).



! The left axle clamp locates the threaded bush in the front suspension. If the threaded bush is not correctly aligned the gap between the sensor ring and the sensor will not be correct and this can cause the ABS to malfunction or allow the sensor to be damaged.

In order to ensure that the threaded bush remains correctly aligned, do not slacken or remove the left axle clamp.◀

- Slacken axle clamping screws **1**.
- Remove quick-release axle **2**, while supporting the wheel.
- Do not wipe the grease off the axle.
- Roll the front wheel forward to remove.



- Remove spacing bushing **1** from the left-hand side of the front-wheel hub.

Installing front wheel

! Malfunctions are possible when the ABS system intervenes if non-standard wheels are installed.

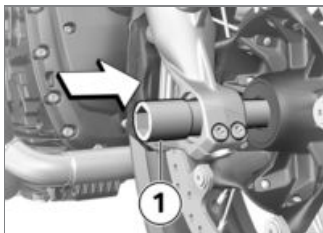
See the information on the effect of wheel size on the ABS system at the start of this chapter.◀

! Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.

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



- Slip spacing bushing **1** into the wheel hub on the left-hand side.



- Lubricate quick-release axle **1**.



Lubricant

Optimoly TA



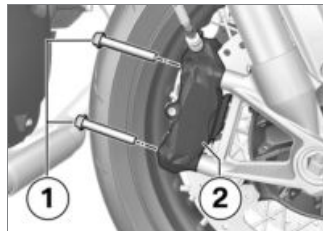
The front wheel must be installed right way round to rotate in the correct direction. Note the direction-of-rotation arrows on the tyre or the wheel rim.◀

- Roll the front wheel into position between the front forks.



Quick-release axle level is not correctly tightened. After securing the brake calipers and relieving the front forks, tighten the quick-release axle and the axle clamping screws to the specified torque.◀

- Lift the front wheel, insert quick-release axle **1** and secure it loosely.

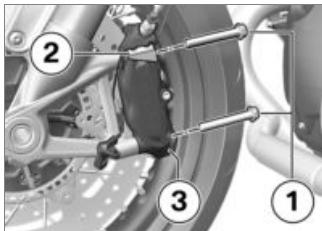


- Hold right brake caliper **2** in position and install screws **1**.



Brake caliper on telescopic fork

38 Nm



- Hold left brake caliper **3** and bracket **2** in position.
- Install screws **1**.



Brake caliper on telescopic fork

38 Nm

- Remove the adhesive tape from the wheel rim.



- Secure the sensor cable **arrow** to the brake line.
- Insert wheel-speed sensor **2** into the bore and install with screw **1**.



Braking efficiency is impaired if the brake pads are not correctly bedded against the discs.

Before riding off, always check that the brakes bite as soon as the brake lever is pulled or the brake pedal depressed.◀

- Operate the brake several times until the brake pads are bedded.

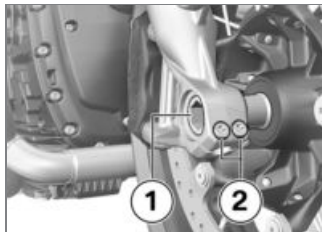
- Removing the front-wheel stand.
- Extend the side stand.



The motorcycle can topple and fall on its side.

Secure motorcycle against toppling; this is best done with the support of a 2nd person.◀

- Remove the rear-wheel stand.
- Place the motorcycle on its side stand.



- Firmly compress the front forks several times.
- Firmly tighten quick-release axle **1**.



Quick-release axle in axle holder

50 Nm

- Tighten axle clamping screws **2**.



Clamping screws (quick-release axle) in axle holder

Tightening sequence: Tighten each screw in alternate sequence three times

19 Nm



- Tighten screws **1**.

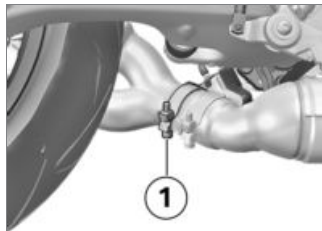


Wheel cover, front, to forks

5 Nm

Removing rear wheel

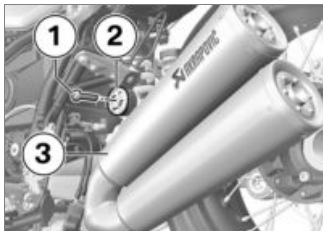
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Install the rear-wheel stand (→ 70).



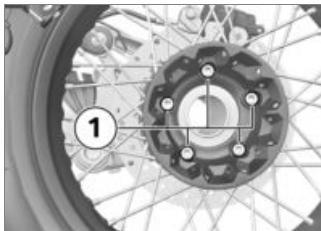
Risk of burns from hot exhaust system.

Do not touch hot parts of the exhaust system. ◀

- Slacken screw **1** of the clamp and slip the clamp to the rear.
- Do not remove the sealing grease from the clamp.



- Remove screw **1** and retaining plate **2** of the holder of the silencer from the rear footrest.
- Work silencer **3** to the rear to remove and lay it on a padded rest.
- Engage first gear.



