

BMW Motorrad

Rider's Manual

S 1000 R

Vehicle data/dealership details

Vehicle data

Model

Vehicle Identification Number

Colour code

Date of first registration

Registration number

Dealership details

Person to contact in Service department

Ms/Mr

Phone number

Dealership address/phone number (company stamp)

Welcome to BMW

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

About this Rider's Manual

Please read this Rider's Manual carefully before starting to use your new BMW. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features. In addition, it contains information on maintenance and care to help you maintain your vehicle's reliability and safety, as well as its value.
This record of the maintenance work you have had performed on your vehicle is a precondition for generous treatment of goodwill claims.
If the time comes to sell your BMW, please remember to hand over this Rider's Manual to the new owner. It is an important part of the vehicle.

Suggestions and criticism

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

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

BMW Motorrad.

01 40 9 467 181



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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 12. This record of the maintenance work you have had performed on your vehicle 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

CAUTION Low-risk hazard. Non-avoidance can lead to slight or moderate injury.

WARNING Medium-risk hazard. Non-avoidance can lead to fatal or severe injury.

DANGER High-risk hazard. Non-avoidance leads to fatal or severe injury.

ATTENTION Special notes and precautionary measures. Non-compliance can lead to damage to the vehicle or accessory and, consequently, to voiding of the warranty.

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

◄ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

Reference to a page with more detailed information.

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


Tightening torque.


Technical data.

NV National-market version.

OE Optional extras.
The vehicles are assembled complete with all the BMW Motorrad optional extras originally ordered.

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

EWS Electronic immobiliser.

DWA Anti-theft alarm (Diebstahlwarnanlage).

ABS Anti-lock brake system.

ASC Automatic Stability Control.

DDC Dynamic Damping Control.

DTC Dynamic Traction Control.

VDS Vertical Down Sensor (drop sensor).

Equipment

When purchasing your BMW motorcycle, you chose a model with individual equipment. This rider's manual describes optional equipment (OE) and selected optional accessories (OA) provided by BMW. Please make allowance for the fact that some equipment specifications may be described that you have not selected. Equally, country-specific deviations to the motorcycle shown are also possible.
If your motorcycle has equipment that is not described, you will find the relevant description in a separate manual.

Technical data

All dimensions, weights and power outputs in the rider's manual refer to the German standard DIN (Deutsches Institut für Normung e. V.) and comply with its specified tolerances. Technical data and specifications in this rider's manual serve as reference points. The vehicle-specific data may deviate from these, for example as a result of selected optional equipment, the national-market version or country-specific measuring procedures. Detailed values can be taken from the vehicle registration documents and signs on the vehicle, or can be obtained from your authorised BMW Motorrad Retailer or another qualified service partner or specialist workshop. The specifications in the vehicle documents always have priority

over the information provided in this rider's manual.

Currentness

The high safety and quality level of BMW motorcycles is ensured by constant further development in the areas of design, equipment and accessories. This may result in deviations between these operating instructions and your motorcycle. Also, mistakes cannot be completely excluded by BMW Motorrad. Please therefore understand that we do not accept any liability for claims arising from incorrect information, drawings and descriptions.

Additional sources of information

BMW Motorrad Retailer

Your BMW Motorrad Retailer will be happy to answer any questions you may have.

Internet

The rider's manual for your vehicle, operating and installation instructions for any accessories and general information on BMW Motorrad, for example relating to technology, are available at **www.bmw-motorrad.com/service**.

Certificates and operating licences

The certificates for the vehicle and the official operating licences for any accessories are available at **www.bmw-motorrad.com/certification**.

Data memory

General

Control units are installed in the vehicle. Control units process data that they receive, for example, from vehicle sensors, or that they generate themselves or exchange between each other. Some control units are required for the vehicle to function safely or provide assistance during riding, for example assistance systems. In addition, control units enable comfort or infotainment functions.
Information on data that has been stored or exchanged can be obtained from the manufacturer of the vehicle, for example via a separate booklet.

Personal reference

Each vehicle is identified with a clear vehicle identification number. Depending on the country, the vehicle identification number, the number plate and the corresponding authorities can be referenced to ascertain the vehicle owner. There are also other ways to use data obtained from the vehicle to trace the rider or vehicle owner, for example

using the ConnectedDrive user account.

Data protection rights

In accordance with applicable data protection laws, vehicle users have certain rights in relation to the manufacturer of the vehicle or in relation to companies which collect or process personal data.

Vehicle users have the right to obtain full information at no cost from persons or entities storing personal data of the vehicle user. These entities may include:

– Manufacturer of the vehicle
– Qualified service partners
– Specialist workshops
– Service providers

Vehicle users have the right to request information on what personal data has been stored, for what purpose the data is used, and where the data comes from. To obtain this information, proof of ownership or use is required. The right to information also includes information about data that has been shared with other companies or entities.

The website of the vehicle manufacturer contains the applicable data protection information. This data protection information includes information on the right to have data deleted or corrected. The manufacturer of the vehicle also provides their contact details and those of the data protection officer on their website.

The vehicle owner can also request that a BMW Motorrad Retailer or another qualified service partner or specialist workshop read out the data that is stored in the vehicle for a charge.

The vehicle data is read out using the legally prescribed socket for on-board diagnosis (OBD) in the vehicle.

Legal requirements for the disclosure of data

As part of its legal responsibilities, the manufacturer of the vehicle is obligated to make its stored data available to the relevant authorities. This data is provided in the required scope in individual cases, for example to clarify a criminal offence.

In the context of applicable laws, public agencies are entitled in individual cases to read out data from the vehicle themselves.

Operating data in the vehicle

Control units process data to operate the vehicle.

This includes, for example:

– Status reports of the vehicle and its individual components, for example wheel revolutions, wheel speed, deceleration

– Environmental conditions, for example temperature

The data is only processed in the vehicle itself and is generally non-permanent. The data is not stored beyond the operating period.
Electronic components, for example control units, contain components for storing technical information. Information can be temporarily or permanently stored on the vehicle condition, component loads, incidents or errors. This information is generally used to document the condition of a component, a module, a system or the surrounding area, for example:

– Operating conditions of system components, for example filling levels, tyre pressure
– Malfunctions and faults in important system components, for example light and brakes
– Response of the vehicle in special riding situations, for example engagement of the driving dynamics systems
– Information on incidents resulting in damage to the vehicle

The data is necessary for the provision of control unit functions. Furthermore, the data is used to detect and rectify malfunctions and to enable the vehicle manufacturer to optimise vehicle functions.
The vast majority of this data is non-permanent and is only processed in the vehicle itself. Only a small amount of the data is stored in incident or fault memories as required by events.
If services are accessed, for example repairs, service processes, warranty cases and quality assurance measures, this technical information can be read out of the vehicle together with the vehicle identification number.
The information can be read out by a BMW Motorrad Retailer or another qualified service partner or specialist workshop. The legally stipulated socket for on-board diagnosis (OBD) in the vehicle is used to read out the data.
The data is obtained, processed and used by the relevant parts of the retailer network. The data is used to document the technical conditions of the vehicle, to help with error localization, to comply with warranty obligations and to improve quality.
In addition, the manufacturer has various product monitoring obligations arising from product liability legislation. To meet these obligations, the vehicle manufacturer requires technical data from the vehicle. The data from the vehicle can also be used to

check warranty claims from the customer.
Error and incident memories in the vehicle can be reset during servicing or repair work by a BMW Motorrad Retailer or another qualified service partner or specialist workshop.

Data input and data transfer in the vehicle

General

Depending on the equipment, comfort and customised settings can be stored in the vehicle and can be changed or reset at any time.
This includes, for example:
– Settings of the windscreen position
– Chassis and suspension settings

If required, data can be entered in the entertainment and communication system of the vehicle, for example using a smartphone.
Depending on the individual equipment, this includes:
– Multimedia data, such as music for playback
– Contacts data for use in connection with a communication system or an integrated navigation system
– Entered destinations
– Data on the use of internet services. This data can be stored locally in the vehicle or is located on a device that is connected to the vehicle, for example smartphone, USB stick, MP3 player. If this data is stored in the vehicle, the data can be deleted at any time.

This data is transferred to third parties only if personally requested within the context of using online services. This depends on the selected settings when using the services.

Incorporation of mobile end devices

Depending on the equipment, mobile end devices connected to the vehicle, for example smartphones, can be controlled using the operating elements of the vehicle.
The image and sound of the mobile end device can then be output via the multimedia system. At the same time, specific information is transferred to the mobile end device. Depending on the type of integration, this includes, for example, position data and additional general vehicle information. This enables optimal use of the selected apps, for example navigation or music playback.
The type of additional data processing is determined by the provider of the respective app.

The scope of the possible settings depends on the corresponding app and the operating system of the mobile end device.

Services

General

If the vehicle has a wireless connection, this enables the exchange of data between the vehicle and other systems. The wireless connection is enabled by the vehicle's own transmitter and receiver unit or using personally integrated mobile end devices, for example smartphones. Online functions can be used using this wireless connection. These include online services and apps that are provided by the vehicle manufacturer or by other providers.

Services of the vehicle manufacturer

For online services of the vehicle manufacturer, the individual functions are described at suitable points, for example rider's manual, website of the manufacturer. At the same time, information is also provided on the relevant data protection law. Personal data may be used to provide online services. Data is exchanged using a secure connection, for example with the IT systems provided by the vehicle manufacturer.

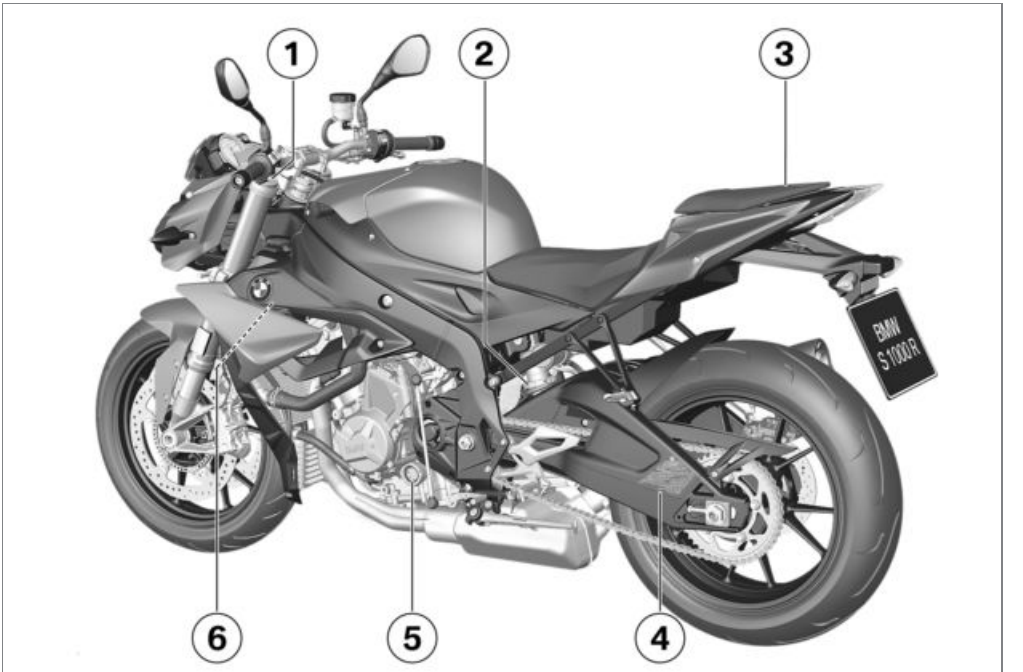
Obtaining, processing and using personal data outside of the normal provision of services requires legal permission, contractual agreement or consent. It is also possible to have the entire data connection activated or deactivated. Statutory functions are excluded from this.

Services from other providers

When using online services from other providers, these services are subject to the responsibility and the data protection and operating conditions of the individual provider. The vehicle manufacturer has no influence on the content that is exchanged in this instance. Information on the type, scope and purpose of the data capture and use of personal data as part of the services of third parties can be ascertained from the individual provider.

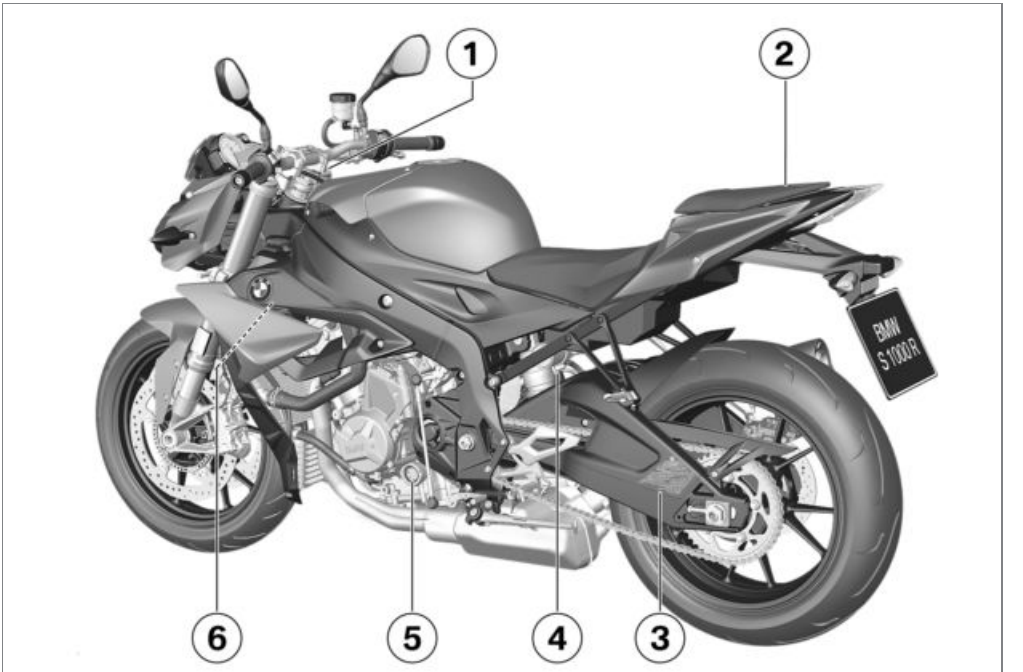
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General view, left side

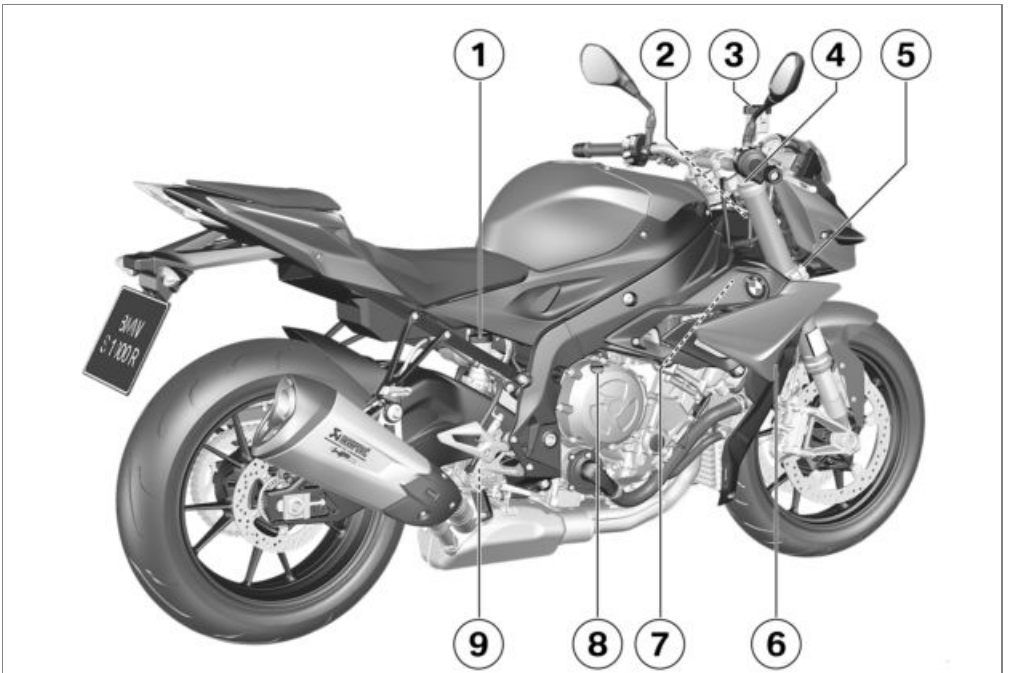
1 Adjuster for front compression-stage damping (red scale indicator) (➠ 74)
2 Adjuster for spring preload, rear (➠ 71)
3 Seat lock (➠ 63)
4 Tyre pressure table
Payload table
Chain settings
5 Engine oil level indicator (➠ 136)
6 Optional accessories socket for navigation


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General view, left side, with DDC

– with Dynamic Damping Control (DDC)[OE]

1 Adjusting spring preload for front wheel (➠ 70).
2 Seat lock (➠ 63)
3 Tyre pressure table
Payload table
Chain settings
4 Adjuster for spring preload, rear (➠ 72)
5 Engine oil level indicator (➠ 136)
6 Optional accessories socket for navigation

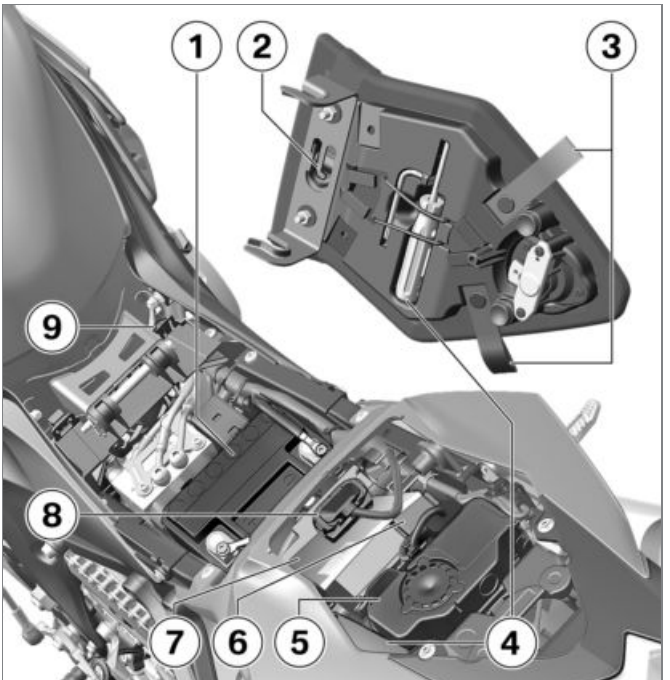

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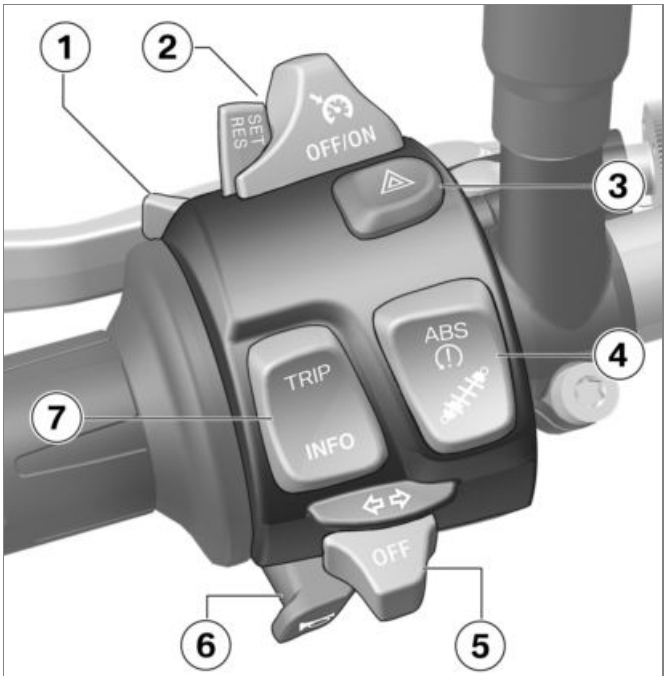
General view, right side

1 Brake-fluid reservoir, rear (➠ 141)
2 VIN and type plate (on steering-head bearing)
3 Brake-fluid tank, front (➠ 140)
4 Setting the front rebound-stage damping (yellow scale indicator) (➠ 74)
5 Steering damper
6 Coolant-level indicator (➠ 143)
7 OA connector
8 Oil filler neck (➠ 137)
9 Setting the rear rebound-stage damping (down at the spring strut, yellow scale indicator) (➠ 75)

Underneath the seat

1 Battery (➠ 165)
2 Helmet holder (➠ 65)
3 Luggage loops (➠ 66)
4 Toolkit (➠ 134)
5 Anti-theft alarm (➠ 53)
6 Fuse box (➠ 167)
7 Rider's Manual
8 Diagnostic connector
9 Coding plug (➠ 60)





Multifunction switch, left

1 High-beam headlight and headlight flasher (➠ 46)
Lap timer (➠ 100)

2 Cruise-control system (➠ 60)

3 Hazard warning flashers (➠ 47)

4 BMW Motorrad Race ABS (➠ 55)
ASC (➠ 56)
DTC (➠ 57)
DDC (➠ 77)

5 Turn indicators (➠ 48)

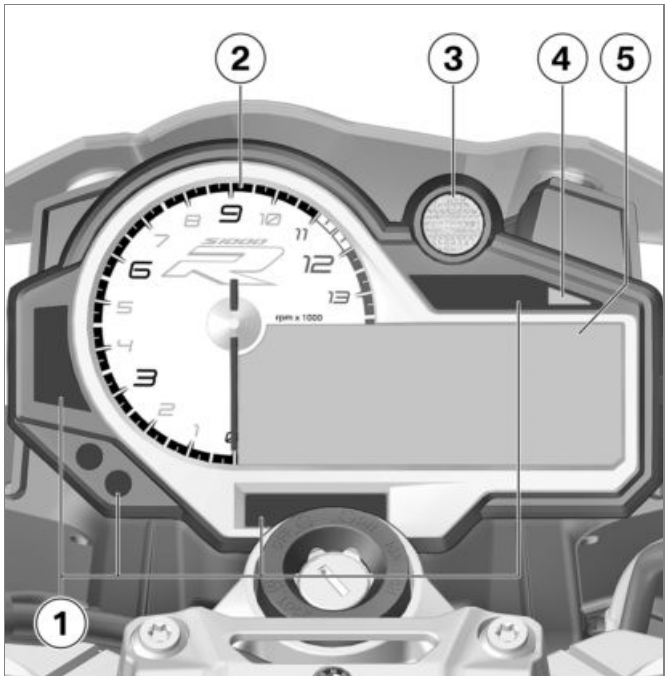
6 Horn

7 Display-mode selection (➠ 49)

Multifunction switch, right

1 Heated handlebar grips (➠ 62)
2 Riding mode (➠ 58)
3 Emergency off switch (kill switch) (➠ 46)
4 Start engine (➠ 82)





Instrument panel

1 Indicator and warning light fields (➠ 26)

2 Engine speed display

3 Gearshift light (➠ 87)

4 Photosensor (for adapting the brightness of the instrument lighting)
– with anti-theft alarm (DWA)[OE]
DWA indicator light (➠ 53)

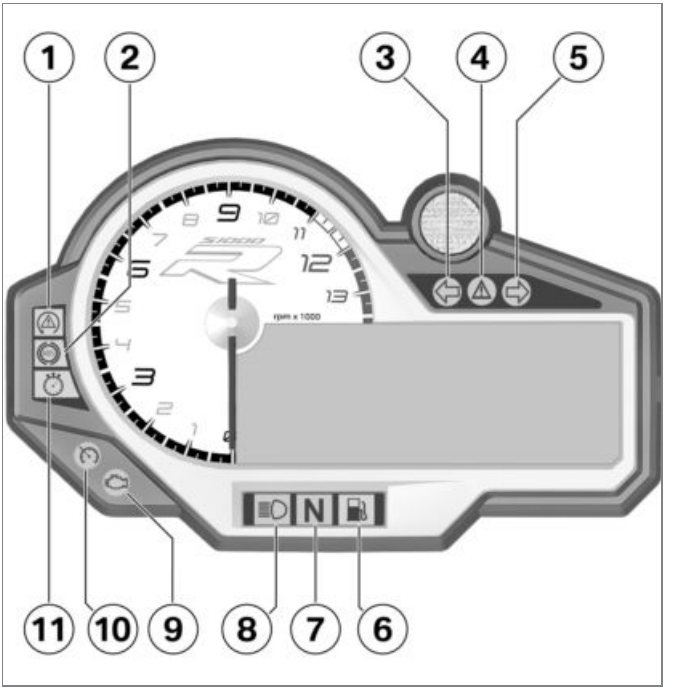
5 Multifunction display (➠ 27)

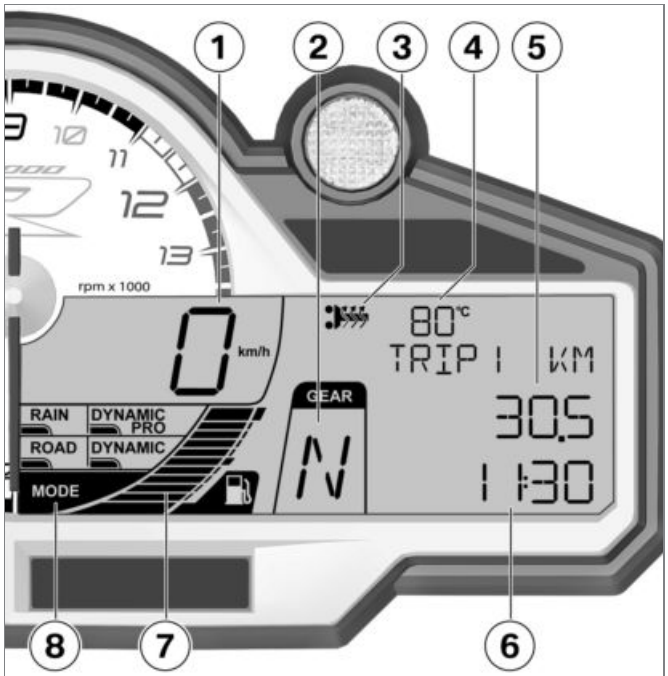
Status indicators

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Indicator and warning lights

1 ASC (➠ 37)
DTC (➠ 38)
2 ABS (➠ 36)
3 Turn indicators, left
4 General warning light (in combination with warning indicators on the display) (➠ 28)
5 Turn indicators, right
6 Fuel reserve (➠ 41)
7 Neutral
8 High-beam
9 Malfunction indicator lamp (➠ 33)
10 Cruise control
– with cruise control OE
Switching on cruise control (➠ 60).
11 Light for the best lap (➠ 101)





Multifunction display

1 Speedometer
2 Gear indicator; "N" indicates neutral
3 Operating the heated handlebar grips (➠ 62)
4 Coolant temperature
5 General information (➠ 51)
6 Clock (➠ 51)
7 Fuel level
8 Riding mode (➠ 58)

NOTICE

You will find information concerning the display modes for the race track in section 7.◀

ABS Pro indicator

– with ABS Pro[OE]

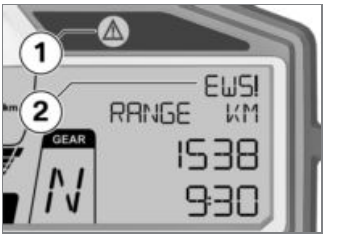


During the Pre-Ride-Check, the availability of the ABS Pro function is indicated by "ABS Pro" showing in the multifunction display.

