

Rider's Manual

R 1200 R, Classic



BMW Motorrad



The Ultimate
Riding Machine

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 motorcycle from BMW and welcome you to the community of BMW riders. Familiarise yourself with your new motorcycle so that you can ride it safely and confidently in all traffic situations.

Please read this Rider's Manual carefully before starting to use your new BMW motorcycle. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features.

In addition, it contains information on maintenance and care to help you maintain your motorcycle's reliability and safety, as well as its value.

If you have questions concerning your motorcycle, your authorised

BMW Motorrad dealer will gladly provide advice and assistance.

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

BMW Motorrad.

01 41 8 525 741



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General instructions

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Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and repair work on the 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 motorcycle 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.



Item of technical data.

OE

Optional extra

The motorcycles are assembled complete with all the BMW 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

ASC

Automatic Stability Control.

ESA Electronic Suspension Adjustment
Electronic Suspension Adjustment.

RDC Tyre pressure monitoring (ReifenDruck-Control)

Equipment

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

find these features described in separate manuals.

Technical data

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

Currency

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

the basis of the data, illustrations or descriptions in this manual.

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General view, left side

- 1 Clutch-fluid reservoir
( 91)
- 2 Fuel filler neck ( 64)
- 3 Power socket ( 76)
- 4 Adjuster for damping characteristic ( 49)
- 5 Engine oil level indicator
( 85)



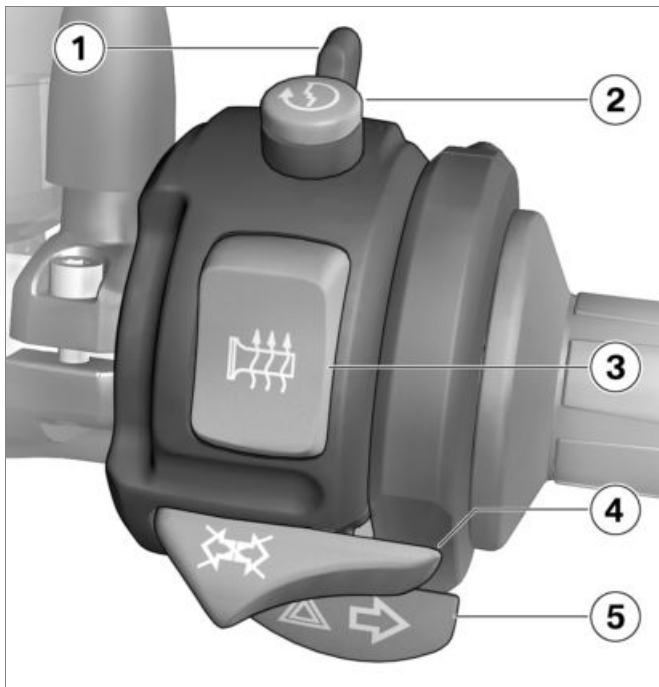
General view, right side

- 1 Seat lock (▮▮▮▮ 52)
- 2 Engine-oil filler neck
(▮▮▮▮ 86)
- 3 Brake-fluid reservoir, front
(▮▮▮▮ 89)
- 4 Vehicle Identification Number (VIN) (on steering-head bearing)

Multifunction switch, left

- 1 Selecting readings (➡ 40)
- 2 – with Automatic Stability Control (ASC)^{OE}
Operating ASC (➡ 45)
- 3 – with Electronic Suspension Adjustment (ESA)^{OE}
Operating ESA (➡ 50)
- 4 Horn
- 5 Flashing turn indicators, left (➡ 42)
Hazard warning flashers (➡ 43)
- 6 High-beam headlight and headlight flasher (➡ 42)



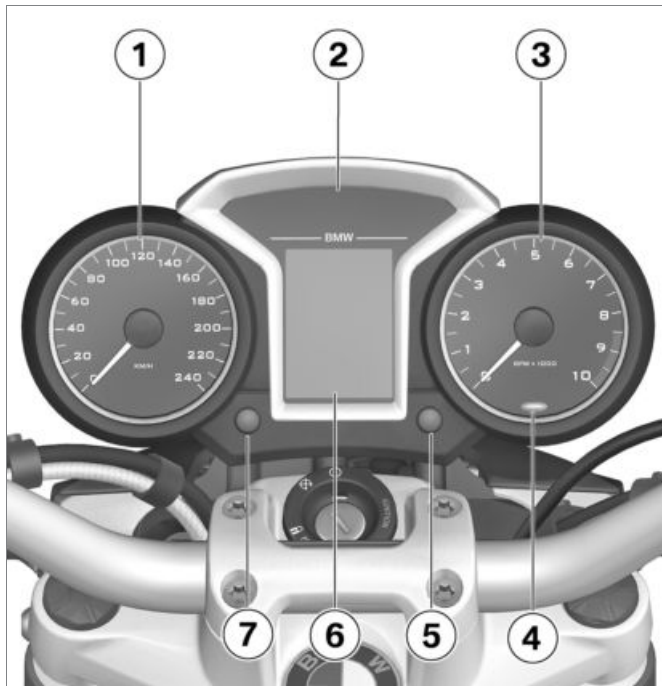


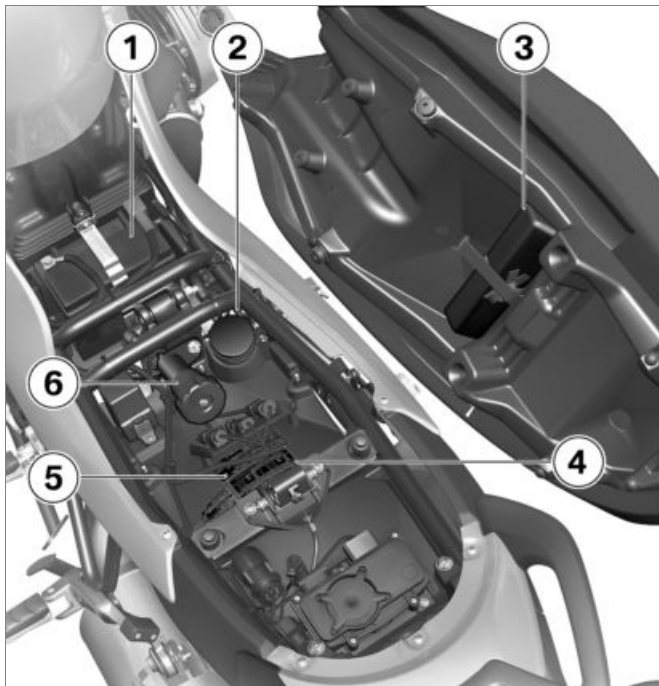
Multifunction switch, right

- 1** Emergency off switch (kill switch) (➡ 44)
- 2** Starter button (➡ 59)
- 3** – with heated handlebar grips^{OE}
Grip heating (➡ 44)
- 4** Cancel button, flashing turn indicators (➡ 42)
Pushbutton, cancel hazard warning flashers (➡ 43)
- 5** Flashing turn indicators, right (➡ 42)
Hazard warning flashers (➡ 43)

Instrument panel

- 1 Speedometer
- 2 Warning and telltale lights
( 22)
- 3 Rev. counter
- 4 Ambient-light brightness sensor (for adapting the brightness of the instrument lighting)
– with anti-theft alarm^{OE}
Anti-theft alarm telltale light
(see the instructions for use for the anti-theft alarm)
- 5 Operation of the clock
( 40)
- 6 Multifunction display
( 20)
- 7 Control for the odometer
( 40)





Underneath the seat

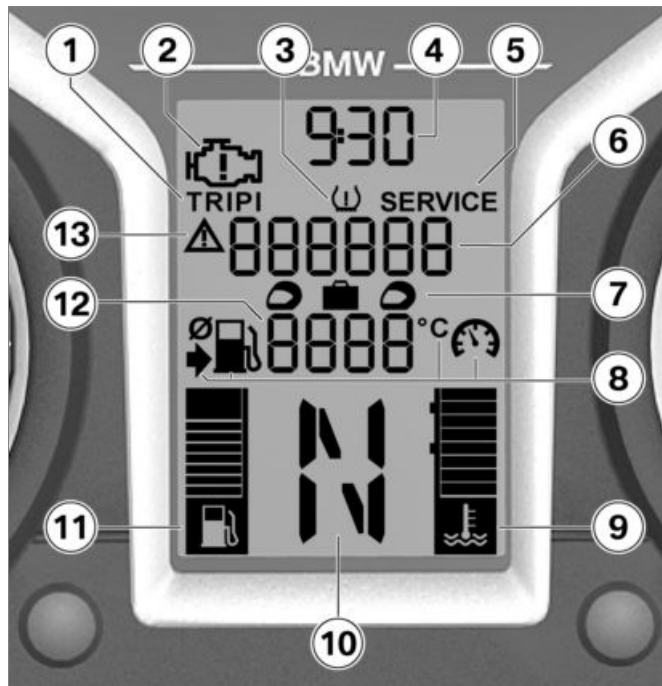
- 1** Battery (➡ 109)
- 2** Brake-fluid reservoir, rear (➡ 90)
- 3** Rider's Manual
Toolkit
- 4** Table of tyre pressures
- 5** Payload table
- 6** Adjuster, spring preload (➡ 48)

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Multifunction display

- 1 Trip meter (➡ 40)
 - 2 Warning for engine electronics (➡ 29)
 - 3 – with tyre pressure monitoring (RDC)^{OE}
 - 4 Tyre pressures (➡ 24)
 - 5 Clock (➡ 40)
 - 6 Service due (➡ 23)
 - 7 Top values area
 - 8 – with Electronic Suspension Adjustment (ESA)^{OE}
 - 9 ESA setting (➡ 50)
 - 10 – with on-board computer (OE)
 - 11 Symbols explaining the readings shown in the values area (➡ 21)
 - 12 – with on-board computer (OE)
 - 13 Coolant temperature
- The horizontal bars indicate the level of the coolant temperature.