- Remove axle **1**, while supporting the wheel.
- Roll the rear wheel out toward the rear.

Installing the rear wheel



Malfunctions are possible when the ABS system intervenes if non-standard wheels are installed.

See the information on the effect of wheel size on the ABS system at the start of this chapter.◀

- Seat the rear wheel on the rear-wheel adapter.



- Install screws **1**.

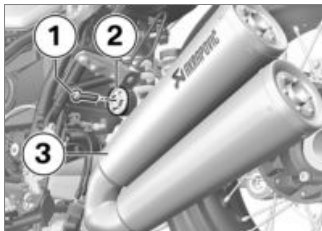


Rear wheel to wheel carrier

Tightening sequence: tighten in diagonally opposite sequence

60 Nm

- Slip the silencer on to the pipe at the exhaust-flow control valve.

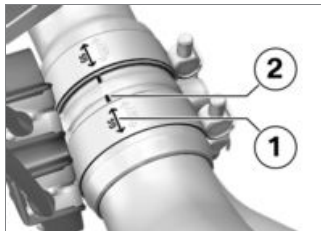


- Align silencer **3**, hold retaining plate **2** in position and install screw **1**.



Silencer to rear-seat frame

10 Nm



- Slip the clamp forward as far as it will go and turn it so that the **(GS)** mark **1** on the clamp is in line with mark **2**.



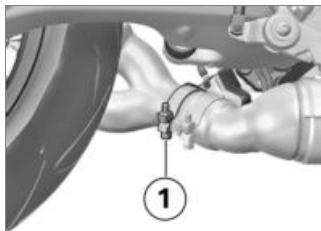
Clamp to silencer and exhaust manifold

25 Nm

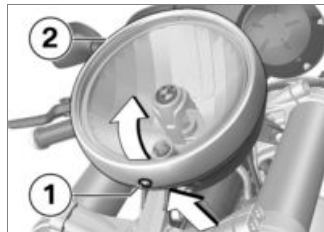
Headlight

Removing and installing light housing

- Switching off ignition (→ 30).
- Make sure the ground is level and firm and place the motorcycle on its stand.

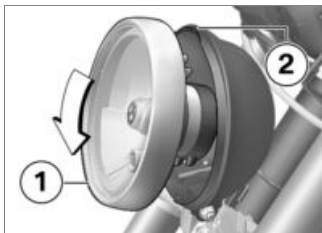


- Tighten screw **1**.

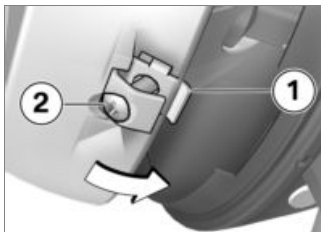


- Slacken screw **1** several turns.
- Carefully ease the bottom of light housing **2** in the direction

indicated **(arrow)** and lift up to remove.



- Position light housing **1** behind lug **2** and pivot it down.
- Centre light housing **1**.



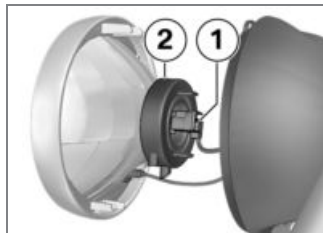
! A blow to the light housing can push the clip out of shape. This would mean that the security of the light housing would no longer be ensured. Do not apply force. ◀

- Use a screwdriver to push screw **2** up.
- Pivot the light housing back.
 - » Clip **1** engages the light housing.
- Tighten screw **2**.

Lighting

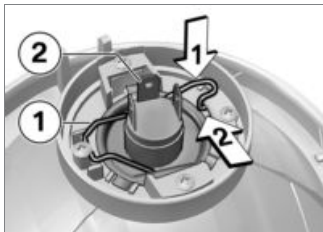
Replacing bulbs for low-beam and high-beam headlight

- Switching off ignition (➡ 30).
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the light housing (➡ 86).



- Disconnect plug **1** for low-beam and high-beam headlight.

- Remove rubber seal **2** from the light housing.



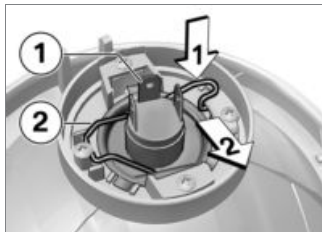
- Press spring clip **1** down and swing it aside clear of the catch, then flip the spring clip up to open.
- Working **carefully**, remove bulb **2** for high-beam and low-beam headlight from the light housing.
- Replace the defective bulb.



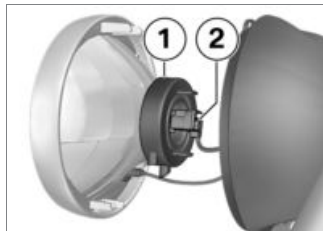
Bulb for low-beam and
high-beam headlight

H4 / 12 V / 60/55 W

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



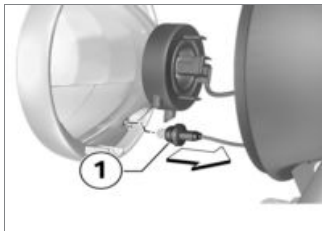
- Insert bulb **1** into the light housing.
- Flip spring clip **2** closed and seat it in the catch.