Warnings

Mode of presentation

Warnings are indicated by the corresponding warning lights.



Warnings for which there is no dedicated warning light are indicated by 'General' warning light **1** showing in combination with a warning such as, for example, **2** appearing on the multifunction display. The 'general' warning light shows red or yellow, depending on the urgency of the warning.

If two or more warnings occur at the same time, all the appropriate warning lights and warning symbols appear, alternating with warning words as applicable.

The possible warnings are listed on the next pages.

Warnings, overview

Indicator and warning lights	Display text	Meaning
 lights up yellow	EWS! appears on the display	EWS active (➠ 33)
 flashes red	Coolant-temperature reading flashes	Coolant temperature too high (➠ 33)
 lights up yellow	Engine! appears on the display	Engine in emergency-operation mode (➠ 33)
 flashes yellow	Engine! appears on the display	Severe fault in the engine control (➠ 34)
 The malfunction indicator lamp lights up		Emissions warning (➠ 34)
	LAMP! appears on the display	Bulbs for flashing turn indicators defective (➠ 34)
 lights up yellow	LAMPR! appears on the display	Rear light defective (➠ 35)

Indicator and warning lights	Display text	Meaning
 lights up yellow	LAMPF! appears on the display	Bulbs for front parking light defective (➠ 35)
		Front lights defective (➠ 35)
	VDS! appears on the blank display	Motorcycle dropped (➠ 36)
	VDS! appears on the display	Drop sensor defective (➠ 36)
 flashes		ABS self-diagnosis not completed (➠ 36)
 lights up		ABS fault (➠ 36)
 quick-flashes		ASC intervention (➠ 37)
 slow-flashes		ASC self-diagnosis not completed (➠ 37)

Indicator and warning lights	Display text	Meaning
 lights up		ASC switched off (➠ 37)
 lights up		ASC fault (➠ 37)
 lights up		ABS switched off (➠ 37)
 quick-flashes		DTC intervention (➠ 38)
 slow-flashes		DTC self-diagnosis not completed (➠ 38)
 lights up		DTC switched off (➠ 38)
 lights up		DTC fault (➠ 38)
 lights up yellow	DDC! appears on the display	DDC fault (➠ 39)

Indicator and warning lights	Display text	Meaning
	 The gear indicator flashes.	Gear not trained (➠ 39)
	DWALO! appears on the display	DWA battery weak (➠ 39)
 lights up yellow	DWA! appears on the display	DWA battery flat (➠ 40)
 lights up red	NO CAN appears on the display	CAN open circuit/short circuit (➠ 40)
 lights up yellow	NO CODING appears on the display	No coding (➠ 40)
 lights up		Fuel down to reserve (➠ 41)

EWS 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 key used for the vehicle.
- Use the reserve key.
- Have the defective key replaced, preferably by an authorised BMW Motorrad dealer.

Coolant temperature too high


General warning light flashes red.

The coolant-temperature reading flashes.

ATTENTION

Riding with overheated engine

Engine damage

- Compliance with the information set out below is essential.◀

Possible cause:

The coolant temperature is too high.

- If possible, ride in the part-load range to cool down the engine.
- Check the coolant level.
- If the coolant temperature is frequently too high, have the fault rectified as soon as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Engine in emergency-operation mode


General warning light shows yellow.

Engine! appears on the display.

WARNING

Unusual ride characteristics when engine running in emergency-operation mode

Risk of accident

- 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 or the full range of

engine rpm might not be available.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Severe fault in the engine control


General warning light flashes yellow.

`Engine!` appears on the display.

WARNING

Engine damage when running in emergency-operation mode

Risk of accident

- Ride slowly, avoid accelerating sharply and overtaking.
- If possible, have the vehicle picked up and have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad Retailer.◀

Possible cause:

The engine control unit has diagnosed a fault which may cause severe secondary faults. The engine is in emergency-operation mode.

- It is possible to continue to ride but not recommended.
- Avoid high load and rpm ranges if possible.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Emissions warning


The malfunction indicator lamp lights up.

Possible cause:

The engine control unit has diagnosed a fault which affects the pollutant emissions.

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

» You can continue riding; pollutant emissions are higher than the threshold values.

Bulbs for flashing turn indicators defective

`LAMP!` appears on the display.

WARNING

Vehicle overlooked in traffic due to failure of the lights on the vehicle

Safety risk

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

Possible cause:

Bulb for turn indicator defective.

- Replacing bulbs for front and rear turn indicators (➠ 158).

Possible cause:

The number plate carrier is removed, the vehicle electronics detect the missing turn indicator.

- Installing number-plate carrier (➠ 115).

NOTICE

If the number-plate carrier is removed in preparation for a racetrack session, the electronics detect a bulb failure and the appropriate warning appears on the display. Activating the EQIP WARN LAMP function in the SETUP MENU suppresses this warning.◀

Rear light defective


General warning light shows yellow.

LAMPR! appears on the display.

Possible cause:

Rear light bulb or brake light bulb faulty.

- The LED rear light must be replaced. Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.

Bulbs for front parking light defective


General warning light shows yellow (only if both parking lights fail).

LAMPF! appears on the display.

WARNING

Vehicle overlooked in traffic due to failure of the lights on the vehicle

Safety risk

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

Possible cause:

Bulb for side light defective.

- Replacing bulb for left parking light (➠ 155).
- Replacing bulb for right side light (➠ 157).

Front lights defective

No indication of a fault if the high-beam or low-beam headlight fails.

WARNING

Vehicle overlooked in traffic due to failure of the lights on the vehicle

Safety risk

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

Possible cause:

Front bulb is defective.

- Replacing bulb for low-beam headlight (➠ 153).
- Replacing bulb for high-beam headlight (➠ 155).

Motorcycle dropped

VDS! (Vertical Down Sensor) appears on the blank display.

Possible cause:

The drop sensor has detected a drop and has cut out the engine.

- Bring the motorcycle to the upright position
- Switch the ignition off and then on again or switch the kill switch on and then off again.

Drop sensor defective

VDS! (Vertical Down Sensor) appears on the display.

Possible cause:

A defect in the drop sensor has been detected.

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

ABS self-diagnosis not completed



ABS telltale and warning light flashes.

Possible cause:

 ABS self-diagnosis not completed
The ABS function is not available because self-diagnosis did not complete. (The motorcycle has to reach a defined minimum speed for the wheel sensors to be checked: min 5 km/h)

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

ABS fault



ABS telltale and warning light shows.

Possible cause:

The ABS control unit has detected a fault. The ABS function is not available or the functionality is subject to certain restrictions.

- You can continue to ride the vehicle, but make due provision for the fact that the ABS function is not available. Bear in mind the more detailed information on situations that can lead to an ABS fault (➠ 121).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ASC intervention


ASC telltale and warning light quick-flashes.

The ASC has detected a degree of instability at the rear wheel and has intervened to reduce torque. The indicator and warning light flashes longer than the 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


ASC telltale and warning light slow-flashes.

Possible cause:

 ASC self-diagnosis not completed
The ASC function is not available, because self-diagnosis did not complete. (The motorcycle has to reach a defined minimum speed with the engine running for the wheel-speed sensors to be checked: min 5 km/h)

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

ASC switched off


ASC telltale and warning light shows.

Possible cause:

The rider has switched off the ASC system.

- Switch on the ASC function (➠ 56).

ASC fault


ASC telltale and warning light shows.

Possible cause:

The ASC control unit has detected a fault. Bear in mind that the ASC function is not available or the functionality is subject to certain restrictions.

- You can continue to ride. Bear in mind the more detailed information on situations that can lead to an ASC fault (➠ 123).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ABS switched off


ABS telltale and warning light shows.

Possible cause:

The rider has switched off the ABS system.

- Switch on the ABS function (➠ 55).

DTC intervention

– with Dynamic Traction Control (DTC)[OE]



DTC indicator and warning light flashes quickly.

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

DTC self-diagnosis not completed

– with Dynamic Traction Control (DTC)[OE]



DTC warning light slow-flashes.

Possible cause:

 DTC self-diagnosis not completed
The DTC function is not available, because self-diagnosis did not complete. (The motorcycle has to reach a defined minimum speed with the engine running for the wheel-speed sensors to be checked: min 5 km/h)

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

DTC switched off

– with Dynamic Traction Control (DTC)[OE]



DTC warning light flashes.

Possible cause:

The rider has switched off the DTC system.

- Switch on the DTC function (➠ 57).

DTC fault

– with Dynamic Traction Control (DTC)[OE]



DTC warning light flashes.

Possible cause:

The DTC control unit has detected a fault. Bear in mind that the DTC function is not available or the functionality is subject to certain restrictions.

- You can continue to ride. Bear in mind the more detailed information on situations that can lead to an DTC fault (➠ 123).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

DDC fault


General warning light shows yellow.

DDC! appears on the display.
Possible cause:

The DDC control unit has detected a fault.

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

» In this condition, the motorcycle has too much damping and is uncomfortable to drive, especially on roads in poor condition.

Gear not trained

– with shift assistant Pro OE


The gear indicator flashes. The Pro shift assistant is not available.

Possible cause:

– with shift assistant Pro OE

The gearbox sensor is not fully trained.

- Engage neutral gear N and, with the vehicle at a standstill, let the engine run for at least 10 seconds to train the idle gear.
- Engage all gears with clutch actuation and ride at least 10 seconds with the engaged gear.

» The gear indicator starts to flash when the gearbox sensor has been trained successfully.

– Shift assistant Pro will operate as described (➠ 88) once the transmission sensor has been completely taught-in.

- If the training process was not successful, have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad dealer.

DWA battery weak

– with anti-theft alarm (DWA) OE

DWALO! appears on the display.

NOTICE

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

Possible cause:

The integral battery in the anti-theft alarm (DWA) has lost a significant proportion of its original capacity. There is no assurance of how long the DWA anti-theft alarm can remain operational if

the vehicle's battery is disconnected.
- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.

DWA battery flat

– with anti-theft alarm (DWA) OE

General warning light shows yellow.

DWA! appears on the display.

NOTICE

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

Possible cause:

The integral battery in the anti-theft alarm (DWA) has lost its entire original capacity. There is no assurance that the DWA anti-theft alarm will be operational if the vehicle's battery is disconnected.
- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.

CAN open circuit/short circuit

General warning light shows red.

NO CAN (Controller Area Network) appears on the display.

Possible cause:

A fault in the Controller Area Network has been detected.
- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.

No coding

General warning light shows yellow.

NO CODING appears on the display.

Possible cause:

A coding fault has been detected.
- The reading remains visible for 10 seconds before disappearing automatically.
- Seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.

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. In this example the reading means "October 2013".



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

Display of maximum remaining distance to next service:
1000 km

General warning light shows yellow and SERVICE! remains permanently visible on the display.
If service is overdue, the due date or the odometer reading at which service was due is accompanied by the 'General' warning light showing yellow. The word "Service" remains permanently visible.

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

NOTICE

The date saved in the instrument cluster must be adjusted if the service display appears more than one month prior to the service date. This situation may occur if the battery has been disconnected from the vehicle for some time.
Consult a specialist workshop, preferably an authorised BMW Motorrad dealer to set the date.◀

Fuel down to reserve

Warning light for fuel down to reserve shows.

WARNING

Irregular engine operation or engine shutdown due to lack of fuel

Risk of accident, damage to catalytic converter

• Do not run the fuel tank dry.◀

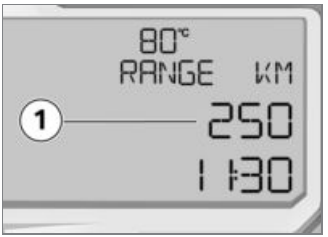
Possible cause:

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

Fuel reserve
approx. 4 l

• Refuelling (➠ 92).

Range



The range readout **1** 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.

After a refuelling stop, the distance counter for reserve fuel is reset if the amount of fuel in the tank is greater than the reserve quantity.

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.

NOTICE

The calculated range is only an approximate figure. Consequently, BMW Motorrad recommends that you should not try to use the full range before refuelling.◀

Operation

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Ignition switch/steering lock

Keys

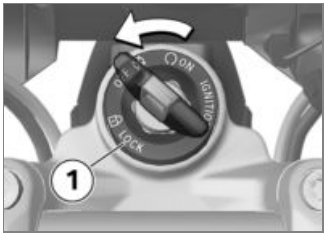
You receive 2 ignition keys. Consult the information on the electronic immobiliser (EWS) (➠ 45) if a key is lost or mislaid.

One-key system

– Ignition switch/steering lock
– Tank filler cap
– Seat lock
– Rear seat cover

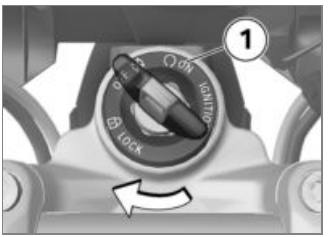
Lock the handlebars

• Turn the handlebars to the left full-lock position.



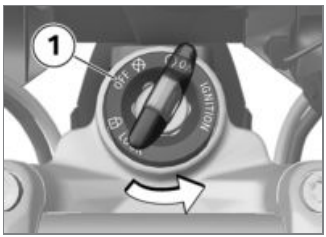
• Turn the key to position **1**, while moving the handlebars slightly.
» Ignition, lights and all function circuits are switched off.
» Handlebars are locked.
» Key can be removed.

Switching on ignition



• Insert the key in the ignition switch and turn to position **1**.
» Side lights and all function circuits are switched on.
» Pre-Ride-Check is performed. (➠ 83)
» ABS self-diagnosis is in progress. (➠ 84)
» ASC self-diagnosis is in progress. (➠ 85)
– with Dynamic Traction Control (DTC) OE
» DTC self-diagnosis is in progress. (➠ 85)◁

Switching off ignition



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

» Lights are switched off.
» Handlebars (steering lock) are not locked.
» Key can be removed.
» The number-plate light goes out after 10 seconds.

Electronic immobiliser EWS

The electronic design of the motorcycle allows it to access data stored in the ignition key by means of a ring antenna located in the ignition switch/steering lock. The engine control unit will only allow the engine to be started if the key is identified as "authorised".

NOTICE

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 warning is displayed on the multifunction display with the key symbol.
Always keep the spare key separately from the ignition key.◀

If you lose a key, you can have it barred by your authorised BMW Motorrad dealer.
If you wish to do this, you will need to bring all other keys for the motorcycle with you. The engine cannot be started by a barred key, but a key that has been barred can subsequently be reactivated.
You can obtain extra keys only through an authorised BMW Motorrad dealer. The keys are part of an integrated security system, so the dealer is under an obligation to check the legitimacy of all applications for replacement/extra keys.

Emergency off switch (kill switch)



1 Emergency off switch (kill switch)

⚠ WARNING

Operation of the kill switch while riding

Risk of fall due to rear wheel locking

- Do not operate the kill switch when riding.◀

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



a Engine switched off
b Normal operating position (run)

Lights

Side light

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

NOTICE

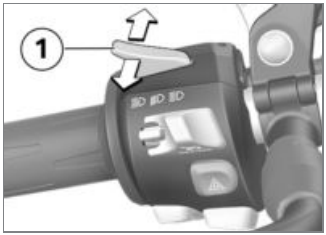
The side lights place a strain on the battery. Do not switch the ignition on for longer than absolutely necessary.◀

Low-beam headlight

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

High-beam headlight and headlight flasher

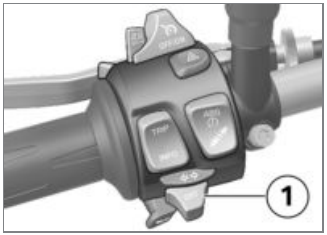
- Start the engine.



- Push switch **1** up to switch on the high-beam headlight.
- Press switch **1** down to operate the headlight flasher.

Parking lights

- Switch off the ignition.



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

NOTICE

You can switch on the parking lights within 10 seconds after switching off the ignition.◀

- Switch the ignition on and off again to switch off the parking lights.

Hazard warning lights system

Switching on hazard warning flashers

- Switch on the ignition.

NOTICE

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



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

» Ignition can be switched off.

- To switch off the hazard warning flashers, switch on the ignition and press button **1** again.

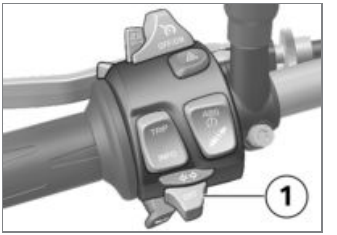
Turn indicators

Operating the turn indicators

- Switch on the ignition.

NOTICE

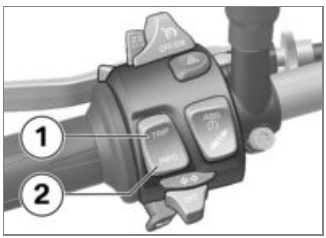
The turn indicators are cancelled automatically after the defined riding time and distance. The defined time and distance can be set by an authorised BMW Motorrad dealer.◀



- Press button **1** to the left to switch on the left turn indicator.
- Press button **1** to the right to switch on the right turn indicator.
- Operate button **1** in the centre position to switch off the turn indicator.

Multifunction display

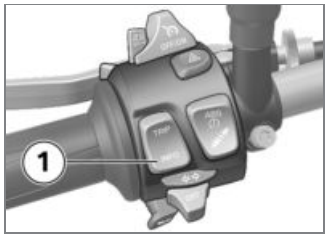
Selecting the display mode



- Press button **1** to view the ROAD display mode.
- Press button **2** to view other display modes.

The display modes at your disposal are as follows:

– **ROAD**: all the information necessary for riding on public roads is presented here.
– **LAPTIMER**: lap times and other data can be logged here and subsequently retrieved in the RACE INFO display mode.
– **RACE INFO**: the information logged with the LAPTIMER can be retrieved for viewing here. Note that this display mode can be activated only when the motorcycle is at a standstill.
– **SETUP MENU**: the instrument panel can be configured to suit the rider's preferences here. Note that this display mode can be activated only when the motorcycle is at a standstill.



- When the display shows RACE INFO or SETUP MENU, as applicable, press and hold down button **1** to activate the mode.

Overview of the display modes

— Solid line: short-press the button.

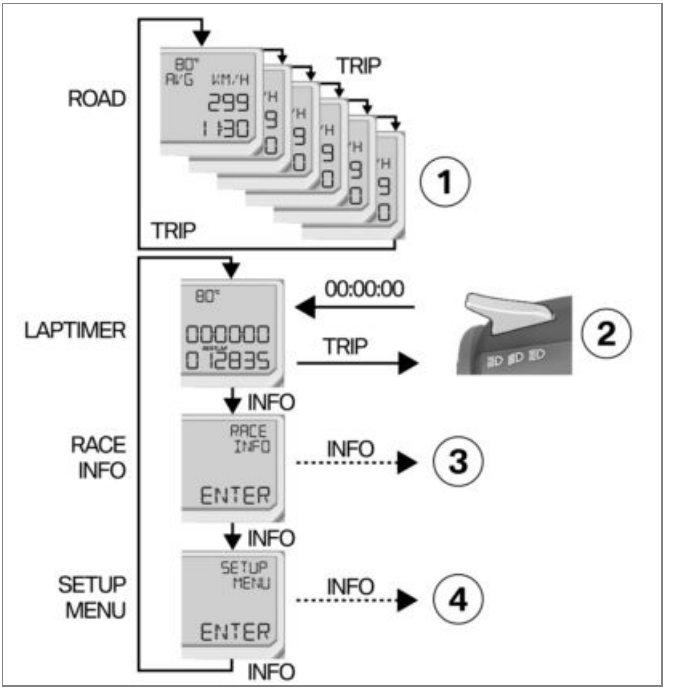
- - Broken line: press and hold down the button.

1 On-board computer readings (➠ 51)

2 Starting timing (➠ 100)

3 Start RACE INFO (➠ 102)

4 Start SETUP MENU (➠ 107)



Selecting readings in ROAD mode

• Switch on the ignition.



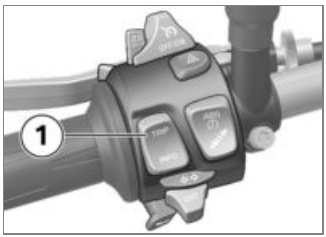
• Repeatedly press button **1** until the value you want appears in panel **2**.

The following values can be displayed:

– Total distance travelled
– Range
– Trip distance 1 (`Trip I`)
– Trip distance 2 (`Trip II`)
– Average consumption
– Average speed

Resetting the average values

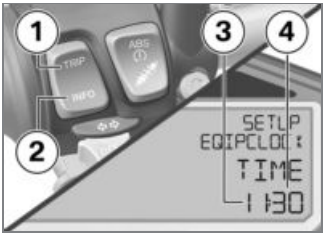
• Switch on the ignition.



• Repeatedly short-press button **1** until the average value you want to reset appears in the display line.
• Press and hold down button **1** until the value you selected has reset.

Setting the clock

• Switch on the ignition.



• Repeatedly press button **2** until `SETUP MENU ENTER` appears on the display.
• Press and hold down button **2**.
• Repeatedly press button **2** until `SETUP EQUIPMENT ENTER` appears on the display.
• Press and hold down button **2**.
• Repeatedly press button **2** until `SETUP EQUIP:CLOCK TIME` appears on the display.
• Press and hold down button **2** until the minutes number **4** flashes.
• Press button **1** to step the minutes reading up.

- Press button **2** to step the minutes reading down.
- When the minutes reading is correct, hold down button **2** until hours reading **3** flashes.
- Press button **1** to step the hours reading up.
- Press button **2** to step the hours reading down.
- When the hours reading is correct, press and hold down button **2** until the number stops flashing.

» This completes the process.

Anti-theft alarm (DWA)

– with anti-theft alarm (DWA)[OE]

Activation

- Switching on ignition (➠ 44).
- DWA adjusting (➠ 54).
- Switch off the ignition.

