

BMW Motorrad

Rider's Manual

S 1000 RR

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 9 467 151



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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 vehicle is documented in Chapter 13. 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.

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.

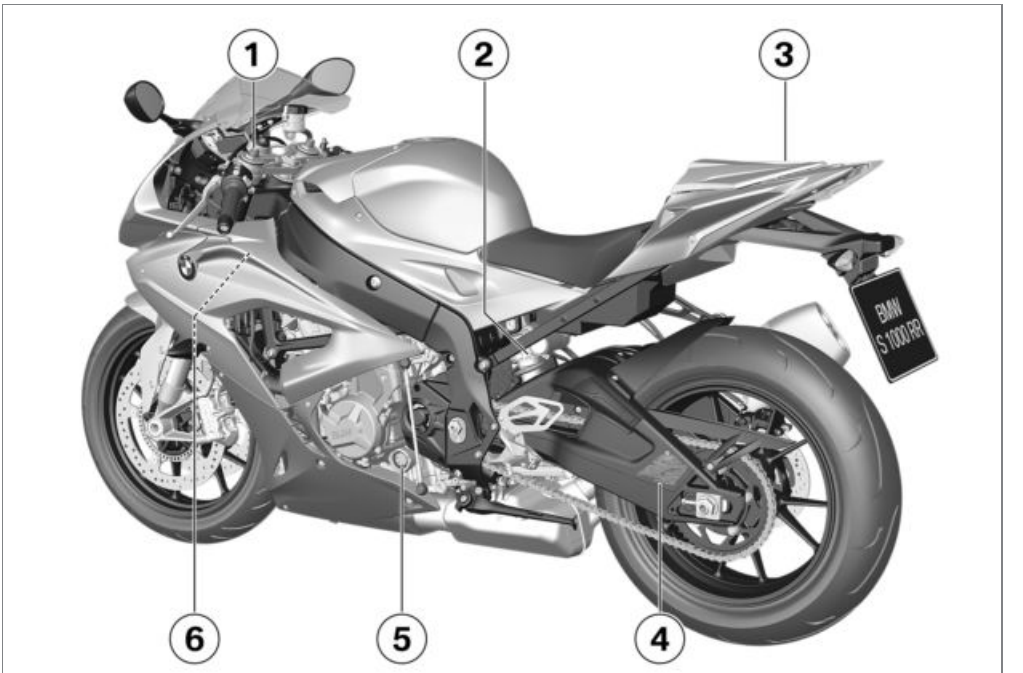
Obtaining, processing and using personal data outside of the normal provision of services requires legal permission, contractual agreement or consent. It is also possible to have the entire data connection activated or deactivated. Statutory functions are excluded from this.

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, spring preload, front (➠ 72)
Adjuster for front compression-stage damping (red scale) (➠ 76)

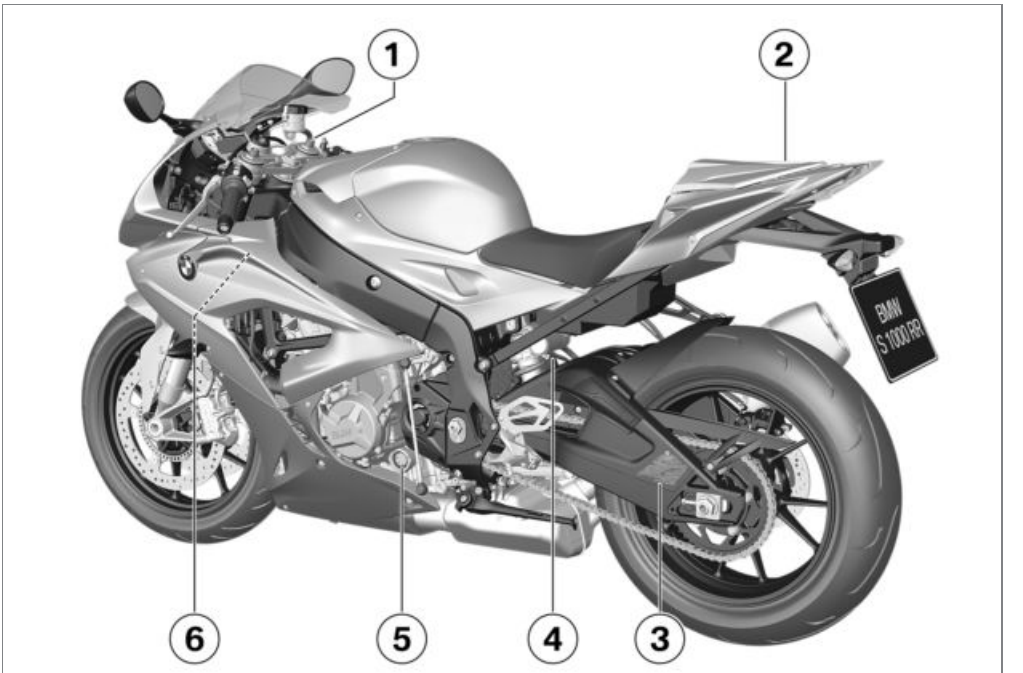
2 Adjuster for front compression-stage damping (red scale) (➠ 78)
Adjuster for spring preload, rear (➠ 74)