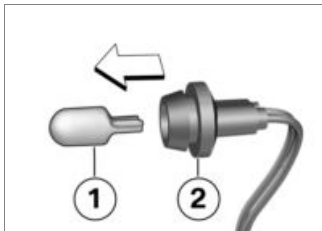
- Install rubber cap **1**.
- Connect plug **2** for low-beam and high-beam headlight.
- Install the light housing.

Replacing bulb for parking light

- Switching off ignition (III → 30).
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the light housing (III → 86).



- Remove socket **1** for the parking light from the light housing.



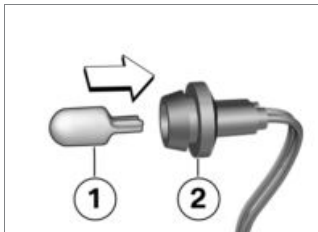
- Remove bulb **1** from socket **2**.
- Replace the defective bulb.



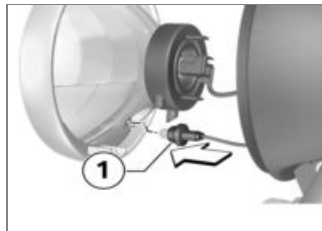
Bulb for parking light

W5W / 12 V / 5 W

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



- Insert bulb **1** for the parking light into socket **2**.



- Insert socket **1** for the parking light into the light housing.
- Install the light housing.

Replacing bulbs for front and rear turn indicators

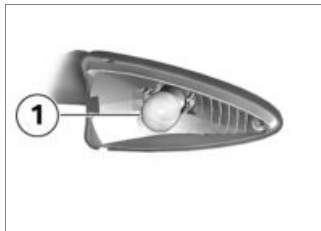
- Switching off ignition (III 30).
- Make sure the ground is level and firm and place the motorcycle on its stand.



- Remove screw **1**.



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



- Turn bulb **1** counter-clockwise and remove it from the light housing.
- Replace the defective bulb.



Bulbs for flashing turn indicators, front

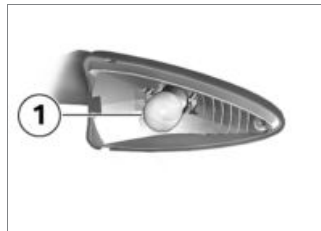
RY10W / 12 V / 10 W



Bulbs for flashing turn indicators, rear

RY10W / 12 V / 10 W

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



- Turn bulb **1** clockwise to install it in the light housing.



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



- Install screw **1**.

Replacing LED rear light

The LED rear light can be replaced only as a complete unit.

- Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.

Jump-starting

! The wires leading to the power socket do not have a load-capacity rating adequate for jump-starting the engine. Excessively high current can lead

to a cable fire or damage to the vehicle electronics.

Do not use the on-board socket to jump-start the engine of the motorcycle. ◀



A short-circuit can result if the crocodile clips of the jump leads are accidentally brought into contact with the motorcycle.

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

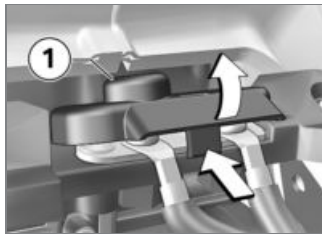


Jump-starting with a donor battery voltage higher than 12 V can damage the vehicle electronics.

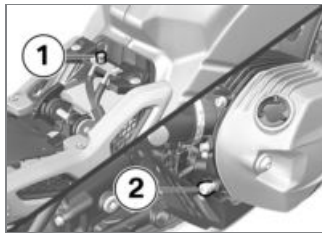
Make sure that the battery of the donor vehicle has a voltage rating of 12 V. ◀

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the rear seat (➡ 41).

- Remove the front seat (➡ 40).



- Unclip cover **1** at the bottom **arrow** and work it up to remove.



- Begin by connecting one end of the red jump lead to battery-

positive connection point **1** and the other end to the positive terminal of the donor battery.

- Connect one end of the black jump lead to screw terminal **1** on the vehicle and the other end to the negative terminal of the donor battery.
- Run the engine of the donor vehicle during jump-starting.
- Start the engine of the vehicle with the discharged battery in the usual way; if the engine does not start, wait a few minutes before repeating the attempt in order to protect the starter motor and the donor battery.
- Allow both engines to idle for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from screw terminal **2** first, then disconnect the second jump lead from battery-positive connection point **1**.

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

Battery

Maintenance instructions

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

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

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



If the battery is not disconnected, the on-board electronics (e.g. clock, etc.) gradually drain the battery. This can cause the battery to run flat. If this happens, warranty claims will not be accepted.

Connect a float charger to the battery if the motorcycle is to remain out of use for more than four weeks.◀



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

Charge the battery when connected

- Disconnect devices plugged into the sockets.



Charging the connected battery directly at the battery terminals can damage the vehicle electronics.