» If the DWA is activated, the DWA is automatically activated after having switched off the ignition.
» The alarm system is active after approximately 30 seconds.
» Turn indicators flash twice.
» Confirmation tone sounds twice (if programmed).
» Anti-theft alarm (DWA) is active.

Alarm signal

A DWA alarm can be triggered by:

– motion sensor
– an attempt to use an unauthorised vehicle key to switch on the ignition
– disconnection of the DWA anti-theft alarm from the motorcycle's battery (DWA internal battery in the anti-theft alarm provides power - alarm tone only, the turn indicators do not flash).

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

An alarm lasts for approximately 26 seconds. While an alarm is in progress an alarm tone sounds and the turn indicators flash. The type of alarm tone can be set by an authorised BMW Motorrad Retailer.

If an alarm was triggered while the motorcycle was unattended, the rider is notified accordingly by an alarm tone sounding once when the ignition is switched on. The DWA LED then indicates the reason for the alarm for one minute.

Light signals issued by the DWA LED:

– Flashes 1x: Motion sensor 1
– Flashes 2x: Motion sensor 2
– Flashes 3x: Ignition switched on with unauthorised vehicle key
– Flashes 4x: Disconnection of the DWA anti-theft alarm from the motorcycle's battery
– Flashes 5x: Motion sensor 3

Deactivation

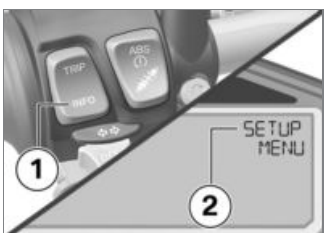
- Shift emergency-off switch to operating position.

- Switch on the ignition.

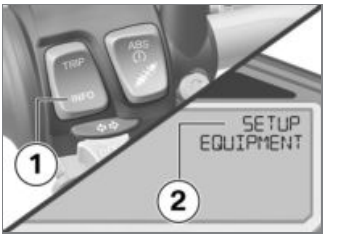
» Turn indicators flash once.
» Confirmation tone sounds once (if programmed).
» Anti-theft alarm (DWA) is deactivated.

DWA adjusting

- Switching on ignition (➠ 44).



- Repeatedly press button **1** briefly until the display line displays **2** SETUP MENU ENTER.
- Press and hold button **1** to launch the SETUP MENU.



- Repeatedly press button **1** briefly until the display line displays **2** SETUP EQUIPMENT ENTER.
- Press and hold button **1** to launch the SETUP EQUIPMENT.



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

» AUTO appears in display line **2**.
» The preset ON/OFF value appears in display line **3**.

- Press and hold button **1** in order to change the set value.

The following settings are available:

– AUTO ON: The DWA anti-theft alarm is active and will be armed automatically when the ignition is switched off.
– AUTO OFF: The DWA anti-theft alarm is deactivated.

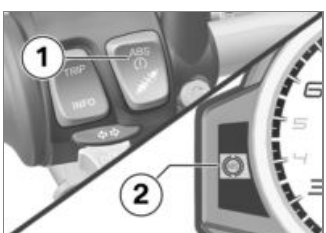
BMW Motorrad Race ABS

Switch off the ABS function

- Switch on the ignition.

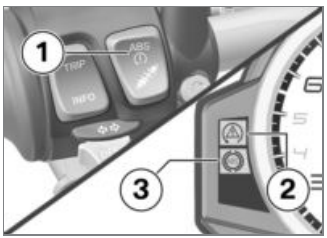
NOTICE

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



- Press and hold down button **1** until ABS indicator and warning light **2** changes status.

ABS telltale and warning light shows.



- Press and hold down button **1** until first DTC warning light **2** and then ABS indicator and warning light **3** change status.

» The DTC setting remains unchanged.

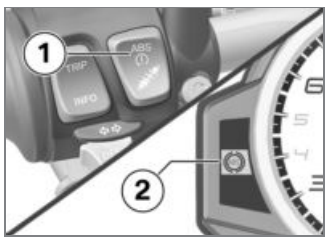
ABS telltale and warning light shows.

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

ABS telltale and warning light remains on.

» ABS function is switched off.

Switch on the ABS function



- Press and hold down button **1** until ABS indicator and warning light **2** changes status.

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

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

ABS telltale and warning light remains off or continues to flash.

» ABS indicator and warning light switched on.

- If the encoding plug is not inserted, you have the alternative of switching the ignition off and then on again.

An ABS fault has occurred if the ABS indicator and warning light shows when the motorcycle accelerates to a speed in excess of the minimum stated below after the ignition was switched off and then on again.

min 5 km/h

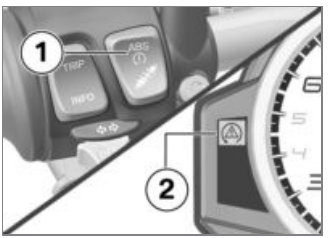
Automatic Stability Control (ASC)

Switch off the ASC function

- Start the engine.

NOTICE

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



- Press and hold down button **1** until ASC indicator and warning light **2** changes status.

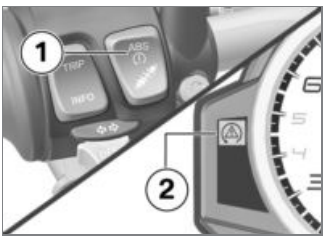
ASC telltale and warning light starts to show.

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

ASC telltale and warning light remains on.

» ASC function is switched off.

Switch on the ASC function



- Press and hold down button **1** until ASC indicator and warning light **2** changes status.

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

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

ASC telltale and warning light remains off or continues to flash.

» ASC function is switched on.

• If the encoding plug is not inserted, you have the alternative of switching the ignition off and then on again.

An ASC fault has occurred if the ASC indicator and warning light shows when the motorcycle accelerates to a speed in excess of the minimum stated below after the ignition was switched off and then on again.

min 5 km/h

Dynamic Traction Control (DTC)

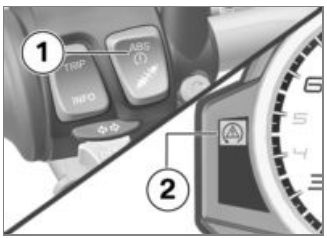
– with Dynamic Traction Control (DTC)[OE]

Switch off the DTC function

• Start the engine.

NOTICE

Dynamic Traction Control (DTC) can also be switched off when the motorcycle is in motion .◀



• Press and hold down button **1** until DTC warning light **2** changes status.

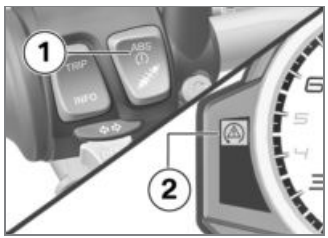
DTC warning light starts to show.

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

DTC warning light continues to flash.

» DTC function is switched off.

Switch on the DTC function



• Press and hold down button **1** until DTC warning light **2** changes status.

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

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

DTC indicator and warning light remains off or continues to flash.

» DTC function is switched on.

• If the coding plug is not inserted, you have the alternative of switching the ignition off and then on again.

A DTC fault has occurred if the DTC warning light shows when the motorcycle accelerates to a speed in excess of the minimum stated below after the ignition was switched off and then on again.

min 5 km/h

Riding mode

Using the riding modes

BMW Motorrad has developed 4 operational scenarios for your motorcycle from which you can select the scenario suitable for your situation:

– Riding on a rain-wet road surface.
– Riding on a dry road surface.

– with riding modes Pro OE
– Dynamic riding on a dry road surface.
– Sporty riding on a dry road surface.

The interplay of engine management, throttle response, ABS control and ASC or DTC control is optimised for each of these 4 scenarios. The optimum setting is preset for DDC.

Setting riding mode

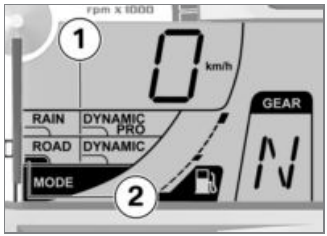
• Switching on ignition (➠ 44).



• Press button **1**.

NOTICE

See the section entitled "Engineering details" for more information on the various ride modes that can be selected.◀



Selection menu **1** with the four selectable riding modes appears on the display. The highlight **2** tells you which riding mode is currently selected.



- Repeatedly press button **1** until the riding mode you want is highlighted.

The following ride modes can be selected:

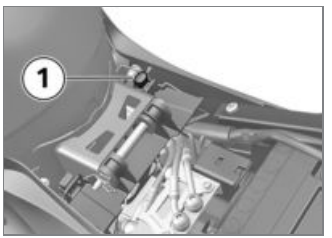
– RAIN: For riding on a rain-wet road surface.
– ROAD: For riding on a dry road surface.

– with riding modes Pro OE
» The following riding modes are additionally available for selection:
– DYNAMIC: For dynamic riding on a dry road surface.
– DYNAMIC PRO: For sporty riding and for configuration to personal preferences or current marginal conditions (only with encoding plug fitted).◁
» With the motorcycle at a standstill, the selected mode is activated after approximately two seconds.
» The newly selected riding mode is activated as you ride only when the following preconditions are satisfied:
– Throttle twistgrip is in idle position.
– Brake levers are in the released positions.
» The mode selected in this way is retained with the engine-characteristic, ABS, DTC and DDC adaptation settings even after the ignition has been switched off.

Installing encoding plug

– with riding modes Pro OE

- Switching off ignition (➠ 45).
- Removing front seat (➠ 64).

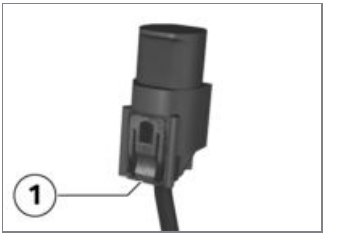


ATTENTION

Dirt and damp penetrating inside open connectors

Malfunctions

- Reinstall the protective cap after removing the coding plug.◀
- Remove cap of plug **1**.



- To do so, press in latch **1** and remove the cap.
- Install the encoding plug.
- Switch on the ignition.

» The riding mode selected is retained in memory, even after the ignition is switched off.

- Installing front seat (➠ 65).

Cruise-control system

– with cruise control OE

Switching on cruise control



- Slide switch **1** to the right.

» Button **2** is enabled for operation.

Saving road speed



- Briefly push button **1** forward.

Adjustment range for cruise control
30...180 km/h

Telltale light for cruise control shows.

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

Accelerating



- Briefly push button **1** forward.

Increase speed
Speed is increased with each actuation.
1 km/h

- Push button **1** forward and hold it in this position.

» The motorcycle accelerates steplessly.

» The current speed is maintained and saved if button **1** is not pushed again.

Decelerating



- Briefly push button **1** back.

Reduce speed
Speed is reduced with each actuation.
1 km/h

- Push button **1** back and hold it in this position.

» The motorcycle decelerates steplessly.

» The current speed is maintained and saved if button **1** is not pushed again.

Deactivating cruise control

- Brake or pull the clutch lever or turn the throttle twistgrip (close the throttle by turning the twistgrip back past the idle position) to deactivate cruise control.

» Indicator light for cruise control goes out.

Resuming former cruising speed



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

NOTICE

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

Telltale light for cruise control shows.

Switching off cruise control



- Slide switch **1** to the left.

» The system is deactivated.

» Button **2** is disabled.

Heated handlebar grips

– with heated grips[OE]

Operating the heated handlebar grips

- Start the engine.

NOTICE

The heating in the heated handlebar grips can be activated

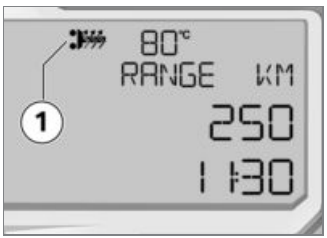
only when the engine is running.◀

NOTICE

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



- Repeatedly press button **1** until the heating stage you want to use appears on the multifunction display.



The handlebar grips have two-stage heating. Stage two **1** is for heating the grips quickly: it is advisable to switch to stage one as soon as the grips are warm.

Second stage: 100 % heating power

First stage: 50 % heating power

» The selected heating stage will be saved if you allow a certain length of time to pass without making further changes.

Front and rear seats

Removing rear seat

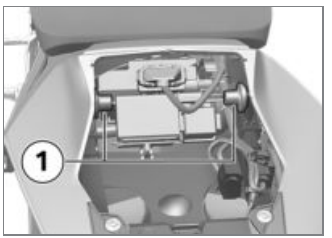
- Place the motorcycle on its stand on firm, even ground.



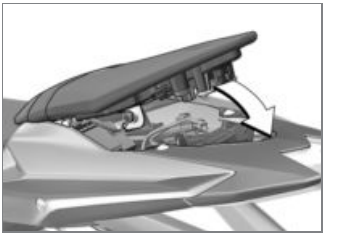
- Open seat lock **1** with the ignition key.
- Lift the rear passenger seat, then remove it backwards and upwards.
- Pull out the ignition key and place the passenger seat up-

holstered side down on a clean surface.

Install the rear seat



- Insert passenger seat in the mounts **1** on left and right.



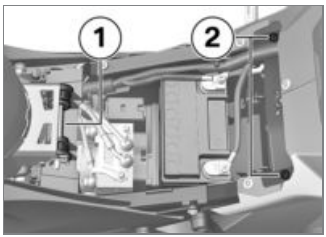
- Fold the passenger seat downwards, and press forwards lightly.
- Lock seat lock using the ignition key.

Removing front seat



- Push the upholstery of the rider's seat forward slightly above screws **1** and hold it in this position.
- Remove screws **1**.
- Push the seat forward and lift it at the rear to remove. Take care not to let the screws scratch the trim panels.
- Place the seat, upholstered side down, on a clean surface.

Installing front seat



- Engage the rider's seat in mount **1**, then lower the rear of the seat to bring the holes into alignment with screw holes **2**. Take care not to let the screws scratch the trim panels.

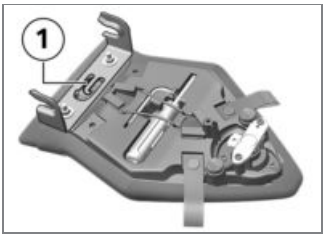


- Push the upholstery of the rider's seat forward slightly above the screw holes and hold it in this position.
- Install screws **1**.

Helmet holder

Securing the helmet to motorcycle

- Removing rear seat (➠ 63).
- Turn the rear seat upside down.



ATTENTION

Incorrect positioning of the helmet lock

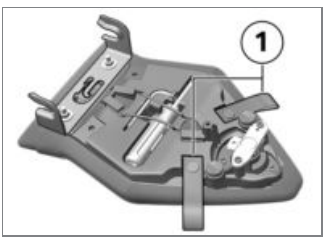
Scratch marks on trim panel

- Make sure the lock is out of the way when you hook the helmet into position.◀
- Use a plastic-sheathed steel cable (not part of the vehicle) to secure the helmet to helmet holder **1**.
- Install the rear seat (➠ 64).
- Place the helmet on the front seat.

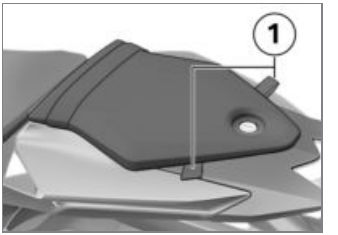
Luggage loops

Securing luggage to motorcycle

- Removing rear seat (➠ 63).
- Turn the rear seat upside down.



- Pull loops **1** out of the holders and to the outside and down.
- Install the rear seat (➠ 64).



- Use the loops **1** and the rear footrests, for example, to secure luggage to the rear seat. In this process, take care not to damage the rear trim panels.

Adjustment

Mirrors 68
Headlight 68
Brakes 68
Spring preload 69
Damping 73

Mirrors

Adjusting mirrors



- Turn the mirror to the correct position.

Headlight

Adjusting headlight for driving on left/driving on right

This motorcycle has a symmetric-beam low-beam headlight. If the motorcycle is ridden in a country where the opposite rule of the road applies, its symmetric low-beam headlight means that no measures are necessary to prevent the headlight beam from dazzling oncoming traffic.

Headlight beam throw and spring preload

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

NOTICE

If there are doubts about the correct headlight beam throw, have the setting checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

Brakes

Adjusting brake lever

WARNING

Relocated brake fluid tank
Air in the brake system

- Do not turn the handlebars or the handlebar fitting on the handlebar.◀

WARNING

Adjusting the brake lever while riding
Risk of accident

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



- Turn adjuster knob **1** to the desired position.

NOTICE

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

» Adjustment options:
– Position 1: smallest span between handlebar grip and brake lever
– Position 6: largest span between handlebar grip and brake lever

Spring preload

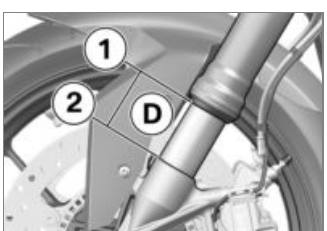
Adjustment

Front spring preload has to be adjusted to suit the rider's weight. Increase spring preload for heavier loads, decrease spring preload for lighter loads.
It is essential to set spring preload of the rear suspension to suit the load carried by the motorcycle. Increase spring preload when the vehicle is heavily loaded and reduce spring preload accordingly when the vehicle is lightly loaded.

Adjusting spring preload for front wheel

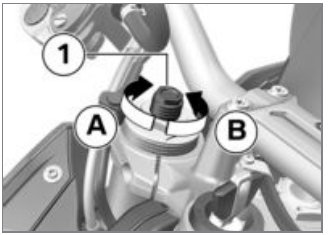
– without Dynamic Damping Control (DDC) OE

- Place the motorcycle on its stand on firm, even ground.
- Make sure there is no load on the motorcycle; remove all items of luggage, if carried.



- Hold the motorcycle upright and measure distance **D** between the lower edge **1** of the slider tube and the front axle **2**.
- Apply the rider's weight to the motorcycle.
- With the assistance of a second person, measure distance **D** between points **1** and **2** again and calculate the difference (negative spring displacement) between the two readings.

Load-dependent adjustment of spring preload
Negative spring displacement of front wheel
6...10 mm (including rider 85 kg)



WARNING

Spring preload setting and spring-strut damping setting not matched.

Impaired handling.

- Adjust spring-strut damping to suit spring preload.◀
- To reduce compression (i.e. to increase spring preload), use the tool from the toolkit to rotate the adjusting screws **1** in direction **A**.
- To increase compression (i.e. to reduce spring preload), use the tool from the toolkit to rotate the adjusting screws **1** in direction **B**.
- Make sure that the same values are set on the left and on the right.

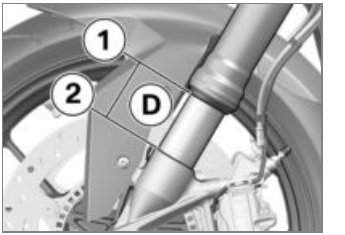
Adjusting spring preload for front wheel

– with Dynamic Damping Control (DDC) OE

- Place the motorcycle on its stand on firm, even ground.
- Start the engine.

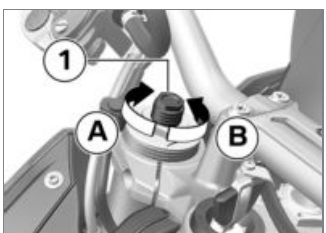
NOTICE

Make sure there is no load on the motorcycle and remove all items of luggage, if carried, before setting the spring preload. Adjust damping action (DDC) to ROAD in one-up riding.◀



- Keep motorcycle upright, best done with help from a second person (do not use the side stand).
- Measure distance **D** between the lower edge **1** of the slider tube and the front axle **2**.
- Apply the rider's weight to the motorcycle.
- With help from a second person, measure distance **D** between points **1** and **2** again and calculate the difference (negative spring displacement) between the two values.

Load-dependent adjustment of spring preload
Negative spring displacement of front wheel
6...10 mm (including rider 85 kg)



WARNING

Spring preload setting and spring-strut damping setting not matched.

Impaired handling.

- Adjust spring-strut damping to suit spring preload.◀
- To reduce compression (i.e. to increase spring preload), use the tool from the toolkit to rotate the adjusting screws **1** in direction **A**.
- To increase compression (i.e. to reduce spring preload), use the tool from the toolkit to rotate the adjusting screws **1** in direction **B**.

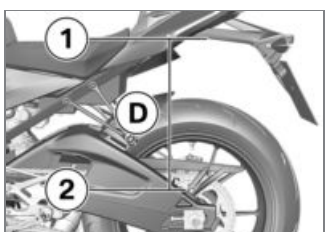
Adjusting spring preload for rear wheel

– without Dynamic Damping Control (DDC) OE

- Place the motorcycle on its stand on firm, even ground.
- Make sure there is no load on the motorcycle; remove all items of luggage, if carried.



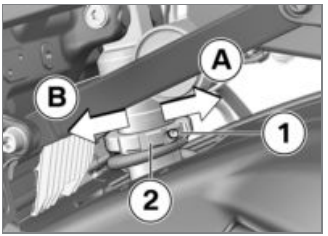
- Use the tool from the on-board toolkit to slacken screw **1**.



- Hold the motorcycle upright (do not prop it on the side stand) and measure distance **D** from bottom edge **1** of the

number plate carrier to screw **2** of the chain guard.
- Apply the rider's weight to the motorcycle.
- With the assistance of a second person, measure distance **D** between points **1** and **2** again and calculate the difference (negative spring displacement) between the two readings.

Load-dependent adjustment of spring preload
Suspension compression at rear wheel
20...24 mm (including rider 85 kg)



WARNING

Spring preload setting and spring-strut damping setting not matched.

Impaired handling.
- Adjust spring-strut damping to suit spring preload.◀
- To reduce negative spring displacement (increase spring preload, in other words), use the tool from the on-board toolkit to turn adjusting ring **2** in direction **B**.
- To increase negative spring displacement (reduce spring preload, in other words), use the tool from the on-board toolkit to turn adjusting ring **2** in direction **A**.
- Tighten screw **1** to the specified tightening torque.

Clamping bolt on top spring cup
3 Nm

Adjusting spring preload for rear wheel

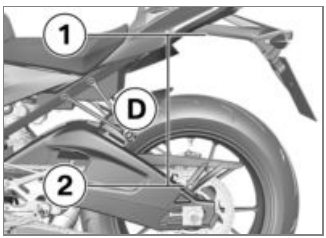
– with Dynamic Damping Control (DDC) OE

- Place the motorcycle on its stand on firm, even ground.
- Start the engine.

NOTICE

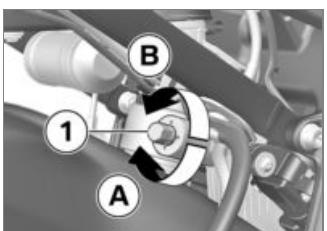
Make sure there is no load on the motorcycle and remove all items of luggage, if carried, before setting the spring preload.

Adjust damping action (DDC) to ROAD in one-up riding.◀



- Keep motorcycle upright, best done with help from a second person (do not use the side stand).
- Measure distance **D** between the lower edge **1** of the number plate carrier and screw **2** on the chain guard.
- Apply the rider's weight to the motorcycle.
- With help from a second person, measure distance **D** between points **1** and **2** again and calculate the difference (negative spring displacement) between the two values.

Load-dependent adjustment of spring preload
Suspension compression at rear wheel
20...24 mm (including rider 85 kg)



- To reduce negative spring displacement (i.e. to increase spring preload), use the tool from the toolkit to turn adjusting ring **1** in direction **A**.
- To increase negative spring displacement (i.e. to reduce spring preload), use the tool from the toolkit to turn adjusting ring **1** in direction **B**.

Damping

Correct setting for the damping characteristic

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

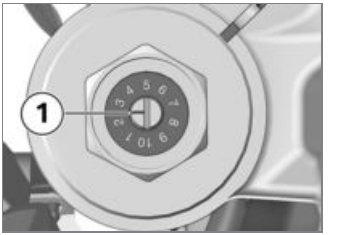
– An uneven surface requires softer damping than a smooth surface.
– An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting compression-stage damping for front wheel

– without Dynamic Damping Control (DDC)[OE]



- Adjust the compression-stage damping using the adjusting screw **1** on the left fork leg.

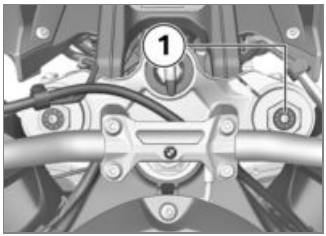


- To increase damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **1** points to a higher reading on the scale.
- To reduce damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **1** points to a lower reading on the scale.