3 Lock for tail-hump cover (➠ 65)
Seat lock (➠ 66)

4 Tyre pressure table
Payload table
Chain settings

5 Engine oil level indicator (➠ 164)

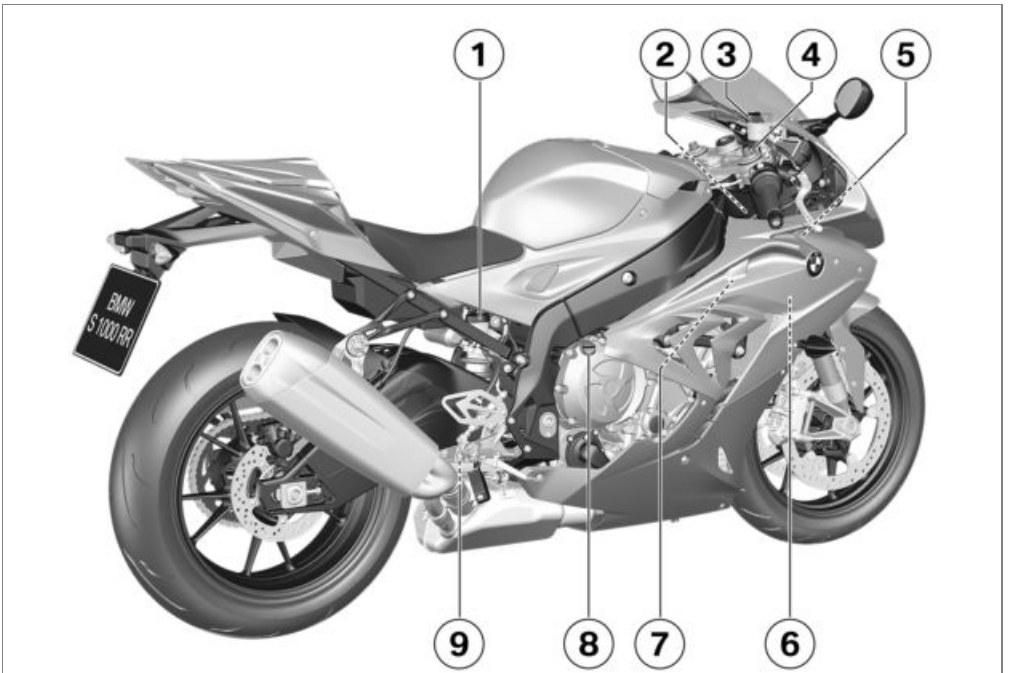
6 Socket for optional accessories (➠ 143)


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BMW
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General view, left side, with DDC

– with Dynamic Damping Control (DDC)[OE]

1 Adjusting spring preload for front wheel (➠ 73).
2 Lock for tail-hump cover (➠ 65)
Seat lock (➠ 66)
3 Tyre pressure table
Payload table
Chain settings
4 Adjuster for spring preload, rear (➠ 75)
5 Engine oil level indicator (➠ 164)
6 Socket for optional accessories (➠ 143)


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BMW
S 1000 RR

General view, right side

1 Brake-fluid reservoir, rear (➠ 169)

2 VIN and type plate (on steering-head, right)

3 Brake-fluid tank, front (➠ 168)

4 Adjuster for rear rebound-stage damping (yellow scale)
– without Dynamic Damping Control (DDC)[OE]
Adjust the rebound-stage damping for front wheel (➠ 77).

5 Adjusting steering damper (➠ 71)

6 Check coolant level (➠ 171)

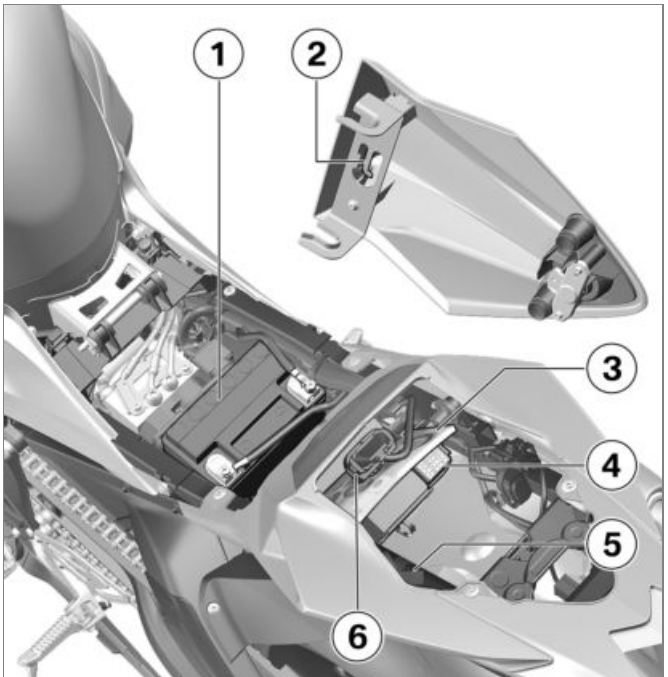
7 Socket for optional accessories (➠ 142)

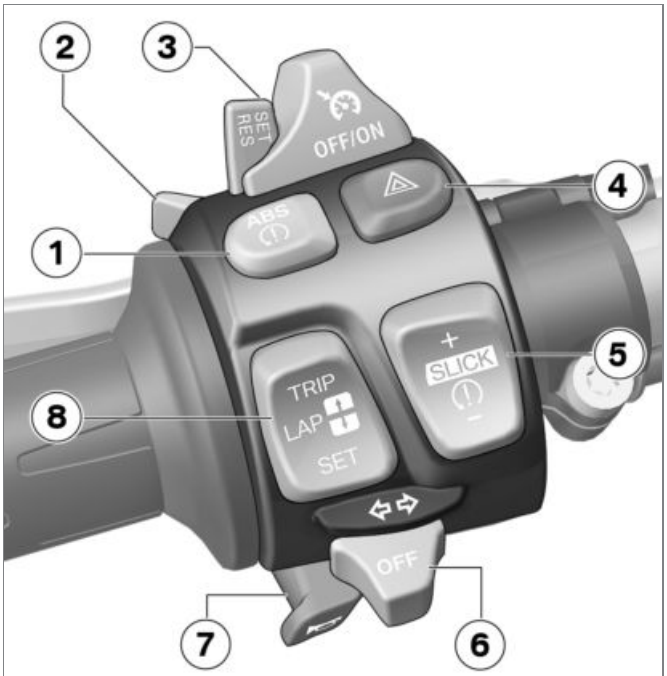
8 Oil filler neck (➠ 165)

9 Adjuster for rear rebound-stage damping (yellow scale) (➠ 78)

Underneath the seat

1 Battery (➠ 190)
2 Helmet holder (➠ 67)
3 Rider's Manual
4 Fuse box (➠ 192)
5 Toolkit (➠ 160)
6 Diagnostic connector (➠ 193)