- 10** Gear indicator
The gear engaged or N for neutral appears on the display.
- 11** – with on-board computer (OE)
Fuel level
The horizontal bars indicate the quantity of fuel left in the tank. The top bar is larger than the others and the quantity of fuel it represents is significantly larger.
- 12** – with on-board computer (OE)
Bottom values area
- 13** Warning, in combination with a text (→ 25)

Meaning of symbols



Range in km (→ 23)◁

– with on-board computer^{OE}



Average consumption in l/100 km



Average speed in km/h



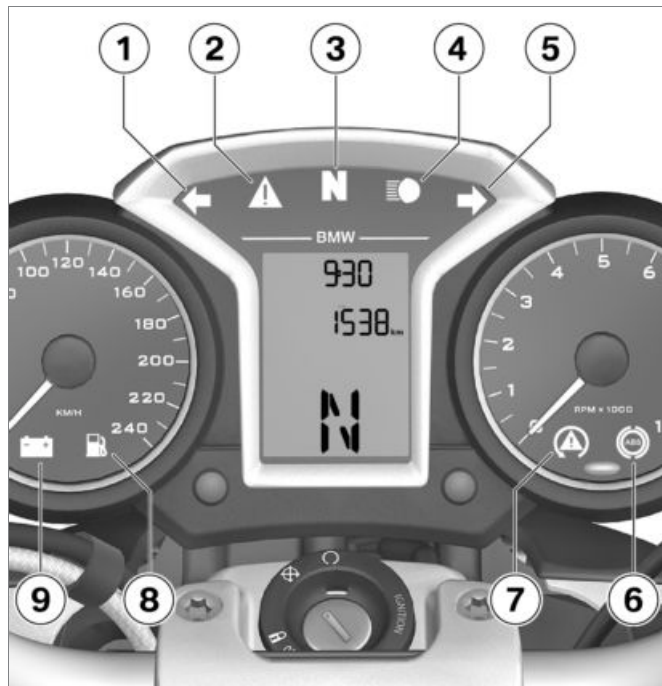
Current consumption in l/100 km



Ambient temperature in °C (→ 24)◁

Warning and telltale lights

- 1 Telltale light for left turn indicators
- 2 General warning light, in combination with warnings in the display (➡ 25)
- 3 Telltale light for neutral
- 4 High-beam headlight telltale light
- 5 Telltale light for right turn indicators
- 6 – with BMW Motorrad Integral ABS generation II^{OE}
ABS warning light (➡ 31)
- 7 – with Automatic Stability Control (ASC)^{OE}
ASC warning light (➡ 31)
- 8 Warning light for fuel down to reserve (➡ 29)
- 9 Warning light for battery charge current (➡ 30)



Service-due indicator



If the next service is due in less than one month, the date for the next service **1** is shown briefly after the Pre-Ride Check completes. The month is shown as a two-digit number and the year as a four-digit number, with a colon as separator, so in this example the next service is due in March 2011.



If the motorcycle 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 odometer reading at which a service will be due is less than 1000 km, the distance is counted down in steps of 100 km **2** and is shown briefly after the Pre-Ride Check completes.

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

panied by the 'General' warning light showing yellow. The word "Service" remains permanently visible.

 If the service-due indicator appears more than a month before the service date, the date saved in the instrument cluster must be adjusted. This situation can occur if the battery was disconnected for a prolonged period of time.

If you want to have the date set consult a specialist workshop, preferably an authorised BMW Motorrad dealer. ◀

Range

 The range readout indicates how far you can ride with the fuel remaining in the tank. This distance is calculated on the basis of fuel level and average consumption. When refuelling after running on reserve, make sure that you top

up the tank to a level above reserve, as otherwise the sensor will not be able to register the new level. If the sensor cannot register the new level the range readout cannot be updated.

When the motorcycle is propped on its side stand the slight angle of inclination means that the sensor cannot register the fuel level correctly. This is the reason why the range is calculated only when the side stand is in the retracted position.



The calculated range is only an approximate reading.

Consequently, BMW Motorrad recommends that you should not try to use the full range before refuelling.◀

– without on-board computer^{OE}

The range reading does not appear until the fuel is down to the reserve level.◀

– with on-board computer^{OE}

The figure for average consumption used to calculate range is not shown and might not be the same as the average-consumption reading that appears on the display.◀

Ambient temperature

– with on-board computer^{OE}



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

If ambient temperature drops below 3 °C the temperature display flashes to draw your attention to the risk of black ice forming. The display automatically switches from any other mode to the temperature reading when

the temperature drops below this threshold for the first time.◀

Tyre pressures

– with tyre pressure monitoring (RDC)^{OE}



The tyre-pressure readings are based on a reference tyre temperature of 20 °C. The front tyre pressure is on the left **1**; the reading on the right **2** is the rear tyre pressure. -- -- appears directly after the ignition is switched on, because the sensors do not transmit tyre pressures until the first time the

motorcycle accelerates to more than 30 km/h.◁



If the warning triangle also shows, the reading is a warning. The critical tyre pressure flashes.

If the critical value is close to the limit of the permissible tolerance range, the reading is accompanied by the 'General' warning light showing yellow. If the tyre pressure registered by the sensor is outside the permissible tolerance range, the 'General' warning light flashes red.

The detailed description of BMW Motorrad RDC starts on page (▮▮▮▮ 72).

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 ac-

companied by warning triangle **3**. These warnings alternate with the odometer readings.

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

The possible warnings are listed on the next pages.

Warnings, overview**Warning light****Status indicators****Meaning**

Lights up yellow



+ "EWS" appears on the display

Electronic immobiliser active (►► 29)



Lights up

Fuel down to reserve (►► 29)



Lights up yellow



Appears on the display

Engine in emergency-operation mode (►► 29)



Lights up

Insufficient battery charge current (►► 30)



Lights up yellow



+ "LAMP" appears on the display

Bulb defective (►► 30)

"x . x °C" flashes

Ice warning (►► 30)



Lights up yellow

dWA appears on the display

Anti-theft alarm battery flat (►► 31)



Flashes

ABS self-diagnosis not completed (►► 31)

Warning light

Status indicators

Meaning

	Lights up		ABS fault (➡ 31)
	Quick-flashes		ASC intervention (➡ 31)
	Slow-flashes		ASC self-diagnosis not completed (➡ 32)
	Lights up		ASC switched off (➡ 32)
	Lights up		ASC fault (➡ 32)
	Lights up yellow		+ "x . x" flashes Tyre pressure close to limit of permitted tolerance (➡ 32)
	Flashes red		+ "x . x" flashes Tyre pressure outside permitted tolerance (➡ 33)
			+ "--" or "-- --" appears on the display. Signal transmission disrupted (➡ 33)

Warning light**Status indicators****Meaning**

Lights up yellow

+ "--" or "--
--" appears on
the display.Sensor defective or system error
(➡ 34)

Lights up yellow

+ "RdC" appears
on the display.Battery of tyre-pressure sensor weak
(➡ 35)

Electronic immobiliser active



General warning light shows yellow.



+ "EWS" appears on the display.

Possible cause:

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

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

Fuel down to reserve



Warning light for fuel down to reserve shows.



 Lack of fuel can result in the engine misfiring and cutting out unexpectedly. Misfiring can damage the catalytic converter; a hazardous situation can result if the engine cuts out unexpectedly.

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

- Refuel (|||||➡ 64).

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 accordingly. Avoid accelerating sharply and overtaking.◀

Possible cause:

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

- You can continue to ride, but bear in mind that the usual engine power 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. If possible, 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 defective



General warning light shows yellow.



+ "LAMP" appears on the display.



A defective bulb places your safety at risk because it is easier for other users to oversee the motorcycle. Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

Possible cause:

Bulb defective.

- Visually inspect to ascertain which bulb is defective.
- Replacing low-beam or high-beam headlight bulb (➡ 101).
- Replacing parking-light bulb (➡ 102).
- Replacing brake light and rear light bulb (➡ 103).
- Replacing turn indicator bulb, front/rear (➡ 106).

Ice warning

– with on-board computer^{OE}

The ambient-temperature reading flashes.

Possible cause:

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



The ice warning does not mean that there is no risk of black ice forming at measured temperatures above 3 °C.

Always take extra care when temperatures are low; remember that the danger of black ice forming is particularly high on bridges and where the road is in shade.◀

- Ride carefully and think well ahead.

Anti-theft alarm battery flat

– with anti-theft alarm^{OE}



General warning light shows yellow.

dWA The text warning dWA appears, accompanied by a warning-triangle symbol to indicate that this is a warning.



This error message appears only briefly 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 motorcycle's battery is disconnected.

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

ABS self-diagnosis not completed

– with BMW Motorrad Integral ABS generation II^{OE}



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.

ABS fault

– with BMW Motorrad Integral ABS generation II^{OE}



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 motorcycle, 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 (▮ 69).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ASC intervention

– with Automatic Stability Control (ASC)^{OE}



ASC warning light quick-flashes.

The ASC has detected a degree

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

ASC self-diagnosis not completed

- with Automatic Stability Control (ASC)^{OE}



ASC warning light slow-flashes.

Possible cause:

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

- Pull away slowly. Bear in mind that the ASC function is not

available until self-diagnosis has completed.

ASC switched off

- with Automatic Stability Control (ASC)^{OE}



ASC warning light shows.

Possible cause:

The rider has switched off the ASC system.

- Activate ASC

ASC fault

- with Automatic Stability Control (ASC)^{OE}



ASC warning light shows.

Possible cause:

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

- You can continue to ride. Bear in mind that the ASC function is not available. Bear in mind the more detailed information on situations that can lead to an ASC fault (→ 71).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Tyre pressure close to limit of permitted tolerance

- with tyre pressure monitoring (RDC)^{OE}



General warning light shows yellow.



+ "x . x" (critical pressure) flashes.

Possible cause:

Measured tyre pressure is close to the limit of permitted tolerance.

- Correct the tyre pressure as stated on the inside cover of the Rider's Manual.



Before you adjust tyre pressure, read the information on temperature compensation and adjusting pressure in the section entitled "Engineering details".◀

Tyre pressure outside permitted tolerance

- with tyre pressure monitoring (RDC)^{OE}



General warning light flashes red.



+ "x . x" (critical pressure) flashes.

Possible cause:

Measured tyre pressure is outside permitted tolerance.

- Check the tyre for damage and to ascertain whether the motorcycle can be ridden with the tyre in its present condition.

If the motorcycle can be ridden with the tyre in its present condition:



Incorrect tyre pressures impair the motorcycle's handling characteristics.

If tyre pressure is incorrect it is essential to adapt your style of riding accordingly.◀

- Correct the tyre pressure at the earliest possible opportunity.