Compression stage, basic setting, front
Position 1 (comfortable setting with rider 85 kg)
Position 3 (normal setting with rider 85 kg)
Position 7 (sports setting with rider 85 kg)

Adjust the rebound-stage damping for front wheel

– without Dynamic Damping Control (DDC)[OE]



- Adjust the rebound-stage damping using the adjusting screw **1** on the right fork leg.



- To increase damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **1** points to a higher reading on the scale.
- To reduce damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **1** points to a lower reading on the scale.

Rebound stage, basic setting, front
Position 1 (comfortable setting with rider 85 kg)
Position 3 (normal setting with rider 85 kg)
Position 7 (sports setting with rider 85 kg)

Factory default settings, front wheel

- Reset the factory defaults as stated below.

Factory default settings for compression/rebound stages, front
Position 3

Adjusting rebound-stage damping for rear wheel

– without Dynamic Damping Control (DDC)[OE]

- Place the motorcycle on its stand on firm, even ground.



- Adjusting the rebound-stage damping using the adjusting screw **1**.



- To increase damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **1** points to a higher reading on the scale.
- To reduce damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **1** points to a lower reading on the scale.

Rebound stage, basic setting, rear
Position 1 (comfortable setting with rider 85 kg)
Position 4 (normal setting with rider 85 kg)
Position 7 (sports setting with rider 85 kg)

Factory settings at rear wheel

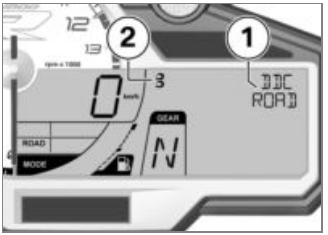
- Reset the factory defaults as stated below.

Factory default setting for rebound stage, rear
Position 4

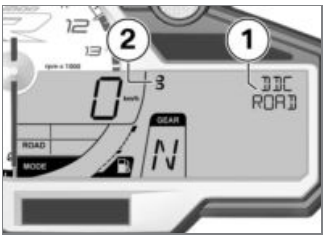
Display damping with DDC

– with Dynamic Damping Control (DDC) OE

- Switching on ignition (➠ 44).



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



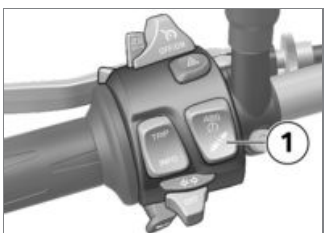
Damping is shown in area **1** of the multifunction display with the loading show in area **2**.

» The setting shows briefly, then disappears automatically.

Adjusting suspension damping with DDC

– with Dynamic Damping Control (DDC)[OE]

• Switching on ignition (➠ 44).



• Press button **1** briefly to view the current setting.

To adjust damping:

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

NOTICE

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

The following settings are available:

– ROAD: Normal damping characteristic
– DYNAMIC: Sporty damping characteristic

To adjust load:

• Repeatedly press button **1** and hold until the setting you want to use appears on the display.

NOTICE

The load cannot be set while the motorcycle is in motion.◀

The following settings are available:

One-up

Riding with passenger

Riding

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Refuelling 92
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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.

Loading

WARNING

Handling adversely affected by overloading and imbalanced loads
Risk of falling

- 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 tank bag OA
- Note the maximum permissible payload of the tank rucksack.

Payload of tank rucksack
≤5 kg◁

– with rear softbag OA
- Note the maximum payload and the speed limit for riding with the rear softbag fitted.

Payload of rear softbag
max 5 kg

Maximum permissible speed for riding with the rear softbag fitted to the motorcycle
max 220 km/h◁

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
– Etc.

Risk of poisoning

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

WARNING

Exhaust gases adversely affecting health

Risk of asphyxiation

- Do not inhale exhaust fumes.
- Do not run the engine in an enclosed space.◀

Risk of burn injury

CAUTION

Engine and exhaust system become very hot when the vehicle is in use

Risk of burn injury

- When you park the vehicle make sure that no-one and no objects can come into contact with the hot engine and exhaust system.◀

Catalytic converter

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

The following guidelines must be observed:

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

ATTENTION

Unburned fuel in catalytic converter

Damage to catalytic converter

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

Risk of overheating

ATTENTION

Engine running for prolonged period with vehicle at standstill

Overheating due to insufficient cooling; in extreme cases vehicle fire

- Do not allow the engine to idle unnecessarily.
- Ride away immediately after starting the engine.◀

Tampering

ATTENTION

Tampering with the motorcycle (e.g. engine management ECU, throttle valves, clutch)

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

- Do not tamper with the vehicle in any way that could result in tuned performance.◀

Comply with checklist

- At regular intervals, use the checklist below to check your motorcycle.

Requirement

Always before riding off:

- Check operation of the brake system.
- Check operation of the lights and signalling equipment.
- Checking clutch function (➠ 142).
- Checking tyre tread depth (➠ 145).
- Check that cases and luggage are securely held in place.

Requirement

At every third refuelling stop:

– without Dynamic Damping Control (DDC)[OE]

- Adjusting spring preload for rear wheel (➠ 71).
- Adjusting compression-stage damping for front wheel (➠ 74).
- Adjust the rebound-stage damping for front wheel (➠ 74).◁

– with Dynamic Damping Control (DDC)[OE]

- Adjusting spring preload for rear wheel (➠ 72).
- Adjusting spring preload for front wheel (➠ 70).◁

- Checking engine oil level (➠ 136).
- Checking front brake pad thickness (➠ 138).
- Check rear brake pad thickness (➠ 139).
- Checking brake-fluid level, front brakes (➠ 140).
- Checking the brake-fluid level, rear brakes (➠ 141).
- Check coolant level (➠ 143).
- Lubricating chain (➠ 169).
- Checking chain tension (➠ 169).

Starting

Start engine

- Switch on the ignition.

» Pre-Ride-Check is performed. (➠ 83)

» ABS self-diagnosis is in progress. (➠ 84)

» ASC self-diagnosis is in progress. (➠ 85)

– with Dynamic Traction Control (DTC)[OE]

» DTC self-diagnosis is in progress. (➠ 85)◁

- Select neutral or, if a gear is engaged, pull the clutch lever.

NOTICE

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.◀

- For a cold engine start and low temperatures: pull clutch.



- Press starter button **1**.

NOTICE

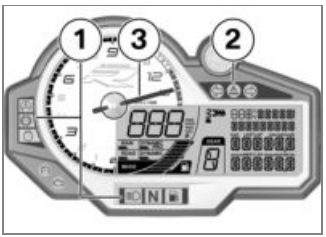
The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you start the engine, or use jump leads and a donor battery to start.
See the subsection on jump starting in "Maintenance" for more details.◀

» The engine starts.
» Consult the troubleshooting chart below if the engine refuses to start. (➠ 182)

Pre-Ride-Check

The instrument panel runs a test of the warning lights and the revolution counter 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 indicator and warning lights **1** light up, the general warning light **2** lights up yellow. Needle **3** of the revolution counter moves all the way to the position for maximum engine revolutions.
All the segments in the display light up.

Phase 2

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

Phase 3

The needle of the engine speed display moves to the position for zero engine revolutions.
The indicator and warning lights go out or start operation as intended.
– with ABS Pro[OE]
» `ABS Pro` is displayed.◁

The display changes to the default display.

If a warning light does not show:

⚠ WARNING

Faulty warning lights
No indication of malfunctions
- Check all the telltale and warning lights.◀
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ABS self-diagnosis

BMW Motorrad Race 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 vehicle at a standstill.

ABS telltale and warning light flashes.

Phase 2

» Pullaway test of the system components with diagnostic capability.

ABS telltale and warning light flashes.

ABS self-diagnosis completed

» The ABS symbol no longer shows.
- Check all the indicator and warning lights.

 ABS self-diagnosis not completed
The ABS function is not available because self-diagnosis did not complete. (The motorcycle has to reach a defined minimum speed for the wheel sensors to be checked: min 5 km/h)

If an ABS fault is displayed after having completed ABS self-diagnosis:
- You can continue to ride. Bear in mind that the ABS and integral braking functions are not available at all, or the functionality is subject to certain restrictions.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ASC self-diagnosis

BMW Motorrad ASC performs self-diagnosis to check operational readiness. Self-diagnosis is performed automatically when you switch on the ignition.

Phase 1

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


ASC telltale and warning light slow-flashes.

Phase 2

» Pullaway test of the system components with diagnostic capability.


ASC telltale and warning light slow-flashes.

ASC self-diagnosis completed

» The ASC symbol no longer shows.

• Check all the indicator and warning lights.

 ASC self-diagnosis not completed
The ASC function is not available, because self-diagnosis did not complete. (The motorcycle has to reach a defined minimum speed with the engine running for the wheel-speed sensors to be checked: min 5 km/h)

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 or the functionality might be subject to certain restrictions.
• Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

DTC self-diagnosis

– with Dynamic Traction Control (DTC)[OE]

BMW Motorrad DTC performs self-diagnosis to check operational readiness. Self-diagnosis is performed automatically when you switch on the ignition.

Phase 1

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


DTC warning light slow-flashes.

Phase 2

» Pullaway test of the system components with diagnostic capability.


DTC warning light slow-flashes.

DTC self-diagnosis completed

» The DTC symbol no longer shows.

- Check all the indicator and warning lights.

 DTC self-diagnosis not completed
The DTC function is not available, because self-diagnosis did not complete. (The motorcycle has to reach a defined minimum speed with the engine running for the wheel-speed sensors to be checked: min 5 km/h)

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

- You can continue to ride. Bear in mind that the DTC function is not available or the functionality might be subject to certain restrictions.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Running in

Engine

- Until the running-in check, vary the throttle opening and engine-speed range frequently; avoid riding at constant engine rpm for prolonged periods.
- Try to do most of your riding during this initial period on twisting, fairly hilly roads.
- Comply with the rpm limits for running in.

 Running-in speed
<7000 min^{-1} (Odometer reading 0...300 km)
<9000 min^{-1} (Odometer reading 300...1000 km)

 Running-in speed
no full load (Odometer reading 0...1000 km)

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

NOTICE

Engine rpm is governed by the electronic engine management system until the vehicle has undergone its running-in check. The authorised BMW Motorrad dealer deactivates this rpm governing function when the motorcycle is brought in for its running-in check.◀

 Mileage until the running-in check
500...1200 km

Engine rpm governing until the running-in check
max 9000 min^{-1}

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.

⚠ WARNING

New brake pads
Longer stopping distance, risk of accident
- Apply the brakes in good time.◀

Tyres

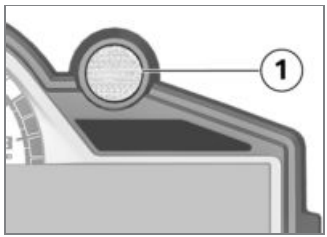
New tyres have a smooth surface. This must be roughened by riding in a restrained manner at various heel angles until the tyres are run in. This running in procedure is essential if the tyres are to achieve maximum grip.

⚠ WARNING

New tyres losing grip on wet roads and at extreme bank angles
Risk of accident
- Ride carefully and avoid extremely sharp inclines.◀

Shifting gear

Gearshift light



Gearshift light **1** shows the rider two engine-speed thresholds:

Pullaway engine speed
When the motorcycle is at a standstill with the engine running, the gearshift light indicates the ideal engine speed for a racing start.
– Gearshift light off: engine speed too low
– Gearshift light on: ideal engine speed for pulling away

– Gearshift light flashing: engine speed too high

Shift speed

When the motorcycle is on the move, the gearshift light indicates the engine speed at which the rider should upshift.

– Gearshift light flashes at preset frequency: approaching upshift rpm
– Gearshift light goes out: the engine has revved past upshift rpm

The engine-speed thresholds and the way in which the gearshift light indicates the various states can be customised in the SETUP EQUIPMENT menu.

Shift assistant Pro

– with shift assistant Pro OE

Your vehicle is equipped with a shift assistant, a system originally developed for racing and now adapted for riding on public roads. It permits upshifts and downshifts without declutching or closing the throttle in virtually all load and rpm ranges.

Advantages

– 70-80 % of all gearshifts on a trip can be done without using the clutch.
– Less relative movement between rider and passenger because the shift pauses are shorter.
– It is not necessary to close the throttle valve when shifting under acceleration.
– When braking and downshifting (throttle valve closed), engine speed is adjusted by blipping the throttle.
– Shift time is shorter than a gearshift with clutch actuation.

In order for the system to identify a request for a gearshift, the rider has to move the shift lever from its idle position in the desired direction against the force of the spring through a certain "overtravel" at ordinary speed or rapidly and keep the shift lever in this position until the gearshift is completed. It is not necessary to increase the force applied to the shift lever while shifting is in progress. Once the gear shift has completed, the gearshift lever must be fully released before being able to carry out another gear shift using the Pro shift assistant. Constantly maintain the corresponding load condition (throttle grip position) before and during gear shifts using the shift assistant. A change in the position of the throttle twistgrip during a gearshift can cause the function to abort and/or lead to a missed shift. The shift assistant does

not provides assistance for gear shifts involving clutch control.

Downshifting

– Downshifting is assisted until maximum rpm for the target gear to be selected is reached. This prevents overrevving.

 Maximum engine speed
max 12000 min^{-1}

Upshifting

– The shift assistant provides no assistance if engine speed drops below idle during an upshift.

 Idle speed
$1270^{\pm 50}$ min^{-1} (Engine at regular operating temperature)

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 sudden-stop braking situations that are trained so frequently braking force is applied as rapidly as possible and with the rider's full force applied to the brake levers; under these circumstances the dynamic shift in load distribution cannot keep pace with the increase in deceleration and the tyres cannot transmit the full braking force to the surface of the road. This can increase stopping distance. Use both brakes. The rear wheel can evince a tendency to lift clear of the ground. The BMW rear-wheel lift assistant intervenes to prevent the rear wheel from losing contact with the ground.

Panic braking

If the vehicle decelerates sharply above 50 km/h, the brake light will flash rapidly to warn road users behind the vehicle.

If the vehicle decelerates to below 15 km/h, the hazard warning lights come on. When the speed increases to above 20 km/h,

the hazard warning lights are switched off again automatically.

Descending mountain passes

WARNING

Braking only with the rear brake on mountain descents
Brake fade, destruction of the brakes due to overheating
- 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 vehicle 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.

WARNING

Wetness and dirt result in diminished braking efficiency
Risk of accident
- 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.◀

ABS Pro

– with ABS Pro OE

Physical limits applicable to motorcycling

WARNING

Braking when cornering
Risk of crash despite ABS Pro
- Invariably, it remains the rider's responsibility to adapt riding style to riding conditions.
- Do not take risks that would negate the additional safety offered by this system.◀

Availability of ABS Pro
– ABS Pro is available in the RAIN, ROAD and DYNAMIC riding modes.

ABS Pro does not support the DYNAMIC PRO riding mode.

Possibility of a fall not precluded

Although ABS Pro provides the rider with valuable assistance and constitutes a huge advance in safety for braking with the motorcycle banked for cornering, it cannot under any circumstances be considered as redefining the physical limits that apply to motorcycling. It is still possible for these limits to be overshot due to misjudgement or rider error. In extreme cases this can result in a crash.

ABS Pro not developed for race-circuit use

ABS Pro was not developed for race-circuit use to enhance individual braking performance with the motorcycle banked into corners.

On the contrary, ABS Pro helps make the motorcycle even safer for riding on public roads. When the brakes are applied because of an unforeseen hazard when the motorcycle is banked for cornering, within the physical limits that apply to motorcycling the system prevents the wheels from locking and skidding away.

On the race track

For riders of limited experience, first attempts at race-track riding are much safer in the ROAD and DYNAMIC riding modes with ABS Pro.

NOTICE

ABS Pro was not developed to enhance individual braking performance with the motorcycle banked into corners.◀

Use on public roads

ABS Pro was intentionally designed for use on public roads.

Parking your motorcycle

Side stand

- Switch off the engine.

ATTENTION

Poor ground underneath the stand

Risk of damage to parts if vehicle topples

- Always check that the ground under the stand is level and firm.◀
- Extend the side stand and prop the motorcycle on the stand.

ATTENTION

Additional weight placing strain on the side stand

Risk of damage to parts if vehicle topples

- Do not sit or lean on the vehicle while it is propped on the side stand.◀

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

Refuelling

Fuel grade

Requirement

To ensure optimal fuel consumption, fuel should be sulphur-free or as low-sulphur as possible.

ATTENTION

Engine operation with leaded fuel

Damage to catalytic converter

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

- Fuels with a maximum ethanol content of 10%, that is E10, can be used.

	Recommended fuel grade
E5 E10	Super Plus, unleaded (max. 5 % ethanol, E5) 98 ROZ/RON 93 AKI
	Alternative fuel grade
E5 E10	Super unleaded - with power loss (max. 10 % ethanol, E10) 95 ROZ/RON 89 AKI

» Pay attention to the following symbol in the fuel filler cap and on the fuel pump:

E5

E10

Refuelling

WARNING

Fuel is highly flammable

Risk of fire and explosion

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

ATTENTION

Component damage

Component damage caused by overfilled fuel tank

- Overfilling the fuel tank will cause excess fuel to penetrate the carbon canister and cause component damage.
- Fill the fuel tank up to the lower edge of the filler neck only.◀

ATTENTION

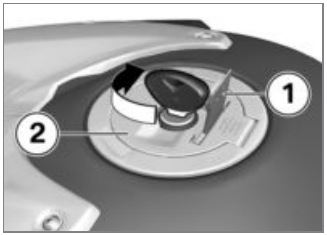
Wetting of plastic surfaces by fuel

Damage to the surfaces (surfaces become unsightly or dull)

- Clean plastic surfaces immediately after contact with fuel.◀
- Make sure the ground is level and firm and place the motorcycle on its side stand.

NOTICE

The fuel tank capacity can only be used to the full with the motorcycle standing on the side stand.◀



- Open protective cap **1**.
- Use the ignition key to unlock fuel filler cap **2** by turning the key clockwise, and flip the cap open.



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

NOTICE

When refuelling after running on reserve, make sure that you top up the tank to a level above reserve, so that the new level is detected and the fuel reserve indicator light is switched off.◀

NOTICE

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

Usable fuel capacity
approx. 17.5 l

Fuel reserve	
approx. 4 l	

- Press the fuel tank cap down firmly to close.
- Remove the ignition 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.

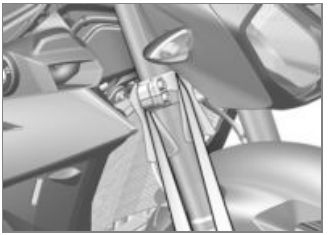


ATTENTION

Vehicle topples to side when being lifted on to stand

Risk of damage to parts if vehicle topples

- Secure the vehicle to prevent it toppling, preferably with the assistance of a second person.◀
- Push the motorcycle onto the transportation flat and hold it in position: do not place it on the side stand.



ATTENTION

Trapping of components

Component damage

- Do not trap components such as brake lines or cable legs.◀
- At the front, loop a strap over the bottom fork bridge on each side.
- Pull the straps down and tight.



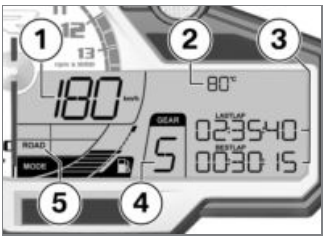
- Secure the tensioning straps on the frame for the rear footrests on either side and tighten.
- Tighten all the straps uniformly; the vehicle's suspension should be compressed as tightly as possible front and rear.

On the race track

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Racing start..... 111
Speed limiter for pit lane..... 113
Removing/installing mirrors 113
Removing and installing number-plate carrier 114
Removing and installing front turn indicators 117

LAPTIMER

Mode of presentation



1 Speedometer
2 Engine temperature
3 The readings in these lines can be changed by the rider. (➠ 98)
LASTLAP: Time for the preceding lap.
BESTLAP: The fastest of the laps currently logged in memory.
4 Gear indicator
5 Riding mode selected by the rider

Labels for the values shown on the display

The following times can be displayed in the third line:

– LASTLAP: The time for the preceding lap.

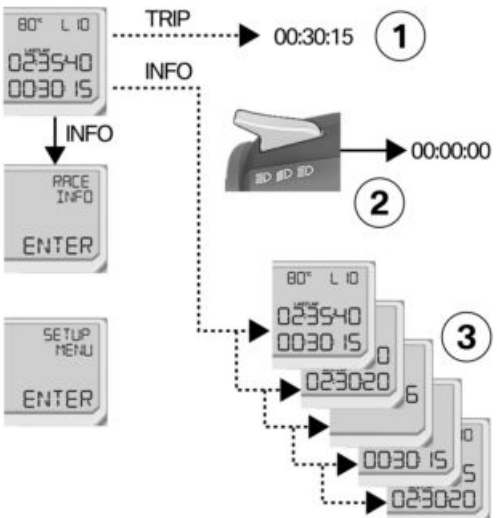
The following times can be displayed in the fourth line:

– BESTLAP: The fastest of the laps currently logged in memory.
– RUN: The running time for the current lap.

The third and fourth lines can be combined to show other readings:

– RUN BEST: The third line shows the running time for the current lap, the best lap currently logged in memory is shown in the fourth line.
– LAST RUN: The third line shows the time recorded for the preceding lap, the running time for the current lap is shown in the fourth line.
– LAST BEST: The third line shows the time needed for the preceding lap, the best lap currently logged in memory is shown in the fourth line.
– RUN TOTAL: The third line shows the running time for the current lap, the total time for all the laps currently logged in memory is shown in the fourth line.
– RUN BEStEV: The third line shows the running time for the current lap, the best-ever lap is shown in the fourth line.

At the start of each new lap the time for the preceding lap is shown briefly before the display switches to the running time of the current lap.



Display overview

— Solid line: short-press the button.

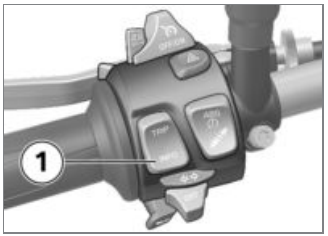
- - Broken line: press and hold down the button.

1 Interrupting timing (➠ 101).

2 Starting timing (➠ 100).

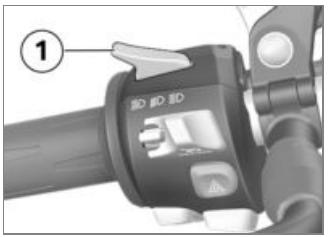
3 View the times (➠ 100).

Viewing times



- To view the time of your choice, repeatedly press button **1** until the display changes.

Starting timing



- Press switch **1** to start timing.

NOTICE

The engine has to be running and the vehicle moving in order for the headlight-flasher signal to be detected.◀

- Every time you cross the start/finish line, press switch **1** again to start timing for the next lap.

» The data of the preceding lap are written into memory.

» Timing continues even if you exit the display mode. In the other display modes, however, timing of another lap can be started only by an external signal.

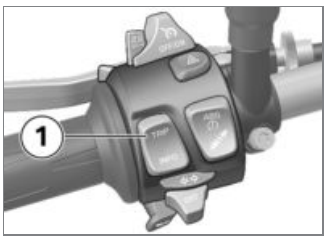
Infrared receiver

– with infrared receiver[OA]

An infrared signal provides a convenient way of operating the lap timer. The instrument can be operated in this way only when the infrared receiver available as an optional accessory is connected to the IR receiver (on the right side, behind the side panel). The RACETRACK SETUP MENU enables you to choose between operation with the headlight-flasher button and the TRIP/INFO button, or operation by one or other of these buttons (see the section on the SETUP MENU).
A lap timeout can be defined to stop the receiver from registering completion of a lap prematurely in response to spurious signals.

Signals received before this time elapses are ignored.

Interrupting timing



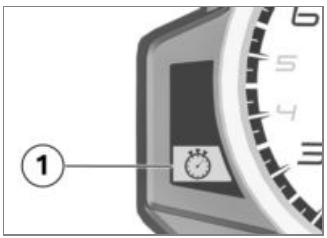
- Press and hold down button **1** to interrupt timing.
- Press and hold down button **1** again to resume timing.

NOTICE

Lap numbering resumes if more laps are subsequently timed. Numbering is not restarted at lap 1 unless you delete the current timing session in the RACE INFO display mode.◀

Expected fastest lap

This function must be activated in the SETUP RACETRACK (see SETUP MENU chapter).



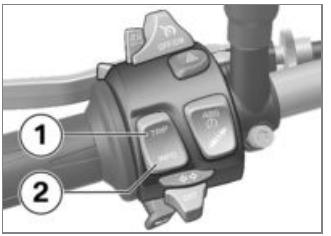
After starting a new lap, the sector time is taken when a defined sector is reached and compared with the corresponding sector time from the saved best lap.