Multifunction switch, left

1 DTC Switching off (➠ 56)
ABS Switching off (➠ 54)
– with ABS Pro^{OE}
ABS Pro Switching off (➠ 54)

2 High-beam headlight and headlight flasher (➠ 46)
Starting timing (➠ 104)

3 Cruise-control system (➠ 60)

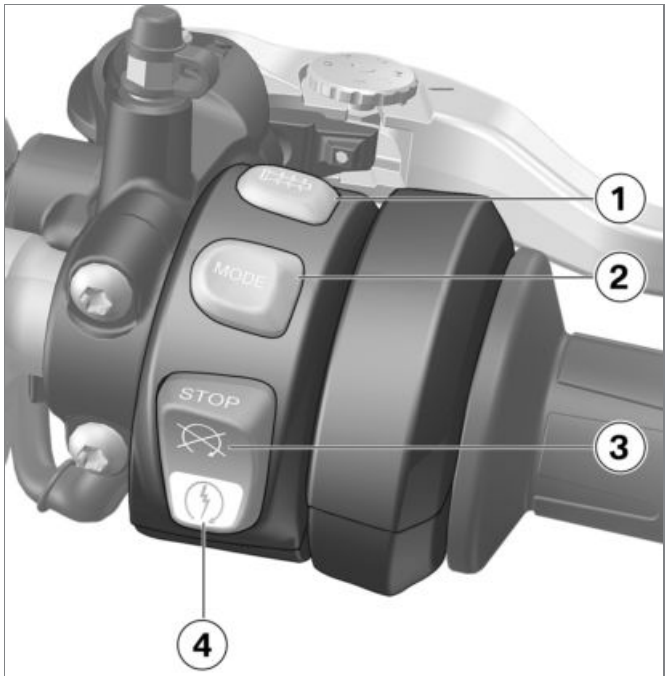
4 Hazard warning lights system (➠ 47)

5 DTC adjusting (➠ 131)

6 Turn indicators (➠ 47)

7 Horn

8 Setting the clock (➠ 52)
Resetting trip distance recorder (➠ 51)
Selecting readings (➠ 50)
Individualising lap timer (➠ 104)
Selecting submenu (➠ 117)

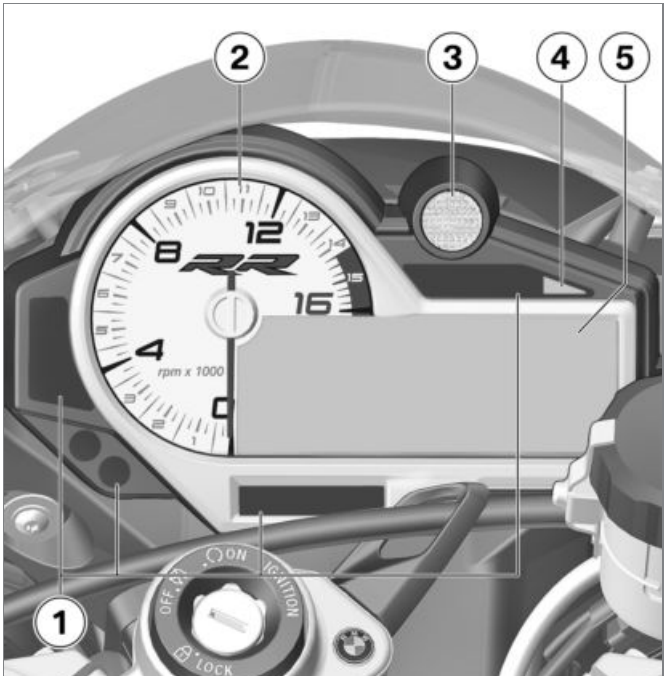


Multifunction switch, right

1 Grip heating (➠ 63)
2 Control for selecting the ride mode (➠ 57)
3 Emergency off switch (kill switch) (➠ 45)
4 Starter button
Start engine (➠ 86)
Launch control (➠ 132)
Speed limiter for pit lane (➠ 134)

Instrument panel

1 Indicator and warning light fields (➠ 26)
2 Engine speed display
3 Gearshift light (➠ 90)
4 Photosensor (for adapting the brightness of the instrument lighting)
– with anti-theft alarm (DWA) OE
DWA light-emitting diode (➠ 52)
5 Multifunction display (➠ 27)

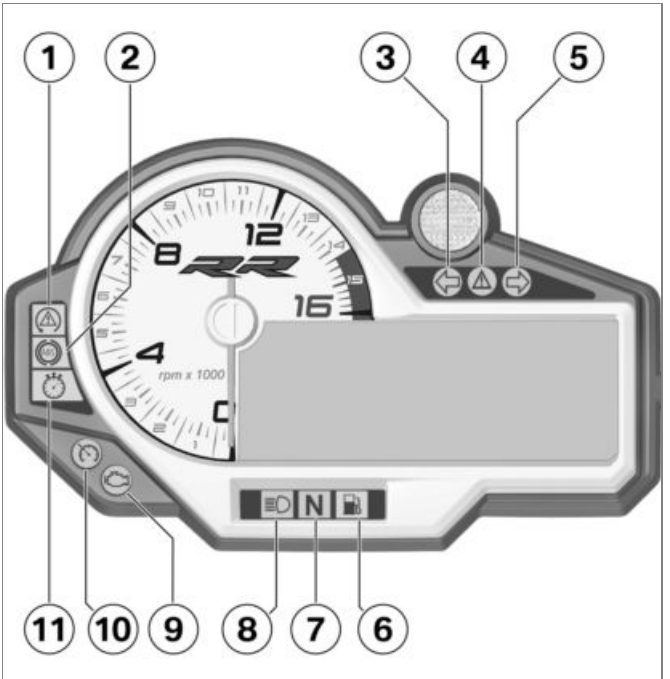


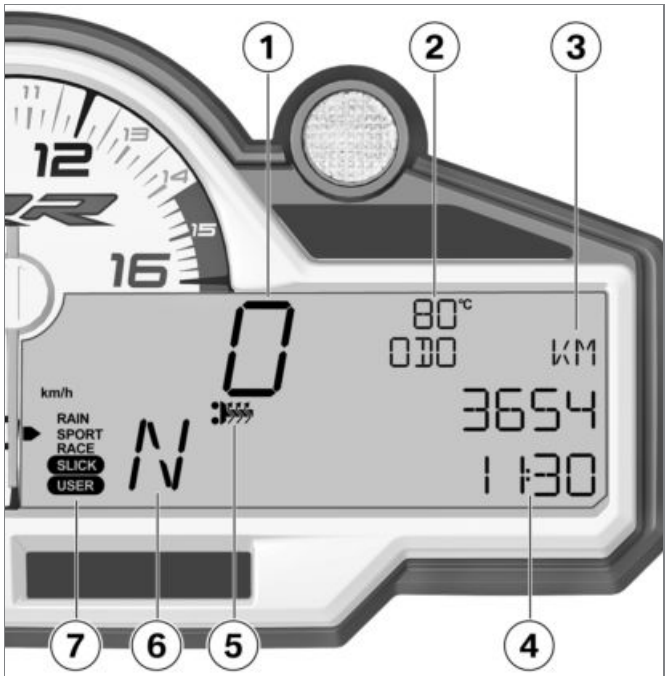
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Indicator and warning lights