Before you adjust tyre pressure, read the information on temperature compensation and adjusting pressure in the section entitled "Engineering details".◀

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

If you are unsure whether the motorcycle can be ridden with the tyre in its present condition:

- Do not continue your journey.
- Notify the breakdown service.
- Have the tyre checked for damage by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Signal transmission disrupted

- with tyre pressure monitoring (RDC)^{OE}



+ "--" or "-- --" appears on the display.

Possible cause:

The motorcycle has not yet accelerated past the threshold of approximately 30 km/h. The RDC sensors do not start transmitting signals until the motorcycle reaches a speed above this threshold for the first time (► 72).

- Increase speed above this threshold and observe the RDC readings. Assume that a permanent fault has not occurred unless the 'General' warning light comes on to accompany the symptoms. Under these circumstances:
- Have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Possible cause:

Wireless communication with the RDC sensors has been disrupted. Possible causes include radio-communication systems operating in the vicinity and interfering with the link between the RDC control unit and the sensors.

- Move to another location and observe the RDC readings. Assume that a permanent fault has not occurred unless the 'General' warning light comes on to accompany the symptoms. Under these circumstances:
- Have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Sensor defective or system error

- with tyre pressure monitoring (RDC)^{OE}



General warning light shows yellow.



+ "---" or "--- ---" appears on the display.

Possible cause:

Motorcycle is fitted with wheels not equipped with RDC sensors.

- Fit wheels and tyres equipped with RDC sensors.

Possible cause:

One or two RDC sensors have failed.

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

Possible cause:

A system error has occurred.

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

Battery of tyre-pressure sensor weak

– with tyre pressure monitoring (RDC)^{OE}



General warning light shows yellow.



+ "RdC" appears on the display.



This error message appears only briefly after the pre-ride check completes.◀

Possible cause:

The integral battery in the tyre-pressure sensor has lost a significant proportion of its original capacity. There is no assurance of how long the tyre pressure

control system can remain operational.

Operation

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Ignition switch/steering lock

Keys

You receive two master keys and one emergency key. The emergency key is small and light so that it can always be kept in a wallet or purse, for example. It is designed for occasional use, for example when no master key is available; it is not intended for constant use.

Please consult the information on the electronic immobiliser (EWS) if a key is lost or mislaid (► 39). Ignition switch/steering lock, fuel filler cap lock and seat lock are all operated with the same key.

- with cases^{OA}
- with topcase, small^{OE}

If you wish you can arrange to have the cases and the top-case fitted with locks that can be opened with this key as well.

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

Switching on ignition



- Turn the key to position **1**.
 - » Parking lights and all function circuits switched on.
 - » Engine can be started.
 - » Pre-ride check is performed. (► 60)
- with BMW Motorrad Integral ABS generation II^{OE}
 - » ABS self-diagnosis is performed. (► 60)

- with Automatic Stability Control (ASC)^{OE}
 - » ASC self-diagnosis is performed. (► 61)

Switch off the ignition



- Turn the key to position **2**.
 - » Lights switched off.
 - » Handlebars not locked.
 - » Key can be removed.
 - » Electrically powered accessories remain operational for a limited period of time.
 - » The battery can be recharged via the socket.

Locking handlebars



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

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

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



- Turn the key to position **3**, while moving the handlebars slightly.
 - » Ignition, lights and all function circuits switched off.
 - » Handlebars locked.
 - » Key can be removed.

Electronic immobiliser EWS

The on-board electronics access the data saved in the ignition key via a ring aerial in the ignition lock. The ignition is not enabled for starting until the engine control unit has recognised the key

as "authorised" for your motorcycle.



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 mislay a key you can have the key in question barred by your authorised BMW Motorrad dealer. In order to have a key barred you must bring along all the other keys belonging to the motorcycle.

The engine cannot be started by a barred key, but a key that has been barred can subsequently be reactivated.

You can obtain replacement/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 clock



Attempting to set the clock while riding the motorcycle can lead to accidents.

Set the clock only when the motorcycle is stationary. ◀

- Switch on the ignition.

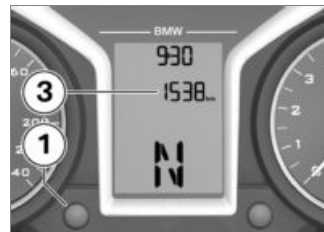


- Press and hold down button **2** until the hours number **3** flashes.
- Repeatedly press the button until the hours number is correct.
- Press and hold down the button until the minutes number **4** flashes.
- Repeatedly press the button until the minutes number is correct.
- Hold down the button until the minutes number stops flashing.
- » This completes the process.

Reading

Selecting readings

- Switch on the ignition.

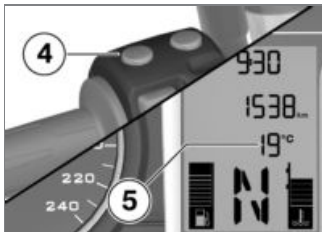


- Press button **1** to select the reading in top section of display **3**.

The following values can be displayed:

- Total kilometres (shown)
- Tripmeter 1 (Trip I)
- Tripmeter 2 (Trip II)
- Warnings, if applicable

– with on-board computer^{OE}



- Press button **4** to select the reading in bottom section of display **5**.

The following values can be displayed:

– Ambient temperature (°C)



Average speed in km/h



Average consumption in l/100 km



Current consumption in l/100 km



Range in km◀

Resetting tripmeter

- Switch on the ignition.
- Select the desired tripmeter.



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

Resetting average values

– with on-board computer^{OE}

- Switch on the ignition.

- Select average consumption or average speed.



- Press and hold down button **1** until the value shown is reset.

Lights

Side light

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



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

Low-beam headlight

The low-beam headlight switches on automatically when you start the engine.



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

High-beam headlight and headlight flasher



- Press top section of switch **1** to switch on the high-beam headlight.

- Centre switch **1** to switch off the high-beam headlight.
- Press bottom section of switch **1** to operate the headlight flasher.

Parking light

- Switch off the ignition.



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

Turn indicators

Operating flashing turn indicators

- Switch on the ignition.



The turn indicators are cancelled automatically after you have ridden for approximately 10 seconds and covered a distance of about 300 m. ◀



- Press button **1** to switch on the left flashing turn indicator.



- Press button **2** to switch on the right flashing turn indicator.



- Press button **3** to switch off the flashing turn indicators.

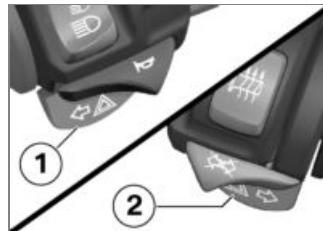
Hazard warning flashers

Operating hazard warning flashers

- Switch on the ignition.

▶ 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.◀



- Press buttons **1** and **2** at the same time to switch on the hazard warning flashers.
» Ignition can be switched off.



- Press button **3** to switch off the hazard warning flashers.

Emergency off switch (kill switch)



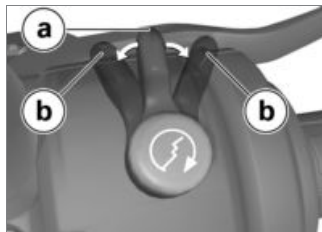
1 Emergency off switch (kill switch)



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 Normal operating position (run)

b Engine switched off.



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

Grip heating

– with heated handlebar grips^{OE}



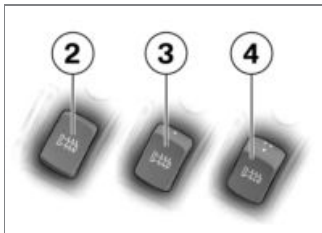
1 Grip-heating switch

The handlebar grips have two-stage heating. Stage two is for heating the grips quickly: it is advisable to switch back to stage one as soon as the grips are warm. Grip heating can be activated only when the engine is running.



The increase in power consumption caused by the grip heating can drain the battery if you are riding at low engine speeds. If the charge level is low, grip heating is switched

off to ensure the battery's starting capability.◀



- 2** Heating off.
- 3** 50 % heat output (one dot visible)
- 4** 100 % heat output (three dots visible)

Automatic Stability Control ASC

– with Automatic Stability Control (ASC)^{OE}

Deactivating ASC function

- Switch on the ignition.

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



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

 ASC warning light shows.

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

 ASC warning light remains ON.

» The ASC function is deactivated.

Activating ASC function



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

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

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



The ASC warning light remains off or continues to flash.

» The ASC function is activated.

- You also have the option of switching the ignition off and then on again.



An ASC fault has occurred if the ASC warning light shows when the motorcycle accelerates to a speed in excess of 5 km/h after the ignition was switched off and then on again. ◀◀

Clutch

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



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

Brakes

Adjust the handbrake 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 motorcycle can lead to accidents.

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



Mirrors

Adjust the mirrors



- Turn the mirror to the correct position.

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

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

Adjusting mirror arm



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



Locknut (mirror) to adapter

– 22 Nm

- Push the protective cap over the threaded fastener.

Spring preload Setting

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

Adjusting spring preload for rear wheel

- Remove the seat (➡ 52).



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

- If you want to increase spring preload, turn knob **1** in the direction indicated by the HIGH arrow.
- If you want to reduce spring preload, turn knob **1** in the direction indicated by the LOW arrow.



Basic setting of spring preload, rear

- without Electronic Suspension Adjustment (ESA)^{OE}
- Knob set to "STD" on the scale at the side (Full load of fuel, with rider 85 kg)◀

- Installing seat (➡ 53).

Damping

Setting

Damping must be adapted to suit the surface on which the motor-cycle 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 damping for rear wheel

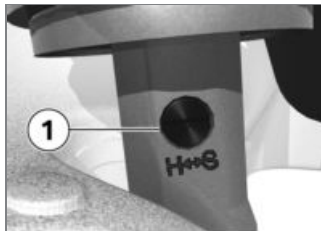
- Make sure the ground is level and firm and place the motor-cycle on its stand.



There is a risk of injury by burns if you adjust the damping characteristic while the silencer is hot.

Use a screwdriver extension and wear protective gloves.◀

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



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



Basic setting of rear-suspension damping characteristic

- Turn the adjusting screw as far as it will go in the direction indicated by the H arrow and then turn it back one and a half turns in the direction indicated by the S arrow (Full load of fuel, with rider 85 kg)

Electronic Suspension Adjustment ESA

- with Electronic Suspension Adjustment (ESA)^{OE}

Possible settings

Electronic Suspension Adjustment ESA provides a convenient way of adapting the motorcycle to the load it carries and the surface over which you intend riding.