Distance covered for intermediate time
100 m

If the current sector time is better than the one from the best lap, a new best time can be expected. The Fastest Lap light **1** is switched on.

RACE INFO

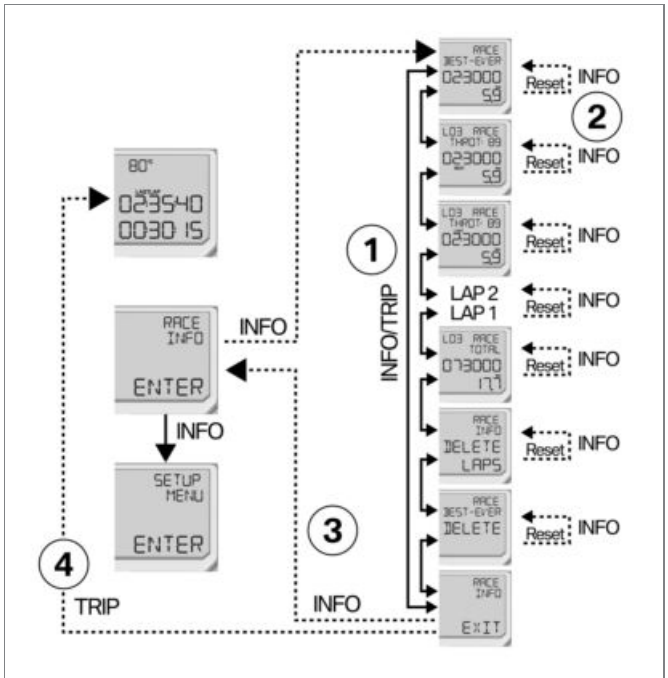
Selecting saved lap



- Repeatedly press button **1** or button **2** to view each lap stored in memory one after the other.

Repeatedly press button **1** to step through the laps stored in memory in the following sequence. Repeatedly press button **2** to step through them in the opposite sequence:

– Best-ever lap BEST-EVER
– Best lap logged in memory BEST
– Last lap logged in memory LAST
– All other laps logged in memory
– Aggregate time for all laps logged in memory TOTAL
– Delete lap data logged in memory DELETE LAPS.
– Delete the best-ever lap logged in memory BEST-EVER DELETE.
– Exit the RACE INFO EXIT display mode.



Display overview

— Solid line: short-press the button.

- - Broken line: press and hold down the button.

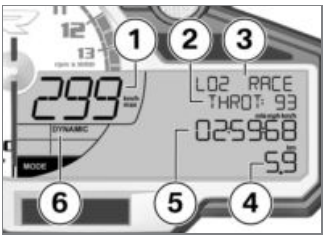
1 Selecting saved lap (➠ 102).

2 Deleting lap times (➠ 105).

3 Exit the INFO MENU (➠ 104).

4 Delete the timing logs (➠ 105).

Information for a lap



1 In sequence: Top speed (max), average speed (Ø) and lowest speed (min) on the lap currently displayed.

2 In sequence: Average throttle twistgrip position (THROT) in percent, percentage of lap ridden with brakes applied (BRAKE) and number of gearshifts (GEAR) on the lap currently displayed.

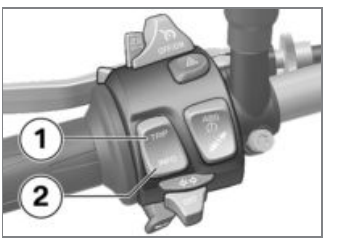
3 Lap for which the data on the display apply.

4 Distance ridden.

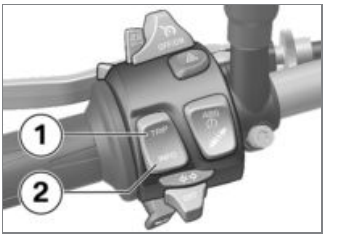
5 Time for the lap currently displayed.

6 The riding mode most commonly used is displayed continuously.

Exiting INFO MENU



- Repeatedly press button **1** or button **2** until `RACE INFO EXIT` appears on the display.

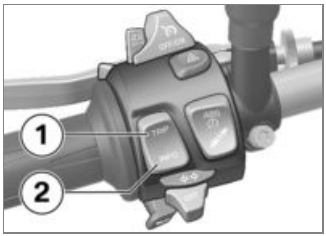


- Press and hold down button **2** to exit the RACE INFO display mode.

» The readings already recorded remain saved in memory.

- **Alternatively:** Press and hold down button **1**.

Deleting timing logs



- Repeatedly press button **1** or button **2** until RACE INFO DELETE LAPS appears on the display.
- Press and hold down button **2** to delete all the logged data from memory.

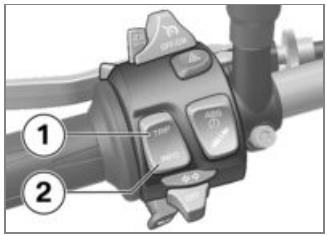
All-time best lap

The all-time best lap (BEST-EVER) is the fastest of all timed laps and is updated as soon as a faster lap BESTLAP is timed. The all-time best lap remains stored in memory even if the timed laps are deleted. This means that other races can subsequently be timed and the lap times of those races compared with the best lap from earlier races.

The all-time best lap can also be deleted from memory.

If the all-time best lap is from a race timed in the past, it is accompanied on the display by the appropriate lap number. If the all-time best lap shows without a lap number, this lack of a lap number indicates that the time is from a race timed in the past but subsequently deleted from memory.

Deleting lap times



- Repeatedly press button **1** or button **2** until the lap you want to delete appears on the display.
- Press and hold down button **2** to delete the lap from memory.

» If the lap you select for deletion was

– the best lap in memory BEST, the lap in question is deleted. The lap that was the second-best time until the best time was deleted becomes the new best lap.

– the last lap in memory LAST, the lap in question is deleted. The lap that was the second-last time until the last time was deleted becomes the new last lap.
– a lap stored in memory, the lap in question is deleted. The numbering of the remaining laps remains unchanged.

» Total time is reduced by the time for the laps you delete.

• Select BEST-EVER DELETE and press and hold down button **2** to delete the BEST-EVER lap time.

SETUP MENU

Select parameters



- Select SETUP MENU and press and hold button **2**.
- Press button **1** or button **2** repeatedly until the submenu you want appears on the display.
- Press and hold button **2** to call up the submenu you want.

Each time button **1** is pressed the possible parameters are shown in the sequence described below; each time button **2** is pressed the parameters are shown in reverse sequence.

SETUP EQUIPMENT

– Adjust the alarm system setting (DWA) DWA AUTO ON/OFF.
– Set the time CLOCK TIME.
– Adjust display brightness DISP BRIGHT.
– Switch warning for defective bulbs on/off WARN LAMP.
– Switch gearshift light on/off GSL ON/OFF RPM.
– Gearshift light brightness GSL BRIGHT
– Gearshift light frequency GSL FREQ
– Change units of measure for speed, range, temperature, average consumption, distance and time UNITS

SETUP RACETRACK

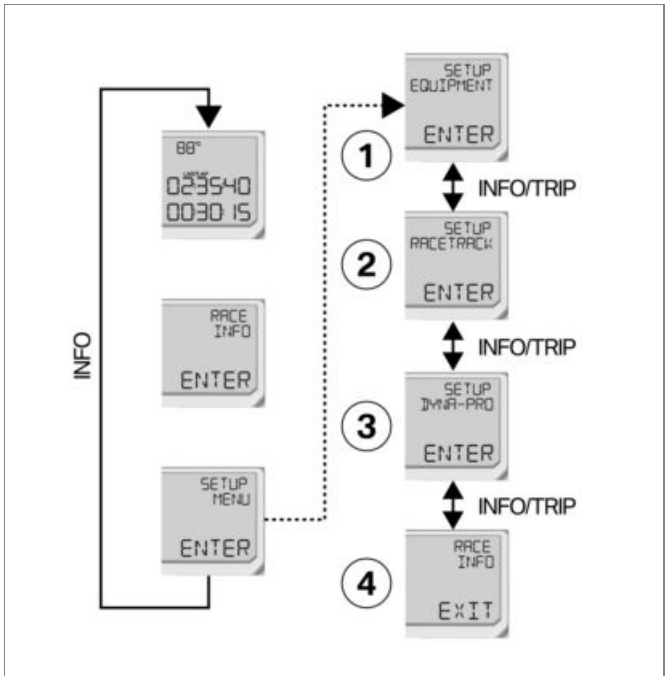
– Set LAPTIMER readings: Current lap RUN, time required for preceding lap LAST, best lap BEST, total of all laps logged in memory TOTAL, best-ever lap BESTEV
– Display-freeze period for the most recent time HOLD
– Debounce time (time that must elapse before a new lap can be started) of the TRIP/INFO button for operating the LAPTIME DEB-TM
– Activate or deactivate BESTLAP BLIP ON/OFF.
– Change settings for operating the LAPTIME by the headlight-flasher button and the TRIP/INFO button. TRIG AUTO: operate by headlight-flasher button and TRIP/INFO button; TRITG MANUAL: operate by headlight-flasher button only; EXTERN: operate by TRIP/INFO button only.

– with riding modes Pro[OE]

SETUP DYNA-PRO

– Only available with encoding plug inserted.
– Adjust ABS: ROAD, DYNA, D-PRO

– Adjust DTC: RAIN, ROAD, DYNA, D-PRO
– Adjust throttle response in combination with torque and coasting acoustics (ENGINE): RAIN, ROAD
– Reset settings to default: RESET◁



Overview of SETUP MENU

— Solid line: short-press the button.

- - Broken line: press and hold down the button.

1 Display settings

2 Settings for the race track

3 Settings for Dynamic Pro riding mode (only when encoding plug is used)

4 Exit SETUP MENU

Setting parameters



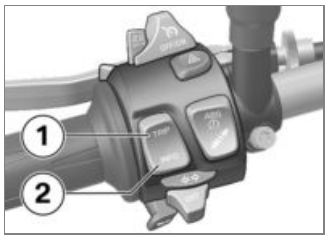
- Press and hold down button **2** until the parameter starts to flash.
- Repeatedly press button **1** or button **2** until the value you want appears on the display.

When the value you want is shown:

- Press and hold down button **2** until the value stops flashing.

» The value is saved.

Exiting SETUP mode



- To exit the SETUP MENU, press and hold down button **1**.

» A value that is still flashing will not be saved.

- **Alternatively:** Repeatedly press button **1** or button **2** until SETUP MENU EXIT appears on the display.

When SETUP MENU EXIT appears:

- Press and hold down button **2** to exit the SETUP MENU.

Racing start

– with riding modes Pro OE

Launchcontrol

Launchcontrol supports riders by maintaining the ideal engine speed for a racing start. Launchcontrol can be activated in the DYNAMIC and DYNAMIC PRO riding modes only.

 Engine speed after activation of Launch Control at full load
8000 min^{-1}

After the clutch is engaged, the torque is controlled so that maximum drive is produced at the rear wheel. The throttle grip remains in the full-load position. The engine speed limitation is switched off once a maximum speed is exceeded.

 Top speed
60 km/h

The DTC system is switched off while Launchcontrol is active.

Launchcontrol is also turned off in the following circumstances:
– The third gear is engaged.
– The angle of inclination is greater than 30°.
– The engine or the ignition is switched off.
– The riding mode is changed.

The number of consecutive starts using Launchcontrol is limited in order to protect the clutch. The number of possible starts still remaining is shown in the multifunction display.

Racing start with Launchcontrol

CAUTION

Launch Control permits maximum acceleration, so unfamiliar riding situations can occur.

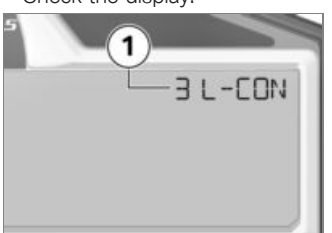
Risk of accident through increased acceleration.

- Use Launch Control only on race tracks.◀
- Activate DYNAMIC or DYNAMIC PRO riding mode.
- Bring vehicle to starting position.

» Vehicle is stationary, engine is running.



- Press and hold down starter button **1** until the reading on the display changes.
- Check the display.



L-CON and the remaining number of available starts **1** using Launchcontrol are shown in the multifunction display.

Start with Launch Control is possible.

- Start as described below.



If it is not currently possible to start using Launch-control , the number 0 is shown, alongside an exclamation mark **1**.

- Allow the clutch to cool.

Clutch cooling time
approx. 3 min (With engine running)
approx. 20 min (With engine stopped)

- Proceed in the normal way when starting; open the throttle only as far as necessary to reach the rpm limit.
- After engaging the clutch, open the throttle completely.

If the DTC warning light shows, the DTC system has been switched off.

Shift light on.

» Launchcontrol controls ideal torque at the rear wheel and maintains a constant engine speed up to approximately 60 km/h.

» As soon as engine speed limitation ceases, engine speed increases because the throttle grip is in the full-throttle position.

Speed limiter for pit lane

– with riding modes Pro OE



• Ride in 1st gear.

NOTICE

The maximum rotational speed PIT LIMIT ... must be set in the SETUP RACETRACK submenu.

The speed resulting from the maximum rotational speed is dependent on the ratio and tyre size.◀

• Press and hold down starter button **1**.
• Open the throttle twistgrip until PIT LIMIT ... is reached.
» The ignition is interrupted to limit engine speed.

WARNING

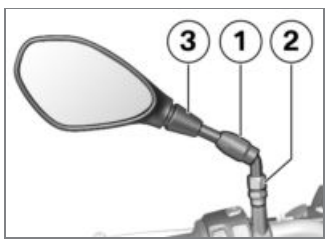
As soon as the starter button is released the vehicle accelerates in accordance with the position of the throttle twistgrip.

Risk of crashing due to severe jerk forward if throttle twistgrip in full load position.

• Do not fully open the throttle twistgrip; instead, turn it only to the position at which the engine reaches its speed-limit rpm.◀
• Release starter button **1**.
» The vehicle accelerates at the maximum rate.

Removing/installing mirrors

Remove mirror



• Push protective cap **1** up.
• Loosen the nut **2** using the toolkit.

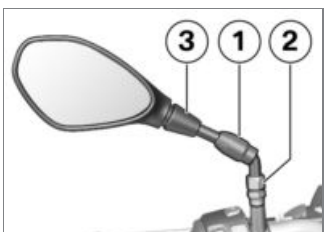
NOTICE

When removing the right mirror, make sure that the brake-

fluid reservoir remains correctly secured.◀

- Remove mirror **3**.
- Re-tighten nut **2** using the toolkit.

Install mirror



- Fit mirror **4**.
- Tighten nut **2** using the toolkit.

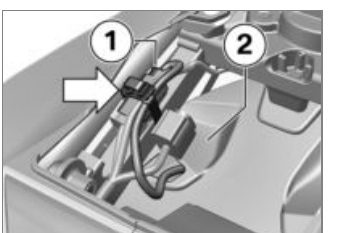
	Locknut (mirror) to clamping piece
Joining compound: Multi-wax spray	
20 Nm	

- Push protective cap **1** on.

Removing and installing number-plate carrier

Removing number-plate carrier

- Place the motorcycle on its stand on firm, even ground.
- Removing rear seat (➠ 63).



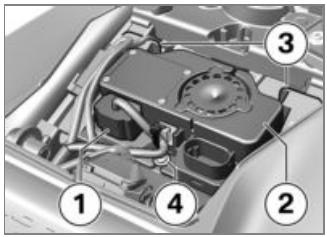
- Remove cable strap (**arrow**) and disconnect plug connection **1** for number plate carrier.

NOTICE

If the number-plate carrier is removed in preparation for a race-track session, the electronics detect a bulb failure and the appropriate warning appears on the display. Activating the `EQIP WARN LAMP` function in the `SETUP MENU` suppresses this warning.◀

- Unthread plug connection **1** with cable through tail bottom section **2**.

– with anti-theft alarm (DWA)[OE]

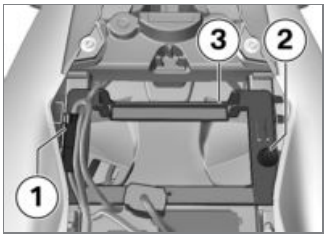


- Disconnect plug connection **1** for alarm system.

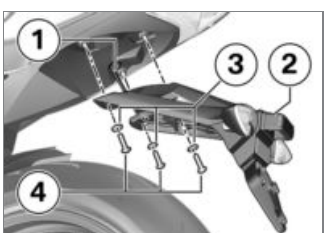
NOTICE

Before disconnecting the plug for the anti-theft alarm, check that DWA has been deactivated in the SETUP MENU.◀

- Remove screw **4**.
- Remove alarm system **2**, and detach from holder **3**.



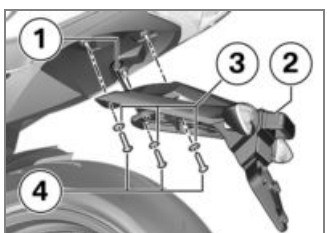
- Release plug connection **1** for number plate carrier.
- Remove expanding rivet **2**.
- Remove holder **3** for alarm system.◁



- Remove screws **4** with washers **3**.
- Remove number plate carrier **2** and unthread wiring harness **1**.
- Install the rear seat (➠ 64).

Installing number-plate carrier

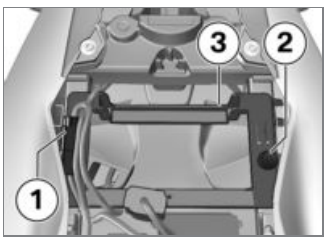
- Place the motorcycle on its stand on firm, even ground.
- Removing rear seat (➠ 63).



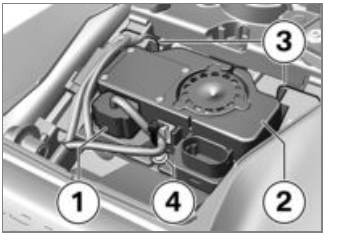
- Fix the number plate carrier **2** and attach the wiring harness **1**.
- Install screws **4** with washers **3**.

Number-plate carrier to rear frame
5 Nm

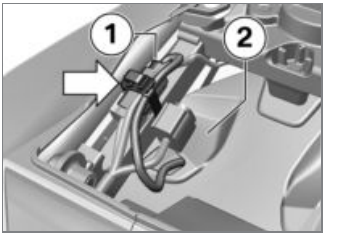
– with anti-theft alarm (DWA) OE



- Install holder **3** for alarm system.
- Install expanding rivet **2**.
- Secure plug connection **1** for number plate carrier.



- Deploy alarm system **2** and attach to holder **3**.
- Install screw **4**.
- Connect plug connection **1** for alarm system.◁



- Thread plug connection **1** with cable through tail bottom section **2**.
- Connect and fix plug connection **1**, and secure cable strap (**arrow**).

NOTICE

If the warning for bulb failure is suppressed in preparation for a race-track session, before the motorcycle is ridden on public roads the warning has to be reactivated by selecting the EQIP WARN LAMP function in the SETUP MENU.◀

- Install the rear seat (➠ 64).

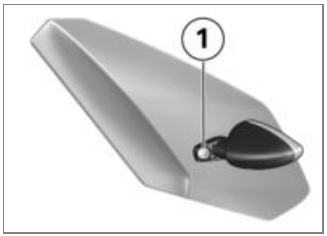
Removing and installing front turn indicators

Removing front flashing turn indicator

NOTICE

The procedure described here for the right side apply applies by analogy to the left side panel.◀

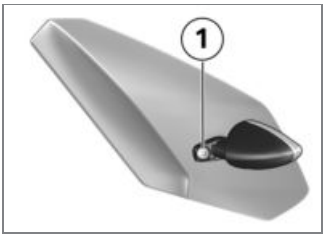
- Remove the cover on the right (➠ 162).



- Remove screw **1** and remove turn indicator. Guide cable through the fairing side panel.
- Protect connector on vehicle from contamination.
- Fit cover on right (➠ 163).

Installing front flashing turn indicator

- Remove the cover on the right (➠ 162).
- Guide cable through the fairing side panel.



- Put turn indicator in position and fit screw **1**.
- Fit cover on right (➠ 163).

Engineering details

Race ABS Antilock Brake System 120
Automatic Stability Control (ASC) 123
Dynamic Traction Control (DTC) 124
Dynamic Damping Control (DDC) 126
Riding mode 126
Riding mode RAIN 127
Riding mode ROAD 128
Riding mode DYNAMIC 129
Riding mode DYNAMIC PRO 130
Riding without ABS, ASC or DTC 131

Race ABS Antilock Brake System

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.

ATTENTION

Attempted burn-out despite Integral braking function

Damage to rear brake and clutch

- Do not attempt a burn-out unless the ABS function is switched OFF.◀

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 transferable limit, the wheels start to lock and the vehicle loses its directional stability; a fall is imminent. Before this situation can occur, ABS intervenes and adapts braking pressure to the maximum transferable braking force, 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 (gravel, ice, snow), so that the wheels will continue to rotate under all imaginable circumstances, because this is the precondition for ensuring directional stability. As soon as is 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 Race ABS?

If the ABS 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

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

⚠ WARNING

Rear wheel lift due to severe braking

Risk of falling

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

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

Exceptional riding conditions:

– Heating up with the motorcycle on an auxiliary stand, in neutral or with a gear engaged.
– Rear wheel locked by the engine brake for a lengthy period, for example while descending steep gradients.

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

What significance devolves on regular maintenance?

⚠ WARNING

Brake system not regularly serviced.

Risk of accident

- In order to ensure that the BMW Motorrad Race 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 Race 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 Race ABS is unable to counteract their effects.

Evolution of Race ABS to ABS Pro

– with ABS Pro OE

Until now, the BMW Motorrad Race ABS helped ensure a very high degree of safety for braking with the motorcycle upright and travelling in a straight line. Now ABS Pro offers enhanced safety for braking in corners as well.

ABS Pro prevents the wheels from locking even under sharp braking. ABS Pro reduces abrupt changes in steering force, particularly in panic-braking situations, counteracting the vehicle's otherwise natural but undesirable tendency to straighten up.

ABS intervention

Technically speaking, depending on the riding situation ABS Pro adapts ABS intervention to the motorcycle's bank angle. Signals for rate of roll and rate of yaw and lateral acceleration are used to calculate bank angle.

As the motorcycle is heeled over more and more as it banks into a corner, an increasingly strict limit is imposed on the brake-pressure gradient for the start of brake application. This slows the build-up of brake pressure to a corresponding degree. Additionally, pressure modulation is more

uniform across the range of ABS intervention.

Advantages for the rider

The advantages of ABS Pro for the rider are sensitive response and high braking and directional stability combined with best-case deceleration of the motorcycle, even when cornering.

Automatic Stability Control (ASC)

How does ASC work?

The BMW Motorrad ASC system 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 engine control intervenes and adapts the engine torque accordingly.

What is the design baseline for BMW Motorrad ASC?

BMW Motorrad ASC is an assistant system for the rider 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 race course. The BMW Motorrad ASC can be deactivated in these cases.

⚠ WARNING

Risky riding

Risk of accident despite ASC

- 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 reduction 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 following exceptional riding conditions can lead to an automatic shutdown of the BMW Motorrad ASC:
– Riding for a lengthy period with the front wheel lifted off the ground (Wheelie).
– Rear wheel rotating with the vehicle held stationary by applying the front brake (Burn Out).
– Heating up with the motorcycle on the centre stand or an auxiliary stand, engine idling or with a gear engaged.

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.

Dynamic Traction Control (DTC)

How does DTC work?

– with Dynamic Traction Control (DTC)[OE]

The BMW Motorrad DTC system 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 engine control intervenes and adapts the engine torque accordingly.

WARNING

Risky riding

Risk of accident despite DTC

- 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

– with Dynamic Traction Control (DTC)[OE]

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 reduction in acceleration out of very tight bends.

The speeds of the front and rear wheels are compared and the angle of heel taken into account as one means of detecting the rear wheel's incipient tendency to spin or slip sideways. If the electronic processor receives values that it considers implausible over a lengthy period, a dummy value is used for the angle of heel or the DTC function is switched off. Under these circumstances the indicator for a DTC fault shows. Self-diagnosis has to complete before fault messages can be issued.

The BMW Motorrad DTC can switch off 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).
– Rear wheel rotating with the vehicle held stationary by applying the front brake (Burn Out).
– Heating up with the motorcycle on an auxiliary stand, in neutral or with a gear engaged.

If the front wheel lifts clear of the ground under severe acceleration, the ASC or DTC reduces engine torque in the RAIN, ROAD and DYNAMIC riding modes until the front wheel regains contact with the ground.

Front wheel lift-off detection is deactivated in the DYNA PRO setting of the DYNAMIC PRO riding mode.