1 DTC (➠ 37)
2 ABS (➠ 36)
3 Turn indicators, left
4 General warning light, in combination with warning displays in the multifunction display (➠ 28)
5 Turn indicators, right
6 Fuel reserve (➠ 41)
7 Neutral
8 High-beam
9 Malfunction indicator lamp (➠ 33)
10 Cruise control (➠ 60)
11 Light for the best lap (➠ 106)





Multifunction display

1 Speedometer
2 Coolant temperature
3 Odometer (➠ 50)
4 Clock (➠ 52)
5 Heated handlebar grips (➠ 63)
6 Gear indicator; "N" indicates neutral.
7 Riding mode
RAIN
SPORT
RACE
Setting riding mode (➠ 57)
– with riding modes Pro[OE]
Additional riding modes
SLICK
USER

NOTICE

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

ABS Pro indicator

– with ABS Pro[OE]

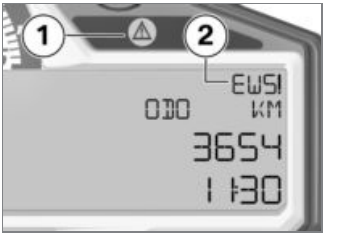


During the Pre-Ride-Check, the availability of the ABS Pro function is indicated by "ABS Pro" showing in the multifunction display.

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 red	EWS! appears on the display	Electronic immobiliser active (➠ 33)
 flashes red	Coolant-temperature reading flashes	Coolant temperature too high (➠ 33)
 The malfunction indicator lamp lights up		Emissions warning (➠ 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)
	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)
 lights up yellow	LAMPS! appears on the display	Rear light and bulbs for side lights faulty (➠ 35)
		Front lights defective (➠ 35)
 lights up yellow	VDS! appears on the blank display	Motorcycle dropped (➠ 36)
 lights up yellow	VDS! appears on the display	Drop sensor defective (➠ 36)
 flashes		ABS self-diagnosis not completed (➠ 36)
 lights up		ABS switched off (➠ 36)
 lights up		ABS fault (➠ 36)

Indicator and warning lights	Display text	Meaning
 quick-flashes		DTC intervention (➠ 37)
 slow-flashes		DTC self-diagnosis not completed (➠ 37)
 lights up		DTC switched off (➠ 37)
 lights up		DTC fault (➠ 37)
 lights up yellow	DDC! Appears on the display	DDC fault (➠ 37)
	 The gear indicator flashes.	Gear not trained (➠ 38)
 lights up yellow	DWALO! appears on the display	DWA battery weak (➠ 38)
 lights up yellow	DWA! appears on the display	DWA battery flat (➠ 39)

Indicator and warning lights	Display text	Meaning
 Shift indicator lights up or flashes	SPEED! appears on the display	Speed warning (➠ 39)
 Shift indicator lights up or flashes	0L-CON! appears on the display	Launch Control not ready (➠ 39)
 lights up red	NO CAN appears on the display	CAN open circuit/short circuit (➠ 39)
 lights up yellow	NO CODING appears on the display	No coding (➠ 40)
 lights up yellow	SERVICE! appears on the display	Service-due date has passed (➠ 40)
 lights up		Fuel down to reserve (➠ 41)

Electronic immobiliser active


General warning light shows red.

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.
- 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.

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.

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. The engine is in emergency-operation mode. In exceptional cases, the engine stops and refuses to start.

- 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.

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:

Light source for turn indicator is faulty.

- Replacing bulbs for front and rear turn indicators (➠ 185).

Possible cause:

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

- Installing number-plate carrier (➠ 137).
- In the submenu SETUP EQUIPMENT, suppress the fault message with the parameter WARN LAMP OFF.

Rear light defective

General warning light shows yellow.

LAMPR! appears on the display.

Possible cause:

Light source for tail light or brake light 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.

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:

Light source for side light is faulty.

- Replacing bulb for left parking light (➠ 183).
- Replacing bulb for right side light (➠ 184).

Rear light and bulbs for side lights faulty

General warning light shows yellow.

LAMPS! appears on the display.

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

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 bulbs for low-beam headlight and high-beam headlight (➠ 181).

Motorcycle dropped


General warning light shows yellow.

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


General warning light shows yellow.

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:

The ABS is not available, because self-diagnosis did not complete. The motorcycle has to move forward a few metres for the wheel-speed sensors to be tested.

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

ABS switched off


ABS telltale and warning light shows.

Possible cause:

The rider has switched off the ABS.

- ABS Switching on (➠ 55).

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 or is only conditionally available. Bear in mind the more detailed information on situations that can lead to an ABS fault (➠ 147).

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

DTC intervention

DTC indicator and warning light flashes quickly.

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

DTC indicator and warning light flashes slowly.

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 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

DTC indicator and warning light shows.

Possible cause:

The rider has switched off the DTC system.

- DTC Switching on (➠ 56).

DTC fault

DTC indicator and warning light shows.

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 a DTC fault (➠ 150).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

DDC fault

– with Dynamic Damping Control (DDC)[OE]

 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.

Possible cause:

A DDC sensor fault has been detected.

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

» The semi-active functionality is deactivated.

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.

– Once the transmission sensor has been completely calibrated, shift assistant Pro will operate as described (➠ 156).

- 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

 General warning light shows yellow.

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 has lost a significant proportion of its original capacity. There is no assurance of how long the 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 has lost its entire original capacity. There is no assurance that the anti-theft alarm will be operational if the vehicle's battery is disconnected.

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

Speed warning


Shift indicator lights up or flashes, depending on your preferred setting.

SPEED! appears on the display.
Possible cause:

The preset top speed was exceeded.

- Reduce speed.
- Set a new top speed.

Launch Control not ready

– with riding modes Pro[OE]


Gearshift light lights up or flashes.

0L-CON! appears on the display.
Possible cause:

The number of racing starts possible with Launch Control has been exceeded.

- Allow the clutch to cool.
- Racing start with Launch Control (➠ 132).

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 date has passed

General warning light shows yellow.

SERVICE! appears on the display

Service-due indicator



The service-due date **1** shows when a service is due within one month.



When a service is due within 1000 km (700 miles), the countdown distance **1** is shown and counted down in steps of 100 km (100 miles). This reading appears briefly after the Pre-Ride-Check completes.