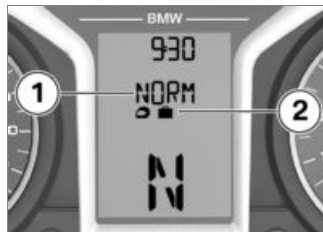
Three spring-preload stages can be combined with any of three damper settings.

Calling up settings

- Switch on the ignition.



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



The damping characteristic you select is shown in panel **1** of the multifunction display and spring preload is shown in panel **2**. The meanings of the readings are as follows:

- COMF: Comfortable damping characteristic
- NORM: Normal damping characteristic
- SPORT: Sporty damping characteristic



One-up



One-up with luggage



Two-up (with luggage)

» The setting shows briefly, then disappears automatically.

Adjusting suspension

- Switch on the ignition.



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

To adjust damping:

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



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

To adjust spring preload:

- Start the engine:



You cannot adjust spring preload while the motorcycle is on the move.◀

- Repeatedly long-press button **1** until the setting you want to use appears on the display.
- Wait for the mechanism to complete all adjustments before you ride off.
- » The settings for damping and spring preload shown on the display are automatically accepted if you allow a certain length of time to pass without pressing button **1**. The ESA indicator flashes while adjustment is in progress.
- If the temperature is very low, take the weight off the motor-

cycle before increasing spring preload; if applicable, have your passenger dismount.

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

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 as a result of centrifugal force.

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

– 2.9 bar (Tyre cold)

If tyre pressure is too low:

- Correct tyre pressure.

Headlight

Adjusting headlight for driving on left/driving on right

If the motorcycle is ridden in a country where the opposite rule of the road applies, its asymmetric low-beam headlight will tend to dazzle oncoming traffic.

Have the headlight set accordingly by a specialist workshop, preferably an authorised BMW Motorrad dealer.



Commercially available adhesive tape will damage the plastic lens of the light.

Consult a specialist workshop, preferably an authorised BMW Motorrad dealer, in order to avoid damaging the plastic lens of the light.◀

Headlight beam throw and spring preload

Headlight beam throw is kept constant when spring preload is adjusted to suit load.



Consult a specialist workshop, preferably an authorised BMW Motorrad dealer, if you are unsure whether the headlight beam-throw setting is correct.◀

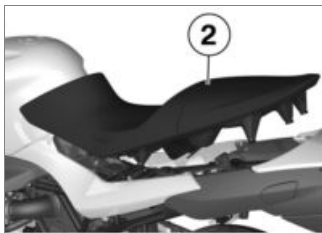
Seat

Remove the seat

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



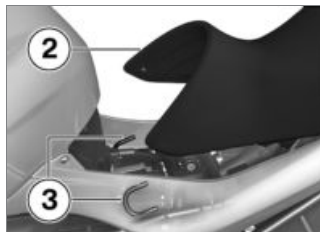
- Turn the key to the right in seat lock **1** and hold it in this position while pressing down the rear part of the seat.



- Lift seat **2** at the front and release the key.

- Remove the seat and place it, upholstered side down, on a clean surface.

Installing seat



- Introduce seat **2** into mounts **3**.
- Firmly press down on the seat at the rear.
 - » The seat engages with an audible click.

Riding

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Safety instructions

Rider's equipment

Do not ride without the correct clothing. Always wear:

- Helmet
- Motorcycling jacket and trousers
- Gloves
- Boots

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

Restricted angle of heel

- with lowered suspension^{OE}

A motorcycle with lowered suspension has less ground clearance and cannot corner at angles of heel as extreme as those achievable by a

counterpart motorcycle with standard-height suspension.



Risk of accident by unexpectedly early contact with the ground.

Bear in mind that lowered suspension limits the motorcycle's angle of heel and ground clearance.◀

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

Lowering the motorcycle's suspension shortens suspension travel (see the section entitled "Technical Data"). Ride comfort might be restricted as a result. Be sure to adjust spring preload accordingly, particularly for riding two-up.

Correct loading



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.
- with cases^{OA}
- Make sure that the weight is uniformly distributed between right and left.
- Pack heavy items at the bottom and toward the inboard side.
- Note the maximum permissible payload and the speed limit for riding with cases fitted, as stated on the label inside the case.◀

- with topcase, small ^{OE}
- Note the maximum permissible payload and the speed limit for riding with topcase fitted, as stated on the label inside the topcase.◀

- with tank rucksack ^{OA}
- Note the maximum permissible payload of the tank rucksack.

 Payload of tank rucksack
– ≤5 kg◀

- with luggage carrier ^{OE}
- Note the maximum permissible payload of the luggage carrier.

 Payload of luggage carrier
– with luggage carrier ^{OE} or – with case carrier with luggage rack ^{OA}



Payload of luggage carrier

– ≤5 kg◀

Speed

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

- Settings of the spring-strut and shock-absorber system
- Imbalanced load
- Loose clothing
- Insufficient tyre pressure
- Poor tyre tread

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 motorcycle is in use. There is a risk of burn injuries by contact with hot surfaces, particularly at the silencer.

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.

For this reason, observe the following points:

- 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



Riding without the slipstream deflectors installed can cause the engine to overheat.

Do not ride the motorcycle unless the slipstream deflectors are installed.◀



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 motorcycle 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.

- Brakes
- Brake-fluid levels, front and rear
- Clutch

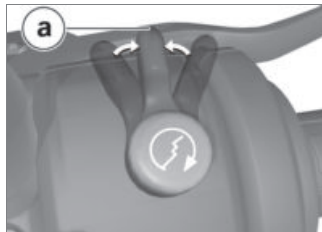
- Clutch fluid level
- Damping-characteristic setting and spring preload
- Tyre-tread depth and tyre pressures
- Cases correctly installed and luggage secured

At regular intervals:

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

Starting

Starting engine



- Kill switch in run position **a**.
- Switch on the ignition.
 - » Pre-ride check is performed. (III ➔ 60)
- with BMW Motorrad Integral ABS generation II^{OE}
 - » ABS self-diagnosis is performed. (III ➔ 60)
- with Automatic Stability Control (ASC)^{OE}
 - » ASC self-diagnosis is performed. (III ➔ 61)

- 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. ◀

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



- Press starter button **1**.



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.◀

- » The engine starts.
- » Consult the troubleshooting chart below if the engine refuses to start. (►► 118)

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 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 warn-

ing 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 back to rest. 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:



Some malfunctions cannot be indicated if one of the warning lights fails to show. Make sure that all the warning and telltale lights come on in the pre-ride check.◀

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

ABS self-diagnosis

- with BMW Motorrad Integral ABS generation II^{OE}

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

Phase 1

- » Test of the diagnosis-compatible system components with the motorcycle at a standstill. ABS warning light flashes.



Phase 2

- » Test of the diagnosis-compatible system components while

the motorcycle is on the move (speed at least 5 km/h).



ABS warning light flashes.

ABS self-diagnosis completed

» The ABS warning light goes out.

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

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

ASC self-diagnosis

– with Automatic Stability Control (ASC)^{OE}

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

Phase 1

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



ASC warning light slow-flashes.

Phase 2

» Test of the diagnosis-compatible system components while the motorcycle is on the move (speed at least 5 km/h).



ASC warning light slow-flashes.

ASC self-diagnosis completed

» The ASC warning light goes out.

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

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

Running in

The first 1000 km

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

- Try to do most of your riding during this initial period on twisting, fairly hilly roads, avoiding high-speed main roads and highways if possible.
- Comply with the rpm limits for running in.

	Running-in 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)

- Do not omit the first inspection after 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.



Tyres do not have their full grip when new and there is a risk of accidents at extreme angles of heel.

Avoid extreme angles of heel.◀

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 "panic braking situations" that are trained so frequently braking force is applied as rap-

idly as possible and with the rider's full force exerted on the brake levers; under these circumstances the dynamic shift in load distribution cannot keep pace with the increase in deceleration and the tyres cannot transmit the full braking force to the surface of the road. Under these circumstances the front wheel can lock up.

- with BMW Motorrad Integral ABS generation II^{OE}
- BMW Motorrad Integral 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.◀

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

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

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

Centre stand

- 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.◀

 Excessive movements could cause the centre stand to retract, and the

motorcycle would topple in consequence.

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

- Extend the centre stand and lift the motorcycle onto the stand.

Refuelling

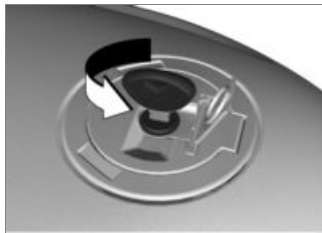
 Fuel is highly flammable. A naked flame close to the fuel tank can cause a fire or explosion.

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

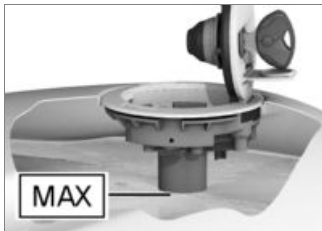
 Fuel attacks plastics, which become dull or unsightly. Wipe off plastic parts immediately if they come into contact with fuel.◀

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

- Open the protective cap.



- Use the ignition key to unlock the fuel filler cap and pop the cap open.



 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.◀

 Leaded fuel will destroy the catalytic converter.

Use only unleaded fuel.◀

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

 When refuelling after running on reserve, make sure that you top up the tank to a level above reserve, as otherwise the sensor will not be able to register the new level. If the sensor cannot register the new level neither the fuel-level reading nor the range readout can be updated.◀



Recommended fuel grade

- Premium plus unleaded
- 98 ROZ/RON
- 91 AKI



alternative fuel grade

- Premium unleaded (slight power- and consumption-related restrictions)
- 95 ROZ/RON
- 89 AKI



Usable fuel capacity

- approx. 18 l



Reserve fuel

- approx. 3 l

- Press the fuel tank 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.

Make sure that the motorcycle cannot topple sideways.◀

- Push the motorcycle onto the transportation flat and hold it in position: do not place it on the side stand or centre 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 handlebars on both sides.
- Pass the straps through the leading link and tighten the straps.



- 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 as tightly as possible front and rear.

Engineering details

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Brake system with BMW Motorrad Integral ABS

– with BMW Motorrad Integral ABS generation II^{OE}

Partially integral brakes

Your motorcycle is equipped with partially integral brakes. Both front and rear brakes are applied when you pull the handbrake lever. The footbrake lever acts only on the rear brake.