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 skid, with a corresponding loss of stability. The BMW Motorrad DTC is unable to control a situation of this nature.

Accelerating the motorcycle to a defined minimum speed after switching the ignition off and then on again reactivates the DTC if the encoding plug is not inserted.

 Minimum speed for activation of DTC
min 10 km/h

Dynamic Damping Control (DDC)

How does DDC work?

– with Dynamic Damping Control (DDC) OE

Dynamic Damping Control (DDC) is a semi-active suspension system that reacts automatically to riding manoeuvres and changes in surface condition, constantly correcting the damping in accordance with the situation. Movement of the rear spring strut is registered by the ride height sensor. The electric damper valve is opened/closed depending on the determined direction of travel and speed of travel as well as on the chosen riding mode. Front-wheel damping also depends on the riding mode, but spring travel is not measured.
DDC can be adjusted between the ROAD and DYNAMIC modes at any time, whatever the riding mode selected.

Riding mode

Riding mode

Riding mode selection

Different riding modes enable the motorcycle's characteristics to adapt to the prevailing weather conditions, the road and traffic, and the rider's style of riding:

RAIN
ROAD (standard mode)

– with riding modes Pro OE
DYNAMIC
DYNAMIC PRO (only with encoding plug inserted)

Each of these modes produces perceptible differences in the way the motorcycle behaves. ABS and/or ASC/DTC can be switched off in each mode: the explanations below invariably ap-

ply to the behaviour of the motorcycle with these systems active. The mode last selected is automatically reactivated after the ignition has been switched off and then on again.
The basic rule is: the sportier the mode you select, the more directly can you tap into the engine's reserves of power. At the same time, the level of rider assistance that the ABS and ASC/DTC systems offer decreases accordingly.
The RAIN, ROAD and DYNAMIC riding modes are set up for riding with standard tyres recommended by BMW Motorrad. The DYNAMIC PRO riding mode is for race-track conditions and surfaces with a very high level of grip.
Consequently, you must always bear the following in mind with regard to your selection of a ride mode: The sportier the setting, the greater the challenge to your riding skill!

Mode changes

A changeover of the functions in the engine management system, the ABS and the ASC/DTC systems while riding is possible only in certain operating states:
– No drive torque at the rear wheel
– No brake pressure in the brake system.

In order to achieve this state,
– The motorcycle must be at a standstill with the ignition switched on

or
– The throttle twistgrip must be in the fully closed position,
– The brake levers must be in the released positions.

The desired riding mode is initially preselected. The mode change does not take place until the systems in question are all in the appropriate state.
The selection menu does not disappear from the display until the mode change has taken place.

Riding mode RAIN

Wet roads

The RAIN riding mode offers safety and directional stability on wet roads or roads with a similarly low coefficient of friction.

ABS

– The ABS always intervenes early enough to prevent as effectively as possible the wheels from locking and the rear wheel from lifting off the ground.
– Maximum assistance with integral pressure build-up when

only the handbrake lever is pulled.
– ABS for the rear wheel is switched on.
– Rear-wheel lift detection is switched on. The rear wheel should remain in contact with the ground at all times.

– with ABS Pro OE

ABS Pro is fully available. The tendency of the motorcycle to straighten up when the brakes are applied with the machine banked for cornering is reduced to a minimum.

ASC

– The ASC intervenes early enough to prevent the rear wheel from spinning whenever possible. ASC offers maximum assistance.
– Front-wheel lift detection is ON and prevents the front wheel from lifting off the ground.
– with Dynamic Traction Control (DTC) OE

DTC

– The DTC intervenes early enough to prevent the rear wheel from spinning whenever possible. DTC offers maximum assistance.
– Front-wheel lift detection is ON and prevents the front wheel from lifting off the ground.

Throttle response

– Restrained: Power increase when you open the throttle is virtually linear, engine response is soft.
– The engine's maximum torque is not made available. The torque curve for rain is imposed.
– The thrust acoustics are off.

Riding mode ROAD

Standard mode

The ROAD riding mode offers safety and directional stability on dry roads.

ABS

– The behaviour of the ABS is the same as in RAIN mode.
– The ABS always intervenes early enough to prevent as effectively as possible the wheels from locking and the rear wheel from lifting off the ground.
– Maximum assistance with integral pressure build-up when only the handbrake lever is pulled.
– ABS for the rear wheel is switched on.
– Rear-wheel lift detection is switched on. The rear wheel should remain in contact with the ground at all times.

– with ABS Pro OE

ABS Pro is fully available. The tendency of the motorcycle to straighten up when the brakes are applied with the machine banked for cornering is reduced to a minimum.

ASC

– The ASC intervenes early enough to prevent the rear wheel from spinning whenever possible. However, ASC offers less assistance than in RAIN mode.
– Front-wheel lift detection is ON and prevents the front wheel from lifting off the ground.

– with Dynamic Traction Control (DTC) OE

DTC

– The DTC intervenes later than in RAIN mode, so it is possible to induce slight drift when exiting corners.
– Front-wheel lift detection is ON and prevents the front wheel from lifting off the ground.

Throttle response

– Engine response is optimum and direct.
– The engine's maximum torque is made available.
– The thrust acoustics are on.

Riding mode DYNAMIC

– with riding modes Pro OE

Dynamic on dry roads

The DYNAMIC riding mode is suitable for sporty riding on dry roads.

ABS

– In this riding mode, the ABS intervenes later than in ROAD mode. The wheels are still prevented from locking.
– Lift detection for the rear wheel is reduced. The rear wheel can lift slightly clear of the ground.
– Assistance with integral pressure build-up is reduced.
– ABS for the rear wheel is switched on. Assistance is less than in the ROAD riding mode.
– ABS Pro is available. Assistance is less than in the ROAD riding mode.

DTC

– The DTC intervenes later than in ROAD mode, so it is possible to induce drift when exiting corners.
– Front-wheel lift detection is ON, but it offers less assistance. Agility comes before stability in the DYNAMIC riding mode, so slight wheelies are possible.

Throttle response

– Engine response is optimum and direct.
– The engine's maximum torque is made available.
– The thrust acoustics are on.

Riding mode DYNAMIC PRO

– with riding modes Pro[OE]

Sporty one-up riding

DYNAMIC PRO is the sportiest riding mode. The DYNAMIC PRO mode cannot be activated unless the encoding plug is inserted.
The DYNAMIC PRO riding mode was developed in its default setting for situations in which the rider has an open view of the road ahead and the surroundings and is for riding on dry surfaces with the high level of grip generally encountered only on race tracks. Similarly, the assumption on which the parameter settings for this riding mode are based is that the motorcycle is fitted with tyres with a very high level of surface grip and is ridden one-up.
The following systems can also be individually adjusted to adapt the motorcycle to the current purpose.

ABS and ABS Pro

– ABS support is reduced to a minimum. It intervenes later than in the DYNAMIC riding mode. The shortest braking distances can be achieved.
– Lift detection for the rear wheel is deactivated. The rear wheel can lift clear of the ground.
– Assistance with integral pressure build-up is reduced sooner than in the DYNAMIC riding mode.
– ABS for the rear wheel is deactivated. Assistance deactivated with respect to the DYNAMIC riding mode.
– ABS Pro functions are not supported in the DYNAMIC PRO riding mode!
– Note that deactivating the ABS means that the ABS remains switched off even after the ignition has been switched off and then on again.

Alternatively ABS can be adjusted accordingly for the ROAD or DYNAMIC riding modes in DYNA-PRO setup.

DTC

– The controller of the DTC system assumes that the vehicle is fitted with tyres with the maximum level of grip.
– DTC offers only very slight assistance.
– Slip is highest in the DYNAMIC PRO riding mode.

– Maximum acceleration is achieved.
– The DTC intervenes so late that lengthy drifts are possible.
– Front-wheel lift detection is deactivated. Agility comes before stability in this sporty riding mode, so any wheelies are possible. It is up to the rider to control wheelies and prevent the motorcycle from flipping over backwards in extreme cases.
– Note that deactivating the DTC means that the DTC remains switched off even after the ignition has been switched off and then on again.

Alternatively DTC can be adjusted accordingly for the RAIN, ROAD or DYNAMIC riding modes in DYNA-PRO setup.

Throttle response
– Engine response is optimum and direct.
– The engine's maximum torque is made available.
– The thrust acoustics are on.

Alternatively, the throttle response can also be set to the RAIN riding mode in the DYNA-PRO setup.

Riding without ABS, ASC or DTC

ABS and ASC or, as applicable DTC can be switched off individually or together in all riding modes. Under these circumstances bear in mind the lack of assistance from the suspension and running-gear control systems:

ABS switched off
– The ABS indicator and warning light shows.
– ABS assistance is deactivated. Under these circumstances the front wheel can lock up.
– Assistance with integral pressure build-up is in accordance with the selected riding mode. Burn Outs are not permitted even with the ABS switched off.
– ABS for the rear wheel is deactivated. Under these circumstances, the rear wheel can lock up.
– Rear-wheel lift detection is deactivated. The rear wheel can lift clear of the ground.

– with ABS Pro[OE]
– ABS Pro is not available.

ASC switched off
– The ASC indicator and warning light shows.
– ASC assistance is deactivated. Any drifts are possible.

– Front-wheel lift detection is deactivated. Any wheelies are possible. There is a possibility of the motorcycle flipping over backwards.

– with Dynamic Traction Control (DTC)[OE]

DTC switched off

– The DTC indicator and warning light shows.
– DTC assistance is deactivated. Any drifts are possible.
– Front-wheel lift detection is deactivated. Any wheelies are possible. There is a possibility of the motorcycle flipping over backwards.

Maintenance

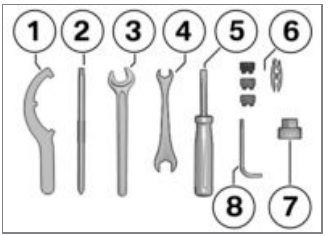
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General instructions

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 vehicle 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 vehicle, which is available from your authorised BMW Motorrad dealer.

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

Toolkit



1 Hook wrench
- without Dynamic Damping Control (DDC) OE
- Adjusting spring preload for rear wheel (➠ 71).

2 Reversible screwdriver blade
Phillips PH1 and Torx T25
- Removing and installing trim panel components.
- Removing front seat (➠ 64).
- Replacing bulbs for front and rear turn indicators (➠ 158).

3 Open-ended spanner
Width across flats 17
- Mirror clamp

4 Open-ended spanner
Width across flats 10/13
- Removing battery (➠ 167).
- with Dynamic Damping Control (DDC) OE
- Adjusting spring preload for rear wheel (➠ 72).

5 Reversible-blade screwdriver with star-head and plain tips
- without Dynamic Damping Control (DDC) OE
- Adjusting compression-stage damping for front wheel (➠ 74).
- without Dynamic Damping Control (DDC) OE
- Adjust the rebound-stage damping for front wheel (➠ 74).

5
– without Dynamic Damping Control (DDC)[OE]
– Adjusting rebound-stage damping for rear wheel (➠ 75).

6 Spare fuses with gripping clamp
Mini-fuses 4 A, 7.5 A and 10 A
– Clamps for removing the fuses
– Replacement fuses

7 Plastic cap
– with Dynamic Damping Control (DDC)[OE]
– Adjusting spring preload for front wheel (➠ 70).

8 Torx bit, T25
– Removing and installing trim panel components.
– Removing front seat (➠ 64).

Front-wheel stand

Fitting the front-wheel stand

ATTENTION

Use of the BMW Motorrad front wheel stand without accompanying use of centre stand or auxiliary stand

Risk of damage to parts if vehicle topples

- Place the motorcycle on its centre stand or another auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.◀
- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Fitting the rear-wheel stand (➠ 136).



- The description of how to fit the front-wheel stand correctly will be found in the instructions for the stand.
- BMW Motorrad offers an auxiliary stand suitable for every vehicle. Your BMW Motorrad retailer will be happy to help you with the selection of a suitable auxiliary stand.

Rear-wheel stand

Fitting the rear-wheel stand



- The description of how to fit the rear-wheel stand correctly will be found in the instructions for the stand.
- BMW Motorrad offers an auxiliary stand suitable for every vehicle. Your BMW Motorrad retailer will be happy to help you with the selection of a suitable auxiliary stand.

Engine oil

Checking engine oil level

ATTENTION

Misinterpretation of oil level reading, because oil level is temperature-dependent (the higher the temperature, the higher the oil level)

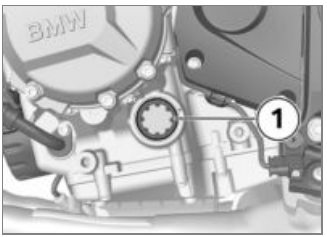
Engine damage

- Check the oil level only after a lengthy ride or when the engine is at operating temperature.◀
- Make sure the engine is at operating temperature and hold the motorcycle upright.
- Allow the engine to idle for one minute.

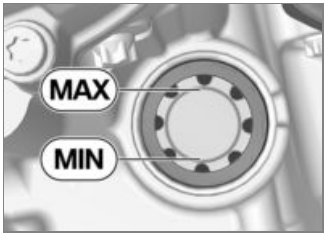
NOTICE

To protect the environment, BMW Motorrad recommends occasionally checking the engine oil after a journey of at least 50 km.◀

- Switch off the ignition.
- 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** mark

Engine oil, capacity
Viscosity class
approx. 3.5 l (with filter change)

If the oil level is below the MIN mark:

- Topping up the engine oil (➠ 137).

If the oil level is above the MAX mark:

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

Topping up the engine oil

- Place the motorcycle on its stand on firm, even ground.
- Wipe the area around the oil filler neck clean.



- Remove cap **1** of the oil filler neck.

ATTENTION

Use of insufficient engine oil or too much engine oil

Engine damage

- Always make sure that the oil level is correct.◀
- Top up the engine oil to the specified level.
- Checking engine oil level (➠ 136).
- Install oil filler cap **1**.

Brake system

Checking function of brakes

- Operate brake lever.

» The pressure point must be clearly perceptible.

- Press the footbrake lever.

» The pressure point must be clearly perceptible.

If pressure points are not clearly perceptible:

ATTENTION

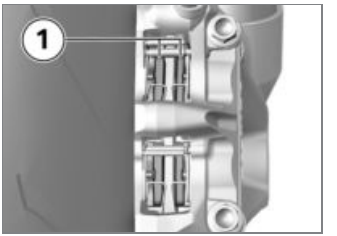
Work on brake system not in compliance with correct procedure

Risk to operational reliability of the brake system

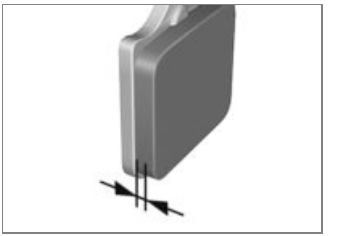
- Have all work on the brake system undertaken by trained and qualified specialists.◀
- Have the brakes checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Checking front brake pad thickness

- Place the motorcycle on its stand on firm, even ground.
- Turn the handlebars to the full-lock position.



- Visually inspect the left and right brake pads to ascertain their thickness. Viewing direction: from the rear toward brake pads **1**.



	Brake-pad wear limit, front
min 0.8 mm (Friction pad only, without backing plate)	

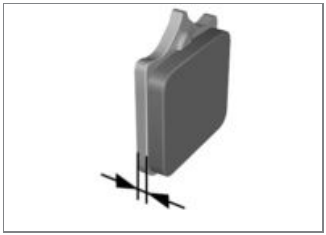
If the brake pads are worn:

WARNING

Brake-pad thickness less than permissible minimum

Diminished braking effect, damage to the brakes

- 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.
- If the brake pads installed are not genuine BMW Motorrad brake pads, it is absolutely essential to measure the thickness of the brake-pad carrier plates.



	Thickness of brake-pad carrier plate
min 4.5 mm	

If the carrier plates are not thick enough:

WARNING

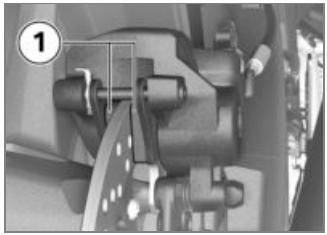
Use of unsuitable brake pads

Failure of the brake system due to loss of the brake pads

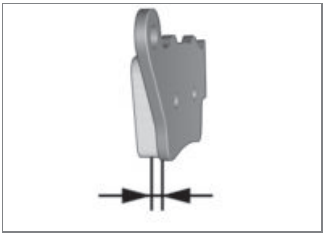
- Use only brake pads with brake pad carrier plates of adequate thickness.◀
- BMW Motorrad recommends installing only genuine BMW Motorrad brake pads.

Check rear brake pad thickness

- Place the motorcycle on its stand on firm, even ground.



- Visually inspect the brake pads to ascertain their thickness. Viewing direction: from the rear toward brake pads **1**.



	Brake-pad wear limit, rear
min 1.0 mm (Friction pad only, without backing plate)	

If the wear indicating mark is no longer visible:

WARNING

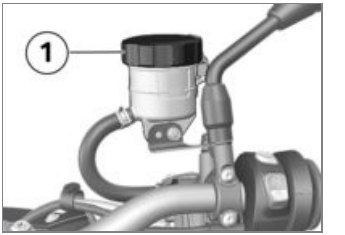
Brake-pad thickness less than permissible minimum

Diminished braking effect, damage to the brakes

- 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 brake-fluid level, front brakes

- Make sure the ground is level and firm and hold the motorcycle upright.
- Move the handlebars to the straight-ahead position.



- Check the brake fluid level on brake fluid tank **1**.

NOTICE

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



Brake fluid level, front
Brake fluid, DOT4
The brake fluid level must not drop below the **MIN** mark. (Brake-fluid reservoir, horizontal)

If the brake fluid level drops below the permitted level:

WARNING

Not enough brake fluid in brake fluid tank

Considerably reduced braking power due to air in the brake system

- Adjust the riding mode immediately until the fault is rectified.
- Check the brake-fluid level at regular intervals.◀
- Have the defect rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Checking the brake-fluid level, rear brakes

- Make sure the ground is level and firm and hold the motorcycle upright.



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

NOTICE

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



Brake fluid level, rear
Brake fluid, DOT4
The brake fluid level must not drop below the **MIN** mark. (Brake-fluid reservoir, horizontal)

If the brake fluid level drops below the permitted level:

WARNING

Not enough brake fluid in brake fluid tank

Considerably reduced braking power due to air in the brake system

- Adjust the riding mode immediately until the fault is rectified.
- Check the brake-fluid level at regular intervals.◀
- Have the defect rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Clutch

Checking clutch function

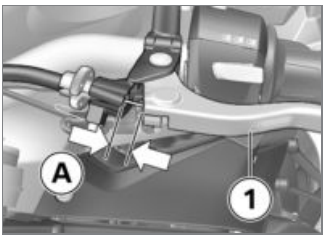
- Pull the clutch lever.

» The pressure point must be clearly perceptible.

If the pressure point is not clearly perceptible:

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

Checking clutch-lever play



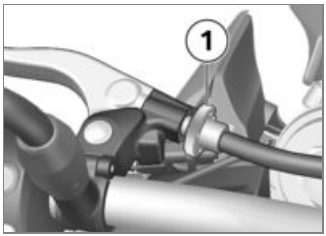
- Pull clutch lever **1** until resistance is perceptible.
- In this position, measure clutch play **A** between the handlebar fitting and the clutch lever.

Clutch-lever play
0.5...1.0 mm (at the handlebar fitting, with engine cold)

Clutch play is out of tolerance:

- Adjust the clutch-lever play (➠ 143).

Adjust the clutch-lever play

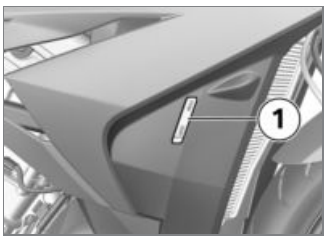


- To increase clutch play: turn screw **1** in the tightening direction, i.e. into the handlebar fitting.
- To reduce clutch play: turn screw **1** in the loosening direction, i.e. out of the handlebar fitting.
- Checking clutch-lever play (➠ 142).
- Repeat the steps in this procedure until clutch play is set correctly.

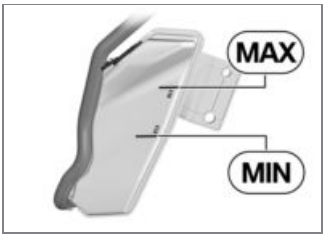
Coolant

Check coolant level

- Place the motorcycle on its stand on firm, even ground.



- Check the coolant level in expansion tank **1**. Viewing direction: from the front towards the outside of the right side trim panel.



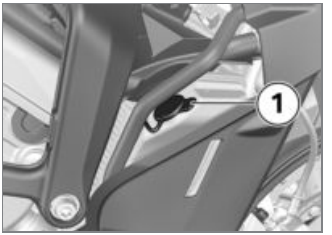
	Coolant, specified level
between **MIN** and **MAX** mark on the expansion tank (Engine cold)	

If the coolant drops below the permitted level:

- Top up the coolant.

Top up coolant

- Remove the side panel (➠ 161).



- Open cap **1** of the expansion tank.
- Top up coolant to specified level.
- Check coolant level (➠ 143).
- Close the cap of the expansion tank.

- Install the right side panel (➠ 161).

Tyres

Checking tyre pressure

⚠ WARNING

Incorrect tyre pressure

Impaired handling characteristics of the motorcycle, shorter useful tyre life

- Always check that the tyre pressures are correct.◀

⚠ WARNING

Tendency of valve inserts to open by themselves at high riding speeds

Sudden loss of tyre pressure

- Install valve caps fitted with rubber sealing rings and tighten firmly.◀

- Place the motorcycle on its stand on firm, even ground.
- 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.

Rims and tyres

Checking rims

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

Checking tyre tread depth

WARNING

Riding with badly worn tyres
Risk of accident due to impaired handling

- If applicable, have the tyres changed in good time before they wear to the minimum tread depth permitted by law.◀
- Place the motorcycle on its stand on firm, even ground.
- Measure the tyre tread depth in the main tread grooves with wear marks.

NOTICE

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

If the tyre tread is worn to minimum:

- Replace tyre or tyres, as applicable.

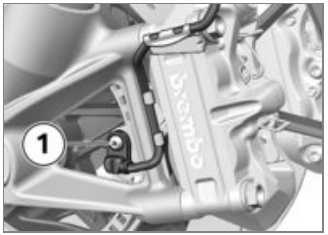
Wheels

Effect of wheel size on chassis and suspension control systems

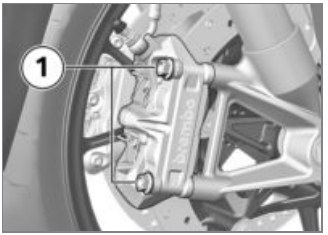
Wheel size is very important as a parameter for the running-gear control systems ABS and ASC/DTC. In particular, the diameter and the width of a vehicle's wheels are programmed into the control unit and are fundamental to all calculations. Any change in these influencing variables, caused for example by a switch to 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 wheel-speed calculation, and they too must match the motorcycle's control systems and consequently cannot be changed.
If you decide that you would like to fit non-standard wheels to your motorcycle, it is very important to consult a specialist workshop beforehand, preferably an authorised BMW Motorrad dealer. In some cases, the data programmed into the control units can be changed to suit the new wheel sizes.

Removing front wheel

- Place the motorcycle on its stand on firm, even ground.



- Remove screw **1** and remove the wheel-speed sensor from its bore.
- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.

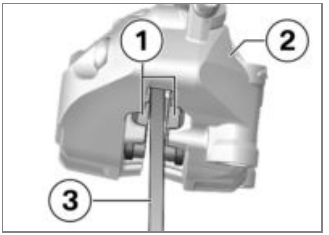


ATTENTION

Unwanted inward movement of the brake pads

Component damage on attempt to install the brake caliper or because brake pads have to be forced apart

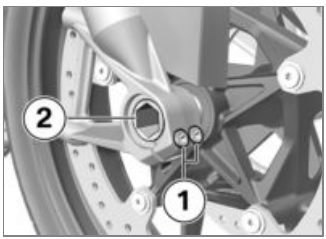
- Do not operate the brakes with a brake caliper not correctly secured.◀
- Remove screws **1** of the brake callipers on left and right.



- Force the brake pads **1** slightly apart by rotational movement of the brake caliper **2** against brake disc **3**.
- Carefully pull the brake calipers back and out until clear of the brake discs.

- Lift the motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Fitting the rear-wheel stand (➠ 136).
- Lift the front of the motorcycle until the front wheel is clear of the ground, preferably using

a BMW Motorrad front-wheel stand.
- Fitting the front-wheel stand (➠ 135).