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.

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.◀

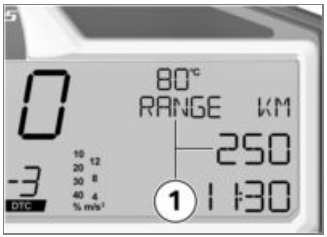
Possible cause:

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

Fuel reserve
approx. 4 l

• Refuelling (➠ 95).

Range



The range readout **1** RANGE indicates how far you can ride with the fuel remaining in the tank. This distance is calculated on the basis of average consumption and the quantity of fuel on board.

RANGE

– When the motorcycle is propped on its side stand the slight angle of inclination means that the sensor cannot register the fuel level correctly. This is the reason why the range is calculated only when the side stand is in the retracted position.
– The range reading appears automatically on the multifunction display when fuel is down to the reserve level.
– After a refuelling stop, range is recalculated if the amount of fuel in the tank is greater than the reserve quantity.

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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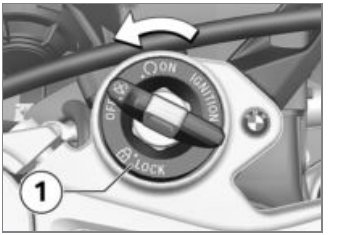
Ignition switch/steering lock

Keys

You receive 2 ignition keys. Please consult the information on the electronic immobiliser (EWS) if a key is lost or mislaid (➠ 45). Ignition switch/steering lock, fuel filler cap lock and seat lock are all operated with the same key.

Lock the handlebars

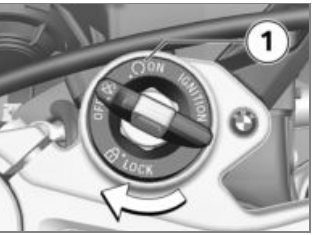
- Turn the handlebars all the way to left.



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

» Ignition, lights and all function circuits switched off.
» Handlebars locked.
» Vehicle key can be removed.

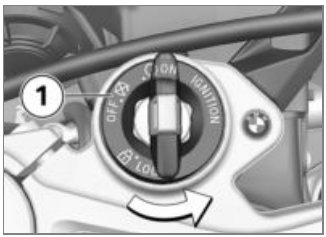
Switching on ignition



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

» Parking lights and all function circuits switched on.
» Engine can be started.
» Pre-Ride-Check is performed. (➠ 87)
» ABS self-diagnosis is in progress. (➠ 87)
» DTC self-diagnosis is in progress. (➠ 88)

Switching off ignition



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

» Lights switched off.
» Handlebars not locked.
» Vehicle key can be removed.

Electronic immobiliser

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

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 your key, you can have it barred by your BMW Motorrad authorised 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 ignition key, but an ignition key that has been barred can subsequently be reactivated.
You can obtain replacement/extra keys only through an authorised BMW Motorrad dealer. The ignition 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

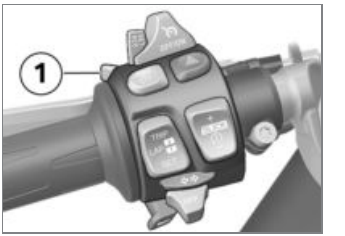
The side lights place a strain on the battery. Do not switch the ignition on for longer than absolutely necessary.◀

Low-beam headlight

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

High-beam headlight and headlight flasher

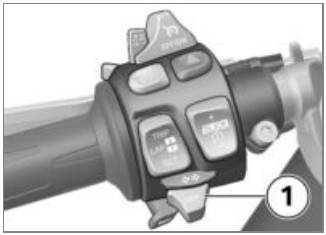
- Start the engine.



- Push switch **1** forward to switch on the high-beam headlight.
- Pull switch **1** back 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.

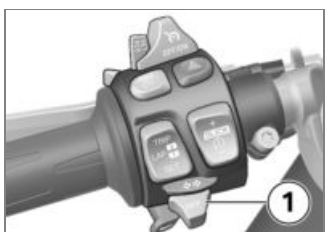
» Ignition can be switched off.

- 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.

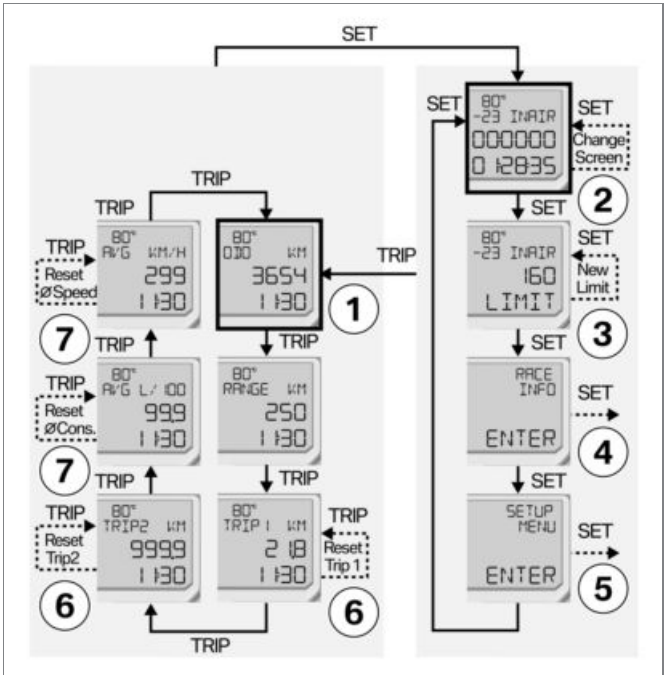


- Press button **1** to the left to switch on the left turn indicator.
- Press button **1** to the right to switch on the right turn indicator.

- Operate button **1** in the centre position to switch off the turn indicator.

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.◀



Multifunction display

Overview

— Solid line: short-press the button.

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

1 Odometer
Default display
Select the readings in the multifunction display (➠ 50).

2 LAPTIMER (➠ 103)

3 LIMIT (➠ 62)
Factory setting for WARN SPEED (➠ 122)

4 RACE INFO (➠ 107)

5 SETUP MENU (➠ 115)

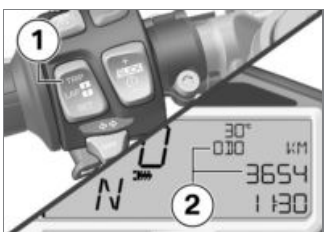
6 TRIP 1 / TRIP 2
Resetting trip distance recorder (➠ 51).