While the brakes are slowing the motorcycle, the BMW Motorrad Integral ABS adapts braking-force distribution between front and rear brakes to suit the load on the motorcycle.



The integral braking function makes it very difficult to spin the rear wheel by opening the throttle with the front brake applied to keep the motorcycle stationary (burn-out). Attempted

burn-outs can result in damage to the rear brake and the clutch. Do not attempt burn-outs. ◀

How does ABS work?

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

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

force, so the wheels continue to turn and directional stability is maintained irrespective of the condition of the road surface.

What are the effects of surface irregularities?

Humps and surface irregularities can cause the wheels to lose contact temporarily with the road surface; if this happens the braking force that can be transmitted to the road can drop to zero. If the brakes are applied under these circumstances the ABS has to reduce braking force to ensure that directional stability is maintained when the wheels regain contact with the road surface. At this instant the BMW Motorrad Integral 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.

What feedback does the rider receive from the BMW Motorrad Integral ABS?

If the ABS system has to reduce braking force on account of the circumstances described above, vibration is perceptible through the handbrake lever.

When the handbrake lever is pulled, brake pressure is also built up at the rear wheel by the integral function. If the brake pedal is depressed after the handbrake lever is pulled, the brake pressure built up beforehand is perceptible as counter-pressure sooner than is the case when the brake pedal is

depressed either before or at the same time as the brake lever is pulled.

Rear wheel lift

Under very severe and sudden deceleration, however, under certain circumstances it is possible that the BMW Motorrad Integral 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 be relied on in all circumstances to prevent the rear wheel from lifting clear of the ground. ◀

What is the design baseline for BMW Motorrad Integral ABS?

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

Special situations

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

exceptional riding conditions can lead to a fault message being issued.

Exceptional riding conditions:

- Heating up with the motorcycle on the centre stand or an auxiliary stand, engine idling or with a gear engaged.
- Rear wheel locked by the engine brake for a lengthy period, for example while descending on a loose or slippery surface.

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

What significance devolves on 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 Integral ABS is always maintained in optimum condition, it is essential for you to comply strictly with the specified inspection intervals. ◀

Reserves for safety

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

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

momentum take over and even BMW Motorrad Integral ABS is unable to counteract their effects.

Electronic engine management with BMW Motorrad ASC

- with Automatic Stability Control (ASC)^{OE}

How does ASC work?

The BMW Motorrad ASC compares the speed of rotation of the front wheel and the rear wheel. The differential is used to compute slip as a measure of the reserves of stability available at the rear wheel. If slip exceeds a certain limit the electronic engine management system intervenes, adapting engine torque accordingly.

What is the design baseline for BMW Motorrad ASC?

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

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



Even ASC is constrained by the laws of physics. Invariably, the rider bears responsibility for assessing road and traffic

conditions and adopting his or her style of riding accordingly. Do not take risks that would negate the additional safety offered by this system. ◀

Special situations

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

The speeds of the front and rear wheels are compared as one means of detecting the rear wheel's incipient tendency to spin or slip sideways. If the system registers implausible values for a lengthy period the ASC function is deactivated for safety reasons and an ASC fault message is issued. Self-diagnosis

has to complete before fault messages can be issued. The BMW Motorrad ASC can shut down automatically under the exceptional riding conditions outlined below.

Exceptional riding conditions:

- Riding for a lengthy period with the front wheel lifted off the ground (wheelie) and ASC deactivated.
- Rear wheel rotating with the motorcycle 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.

Accelerating the motorcycle to a speed in excess of 5 km/h after switching the ignition off and then on again reactivates the ASC. ◀

If the front wheel lifts clear of the ground under severe acceleration, the ASC reduces engine torque until the front wheel regains contact with the ground.

Under these circumstances, BMW Motorrad recommends rolling the throttle slightly closed so as to restore stability with the least possible delay.

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

Tyre pressure monitoring RDC

– with tyre pressure monitoring (RDC)^{OE}

Function

A sensor integrated into each tyre measures the air temperature and the air pressure inside the tyre and transmits this information to the control unit.

Each sensor has a centrifugal-force tripswitch that does not enable transmission of the measured values until the motorcycle has accelerated to about 30 km/h. The display shows – – for each tyre until the tyre-pressure signal is received for the first time. The sensors continue to transmit the measured-value signals for approximately 15 minutes after the motorcycle comes to a stop.<

The control unit can administer four sensors, so two different sets of wheels with RDC sensors can be alternated on the motorcycle. An error message is issued if wheels without sensors are fitted to a motorcycle equipped with an RDC control unit.

Tyre-pressure ranges

The RDC control unit differentiates between three tyre-pressure ranges, all of which are parameterised for the motorcycle:

- Tyre pressure within permitted tolerance.
- Tyre pressure close to limit of permitted tolerance.
- Tyre pressure outside permitted tolerance.

Temperature compensation

Tyre pressure is a temperature-sensitive variable: pressure increases as tyre temperature rises and decreases as tyre temperature drops. Tyre temperature depends on ambient temperature, on the style of riding and the duration of the ride.

The tyre-pressure readings shown by the multifunction display are temperature-compensated; the reference tyre temperature for these readings is always 20 °C. The air lines available to the public in petrol stations and motorway service areas have gauges that do not compensate for temperature; the reading shown by a gauge of this nature is the temperature-dependent tyre pressure. In most instances, therefore, these gauge readings will not tally with

the pressures shown by the multifunction display.<

Pressure adaptation

Compare the RDC readings on the multifunction display with the value in the table on the inside cover of the Rider's Manual. Then use the air line to compensate for the difference between the RDC reading and the value in the table.

Example: According to the Rider's Manual, tyre pressure should be 2.5 bar, but the reading in the multifunction display is 2.3 bar. The gauge on the air line shows 2.4 bar. You must now increase tyre pressure by the 0.2 bar difference between the value in the table and the RDC reading; when the air-line gauge shows 2.6 bar, the tyre is inflated to the correct pressure.<

Accessories

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General instructions

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Genuine BMW parts and accessories and other products which BMW has approved can be obtained from your authorised BMW Motorrad dealer, together with expert advice on their installation and use.

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

Also bear in mind the information on the effect of wheel size on suspension-control systems (►► 93).



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.◀

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

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 motorcycle'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 motorcycle'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

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

- Do not impede the rider
- Do not restrict the steering angle or obstruct handling
- Cannot be trapped

Cases

- with cases^{OA}

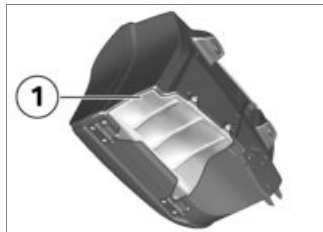
Heat shield, left case

The left case is exposed to a considerable amount of heat on account of the position of the rear silencer.



Severe damage to the left case caused by heat from the silencer.

Use only a case correctly fitted with a heat shield.◀



Before you ride off, make sure that heat shield **1** is in position on the left case.

The geometry of the case carriers enables you to use the cases from the predecessor model. Under these circumstances your authorised BMW motorcycle dealer will supply a retrofit heat shield.

Opening cases



- Turn the key to the OPEN position in the case lock.



- Push lock barrel **1** down.
» Lever **2** pops up.

- Pull the release lever all the way up.
- The lid of the case opens.

Closing cases



- Pull release lever **2** all the way up.
- Close the lid of the case and press it down. Check that nothing is trapped between the lid and the case.

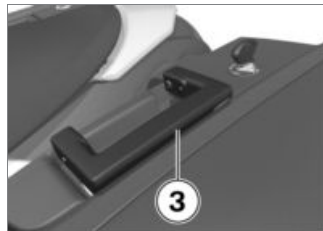


- Push release lever **2** down until it engages.
- Turn the key in the case lock to the LOCK position and remove the key from the lock.

Remove the cases



- Turn the key to the RELEASE position in the case lock.
» The handle pops out.



- Pull handle **3** out and then pull it up as far as it will go.

- » The case is released and can be removed.

Installing cases

- Pull the case handle up as far as it will go.



- Seat the case in top holders **4** and in holder **5** at the rear footrest.



- Push handle **3** down until it engages.
- Turn the key in the case lock to the LOCK position and remove the key from the lock.

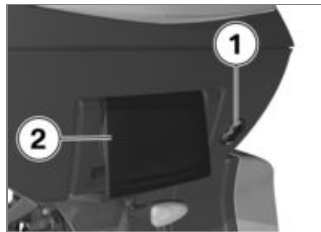
Topcase

– with topcase, small OE

Opening topcase



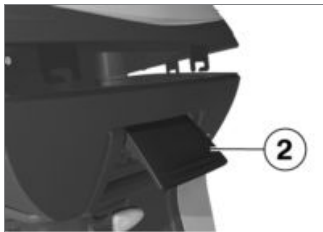
- Turn the key to the OPEN position in the topcase lock.



- Push lock barrel **1** forward.
» Lever **2** pops up.

- Pull the release lever all the way up.
» The lid of the topcase opens.

Close the topcase



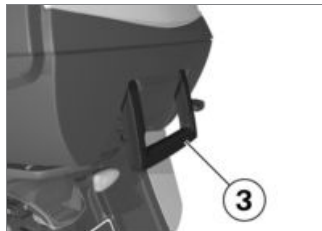
- Pull release lever **2** all the way up.
- Close the lid of the topcase and hold it down. Check that nothing is trapped between the lid and the case.



- Push release lever **2** down until it engages.
- Turn the key in the topcase lock to the LOCK position and remove the key from the lock.

Removing topcase

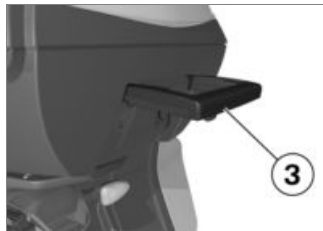
- Turn the key to the RELEASE position in the topcase lock.
» The handle pops out.



- Pull handle **3** up as far as it will go.
- Lift the topcase at the rear and remove it from the luggage carrier.

Installing topcase

- Pull the topcase handle up as far as it will go.



- Hook the topcase into position on the luggage carrier. Make sure that the four hooks on the topcase are securely seated in the corresponding keepers in the luggage carrier.
- Push handle **3** down until it engages.
- Turn the key in the topcase lock to the LOCK position and remove the key from the lock.