Always disconnect the battery from the on-board circuits before recharging it with a charger connected directly to the battery posts.◀



Only chargers suitable for this mode of charging can be used to recharge the battery via the on-board socket. Unsuitable chargers could cause damage to the motorcycle's on-board electrics.

Use suitable BMW chargers. The suitable charger is available from your authorised BMW Motorrad dealer.◀



If you switch on the ignition and the multifunction display and indicator lights fail to light up, the battery is completely flat (battery voltage is less than 9 V). Attempting to charge a completely flat battery via the extra socket can cause damage to the motorcycle's electronics. If a battery has discharged to the extent that it is completely flat, it has to be disconnected from the on-board circuits and charged with the charger connected directly to the battery posts.◀

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



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

- Comply with the operating instructions of the charger.



If you are unable to charge the battery through the on-board socket, you may be using a charger that is not compatible with your motorcycle's electronics. If this happens, disconnect the battery from the on-board systems and connect the charger directly to the battery.◀

Charging battery when disconnected

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



The battery has to be recharged at regular intervals in the course of a lengthy period

of disuse. See the instructions for caring for your battery. Always fully recharge the battery before restoring it to use.◀

Replacing battery

Consult a specialist workshop, preferably an authorised BMW Motorrad dealer, if the battery is faulty.

Accessories

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General instructions



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

BMW has conducted extensive testing of the parts and accessory products to establish that they are safe, functional and suitable. Consequently, BMW accepts product liability. BMW

accepts no liability whatsoever for parts and accessories that it has not approved.

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

Your BMW Motorrad dealer can offer expert advice on the choice of genuine BMW parts, accessories and other products.

You can examine all the optional accessories from BMW Motorrad by visiting our website:

"www.bmw-motorrad.com".

Power sockets

Notes on use of power sockets:

Automatic shutdown

The power sockets are shut down automatically under the following circumstances:

- If battery charge state is too low to maintain the motor-cycle's start capability
- If maximum load capability as stated in the technical data is exceeded
- When the engine is being cranked on the starter.

Connection of electrical devices

You can start using electrical devices connected to the motor-cycle's sockets only when the ignition is switched on. The power supply to the sockets is switched off no more than 15 minutes after the ignition is switched off, in order to prevent overloading of the on-board electrics.

Cable routing

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

- Make sure that the cables do not hinder or obstruct the rider in any way.
- Make sure that the cables do not affect the movement of the handlebars and the handling of the vehicle in any way.
- Make sure that cables cannot become kinked or trapped.

Luggage

Securing luggage to motorcycle



Overloading and imbalanced loads can adversely affect the motorcycle's handling. Do not exceed the permissible gross weight and be sure to comply with the instructions on loading. ◀



Secure luggage (e.g. rear soft-bag) to lashing eyes **1**.

BMW Motorrad You can obtain additional information on luggage systems and how to secure them correctly from your authorised dealer.

Rear-seat frame

Removing rear-seat frame



Take care not to scratch or damage the paintwork. Use a padded surface or mask off the area that could be damaged. ◀

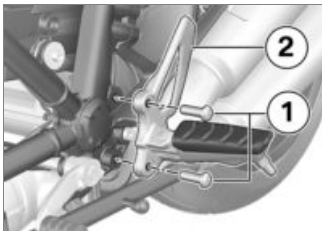


An optional accessory (bracket for silencer) has to be installed if the rear-seat frame is removed.

Detailed information is available from your authorised BMW Motorrad dealer or in the internet at **www.bmw-motorrad.com**.

Also be sure to consult the general notes at the start of this section. ◀

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Install the rear-wheel stand (➡ 70).
- Remove the rear seat (➡ 41).
- Remove the front seat (➡ 40).

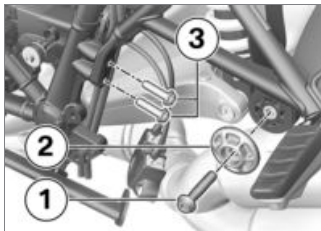


- Remove screws **1** and remove left footrest system **2**.

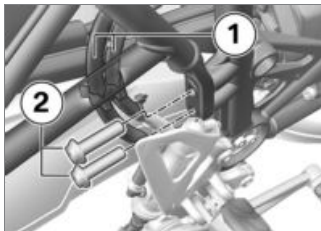


Take care not to scratch or damage the paintwork.

Use a padded surface or mask off the area that could be damaged.◀



- Remove screw **1** and washer **2**.
- Remove screws **3**.

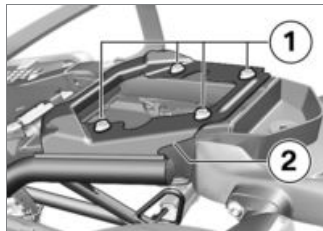


Risk of damaging components.

Take care not to trap

components such as brake lines or wires.◀

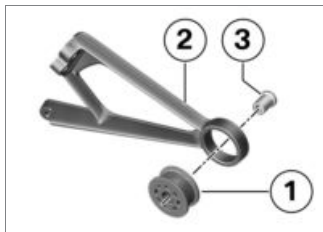
- Disengage lines **1** from the holder.
- Remove screws **2**.