7 Average consumption and average speed
Resetting the average values (➠ 51).

Selecting readings in multifunction display

- Switch on the ignition.

» All the information necessary for riding on public roads is presented in the multifunction display by the on-board computer.

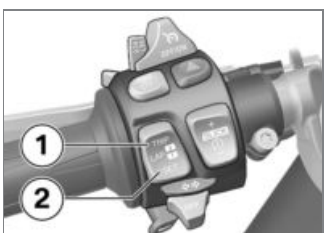


- Repeatedly short-press TRIP **1** until the value you want appears in panel **2**.

The following values of the on-board computer can be displayed:

– Odometer ODO (default display)
– Range RANGE
– Tripmeter 1 TRIP 1
– Tripmeter 2 TRIP 2
– Average consumption AVG in units of volume per unit of distance or in units of distance per unit of volume
– Average speed AVG in units of distance per hour

Selecting other readings



- Short-press SET **2** to view other readings.
- Short-press TRIP **1** to return to the odometer reading ODO (default).
- Repeatedly short-press SET **2** until the reading you want is selected.

The display readouts at your disposal are as follows:

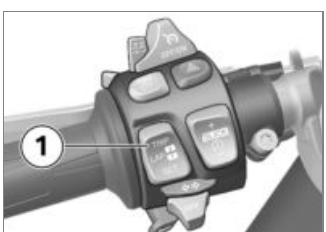
– **LAPTIMER**: lap times and other data can be logged here and subsequently retrieved in the RACE INFO menu.
– **RACE INFO**: the information logged with the LAPTIMER can be retrieved for viewing here. RACE INFO can be called up only when the vehicle is at a standstill.
– **SETUP MENU**: the instrument panel can be configured to suit the rider's preferences here. SETUP MENU can be called up only when the vehicle is at a standstill.

- When the display shows the LAPTIMER, long-press SET **2** to call up the various LAPTIMER readings.

- When the display shows LIMIT, long-press SET **2** to set the current speed as the new limit.
- When the display shows RACE INFO ENTER or SETUP MENU ENTER, long-press SET **2** to call up the corresponding menu.

Resetting trip distance recorder

- Switch on the ignition.



- Repeatedly short-press TRIP **1** until the trip distance recorder you want appears on the display.

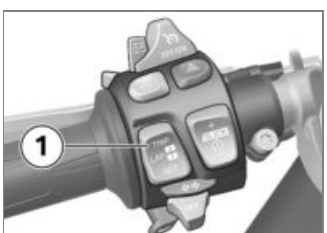
» TRIP 1 or TRIP 2 appears on the display.

- Press and hold down TRIP **1** until the trip distance recorder is reset.

» Tripmeter reading = 0.0

Resetting the average values

- Switch on the ignition.



- Repeatedly short-press TRIP **1** until the average you want to reset appears on the display.

» AVG appears on the display.

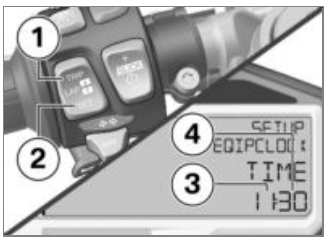
- Press and hold down TRIP **1** until the value you selected has reset.

» Average value = 0.0

Clock

Setting the clock

- Switch on the ignition.



- Repeatedly short-press SET **2** until SETUP MENU ENTER appears on the display.
- Long-press SET **2**.
» The SETUP MENU opens.
- Repeatedly short-press SET **2** until SETUP EQUIPMENT ENTER appears on the display.
- Long-press SET **2**.
» The SETUP EQUIPMENT menu opens.
- Repeatedly short-press SET **2** until SETUP EQIP:CLOCK TIME appears on the display.
- Long-press SET **2**.
» Minutes reading **4** flashes.
- Short-press TRIP **1** to step the minutes reading up.
- Short-press SET **2** to step the minutes reading down.
- When the minutes readings is correct, long-press SET **2**.
» Hours reading **3** flashes.
- Short-press TRIP **1** to step the hours reading up.
- Short-press SET **2** to step the hours reading down.
- When the hours readings is correct, long-press SET **2**.
» The hours reading stops flashing.
» This completes the process.

Anti-theft alarm (DWA)

– with anti-theft alarm (DWA)[OE]

Activation

- Switching on ignition (➠ 44).
- DWA adjusting (➠ 53).
- Switch off the ignition.
» If the alarm system (DWA) is activated, the DWA will be armed automatically when the ignition is switched off.
» The DWA 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 vehicle 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

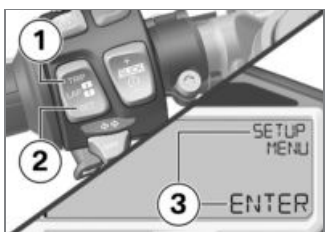
Deactivation

- Put emergency-off switch in 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).



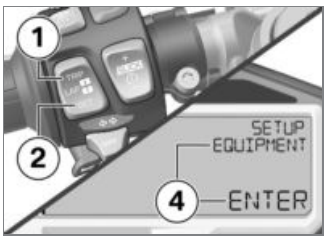
- Repeatedly short-press SET **2** until SETUP MENU ENTER **3** appears on the display.

NOTICE

If you scroll down too far, repeatedly press SET briefly until

the menu returns to the start and then to the display you want.◀

- Long-press SET **2** to open the menu.



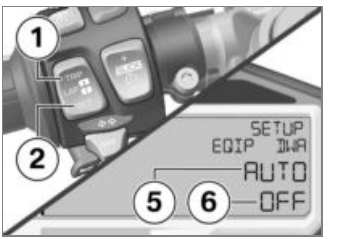
- Repeatedly short-press SET **2** until SETUP EQUIPMENT ENTER **4** appears on the display.

NOTICE

If you scroll down too far, press TRIP briefly to scroll back up.◀

- Long-press SET **2** to open the menu.

» The DWA AUTO parameter **5** and its current value **6** appear on the display.



- Long-press SET **2** to change the value of setting **6**.

» Value **6** flashes.

- Short-press TRIP **1** or SET **2** to change the value.

The following settings are available:

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

– DWA AUTO OFF: The DWA anti-theft alarm is deactivated.

- Long-press SET **2** to save the new value.

» Value **6** stops flashing.

» This completes the process.