Maintenance

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General instructions

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

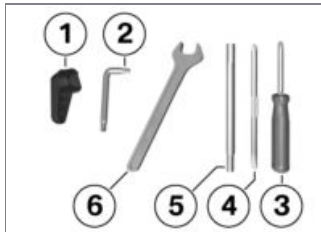
Special tightening torques are listed as applicable. The tightening torques for the threaded fasteners on your motorcycle are listed in the section entitled "Technical data".

You will find information on more extensive maintenance and repair work in the Repair Manual on DVD for your motorcycle, which is available from your authorised BMW Motorrad dealer.

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

Toolkit

Standard toolkit



- 1** Tool for oil cap
 - Top up the engine oil (➡ 86).
- 2** Torx wrench, T40
 - Adjusting headlight

- 3** Reversible-blade screwdriver with star-head and plain tips
 - Replacing turn indicator bulb, front/rear (➡ 106).
 - Adjusting damping for rear wheel (➡ 49).
 - Removing battery (➡ 111).
- 4** Reversible screwdriver blade

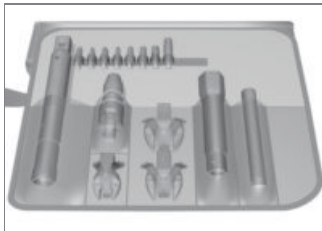
With star-head and Torx T25

 - Replacing low-beam or high-beam headlight bulb (➡ 101).
 - Replacing brake light and rear light bulb (➡ 103).
- 5** Extension for screwdriver blade
 - Adjusting damping for rear wheel (➡ 49).

- 6** Open-ended spanner
Width across flats 14
– Adjusting mirror arm
( 47).

Tools service set

– with service toolkit^{OA}



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

Engine oil

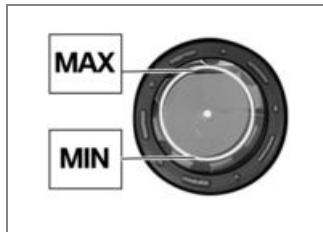
Checking engine oil level

 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; this in turn, means that the engine will be operated with the incorrect quantity of oil. In order to ensure that the engine oil level is read correctly, check the oil level only after a lengthy trip. ◀

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



- 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:

- Top up the engine oil (► 86).

If the oil level is above the MAX mark:

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

Top up the engine oil

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



- Use the tool from the toolkit to remove cap **1** from the engine-oil filler neck.



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 (► 85).
- Install the cap of the engine oil filler neck, making sure that the sealing ring is correctly positioned.

Brake system

Checking operation of brakes

- Pull the handbrake 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:

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

Check the 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 the brake calipers.



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.◀

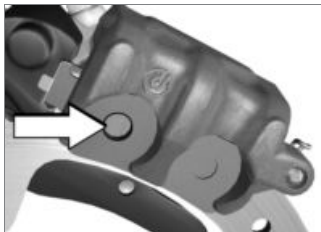
- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

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:



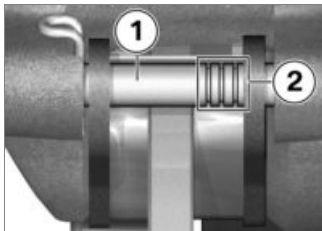
Brake pads worn past the minimum permissible thickness can cause a reduction in braking efficiency and under certain circumstances they can cause damage to the brake system.

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:

- Three rings visible: brake-pad thickness is at least 75 %
- Two rings visible: brake-pad thickness is at least 50 %
- One ring visible: brake-pad thickness is at least 25 %
- No rings visible: brake pads worn to wear limit; check as described above

Check the 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 centre stand.
- Move the handlebars to the straight-ahead position.



- 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)

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.

Replacing screen insert



Possible loss of stopping power at front brake.

The screen insert in the front brake-fluid reservoir always has to be replaced on completion of work that affects the level of fluid in the front braking circuit (for example replacing brake pads or changing brake fluid). Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

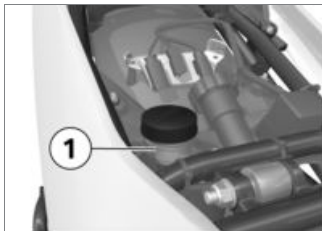
Check the brake-fluid level, rear brakes



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 centre stand.
- Remove the seat (→ 52).



- 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.

- Installing seat (➡ 53).

Clutch

Checking clutch operation

- 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.

Checking clutch fluid level

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



- Check the clutch fluid level in reservoir **1**.



Wear of the clutch causes the fluid level in the clutch fluid reservoir to rise.◀



Clutch-fluid level (visual inspection)

- It is impermissible for the clutch fluid level to drop. (Motorcycle upright and handlebars in straight-ahead position)

If the clutch-fluid level drops:



Unsuitable hydraulic fluids could cause damage to the clutch system.

Do not attempt to top up the system with fluids of any kind.◀

- Have the defect rectified as quickly as possible 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 damaged rims checked and, if necessary, replaced by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Checking spokes

- with spoked wheels^{OE}
- or
- with Classic version^{OE}

- 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.

 Tyres have wear indicators integrated into the main tread grooves. 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 suspension-control systems

Wheel size is very important as a parameter for the suspension-control systems ABS and ASC. In particular, the diameter and the width of a motorcycle's wheels

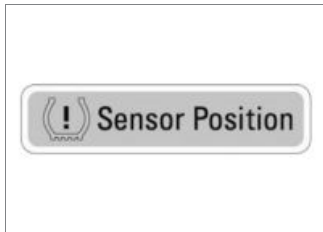
are programmed into the control unit and are fundamental to all calculations. Any change in these influencing variables, caused for example by a switch to wheels other than those installed ex-works, can have serious effects on the performance of the control systems.

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

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

RDC label

- with tyre pressure monitoring (RDC)^{OE}



 Incorrect tyre fitting can damage the RDC sensors. Be sure to explain to the authorised BMW Motorrad dealer or the specialist workshop that the wheel is fitted with an RDC sensor.◀

If the motorcycle is equipped with RDC, each wheel rim bears an adhesive label indicating the position of the RDC sensor. When changing the tyre, take

care not to damage the RDC sensor. Be sure to draw the attention of the authorised BMW Motorrad dealer or specialist workshop to the fact that the wheel is fitted with an RDC sensor.

Remove the front wheel

- Make sure the ground is level and firm and place the motorcycle on its stand.
- with BMW Motorrad Integral ABS generation II^{OE}



- Unclip the two retaining clips **1** holding the ABS sensor cable to the brake line.◀

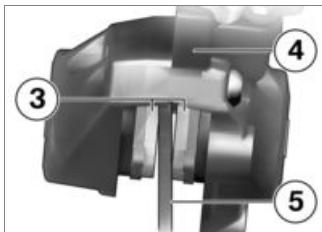
- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.



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

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

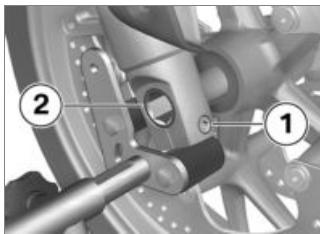
- Remove screws **2** on left and right.



- Force the brake pads **3** slightly apart by rocking brake caliper **4** back and forth against brake disc **5**.
- Carefully pull the brake calipers back and out until clear of the brake discs.
- Make sure the ground is level and firm and place the motorcycle on its centre stand.
- Raise front of motorcycle until the front wheel can turn freely. BMW Motorrad recommends

the BMW Motorrad front-wheel stand for lifting the motorcycle.

- Install the front-wheel stand (III ➔ 100).



- Release axle clamping screw **1**.
- Remove quick-release axle **2**, while supporting the wheel.
- Do not wipe the grease off the axle.
- with BMW Motorrad Integral ABS generation II ^{OE}
- Take care not to damage the ABS sensor on the left-

hand side when rolling out the wheel.◀

- Roll the front wheel forward to remove.



- Remove spacing bushing **3** from the left-hand side of the front-wheel hub.

Installing front wheel



Possible malfunctions when ABS and ASC systems intervene if non-standard wheels are installed.

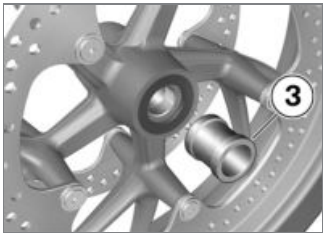
See the information on the effect of wheel size on the ABS and

ASC systems 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 **3** into the wheel hub on the left-hand side.

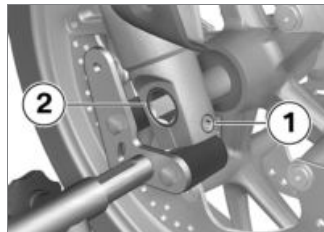
– with BMW Motorrad Integral ABS generation II^{OE}

- Take care not to damage the ABS sensor on the left-hand side when rolling the wheel into position. ◀



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.



- Raise the front wheel, insert quick-release axle **2** and tighten to specified torque.



Quick-release axle in axle holder

– 50 Nm

- Tighten axle clamping screw **1** to the specified torque.



Clamping screw (quick-release axle) in slider tube

– 19 Nm

- Remove the front-wheel stand.

- Ease the brake calipers on to the brake discs.



- Tighten screws **2** on left and right to the specified tightening torque.



Brake caliper to slider tube

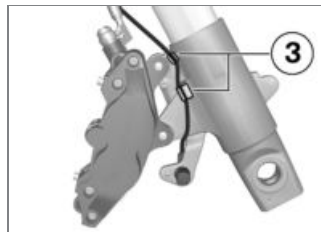
– 28 Nm

- Remove the adhesive tape from the wheel rim.

– with BMW Motorrad Integral ABS generation II ^{OE}



- Clip two retaining clips **1** of the sensor cable to the brake line.



! The cable of the ABS sensor could chafe through if it comes into contact with the brake disc.

Make sure that the ABS sensor cable is routed snugly along the front suspension. ◀

- Make sure that the sensor cable is secured in retaining clips **3**. ◀

! 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 rear wheel

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



Parts of the exhaust system can be hot.

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 **2** for the bracket of the silencer from the rear footrest.
- Work the end silencer 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.