ATTENTION

Incorrectly aligned threaded bush in front suspension

Damage to wheel speed sensor. ABS malfunction

- Left axle clamping screws locate the threaded bush; do not loosen or remove these screws.◀
- Slacken right axle clamping screws **1**.
- Remove quick-release axle **2**, while supporting the wheel.
- Roll the front wheel forward to remove.

Installing front wheel

WARNING

Use of a non-standard wheel

Malfunctions during ABS and ASC/DTC intervention

- See the information on the effect of wheel size on the ABS and ASC/DTC systems at the start of this chapter.◀

ATTENTION

Tightening threaded fasteners to incorrect tightening torque

Damage, or threaded fasteners work loose

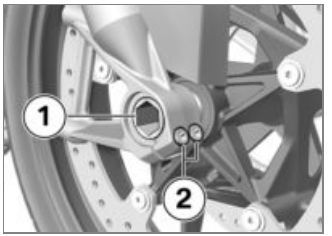
- Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

ATTENTION

Front wheel installed wrong way round

Risk of accident

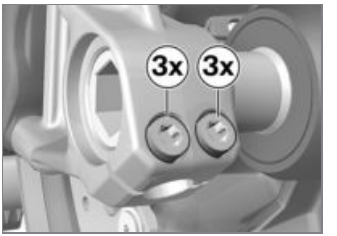
- Note direction-of-rotation arrows on tyre or rim.◀
- Roll the front wheel into position between the front forks.



- Lift front wheel and fit quick-release axle **1** with torque.

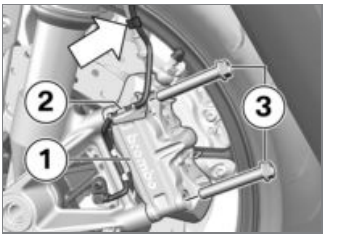
Quick-release axle in threaded bush
50 Nm

- Tighten right axle clamping screws **2** to the specified tightening torque.



Clamping screws in axle holder
Tightening sequence: Tighten screws six times in alternate sequence
19 Nm

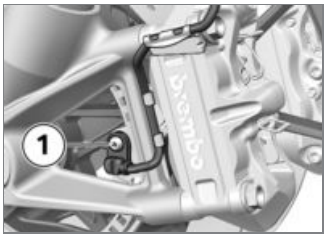
- Remove front-wheel stand and rear-wheel stand.
- Place brake calliper on the brake discs.



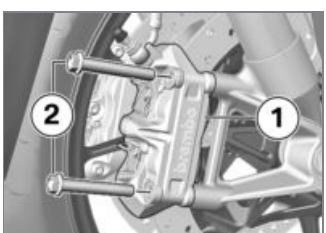
- Place brake calliper **1** on left and position cable routing **2**.
- Install screws **3** and tighten to specified torque.

Radial brake caliper to axle mount
38 Nm

- Secure the cable for the wheel-speed sensor in the holder **arrow**.



- Insert wheel speed sensor in the bore hole and secure with screw **1**.



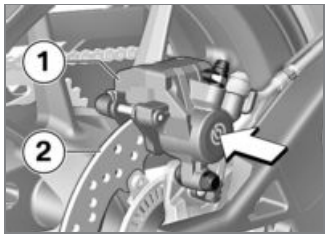
- Locate brake calliper **1** in position on right and install screws **2** to specified torque.

Radial brake caliper to axle mount
38 Nm

- Remove the adhesive tape from the wheel rim.
- Powerfully pull brake lever several times until the pressure point can be felt.

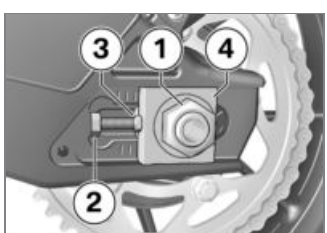
Removing rear wheel

- Lift the motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Fitting the rear-wheel stand (➠ 136).
- Slip wooden chocks or similar under the rear wheel to prevent it from dropping out after the quick-release axle has been removed.



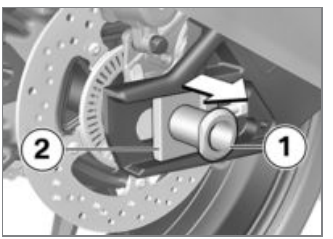
- Press brake caliper **1** against brake disc **2**

» Brake pistons are pushed back.

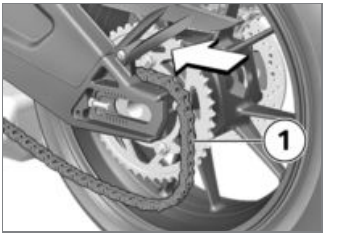


- Remove axle nut **1** with washer.

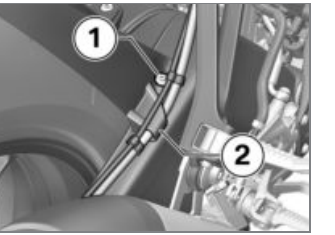
- Slacken locknuts **2** on left and right.
- Slacken adjusting screws **3** on left and right.
- Remove adjusting plate **4** and push the axle in as far as it will go.



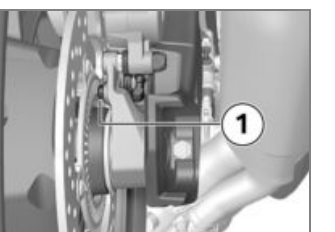
- Remove quick-release axle **1** and remove adjusting plate **2**.



- Roll the rear wheel as far forward as possible and disengage chain **1** from the sprocket.

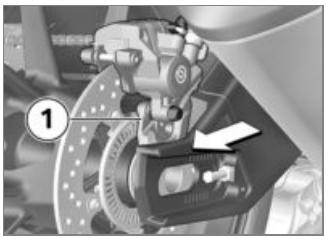


- Remove screw **1** and disengage the brake line from holder **2**.



- When rolling the rear wheel clear of the motorcycle, take

care not to damage wheel-speed sensor **1**.



- Roll the rear wheel to the rear and clear of the swinging arm and at the same time pull brake-caliper carrier **1** back far enough to allow the rear wheel to clear it.

NOTICE

The sprocket and the spacer bushes on left and right are loose fits in the wheel. Make sure that these parts are not damaged or get lost on removal.◀

Installing the rear wheel

WARNING

Use of a non-standard wheel

Malfunctions during ABS and ASC/DTC intervention

- See the information on the effect of wheel size on the ABS and ASC/DTC systems at the start of this chapter.◀

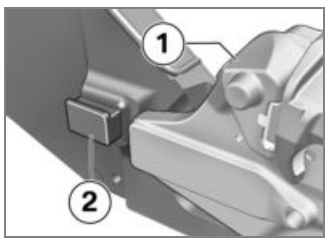
ATTENTION

Tightening threaded fasteners to incorrect tightening torque

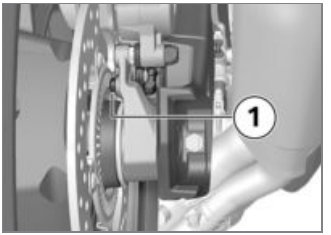
Damage, or threaded fasteners work loose

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

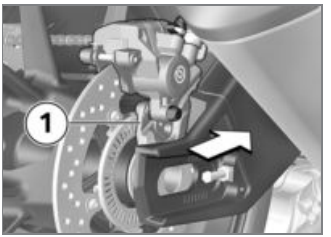
- Roll the rear wheel on the support into the swinging arm as far as necessary to permit the brake-caliper carrier to be inserted.



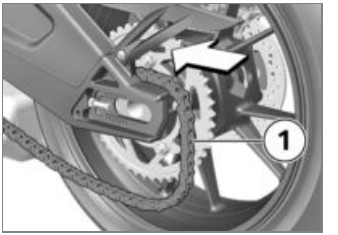
- Insert brake-caliper carrier **1** into guide **2**.



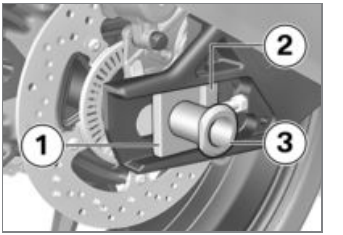
- When rolling the rear wheel into position, take care not to damage wheel-speed sensor **1**.



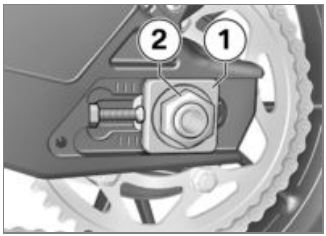
- Roll the rear wheel further into the swinging arm, while pushing brake-caliper carrier **1** forward at the same time.



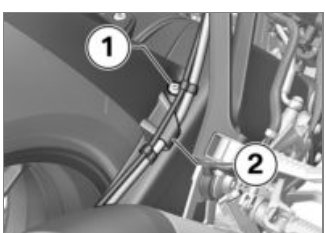
- Roll the rear wheel as far forward as possible and loop chain **1** over the sprocket.



- Insert right adjusting plate **1** into the swinging arm with stop **2** to the front.
- Lift the rear wheel and work quick-release axle **3** through the adjusting plate and into the brake-caliper carrier and the rear wheel.
- Make sure that the quick-release axle is seated against the stop of the adjusting plate.



- Insert left adjusting plate **1**.
- Install axle nut **2** with its washer, but do not tighten the nut at this point.



- Secure the brake line in holder **2** and install screw **1**.
- Adjust the chain tension (➠ 170).

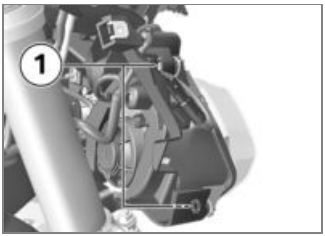
Lighting

Replacing bulb for low-beam headlight

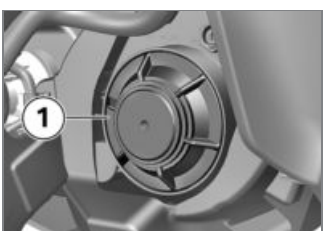
NOTICE

The alignment of the connector may differ from the illustration depending on the light to be replaced.◀

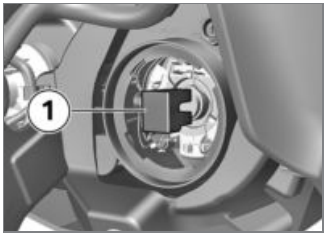
- Switching off ignition (➠ 45).
- Remove the cover on the right (➠ 162).



- Remove screws **1** and tilt the headlight to the right a little.



- Remove cover **1**.



- Disconnect plug **1**.



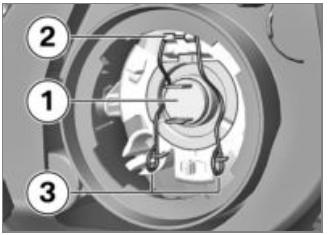
- Release spring clip **1** at left and right and swing it up.
- Remove bulb **2** from the socket.
- Replace the defective bulb.

NOTICE

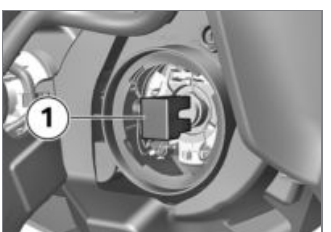
Bulbs with higher light-intensity ratings are available through aftermarket suppliers. These bulbs burn out more rapidly and generate more heat than conventional bulbs. Under adverse conditions the extra heat can cause damage to the headlight.◀

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

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



- Install bulb **1**. Begin by seating lug **2** and then press the bulb into the socket.
- Engage spring clip **3** in the catch on left and right.



- Connect plug **1**.

- Install the cover.
- Fit cover on right (➠ 163).

Replacing bulb for high-beam headlight

- Switching off ignition (➠ 45).
- Remove the cover on the left (➠ 162).



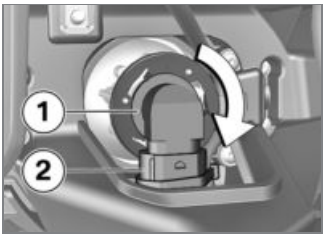
- Disconnect plug connection **1** for high beam.
- Turn base **2** anti-clockwise and remove from the high beam support.
- Replace the defective bulb.

NOTICE

Bulbs with higher light-intensity ratings are available through aftermarket suppliers. These bulbs burn out more rapidly and generate more heat than conventional bulbs. Under adverse conditions the extra heat can cause damage to the headlight.◀

Bulb for high-beam headlight
HB3 / 12 V / 60 W

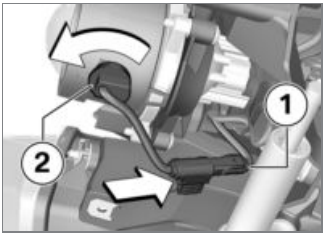
- Hold the bulb by the base only, in order to keep the glass free of foreign matter.



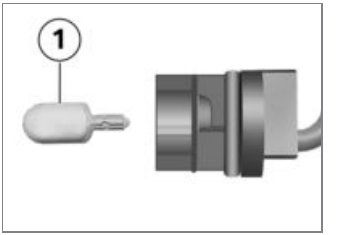
- To secure the light source **1** for the high beam headlight, insert the light source into the support and turn clockwise.
- Connect plug connection **2** for high beam headlight.
- Fit the cover on the left (➠ 163).

Replacing bulb for left parking light

- Switching off ignition (➠ 45).
- Removing headlight fairing (➠ 162).



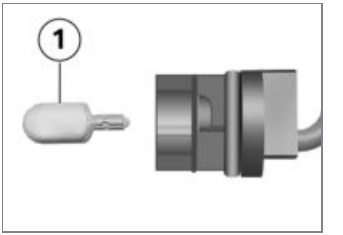
- Detach plug connection from the bracket (**arrow**) (use a screwdriver if necessary) and disconnect from the connector **1**.
- Turn socket **2** anticlockwise and pull out of the support.



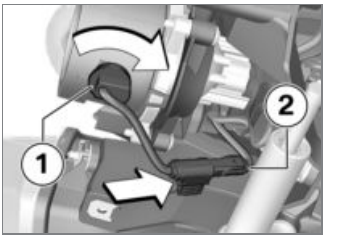
- Remove bulb **1** from the socket.
- Replace the defective bulb.

	Bulb for parking light
W5W / 12 V / 5 W	

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



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

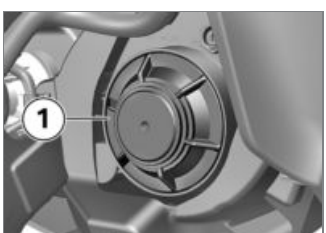


- Insert socket **1** in the support and turn clockwise.
- Insert plug connection in the bracket (**arrow**) and connect to connector **2**.

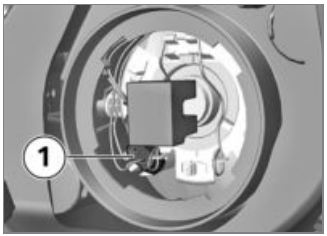
- Installing headlight fairing (➠ 163).

Replacing bulb for right side light

- Place the motorcycle on its stand on firm, even ground.
- Switch off the ignition.
- Remove the cover on the right (➠ 162).



- Remove cover **1**.



- Push retainer to the side (using a screwdriver if necessary) and pull socket **1** out of the headlight housing.



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

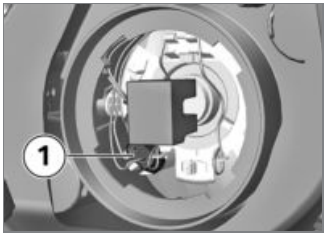
- Replace the defective bulb.

	Bulb for parking light
W5W / 12 V / 5 W	

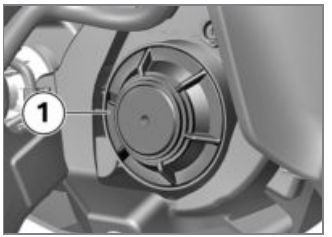
- Use a clean, dry cloth to hold the bulb in order to keep the glass free of foreign matter.



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



- Insert socket **1** into the headlight housing, making sure that the retainer engages.



- Install cover **1**.
- Fit cover on right (➠ 163).

Replacing bulbs for front and rear turn indicators

- Switching off ignition (➠ 45).



- Remove screw **1**.



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



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

- Replace the defective bulb.

Bulbs for flashing turn indicators, front
RY10W / 12 V / 10 W
– with LED flashing turn indicator[OE]
LED◁

Bulbs for flashing turn indicators, rear
RY10W / 12 V / 10 W
– with LED flashing turn indicator[OE]
LED◁

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



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



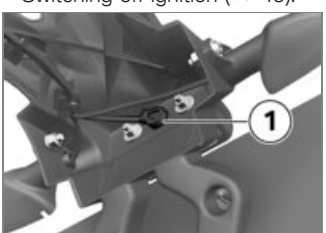
- Working from the inboard side, insert the glass into the light housing and close the housing.



- Install screw **1**.

Replacing bulb for number-plate light

- Switching off ignition (➠ 45).



- Pull number-plate light bulb **1** out of the light housing.



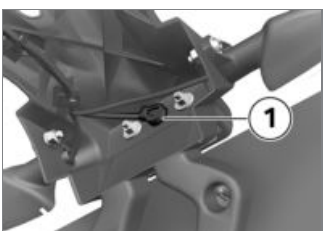
- Remove the bulb from the socket.
- Replace the defective bulb.

Light source for the number plate light
W5W / 12 V / 5 W

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



- Push the bulb into the bulb socket.



- Press number-plate light bulb **1** into the light housing.

Replace LED flashing turn indicators

– with LED flashing turn indicator[OE]

- LED flashing turn indicators can only be replaced as a complete unit. Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.◁

LED rear light

If more LEDs in the rear light have failed that specified below, the rear light must be replaced. Under these circumstances:

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

Maximum number of defective LEDs in rear-light unit
1

Body panels

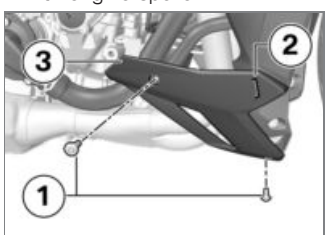
Removing right side panel

NOTICE

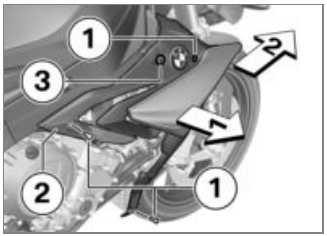
The procedure described here for the right side apply applies by analogy to the left side panel.◀

- Switching off ignition (➠ 45).

– with engine spoiler OE

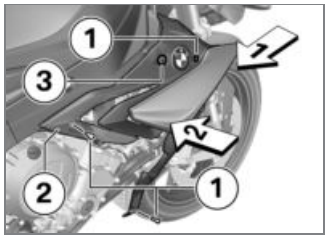


- Remove screws **1**.
- Detach retaining hook **2** and remove engine spoiler **3**.◁



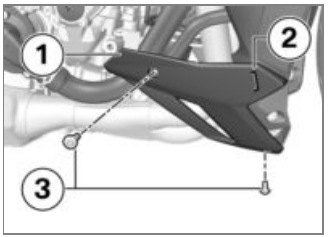
- Remove screws **1**.
- Release fairing side panel on the right **2** from grommet **3** and remove.

Installing right side panel



- Secure fairing side panel **2** in the grommet **3**.
- Install screws **1**.

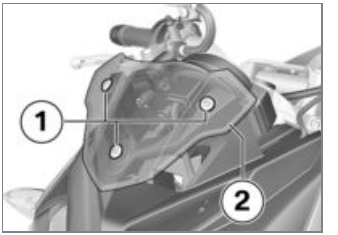
– with engine spoiler[OE]



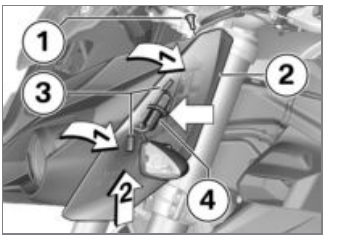
- Fit engine spoiler **1** ensuring that the retaining hook **2** is secured.
- Install screws **3**.◁

Removing headlight fairing

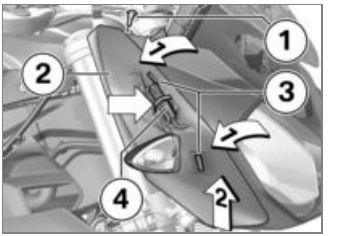
- Switching off ignition (➠ 45).



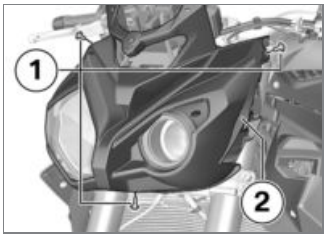
- Remove screws **1** and remove windscreen **2**.



- Remove screw **1**.
- Pull the cover on the left **2** to one side and detach from the two brackets **3**.
- Disconnect plug connection **4** for the turn indicators.

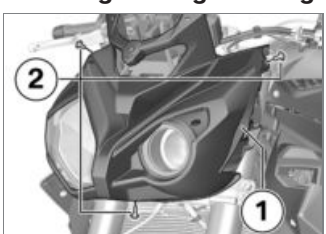


- Remove screw **1**.
- Pull the cover on the right **2** to one side and detach from the two brackets **3**.
- Remove cable ties (**arrow**).
- Disconnect plug connection **4** for the turn indicators.
- Remove the cover on the right.

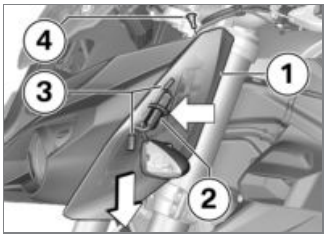


- Remove screws **1** and light trim **2**.

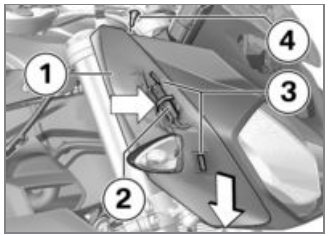
Installing headlight fairing



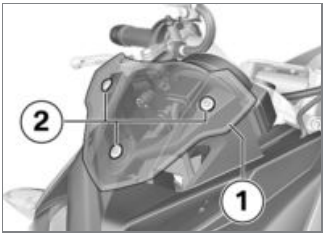
- Hold lamp trim **1** in position and secure it with screws **2**.



- Set cover **1** in position from above.
- Connect plug connection **2** for the turn indicators and route the cable.
- Fasten left cover in the brackets **3**.
- Install screw **4**.



- Set right-hand cover **1** in position from above.
- Connect plug connection **2** for the turn indicators and route the cable.
- Fasten right cover in the brackets **3**.
- Install screw **4**.



- Fit windscreen **1** and screws **2**.

	Windscreen on holder for instrument cluster
2 Nm	

Jump-starting

⚠ CAUTION

Touching live parts of the ignition system when the engine is running
Electric shock

- Do not touch parts of the ignition system when the engine is running.◀

ATTENTION

Excessive current flowing when the motorcycle is jump-started
Wiring smoulders/ignites or damage to the on-board electronics

- If the motorcycle has to be jump-started connect the leads to the battery terminals; never attempt to jump-start the engine by connecting leads to the on-board socket.◀

ATTENTION

Contact between crocodile clips of jump leads and vehicle
Risk of short-circuit

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

ATTENTION

Jump-starting with a voltage greater than 12 V
Damage to the on-board electronics

- Make sure that the battery of the donor vehicle has a voltage rating of 12 V.◀
- When jump-starting the engine, do not disconnect the battery from the on-board electrical system.
- Removing front seat (➠ 64).
- Run the engine of the donor vehicle during jump-starting.
- 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.

- Then connect one end of the black jump lead to the negative terminal of the donor battery, and the other end to the negative terminal of the discharged battery.
- 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.
- Installing front seat (➠ 65).

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.

ATTENTION

On-board electronics (e.g. clock) draining connected battery

Battery is deep-discharged; this voids the guarantee

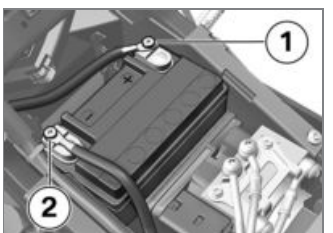
- Connect a float charger to the battery if the motorcycle is to remain out of use for more than four weeks.◀

NOTICE

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.◀

Disconnecting battery from motorcycle

- Place the motorcycle on its stand on firm, even ground.
- Switch off the ignition.
- Removing front seat (➠ 64).