- Remove screws **1** and work rear-seat frame **2** to the rear to remove.

Preparing bracket for silencer

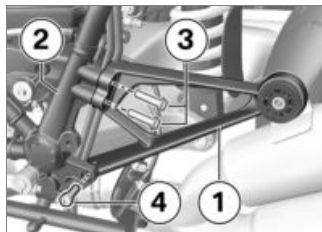
– with bracket for silencer^{OA}



- Secure rubber decoupling element **1** in bracket **2** for the silencer and install shouldered bushing **3** from the right.

Installing bracket for silencer

– with bracket for silencer^{OA}



- Position bracket **1** for the silencer on rear frame **2**.
- Loosely install screws **3** and **4**.
- Tighten screws **3**.

 Rear-seat frame to rear frame

19 Nm

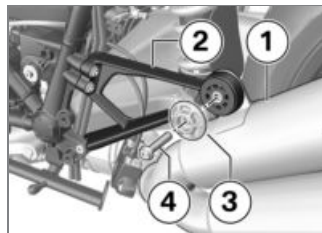
- Tighten screw **4**.

 Bracket for silencer to frame

19 Nm

Securing silencer

– with bracket for silencer^{OA}

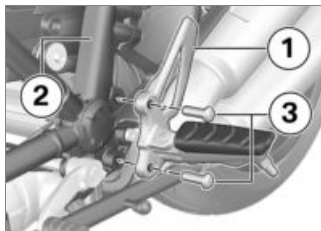


- Align silencer **1** with bracket **2**, hold washer **3** in position and install screw **4**.

 Silencer to bracket

10 Nm<

Installing left footrest system



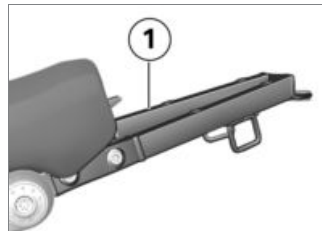
- Hold left footrest system **1** in position on rear frame **2** and install screws **3**.



Footrest system to rear frame

19 Nm

Loading correctly; rear-seat frame not fitted



Overloading and imbalanced loads can adversely affect the motorcycle's handling. Do not exceed the permissible gross weight and be sure to comply with the instructions on loading. ◀

- Once the rear-seat frame has been removed, it is essential to comply with the load limit specified for the luggage frame **1** (see graphic).



Load on luggage frame

max 8 kg

Optional accessory

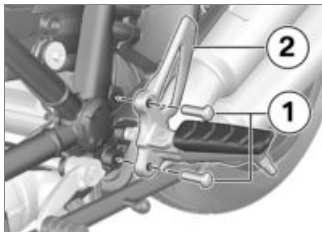


Your BMW Motorrad dealer can offer expert advice on the choice of genuine BMW parts, accessories and other products such as the aluminium tail-hump cover and the cover for the rear frame. You can examine all the optional accessories from BMW Motorrad by visiting our website:

"www.bmw-motorrad.com".

Installing rear-seat frame

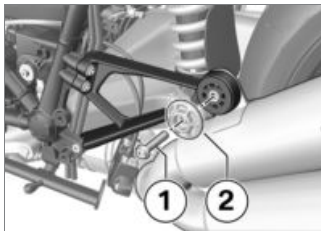
Removing left footrest system



- Remove screws **1** and remove left footrest system **2**.

Removing silencer

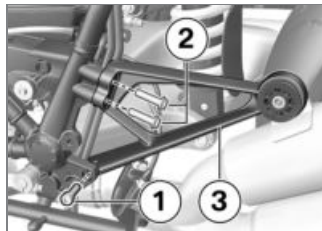
– with bracket for silencer^{OA}



- Remove screw **1** and washer **2**.

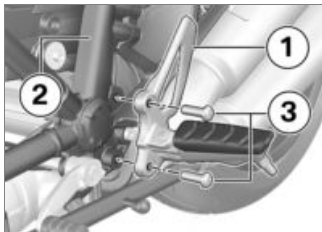
Removing bracket for end silencer

– with bracket for silencer^{OA}



- Remove screws **1** and **2**.
- Remove bracket **3** for the silencer.

Installing left footrest system



- Hold left footrest system **1** in position on rear frame **2** and install screws **3**.



Footrest system to rear frame

19 Nm

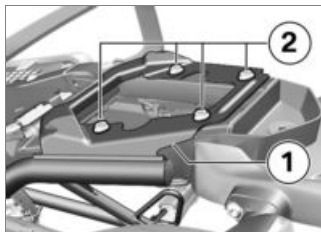
Installing rear-seat frame



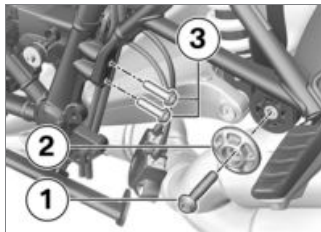
Take care not to scratch or damage the paintwork.

Use a padded surface or mask off the area that could be damaged.◀

- Remove the front seat (▶▶▶ 40).



- Insert rear-seat frame **1** from behind and loosely install screws **2**.