Install the rear wheel

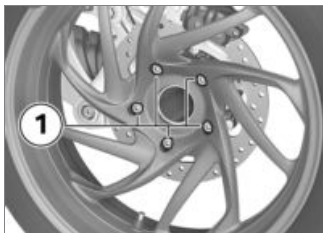


Possible malfunctions when ABS and ASC systems intervene if non-standard wheels are installed.

See the information on the effect of wheel size on the ABS and ASC systems 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.◀

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



 The wheel studs for the spoked wheel and the cast wheel are of different lengths. If wheel studs from the two sets are combined or the wrong wheel studs are used the

rear wheel will not be correctly secured and could present a risk of accident.

Use only the correct wheel studs and only wheel studs bearing the same approved length identifiers. Do not lubricate the wheel studs.◀

- Install screws **1** and tighten to the specified tightening torque.

 Rear wheel to wheel carrier
– Tightening sequence: tighten in diagonally opposite sequence
– 60 Nm
– with spoked wheels ^{OE} or – with Classic version ^{OE} or – with spoked wheels ^{OA}

 Rear wheel to wheel carrier
– Tightening sequence: tighten in diagonally opposite sequence
– 60 Nm◀

- Push the end silencer onto the pipe at the exhaust-flow control valve and turn it to its initial position.



 If the gap between the rear wheel and the silencer is

too small, the rear wheel can overheat.

The gap between the rear wheel and the silencer must be at least 20 mm. ◀

- Align the silencer, install screw **2** and tighten to the specified torque.



Silencer to rear frame

– 19 Nm



- Slip the clamp forward as far as it will go and turn it so that R/

RT mark **3** on the clamp is in line with mark **4**.



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



Clamp to silencer and manifold

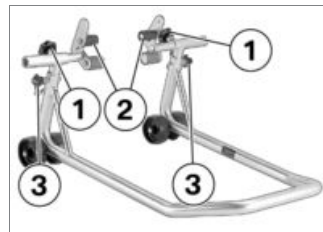
– 28 Nm

Front-wheel stand

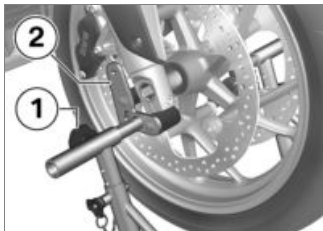
Install the front-wheel stand

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

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



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



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

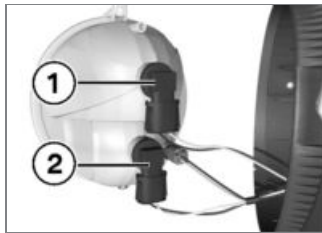


- !** If the motorcycle is on the centre stand and is raised too far, the centre stand will lift clear of the ground and the motorcycle could topple to one side. When raising the motorcycle, make sure that the centre stand remains on the ground.◀
- Apply uniform pressure to push the front-wheel stand down and raise the motorcycle.

Bulbs

Replacing low-beam or high-beam headlight bulb

- Remove the headlight (→ 107).



- Turn bulb socket of low-beam headlight **1** or high-beam headlight **2**, as applicable, counter-clockwise to remove.



- Squeeze clips of bulb socket **4** on right and left together and remove bulb **3** from the bulb socket.
- Replace the defective bulb.

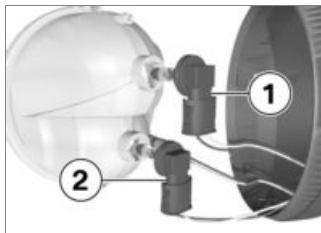
 Bulb for low-beam and high-beam headlight

– H11 / 12 V / 55 W

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



- Install bulb **3** in bulb socket **4**.



 There is a risk of mixing up the full-beam headlight bulb and the low-beam headlight bulb when installing the bulb sockets. Note the colour-coding of the wires for the low-beam headlight

(yellow) and the high-beam headlight (white). ◀

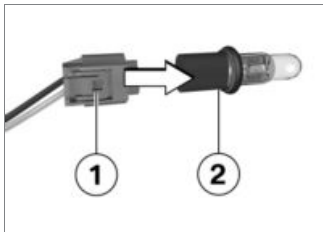
- Turn bulb socket of low-beam headlight **1** or high-beam headlight **2**, as applicable, clockwise to install. Make sure that the colour coding of the wire is correct: low-beam headlight=yellow.
- Install the headlight (➡ 108).

Replacing parking-light bulb

- Remove the headlight (➡ 107).



- Remove bulb socket **1** from the housing.



- Remove bulb **2** from bulb socket **1**.

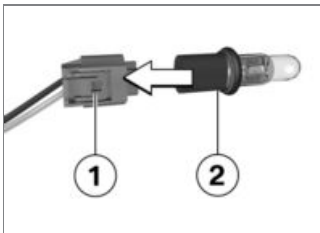
- Replace the defective bulb.



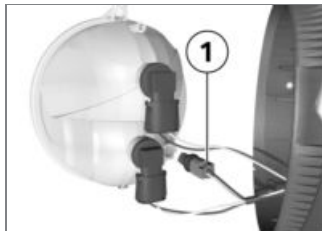
Bulb for parking light

– W5W / 12 V / 5 W

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



- Install bulb **2** in bulb socket **1**.



- Install bulb socket **1** in the housing.
- Install the headlight (🔧➡ 108).

Replacing brake light and rear light bulb

▶ The steps in the procedure described here also apply by analogy to a motorcycle with a luggage carrier.◀

- Remove the seat (🔧➡ 52).



- Remove screws **1**.
- Work the tail cover forward to remove.
- Switch off the ignition.

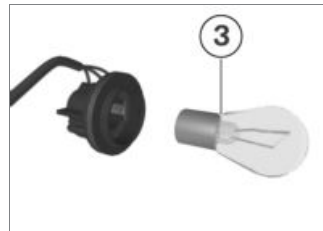


- Remove screw **1**.

- Work the bulb housing to the rear to remove.



- Turn bulb socket **2** counter-clockwise to remove it from the housing.

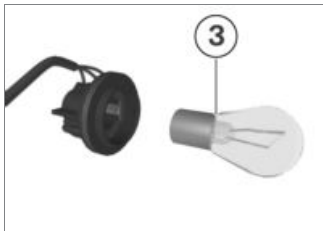


- Press bulb **3** into its socket and turn it counter-clockwise to remove.
- Replace the defective bulb.

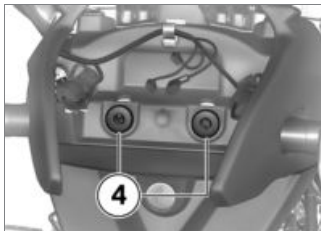
 Bulb for tail light/brake light

– P21/5W / 12 V / 5 W / 21 W

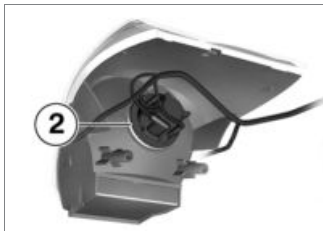
- Use a clean, dry cloth to hold the new bulb in order to keep the glass free of foreign matter.



- Press bulb **3** into its socket and turn it clockwise to install.



- Seat the bulb housing in holders **4**.



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



- Install screw **1**.



- Slip the tail trim into position underneath the passenger grab handle.



- Install screws **1**.
- Installing seat (➡ 53).

Replacing turn indicator bulb, front/rear

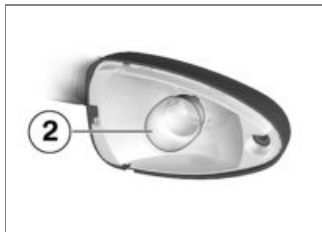
- Make sure the ground is level and firm and place the motorcycle on its stand.



- Remove screw **1**.



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



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

- Replace the defective bulb.



Bulbs for flashing turn indicators, front

– RY10W / 12 V / 10 W

– with LED turn indicators^{OE}
– without Canada export^{NV}

– LED<1



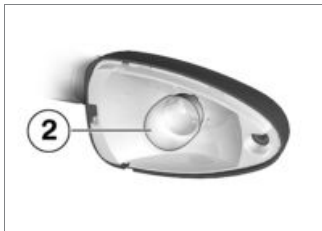
Bulbs for flashing turn indicators, rear

– RY10W / 12 V / 10 W

– with LED turn indicators^{OE}
– without Canada export^{NV}

– LED<1

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



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



- Install screw **1**.

Headlight

Remove the headlight

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



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



- Remove screw **1**.
- Ease cover **2** forward to remove.

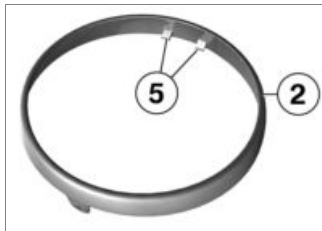


- Remove screw **3**.
- Work the headlight forward and out of the housing.

Installing headlight



- Position the headlight in the housing.
- Install screw **3**.



- Install cover **2**; make sure that tabs **5** of the cover engage the corresponding holders.



- Install screw **1**.

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.

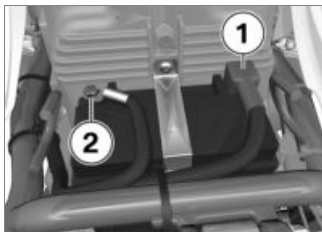
Use only jump leads fitted with fully insulated crocodile clips at both ends. ◀

⚠ 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 seat (➡ 52).



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

tery and the other end to the negative terminal of the discharged battery (negative on this vehicle: position 2).

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

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

- Installing seat (➡ 53).

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 BMW chargers with the part numbers 71 60 7 688 864 (220 V) or, as applicable, 71 60 7 688 865 (110 V). If you are in doubt, disconnect

the battery from the on-board systems and connect the charger directly to the battery.◀



If you switch on the ignition and the multifunction display and telltale 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 on-board 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.◀

Removing battery

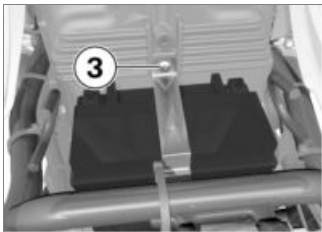
- Make sure the ground is level and firm and place the motorcycle on its stand.
 - with anti-theft alarm OE
- If applicable, switch off the anti-theft alarm.◀
- Switch off the ignition.
- Remove the seat (➡ 52).



⚠ Disconnection in the wrong sequence increases the risk of short-circuits.