- Long-press TRIP **1** to abort the procedure.

» Adjustment aborted.

» ODO appears on the display

Anti-lock brake system (ABS)

ABS Switching off

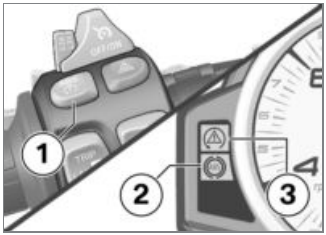
- Switch on the ignition.

NOTICE

ABS Pro is used in much the same way as BMW Motorrad Race ABS.◀

NOTICE

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



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

» The DTC setting remains unchanged.

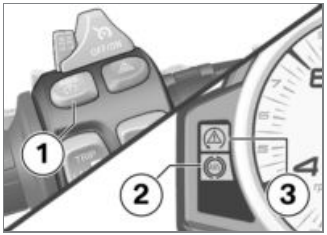
ABS telltale and warning light shows.

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

ABS telltale and warning light remains on.

» ABS is switched off.

ABS Switching on



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

» The DTC setting remains unchanged.

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

- If the encoding plug for the SLICK / USER riding mode is not inserted, you have the alternative of switching the ignition off and then on again.

An ABS fault has occurred if the ABS telltale 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 10 km/h

Dynamic Traction Control (DTC)

DTC Switching off

- Switch on the ignition.

NOTICE

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



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

DTC indicator and warning light starts to show.

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

DTC indicator and warning light remains on.

» DTC is switched off.

DTC Switching on



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

DTC indicator and 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 is switched on.

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

An DTC fault has occurred if the DTC 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 10 km/h

Riding mode

Using the riding modes

BMW Motorrad has developed 5 operational scenarios for your motorcycle from which you can select the scenario suitable for your situation:

– Riding on a rain-wet road surface
– Sporty riding on a dry road surface.
– For riding on race circuits with stock tyres.

– with riding modes Pro OE
– For riding on race circuits with racing tyres.
– For riding on race circuits with racing tyres while considering settings made by the rider.

The interplay of engine torque, throttle response ABS/DTC control is optimised for each of these 5 scenarios.

– with Dynamic Damping Control (DDC) OE

The chassis adjustment also adapts to the selected scenario.

Setting riding mode

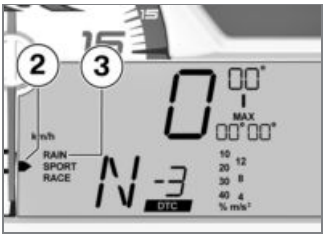
• Switching on ignition (➠ 44).



• Press button **1**.

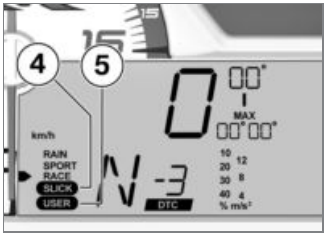
NOTICE

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



The selection arrow **2** and the selectable riding modes **3** are displayed. The last active riding mode flashes.

– with riding modes Pro OE
• Installing encoding plug (➠ 59).
• Press button **1**.



– with riding modes Pro[OE]

If the coding plug is installed the choice of modes also includes the SLICK **4** and USER **5** modes.◁◁



⚠ WARNING

Activate SLICK mode when the friction coefficients are insufficient

Risk of accident due to the tyres' adhesive action being too low

- Only activate SLICK mode on race circuits and with racing tyres.◀
- Repeatedly press button **1** until the selection arrow **2** indicates the desired riding mode.

» With the motorcycle at a standstill, the selected mode is activated after approximately two seconds.

– Selection arrow **2** and the inactive riding modes are hidden.

» 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 following ride modes can be selected:

– RAIN: For riding on a rain-wet road surface.
– SPORT: For sporty riding on a dry road surface.
– RACE: For riding on race circuits with stock tyres.

» The following riding modes are additionally available for selection:

– with riding modes Pro OE
– SLICK: For riding on race circuits with slicks (only with coding plug installed).◁
– with riding modes Pro OE
– USER: The rider can customise the settings for all available functions (ENGINE, ABS, DTC and DDC) to suit his/her individual preferences or the current boundary conditions. Technical understanding and an awareness of how the various parameters interact are essential (only with coding plug installed, see the section entitled "Engineering details").◁

» 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.

• When SLICK riding mode is selected: be aware of limited ABS control for the rear wheel (see section "Engineering details").

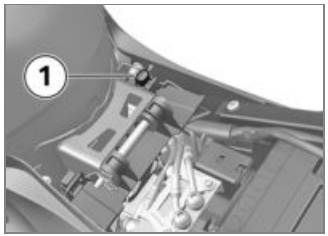
» The values set in the SETUP USER-MODE are not displayed permanently, but for a limited time after the following events:

– After each Pre-Ride-Check when USER riding mode is activated.
– After switching to the USER riding mode.
– When the button **1** (MODE) is pressed in USER riding mode without switching the riding mode.

Installing encoding plug

– with riding modes Pro OE

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

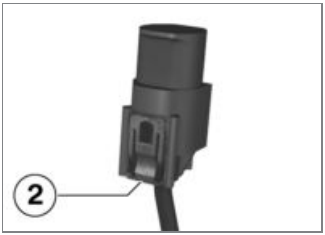


ATTENTION

Dirt and damp penetrating inside open connectors

Malfunctions

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



- To do so, press in latch **2** and remove the cap.
- Install the coding plug.
- Switch on the ignition.
- Setting riding mode (➠ 57).

NOTICE

If the encoding plug is in place, the disabled driving safety systems remain disabled even after the ignition is switched off and back on.◀

- 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...210 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, 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.

NOTICE

Whenever the Pro shift assistant shifts gears, cruise control is automatically disengaged for safety reasons.◀

NOTICE

For safety reasons, cruise control is deactivated automatically when the ASC and DTC systems intervene.◀

» 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.

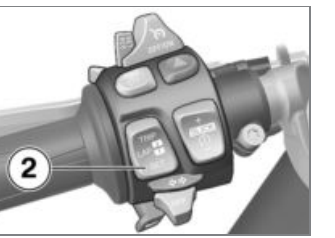
» Button **2** is disabled.