- Loosely install screw **1** and retaining plate **2**.

- Install screws **3**.



Rear-seat frame to rear frame

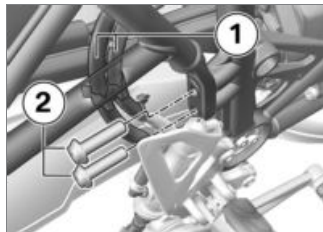
19 Nm

- Tighten screw **1**.



Silencer to rear-seat frame

10 Nm



Risk of damaging components.

Take care not to trap components such as brake lines or wires.◀

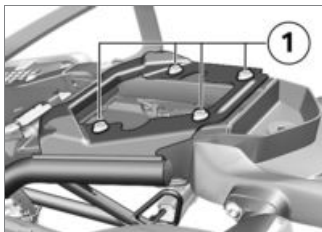
- Secure lines **1** in holder **2**.
- Install screws **2**.



Rear-seat frame to rear frame

19 Nm

- Remove the rear-wheel stand.



- Tighten screws **1**.



Rear-seat frame to luggage frame

8 Nm

- Remove all masking tape.
- Installing front seat (➡ 41).
- Install the rear seat (➡ 41).

Care

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Care products

BMW Motorrad recommends that you use the cleaning and care products you can obtain from your authorised BMW Motorrad dealer.

The substances in BMW CareProducts have been tested in laboratories and in practice; they provide optimised care and protection for the materials used in your vehicle.

 The use of unsuitable cleaning and care products can damage vehicle components. Do not use solvents such as cellulose thinners, cold cleaners, fuel or the like, and do not use cleaning products that contain alcohol.◀

Washing the motorcycle

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

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

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

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

 After the motorcycle has been washed, ridden through water or ridden in the rain, the brake discs and pads might be wet and the

brakes might not take effect immediately.

Apply the brakes in good time until the brake discs and brake pads have dried out.◀

 Warm water intensifies the effect of salt.

Use only cold water to wash off road salt.◀

 The high 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 easily damaged components

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. Even insect-remover pads or cleaning pads with hard surfaces can produce scratches.◀

Body panels

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

Headlight glass and lenses made of plastic

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



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



Clean with water and sponge only.



Do not use any chemical cleaning agents.

Chrome

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

Radiator

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



Cooling fins can be bent easily.

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

Rubber

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



Using silicone sprays for the care of rubber seals can cause damage.

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

Paint care

Washing the vehicle regularly will help counteract the long-term effects of substances that damage the paint, especially if your vehicle is ridden in areas with high air pollution or natural sources of dirt, for example tree resin or pollen.

Remove particularly aggressive substances immediately, however, as otherwise the paint can be affected or become discoloured. Substances of this nature include spilt fuel, oil, grease, brake fluid and bird droppings. We recommend BMW vehicle polish or BMW paint cleaner for this purpose.

Marks on the paintwork are particularly easy to see after the motorcycle has been washed.

Remove stains of this kind immediately, using cleaning-grade benzene or petroleum spirit on a clean cloth or ball of cotton wool. BMW Motorrad recommends BMW tar remover for removing specks of tar. Remember to wax the parts treated in this way.

Laying up the motorcycle

- Clean the motorcycle.
- Remove the battery.
- Spray the brake and clutch lever pivots and the side stand pivot mounts with a suitable lubricant.
- Coat bright metal and chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Stand the motorcycle in a dry room in such a way that there is no load on either wheel.

Protective wax coating

BMW Motorrad recommends applying only BMW car wax or products containing carnauba wax or synthetic wax.

It is time to rewax the paintwork when water "puddles" on the surface, instead of forming beads.

Restoring motorcycle to use

- Remove the protective wax coating.
- Clean the motorcycle.
- Install a charged battery.
- Before starting: work through the checklist.

Technical data

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Troubleshooting chart

Engine does not start or is difficult to start.

Possible cause	Rectification
Emergency off switch (kill switch)	Kill switch in operating position
Side stand extended and gear engaged	Retract the side stand
Gear engaged and clutch not disengaged	Select neutral or pull clutch lever
No fuel in tank	Refuelling (▮▮▮▶ 60).
Battery flat	Charge the battery when connected (▮▮▮▶ 93).

Threaded fasteners

Front wheel	Value	Valid
Brake caliper on telescopic fork		
M10 x 65	38 Nm	
Clamping screws (quick-release axle) in axle holder		
M8 x 35	Tighten each screw in alternate sequence three times	
	19 Nm	
Quick-release axle in axle holder		
M24 x 1.5	50 Nm	
Rear wheel	Value	Valid
Clamp to silencer and exhaust manifold		
M8 x 40 - 10.9	25 Nm	
Silencer to rear-seat frame		
M8 x 40	10 Nm	

Rear wheel		Value	Valid
Rear wheel to wheel carrier			
M10 x 53 x 1.25	Tighten in diagonally opposite sequence		
	60 Nm		
Mirror arm		Value	Valid
Mirror (lock nut) to adapter			
Left-hand thread, M10 x 1.25		22 Nm	
Adapter to clamping block			
M10		25 Nm	
Headlight		Value	Valid
Headlight to bracket			
M8 x 40		19 Nm	
Front-wheel cover		Value	Valid
Wheel cover, front, to forks			
M5 x 20		5 Nm	