Always proceed in the correct sequence.◀

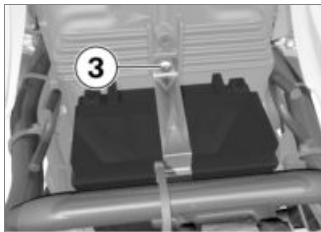
- Disconnect negative battery lead **2** first.
- Then pull back protective cap **1** and disconnect the positive cable.



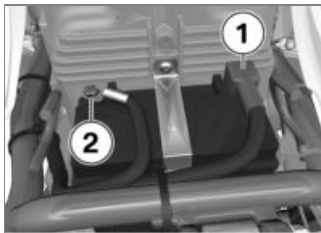
- Remove screw **3**, disengage the retaining strap at the bottom and remove.
- Lift the battery up and out; work it slightly back and forth if it is difficult to remove.

Installing battery

- Place the battery in the battery compartment, positive terminal on the right in the forward direction of travel.



- Engage the retainer at the bottom, push it over the battery and install screw **3**.



Installation in the wrong sequence increases the risk of short-circuits.

Always proceed in the correct sequence.

Never install the battery without the protective cap.◀

- Connect the battery positive lead first.
- Fit protective cap **1** to the positive terminal of the battery.
- Then connect battery negative lead **2**.



If the battery was disconnected from the motorcycle for a prolonged period of time it will be necessary to enter the current date in the instrument panel, in order to ensure that the service-due indicator functions correctly.

If you want to have the date set consult a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

- Installing seat (➡ 53).
- Setting clock (➡ 40).

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 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 motorcycle 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 fly-remover pads or cleaning pads with hard surfaces can produce scratches.◀

Body panels

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

Windscreens and headlight 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.◀

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 other care products that contain silicon.◀

Paint care

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

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

Marks on the paintwork are particularly easy to see after the motorcycle has been washed. Remove stains of this kind immediately, using cleaning-grade benzene or petroleum spirit on a clean cloth or ball of cotton wool. BMW Motorrad recommends BMW tar remover for removing specks of tar. Remember to wax the parts treated in this way.

Protective wax coating

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

It is time to re wax the paint-work when water "puddles" on the surface, instead of forming beads.

Laying up motorcycle

- Clean the motorcycle.
- Removing battery (➡ 111).
- Spray the brake and clutch lever pivots, the side stand pivots and the centre stand pivots (if the motorcycle is fitted with a centre stand) 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.

Restoring motorcycle to use

- Remove the protective wax coating.
- Clean the motorcycle.
- Install a charged battery.
- Before starting: work through the checklist in the chapter entitled "Riding".

Technical data

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troubleshooting chart

Engine does not start at all 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	Refuel (➡ 64).
Battery flat	Charge the battery when connected (➡ 110).

Threaded fasteners

Front wheel	FR	Valid
Brake caliper to slider tube		
M8 x 30 - 10.9	28 Nm	
Clamping screw (quick-release axle) in slider tube		
M8 x 35	19 Nm	
Quick-release axle in axle holder		
M24 x 1.5	50 Nm	
Rear wheel	FR	Valid
Clamp to silencer and manifold		
M8 x 40 - 10.9	28 Nm	
Silencer to rear frame		
M8 x 35	19 Nm	

Rear wheel		FR	Valid
Rear wheel to wheel carrier			
M10 x 40 x 1.25	tighten in diagonally opposite sequence		
	60 Nm		
M10 x 53 x 1.25	tighten in diagonally opposite sequence		– with spoked wheels ^{OE} or – with Classic version ^{OE} or – with spoked wheels ^{OA}
	60 Nm		
Mirror arm		FR	Valid
Locknut (mirror) to adapter			
M10 x 1.25		22 Nm	
Adapter (mirror) to clamp			
M10		25 Nm	

Headlight

FR

Valid

Headlight to bracket		
M8 x 30 Micro-encapsulated	8 Nm	

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Technical data

Engine

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
– with power reduction ^{OE}	79 kW, - at engine speed: 7750 min ⁻¹
– with power reduction ^{OE}	72 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 ^{±50} min ⁻¹ , Engine at regular operating temperature

Fuel

Recommended fuel grade	Premium plus unleaded 98 ROZ/RON 91 AKI
alternative fuel grade	Premium unleaded (slight power- and consumption-related restrictions) 95 ROZ/RON 89 AKI
Usable fuel capacity	approx. 18 l
Reserve fuel	approx. 3 l

BMW recommends BP fuels



Engine oil

Engine oil, capacity	max 4.0 l, with filter change
of products recommended by BMW Motorrad and generally admissible viscosity classes	
SAE 5W-40	Engine oil for motorcycles with dry clutch, API SF / ACEA A2, or better ≥-20 °C
SAE 5W-≥50	Engine oil for motorcycles with dry clutch, API SF / ACEA A2, or better ≥-20 °C
SAE 10W-40	Engine oil for motorcycles with dry clutch, API SF / ACEA A2, or better ≥-10 °C
SAE 10W-≥50	Engine oil for motorcycles with dry clutch, API SF / ACEA A2, or better ≥-20 °C
SAE 15W-≥40	Engine oil for motorcycles with dry clutch, API SF / ACEA A2, or better ≥0 °C
Engine oil, quantity for topping up	max 0.5 l, Difference between MIN and MAX

BMW recommends 

Clutch

clutch type	Single-plate dry clutch
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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	BMW EVO Paralever; cast light-alloy single swinging arm with two joints and torque reaction link
Gear ratio of final drive	2,75 : 1

Running gear

Front wheel

Type of front suspension	BMW Telelever, leading link pivot-mounted on engine and telescopic forks, central spring strut supported by leading link and main frame
Spring strut, front, type	Central spring strut with coil spring
– with Electronic Suspension Adjustment (ESA) ^{OE}	Central spring strut with coil spring and damping electrically adjustable to 3 settings
Spring travel, front	120 mm, At wheel
– with lowered suspension ^{OE}	100 mm, At wheel

Rear wheel

Type of rear suspension	BMW EVO Paralever; cast light-alloy single swinging arm with two joints and torque reaction link
Type of rear suspension	Central spring strut with single-tube gas-filled shock absorber, steplessly adjustable rebound damping and hydraulically adjustable spring preload
– with Electronic Suspension Adjustment (ESA) ^{OE}	Central spring strut with single-tube gas-filled shock absorber, electrically adjustable rebound damping with three settings and electro-hydraulically adjustable spring preload with three settings
Spring travel at rear wheel	140 mm
– with lowered suspension ^{OE}	121 mm

Brakes

Type of front brake	Hydraulically operated twin disc brake with 4-piston fixed calipers and floating brake discs
Brake-pad material, front	Sintered metal
Type of rear brake	Hydraulically operated disc brake with 2-piston floating caliper and fixed disc
Brake-pad material, rear	Organic material
– with BMW Motorrad Integral ABS generation II ^{OE}	Sintered metal

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	Cast aluminium, MT H2
– with spoked wheels ^{OE} or – with Classic version ^{OE}	Spoked wheel with 40 spokes
front wheel rim size	3.50" x 17"
Tyre designation, front	120 / 70 ZR 17

Rear wheel

rear-wheel type	Cast aluminium, MT H2
– with spoked wheels ^{OE} or – with Classic version ^{OE}	Spoked wheel with 40 spokes
rear wheel rim size	5.50" x 17"
Tyre designation, rear	180 / 55 ZR 17

Tyre pressures

Tyre pressure, front	2.5 bar, Tyre cold
Tyre pressure, rear	2.9 bar, Tyre cold

Electrics

Electrical rating of on-board sockets	5 A, all sockets
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	H11 / 12 V / 55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for tail light/brake light	P21/5W / 12 V / 5 W / 21 W
Bulbs for flashing turn indicators, front	RY10W / 12 V / 10 W
– with LED turn indicators ^{OE}	LED
– without Canada export ^{NV}	
Bulbs for flashing turn indicators, rear	RY10W / 12 V / 10 W
– with LED turn indicators ^{OE}	LED
– without Canada export ^{NV}	

Frame

Frame type	Tubular steel front frame and rear frame, with load-bearing drive unit
type plate location	Rear frame, on right below seat
VIN location	Front frame top centre

Dimensions

Length of motorcycle	2145 mm
Height of motorcycle	1317 mm, in DIN normal-load position; with mirrors
– with lowered suspension ^{OE}	1302 mm, in DIN normal-load position; with mirrors
Width of motorcycle	906 mm, with mirrors
Front-seat height	800 mm, Without rider
– with comfort seat, high ^{OE}	830 mm, Without rider
– with dual seat, low ^{OE}	760 mm, Without rider
– with lowered suspension ^{OE}	750 mm, Without rider
– with dual seat, low ^{OE}	
– with dual seat ^{OE}	800 mm, Without rider

rider's inside-leg arc, heel to heel	1840 mm, Without rider
– with comfort seat, high ^{OE}	1860 mm, Without rider
– with dual seat, low ^{OE}	1740 mm, Without rider
– with lowered suspension ^{OE}	1720 mm, Without rider
– with dual seat, low ^{OE}	
– with dual seat ^{OE}	1800 mm, Without rider

Weights

Unladen weight	227 kg, DIN unladen weight, ready for road, 90 % load of fuel, without optional extras
Permissible gross weight	450 kg
Maximum payload	223 kg

Riding specifications

Top speed	>200 km/h
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Service

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BMW Motorrad Service

BMW Motorrad has an extensive after-sales service network 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 carry out reliably 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 workshop, preferably

ably 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 carried out confirmed in the "Service" chapter in this manual. For generous treatment of claims submitted after the warranty period has expired, evidence of regular maintenance is essential.

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

BMW Motorrad Mobility services

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

Maintenance work

BMW Pre-delivery Check

Your authorised BMW Motorrad dealer conducts the BMW pre-delivery check before handing over the motorcycle 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 motorcycle 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 motorcycles 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

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

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

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

on _____

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 motorcycle's actual specification as purchased, the accessories fitted or the national-market specification. No claims will be entertained as a result of such discrepancies.

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

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

Errors and omissions excepted.

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

Fuel	
Recommended fuel grade	Premium plus unleaded 98 ROZ/RON 91 AKI
alternative fuel grade	Premium unleaded (slight power- and consumption-related restrictions) 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	2.9 bar, Tyre cold