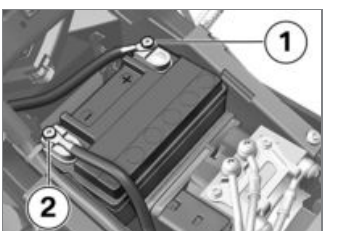
ATTENTION

Battery not disconnected in accordance with correct procedure

Risk of short-circuit

- Always proceed in compliance with the specified disconnection sequence.◀
- Remove the battery earth lead **2**. Also remove the washer between the battery and the battery earth lead.
- Remove positive battery cable **1**.

Connecting battery to motorcycle



- Connect battery positive lead **1** first.
- Replace the washer between the battery and the battery earth lead. Then install battery negative lead **2**.
- Installing front seat (➠ 65).

Recharging battery

- Disconnecting battery from motorcycle (➠ 166).
- 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.

NOTICE

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.◀

- Connecting battery to motorcycle (➠ 166).

Removing battery

- Removing front seat (➠ 64).
- Disconnecting battery from motorcycle (➠ 166).
- Lift the battery up and out: work it slightly back and forth if it is difficult to remove.

Installing battery

NOTICE

If the vehicle has been disconnected from the battery for a significant time, the current date will have to be entered in the instrument cluster to guarantee correct operation of the service display.◀

- Place the battery in the battery compartment, positive terminal on the right in the forward direction of travel.
- Place the battery in the battery compartment, negative terminal on the left in the forward direction of travel.
- Connecting battery to motorcycle (➠ 166).
- Installing front seat (➠ 65).
- Setting the clock (➠ 51).

Fuses

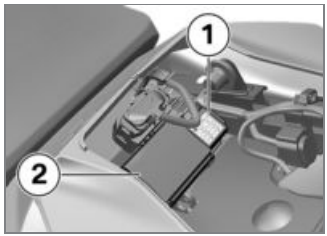
Removing the fuse

ATTENTION

Jumpering of blown fuses

Risk of short-circuit and fire

- Never attempt to jumper a blown fuse.
- Always replace a defective fuse with a new fuse of the same amperage.◀
- Switch off the ignition.
- Place the motorcycle on its stand on firm, even ground.
- Removing rear seat (➠ 63).

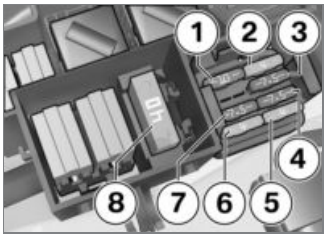


- Press the locking lever together and remove the fuse box cover **1**.
- To replace the main fuse, remove the relay box cover **2**.
- Remove the faulty fuse upwards out of the fuse box.

NOTICE

If fuse defects recur frequently have the electric circuits checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

Replacing fuse



- Replace faulty fuse with a fuse with the required current level.

NOTICE

The fuse assignments and fuse amperage ratings specified for your motorcycle are listed in the section entitled "Technical data". The figures in the graphic correspond to the fuse numbers.◀

- Closing the fuse cover.

» The latch engages with an audible click.

- Install the rear seat (➠ 64).

Diagnostic connector

Disengaging diagnostic connector

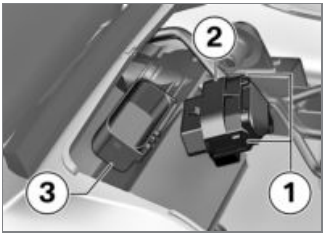
CAUTION

Incorrect procedure followed when loosening the diagnostic connector for the on-board diagnosis

Motorcycle experiences malfunctions

- Only have the diagnostic connector loosened by a specialist workshop or other authorised persons during your next BMW Service appointment.
- Have the work performed by appropriately trained staff.
- Refer to the vehicle manufacturer specifications.◀

- Removing rear seat (➠ 63).

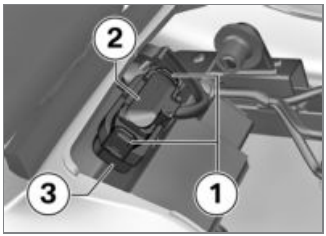


- Press locks **1**.
- Disengage diagnostic connector **2** from holder **3**.

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

Securing the diagnostic connector

- Disconnect the interface for the diagnosis and information system.



- Seat diagnostic connector **2** in bracket **3**.

» Retainers **1** engage with an audible click.

- Install the rear seat (➠ 64).

Chain

Lubricating chain

ATTENTION

Inadequate cleaning and lubrication of the drive chain

Accelerated wear

- Clean and lubricate the drive chain at regular intervals.◀
- Lubricate the chain more frequently if the motorcycle is ridden in wet, dusty or dirty conditions.

Lubricate drive chain at regular intervals.
min 800 km

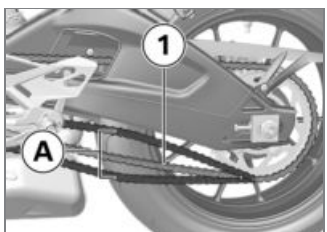
- Switch the ignition off and select neutral.
- Clean the drive chain with a suitable cleaning product, dry it and apply chain lubricant.
- To prolong chain life, BMW Motorrad recommends the use of BMW Motorrad chain lubricant, or:

Lubricant
Chain spray

- Wipe off excess lubricant.

Checking chain tension

- Place the motorcycle on its stand on firm, even ground.
- Turn the rear wheel until it reaches the position with the lowest amount of chain sag.



- Use a screwdriver to push the chain **1** up and down at a point midway along the run between pinion and sprocket and measure difference **A**.

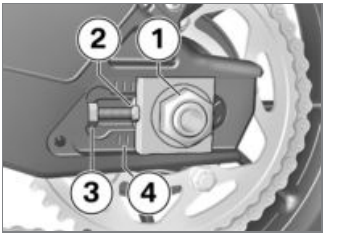
Chain deflection
35...45 mm (Motorcycle with no weight applied, supported on its side stand)

If measured value is outside permitted tolerance:

- Adjust the chain tension (➠ 170).

Adjust the chain tension

- Place the motorcycle on its stand on firm, even ground.



- Loosen nut **1** for the quick-release axle.
- Slacken locknuts **3** on left and right.
- Use adjusting screws **2** on left and right to adjust chain tension.
- Checking chain tension (➠ 169).
- Make sure that scale readings **4** are the same on left and right.
- Tighten locknuts **3** on left and right to the specified tightening torque.

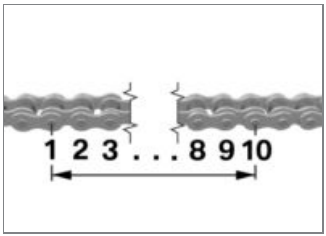
Locknut of the final-drive chain tensioning screw
19 Nm

- Tighten nut **1** for the quick-release axle to the specified tightening torque.

Rear quick-release axle in swinging arm
Thread-locking compound: mechanical
100 Nm

Checking the chain wear

- Engage 1st gear.
- Turn the rear wheel in the normal direction of travel until the chain is tensioned.
- Determine the length of the chain underneath the rear wheel swinging arm above the middle of 10 rivets in 3 different places.



Permissible chain length
max 144.30 mm (measured **centre to centre** over 10 pins, chain pulled taut)

If the chain has stretched to the maximum permissible length:

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

Accessories

General instructions..... 174

General instructions

⚠ CAUTION

Use of other-make products
Safety risk

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

BMW has conducted extensive testing of the parts and accessory products to establish that they are safe, functional and suitable. Consequently, BMW accepts product liability. BMW accepts no liability whatsoever for parts and accessories that it has not approved.
Whenever you are planning modifications, comply with all the legal requirements. Make sure that the vehicle does not infringe the national road-vehicle construction and use regulations applicable in your country.
Your BMW Motorrad dealer can offer expert advice on the choice of genuine BMW parts, accessories and other products.
To find out more about accessories go to:
bmw-motorrad.com/accessories

Care

Care products 176
Washing the vehicle 176
Cleaning easily damaged components 177
Care of paintwork 178
Laying up the motorcycle 178
Vehicle preservation 178
Restoring motorcycle to use 179

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.

ATTENTION

Use of unsuitable cleaning and care products
Damage to vehicle parts
- Do not use solvents such as cellulose thinners, cold cleaners, fuel or the like, and do not use cleaning products that contain alcohol.◀

Washing the vehicle

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 vehicle immediately after it has been exposed to strong sunlight and do not wash it in the sun.
Make sure that the vehicle is washed frequently, especially during the winter months.
To remove road salt, clean the motorcycle with cold water immediately after every trip.

WARNING

Wet brake discs and brake pads after vehicle wash, after riding through water and in rainy conditions
Diminished braking effect, risk of accident
- Apply the brakes in good time to allow the friction and heat to dry the brake discs and brake pads.◀

ATTENTION

Effect of road salt intensified by warm water
Corrosion
- Use only cold water to wash off road salt.◀

ATTENTION

Damage due to high water pressure from high pressure cleaners or steam cleaners
Corrosion or short circuit, damage to labels, seals, hydraulic brake system, electrical system and the motorcycle seat

- Exercise restraint when using a steam jet or high pressure cleaning equipment.◀

Cleaning easily damaged components

Plastics

ATTENTION

Use of unsuitable cleaning agents

Damage to plastic surfaces

- Do not use cleaning agents that contain alcohol, solvents or abrasives.
- Do not use insect-remover pads or cleaning pads with hard, scouring surfaces.◀

NOTICE

Under conditions of use as intended by the manufacturer, sooner or later irremovable marks may appear on the seat coverings. Clothing that is not colour-fast is a major cause of this occurrence.◀

Body panels

Clean trim panel components with water and BMW Motorrad solvent cleaner.

Plastic windscreens and headlight lenses

Remove dirt and insects with a soft sponge and generous amounts of water.

NOTICE

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

Chrome

Carefully clean chrome sections with a generous amount of water and motorcycle cleaner from the care series BMW Motorrad Care Products. This applies especially where road salt has been in use. For an additional treatment, use BMW Motorrad metal polish.

Radiator

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

ATTENTION

Bending of radiator fins

Damage to radiator fins

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

Rubber

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

ATTENTION

Application of silicone sprays to rubber seals

Damage to the rubber seals

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

Care of paintwork

The long-term effects of materials that are damaging to paint can be prevented by regular vehicle washes, particularly if your vehicle is ridden in areas susceptible to high levels of air pollution or natural contamination, for example tree resin or pollen. Particularly aggressive materials, however, should be removed immediately, otherwise changes to or discolouration of the paint can result. These include, for example, spilled fuel, oil, grease, brake fluid or bird excrement.

For this, we recommend BMW Motorrad solvent cleaner followed by BMW Motorrad gloss polish for preservation.

Contamination of the paint surface can be seen particularly clearly after a vehicle wash. These areas should be cleaned immediately using benzine or spirit, applied with a clean cloth or cotton pad. BMW Motorrad recommends that tar spots be removed using BMW tar remover. The paint should then be preserved in these areas.

Laying up the motorcycle

- Clean the motorcycle.
- Fill the motorcycle's fuel tank.
- Removing battery (➠ 167).
- Spray the brake and clutch lever pivots and the main and side stand pivots with a suitable lubricant.
- Preserve 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 (preferably using the front-wheel and rear-wheel stands from BMW Motorrad).

Vehicle preservation

If water no longer rolls off the paint, the paint must be preserved.

For paint preservation, BMW Motorrad recommends the use of BMW Motorrad gloss polish or agents containing carnauba wax or synthetic wax.

Restoring motorcycle to use

- Remove the protective wax coating.
- Clean the motorcycle.

- Installing battery (➠ 167).
- Comply with checklist (➠ 82).

Technical data

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Engine 186
Clutch 187
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Rear-wheel drive..... 188
Frame 189
Chassis and suspension 189
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Troubleshooting chart

Engine does not start or is difficult to start.

Possible cause	Rectification
Side stand extended and gear engaged	Retract the side stand.
Gear engaged and clutch not disengaged	Select neutral or pull the clutch lever.
No fuel in tank	Refuelling (➠ 92).
Battery flat	Recharge the battery.
Overheating protection for starter motor has been activated. Starter motor can only be operated for a limited period of time.	Allow the starter motor to cool down for approx. 1 minute before using it again.

Screw connections

Front wheel	Value	Valid
Quick-release axle in threaded bush		
M24 x 1.5	50 Nm	
Clamping screws in axle holder		
M8 x 35	**Tightening sequence: Tighten screws six times in alternate sequence**	
	19 Nm	
Radial brake caliper to axle mount		
M10 x 65	38 Nm	

Rear wheel	Value	Valid
Locknut of the final-drive chain tensioning screw		
M8	19 Nm	
Rear quick-release axle in swinging arm		
M24 x 1.5 mechanical	100 Nm	

Rear wheel	Value	Valid
Swinging-arm adapter to rear wheel swinging arm		
M8 x 30	20 Nm	
Spring strut to main frame		
M10 x 65	56 Nm	

Mirrors	Value	Valid
Locknut (mirror) to clamping piece		
M10 x 1.5 Multi-wax spray	20 Nm	

Fuel

Recommended fuel grade	E5 Super Plus, unleaded (max. 5 % ethanol, E5) 98 ROZ/RON E10 93 AKI
Alternative fuel grade	E5 Super unleaded - with power loss (max. 10 % ethanol, E10) 95 ROZ/RON E10 89 AKI
Usable fuel capacity	approx. 17.5 l
Fuel reserve	approx. 4 l

Engine oil

Engine oil, capacity	approx. 3.5 l, with filter change
Specification	SAE 5W-40, API SL / JASO MA2, Additives (e.g. molybdenum-based) are not permissible because they can attack coated components of the engine, BMW Motorrad recommends BMW Motorrad ADVANTEC Ultimate oil.
Engine oil, quantity for topping up	max 0.8 l, Difference between **MIN** and **MAX**

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Engine

Location of engine number	Crankcase lower part right, behind the coolant pump
Engine type	104
Engine design	Water-/oil-cooled four-cylinder four-stroke inline engine, four valves per cylinder, two overhead camshafts
Displacement	999 cm^3
Cylinder bore	80 mm
Piston stroke	49.7 mm

Compression ratio	12.1:1
Nominal output	121 kW, at engine speed: 11000 min^{-1}
– with power reduction OE	79 kW, at engine speed: 7500 min^{-1}
Torque	114 Nm, at engine speed: 9250 min^{-1}
– with power reduction OE	103 Nm, at engine speed: 7000 min^{-1}
Maximum engine speed	max 12000 min^{-1}
Idle speed	$1270^{\pm 50}$ min^{-1}, Engine at regular operating temperature
Exhaust emissions standard	Euro 4

Clutch

Clutch type	Multiplate oil-bath clutch, anti-hopping

Transmission

Gearbox type	Claw-shift 6-speed gearbox, integrated into engine block
Gearbox transmission ratios	1.652 (76:46 teeth), Primary transmission ratio 2.647 (45:17 teeth), 1st gear 2.091 (46:22 teeth), 2nd gear 1.727 (38:22 teeth), 3rd gear 1.500 (36:24 teeth), 4th gear 1.360 (34:25 teeth), 5th gear 1.261 (29:23 teeth), 6th gear

Rear-wheel drive

Type of rear suspension	Aluminium double swinging arm
Final drive, number of teeth (Pinion / sprocket)	17/45
Secondary transmission ratio	2.647

Frame

Frame type	Aluminium composite bridge frame, load-bearing engine
Type plate location	Steering head, right
Position of the Vehicle Identification Number	Steering head, right

Chassis and suspension

Front wheel	
Type of front suspension	Upside-down telescopic fork
Spring travel, front	120 mm, at wheel
Rear wheel	
Type of rear suspension	Aluminium double swinging arm
Type of final drive	Chain drive
Spring travel, rear	120 mm, at wheel

Brakes

Front wheel	
Type of front brake	Hydraulically radially operated twin disc brake with 4-piston radial fixed calipers and floating brake discs
Brake-pad material, front	Sintered metal
Brake disc thickness, front	5.0 mm, When new min 4.5 mm, Wear limit
Play of brake controls (Front brake)	0.6...1.4 mm, on the piston
Rear wheel	
Type of rear brake	Hydraulically actuated disc brake with 1-piston floating caliper and fixed disc
Brake-pad material, rear	Organic material
Brake disc thickness, rear	5.0 mm, When new min 4.5 mm, Wear limit
Blow-by clearance of the footbrake lever	2...3 mm, between limit position and footbrake lever

Wheels and tyres

Recommended tyre sets	Your authorised BMW Motorrad dealer will be happy to supply an up-to-date list of the approved wheel/tyre combinations, or you can check the information posted on the bmw-motorrad.com website.
Speed category, front/rear tyres	W, required at least: 270 km/h
Front wheel	
Front wheel type	Aluminium cast wheel
Front wheel rim size	3.50" x 17"
Tyre designation, front	120/70 ZR 17
Load index, front tyre	58
Permissible front-wheel imbalance	max 5 g
Balance weight for front wheel (One half of the weights must be attached to the left and the other half to the right of the wheel rim)	max 80 g

Rear wheel	
Rear-wheel type	Aluminium cast wheel
Rear wheel rim size	6.0" x 17"
Tyre designation, rear	190/55 ZR 17
Load index, rear tyre	75
Permissible rear-wheel imbalance	max 45 g
Balance weight for the rear wheel (One half of the weights must be attached to the left and the other half to the right of the wheel rim)	max 80 g
Tyre pressure	
Tyre pressure, front	2.5 bar, Tyre cold
Tyre pressure, rear	2.9 bar, Tyre cold

Electrical system

Fuses	
Fuse 1	10 A, Instrument panel
Fuse 2	4 A, Master relay, diagnosis plug, anti-theft alarm
Fuse 3	Not used
Fuse 4	7.5 A, Low-beam headlight, load relief relay
Fuse 5	7.5 A, High-beam headlight
Fuse 6	7.5 A, Socket for optional accessories, number-plate light
Fuse 7	4 A, Ignition switch
Fuse 8	4 A, Angular rate sensor, left multi-function switch
Main fuse	40 A
Battery	
Battery type	AGM (Absorbent Glass Mat) battery
Battery rated voltage	12 V
Battery rated capacity	9 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK LMAR9D-J

Lighting	
Bulb for high-beam headlight	HB3 / 12 V / 60 W
Bulbs for the low-beam headlight	H7 / 12 V / 55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for tail light/brake light	LED
Maximum number of defective LEDs in rear-light unit	1
Bulbs for flashing turn indicators, front	RY10W / 12 V / 10 W
– with LED flashing turn indicator[OE]	LED
Bulbs for flashing turn indicators, rear	RY10W / 12 V / 10 W
– with LED flashing turn indicator[OE]	LED
Light source for the number plate light	W5W / 12 V / 5 W

Dimensions

Length of motorcycle	2057 mm
Height of motorcycle	1228 mm, over windscreen at DIN unladen weight
Width of motorcycle	845 mm, via mirror
Front-seat height	814 mm, without rider
Rider's inside-leg arc, heel to heel	1805 mm, Without rider

Weights

Vehicle kerb weight	205 kg, DIN unladen weight, ready for road, 90 % load of fuel, without OE
Permissible wheel load, front	max 180 kg
Permissible wheel load, rear	max 270 kg
Permissible gross weight	407 kg
Maximum payload	202 kg

Riding specifications

Top speed	>200 km/h

Service

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BMW Motorrad Service

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

You can locate your nearest authorised BMW Motorrad dealership by visiting our website:
bmw-motorrad.com

WARNING

Maintenance and repair work not in compliance with correct procedure

Risk of accident due to consequential damage

- BMW Motorrad recommends having work of this nature carried out on the vehicle by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

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

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

BMW Motorrad Service history

Entries

Maintenance work that has been carried out is entered in the proof of maintenance. The entries are like a Service Booklet and provide proof of regular maintenance.

If an entry is made in the electronic service booklet of the vehicle, service-relevant data is saved in the central IT systems of BMW AG, Munich.

If there is a change in vehicle owner, the data saved in the electronic service booklet can also be viewed by the new vehicle owner. A BMW Motorrad Retailer or a specialist workshop can also view data that is stored in the electronic service booklet.

Objection

The vehicle owner can object to entries being made by the BMW Motorrad Retailer or a specialist workshop in the electronic service booklet along with the corresponding storage of data in the vehicle and transfer of data to the vehicle manufacturer for the period of time that they are the vehicle owner. In this instance, no entry is made in the electronic service booklet of the vehicle.

BMW Motorrad Mobility services

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

Maintenance work

BMW Pre-delivery Check

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

BMW Running-in Check

 Running-in check
500...1200 km

BMW Service

The BMW Service is carried out once a year. The scope of the service depends on the age of the vehicle and the mileage ridden. Your BMW Motorrad Retailer will confirm the service that has been carried out for you and will enter the deadline for the next service.

For riders with a high mileage it may be necessary to have a service before the specified deadline. In this case, a corresponding maximum mileage is entered in the service confirmation. If this mileage is reached before the next service deadline, the service must be brought forward.

The service display in the multifunction display will remind you of the approaching service appointment approximately one month or a defined distance before the entered values.

 The distance remaining until the next service appointment
1000 km

The regular service intervals as stated apply to motorcycles used on public roads. In the case of motorcycles used for racing, the intervals have to be adapted accordingly in line with the increased wear and tear associated with this mode of use.

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

Maintenance schedule

1 BMW running-in check (including oil change)
2 BMW Standard scope of service
3 Engine-oil change, with filter
4 Check valve clearance
5 Checking timing
6 Replace all spark plugs
7 Replace air filter
8 Oil change in the telescopic forks
9 Change brake fluid in the entire system

a annually or every 10000 km (whichever comes first)
b for the first time after one year, then every two years

Maintenance confirmations

BMW Service standard scope

The repair tasks in the BMW Service standard scope are listed below. The actual scope of maintenance work applicable for your vehicle may vary.

- Performing vehicle test with BMW Motorrad diagnostic system
- Visually inspect the brake pipes, brake hoses and connections
- Checking front brake pads and brake discs for wear
- Checking brake-fluid level, front brakes
- Checking rear brake pads and brake disc for wear
- Checking brake-fluid level, rear brakes
- Checking steering-head bearing
- Checking coolant level
- Checking fastener of clutch lever fitting
- Checking clutch cable and clutch-lever play
- Lubricating clutch mechanism
- Checking and lubricating chain drive
- Checking tyre pressures and tread depth
- Checking ease of movement of side stand
- Check the lights and signalling equipment
- Function test, engine start suppression
- Final inspection and check for road safety
- Setting the service date and service for remaining distance with BMW Motorrad diagnosis system
- Checking battery charge state
- Confirm BMW service in on-board literature

BMW pre-delivery check

carried out

at_____

_____

Stamp, signature

BMW Running-in Check

carried out

at_____

at km_____

Next service

at the latest

at_____

or, when reached earlier

at km_____

_____

Stamp, signature

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Checking valve timing (cylinder head cover removed)	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Checking valve timing (cylinder head cover removed)	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Checking valve timing (cylinder head cover removed)	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
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Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
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Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
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Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Checking valve timing (cylinder head cover removed)	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Checking valve timing (cylinder head cover removed)	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Checking valve timing (cylinder head cover removed)	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
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Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Checking valve timing (cylinder head cover removed)	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

BMW Service
carried out

at_____
at km_____

Next service
at the latest
at_____
or, when reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Oil change, engine, with filter	☐	☐
Checking valve clearance	☐	☐
Checking valve timing (cylinder head cover removed)	☐	☐
Renewing all spark plugs	☐	☐
Renewing air cleaner insert	☐	☐
Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

Notes

Service confirmations

The table is used to verify maintenance and repair work as well as installed optional accessories and purchased special promotions.

Work performed	at km	Date

Work performed	at km	Date

Appendix

Certificate for electronic immobiliser 222

FCC Approval

Ring aerial in the ignition switch



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

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

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

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

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

Approbation de la FCC

Antenne annulaire présente dans le commutateur d'allumage



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

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

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

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Details described or illustrated in this booklet may differ from the vehicle's actual specification as purchased, the accessories fitted or the national-market specification. No claims will be entertained as a result of such discrepancies.
Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.
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Important data for refuelling:

Fuel	
Recommended fuel grade	E5 E10 Super Plus, unleaded (max. 5 % ethanol, E5) 98 ROZ/RON 93 AKI
Alternative fuel grade	E5 E10 Super unleaded - with power loss (max. 10 % ethanol, E10) 95 ROZ/RON 89 AKI
Usable fuel capacity	approx. 17.5 l
Fuel reserve	approx. 4 l
Tyre pressure	
Tyre pressure, front	2.5 bar, Tyre cold
Tyre pressure, rear	2.9 bar, Tyre cold

You can find further information on all aspects of your vehicle at:
bmw-motorrad.com

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