Engine

Location of engine number	Crankcase, bottom right, in front of cylinder
Engine type	122EJ
Engine design	Four-stroke opposed twin, air-cooled with oil-cooled exhaust ports, installed longitudinally, two overhead camshafts and four radially positioned valves per cylinder, electronic engine management
Displacement	1170 cm ³
Cylinder bore	101 mm
Piston stroke	73 mm
Compression ratio	12.0 : 1
Nominal output	81 kW, at engine speed: 7750 min ⁻¹
Torque	119 Nm, - at engine speed: 6000 min ⁻¹
Maximum engine speed	max 8500 min ⁻¹
Idle speed	1150 $\pm$ 50 min ⁻¹ , engine at regular operating temperature

Fuel

Recommended fuel grade	Premium plus unleaded (max. 10 % ethanol, E10) 98 ROZ/RON 91 AKI
Alternative fuel grade	Premium unleaded (slight power restriction and possibly higher fuel consumption) (max. 10 % ethanol, E10) 95 ROZ/RON 89 AKI
Usable fuel capacity	approx. 18 l
Reserve fuel	approx. 3 l
Exhaust emissions standard	EU 3

BMW recommends BP fuels



Engine oil

Engine oil, capacity	max 4.0 l, with filter change
Viscosity class	Product recommended by BMW Motorrad: BMW Motorrad High Performance oil, SAE 15W-50, API SJ / JASO MA2
Engine oil, quantity for topping up	max 0.5 l, difference between MIN and MAX

BMW recommends 

Clutch

Clutch type	Single-plate dry clutch
-------------	-------------------------

Transmission

Gearbox type	Helical 6-speed gearbox with integral reaction damper, claw-action shift by sliding sleeves
Gearbox transmission ratios	1.737, Primary transmission ratio 2.375 (38:16 teeth), 1st gear 1.696 (39:23 teeth), 2nd gear 1.296 (35:27 teeth), 3rd gear 1.065 (33:31 teeth), 4th gear 0.939 (31:33 teeth), 5th gear 0.848 (28:33 teeth), 6th gear

Rear-wheel drive

Type of final drive	Shaft drive with bevel gears
Type of rear suspension	Cast-aluminium single swinging arm with BMW Motorrad Paralever
Gear ratio of final drive	2.910 (32/11 teeth)

Running gear

Front wheel

Type of front suspension	Upside-down telescopic fork
Spring travel, front	120 mm, at wheel

Rear wheel

Type of rear suspension	Cast-aluminium single swinging arm with BMW Motorrad Paralever
Type of rear suspension	Central shock absorber complete with torsion spring, adjustable rebound-stage damping and spring preload
Spring travel at rear wheel	120 mm
Recommended suspension setting for one-up riding	Spring preload, turn the dial counter-clockwise as far as it will go Damping, turn the adjusting screw clockwise as far as it will go, then back it off 1.5 turns
Recommended suspension setting for two-up riding	Spring preload, turn the dial clockwise as far as it will go Damping, turn the adjusting screw clockwise as far as it will go, then back it off 1 turn

Brakes

Type of front brake	Hydraulically actuated twin-disc brake with 4-piston radial monobloc calipers and floating brake discs
Brake-pad material, front	Sintered metal
Brake disc thickness, front	min 4 mm, wear limit
Play of brake controls (Front brake)	1.85±0.25 mm, at piston
Type of rear brake	Hydraulically actuated disc brake with 2-piston floating caliper and fixed disc
Brake-pad material, rear	Organic material
Brake disc thickness, rear	min 4.5 mm, wear limit
Play of brake controls (Rear brake)	0.7±0.2 mm, at piston

Wheels and tyres

Recommended tyre sets	You can obtain an up-to-date list of approved tyres from your authorised BMW Motorrad dealer or on the Internet at " www.bmw-motorrad.com "
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Front wheel

Front wheel type	Spoked wheel with 40 spokes
Front wheel rim size	3.5" x 17"
Tyre designation, front	120 / 70 ZR 17
Wheel load, front, at unladen weight	112 kg
Permissible wheel load, front	max 160 kg
Permissible front-wheel imbalance	max 5 g

Rear wheel

Rear-wheel type	Spoked wheel with 40 spokes
Rear wheel rim size	5.50" x 17"
Tyre designation, rear	180 / 55 ZR 17
Wheel load, rear, at unladen weight	110 kg
Permissible wheel load, rear	max 270 kg

Tyre pressures

Tyre pressure, front	2.5 bar, tyre cold
Tyre pressure, rear	2.5 bar, one-up, tyre cold 2.9 bar, two-up, tyre cold

Electrics

Electrical rating of on-board socket	5 A
Fuses	Electronic fuses protect the circuits. If an electronic fuse trips and de-energises a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.

Battery

Battery type	AGM (Absorbent Glass Mat) battery
Battery rated voltage	12 V
Battery rated capacity	14 Ah

Spark plugs

Spark plugs, manufacturer and designation	NGK MAR8B-JDS
Electrode gap of spark plug	0.8 mm

Lighting

Bulb for low-beam and high-beam headlight	H4 / 12 V / 60/55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for tail light/brake light	LED
Bulbs for flashing turn indicators, front	RY10W / 12 V / 10 W
Bulbs for flashing turn indicators, rear	RY10W / 12 V / 10 W

Frame

Frame type	4-part tubular-steel frame with partially load-bearing propulsion unit
Type plate location	Steering head, front left
Position of the Vehicle Identification Number	Rear frame front right at bottom

Dimensions

Length of motorcycle	2085 mm
Height of motorcycle	1265 mm, in DIN normal-load position; with mirrors
Width of motorcycle	890 mm, with mirrors
Front-seat height	785 mm, without rider
– with Custom front seat ^{OA}	775 mm, without rider
Rider's inside-leg arc, heel to heel	1760 mm, without rider
– with Custom front seat ^{OA}	1755 mm, without rider

Weights

Unladen weight	222 kg, DIN unladen weight, ready for road, 90 % load of fuel, without optional extras
Permissible gross weight	430 kg
Maximum payload	208 kg

Riding specifications

Top speed	>200 km/h
Starting capability on uphill gradients (at permissible gross weight)	20 %

Anti-theft alarm

– with anti-theft alarm^{OE}

Activation time on arming	15 s
Alarm duration	26 s
Activation time between two alarms	12 s
Temperature range	-40...85 °C
Operating voltage	9...16 V

Remote control

– with anti-theft alarm^{OE}

Range of the remote control	10 m
Reception standby for signal from remote control	1 h, after ignition OFF
Signal frequency	25 kHz, Broadband
Transmission frequency	433.92 MHz
Battery voltage (for remote control)	3 V
Battery type (for remote control)	CR 2032 lithium

Service

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BMW Motorrad Service

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

Visit our website www.bmw-motorrad.com to find out where the nearest authorised BMW Motorrad dealership is located.



If maintenance and repair work is performed inexpertly, it could result in consequential damage and thus constitute a safety risk.

BMW Motorrad recommends you to have all the associated work on your motorcycle carried out by a specialist work-

shop, preferably an authorised BMW Motorrad dealer. ◀

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

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

BMW Motorrad Mobility services

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

Maintenance work

BMW Pre-delivery Check

Your authorised BMW Motorrad dealer conducts the BMW pre-delivery check before handing over the vehicle to you.

BMW Running-in Check

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

BMW Service

The BMW Service is carried out once a year; the extent of servicing can vary, depending on the age of the vehicle and the distance it has covered. Your authorised BMW Motorrad dealer confirms that the service work has been carried out and enters the date when the next service will be due.

Riders who cover long distances in a year might have to bring in their vehicles for service before the next scheduled date. It is to allow for these cases that a maximum odometer reading is entered as well in the confirmation of service. Servicing has to be brought forward if this odo-

meter reading is reached before the next scheduled date for the service.

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

Confirmation of maintenance work

BMW Pre-delivery Check

Completed

on _____

Stamp, signature

BMW Running-in Check

Completed

on _____

Odometer reading _____

Next service
at the latest

on _____

or, if logged beforehand,

Odometer reading _____

Stamp, signature

BMW Service

Completed

on _____

Odometer reading _____

Next service
at the latest

on _____

or, if logged beforehand,

Odometer reading _____

Stamp, signature**BMW Service**

Completed

on _____

Odometer reading _____

Next service
at the latest

on _____

or, if logged beforehand,

Odometer reading _____

Stamp, signature**BMW Service**

Completed

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Next service
at the latest

on _____

or, if logged beforehand,

Odometer reading _____

Stamp, signature

BMW Service

Completed

on _____

Odometer reading _____

Next service
at the latest

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or, if logged beforehand,

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Stamp, signature**BMW Service**

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BMW Service

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BMW Service

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Odometer reading _____

Stamp, signature**BMW Service**

Completed

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Odometer reading _____

Next service
at the latest

on _____

or, if logged beforehand,

Odometer reading _____

Stamp, signature

Confirmation of service

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

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[illegible]

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Details described or illustrated in this booklet may differ from the vehicle's actual specification as purchased, the accessories fitted or the national-market specification. No claims will be entertained as a result of such discrepancies.

Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.

The right to modify designs, equipment and accessories is reserved.

Errors and omissions excepted.

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Important data for refuelling:

Fuel	
Recommended fuel grade	Premium plus unleaded (max. 10 % ethanol, E10) 98 ROZ/RON 91 AKI
Alternative fuel grade	Premium unleaded (slight power restriction and possibly higher fuel consumption) (max. 10 % ethanol, E10) 95 ROZ/RON 89 AKI
Usable fuel capacity	approx. 18 l
Reserve fuel	approx. 3 l
Tyre pressures	
Tyre pressure, front	2.5 bar, tyre cold
Tyre pressure, rear	2.5 bar, one-up, tyre cold 2.9 bar, two-up, tyre cold

BMW recommends 

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