Speed warning

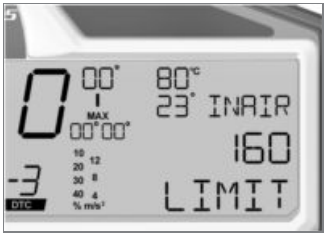
Adjusting speed warning

- If applicable, activate the speed warning in the SETUP EQUIPMENT submenu. See the section headed "On the race track":

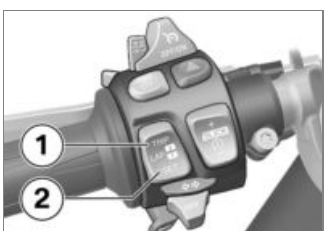
» Speed warning (➠ 122)



- Repeatedly short-press SET **2** until LIMIT appears on the display.



The current speed setting or OFF appears on the display.

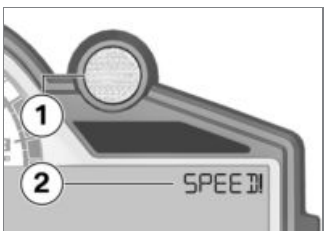


- To set the current speed as the new limit: Long-press SET **2**.

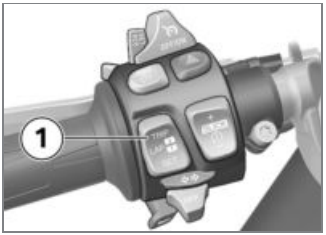
» The current speed is shown on the display

- To increase the preset speed: Short-press TRIP **1**.

» Speed is increased by approx. 10 km/h each time you press the button.



If you exceed the limit set beforehand, shift indicator **1** lights up or flashes at the preset frequency and warning **2** appears on the display.



- To switch off the speed warning: Hold down TRIP **1** until OFF appears on the display.

Heated handlebar grips

– with heated grips OE

Operating the heated handlebar grips

- Start the engine.

NOTICE

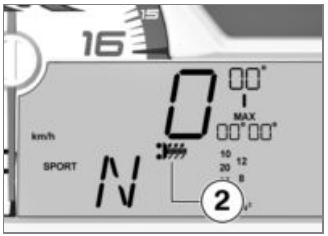
The heating in the heated handlebar grips can be activated only when the engine is running.◀

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 setting you want to use appears on the multifunction display.



The handlebar grips have two-stage heating. Stage two **2** is for heating the grips quickly: it is advisable to switch to stage one as soon as the grips are warm.

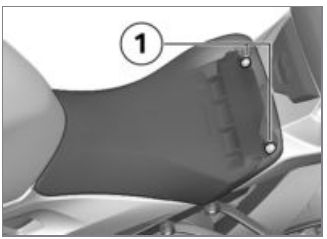
Second stage: 100 % heating power

First stage: 50 % heating output

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

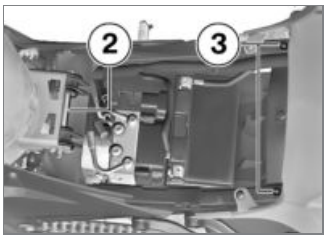
Rider's seat and tail-hump cover

Removing front seat

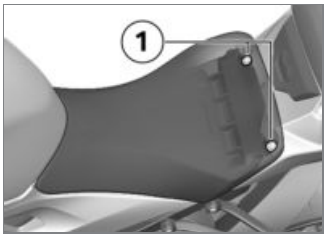


- Push the upholstery of the rider's seat forward slightly above screws **1** and hold it in this position.
- Remove the screws.
- Push the seat forward and lift it at the rear to remove. Take care not to let the screws scratch the trim panels.
- Place the seat, upholstered side down, on a clean surface.

Installing front seat



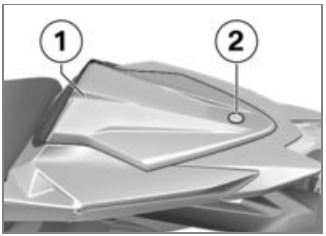
- Engage the rider's seat in mount **2**, then position above the screw holes **3**. Take care not to let the screws scratch the trim panels.



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

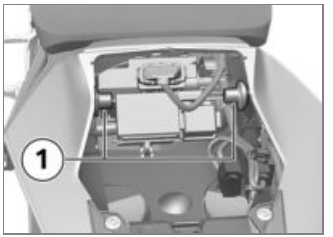
Removing the tail-hump cover

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

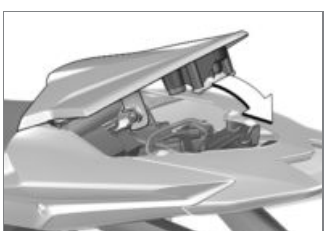


- Unlock lock **2** in tail-hump cover **1** using the ignition key.
- Lift the rear tail-hump cover, then remove it backwards and upwards.

Installing tail-hump cover



- Insert tail-hump cover in the mounts **1** on left and right.



- Fold the tail-hump cover downwards, and press forwards lightly.
- Close lock using the ignition key.

Removing rear seat

– with two-up riding package OE

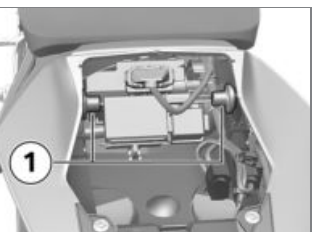
- Place the motorcycle on its stand on firm, even ground.



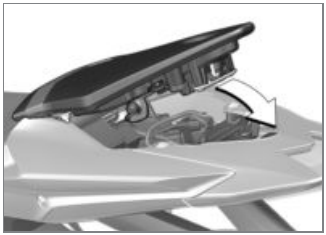
- Open seat lock **1** with the ignition key.
- Lift the rear passenger seat, then remove it backwards and upwards.
- Pull out the ignition key and place the passenger seat upholstered side down on a clean surface.

Install the rear seat

– with two-up riding package OE



- 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.

Helmet holder

Securing the helmet to motorcycle

- Removing the tail-hump cover (➠ 65).
- Turn the cover upside down.



ATTENTION

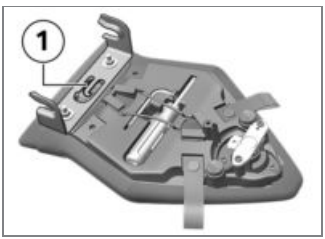
Incorrect positioning of the helmet lock

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 to secure the helmet to helmet holder **1**.
- Installing tail-hump cover (➠ 66).
- Place the helmet on the front seat.

– with two-up riding package OE

- Removing rear seat (➠ 66).
- 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 to secure the helmet to helmet holder **1**.

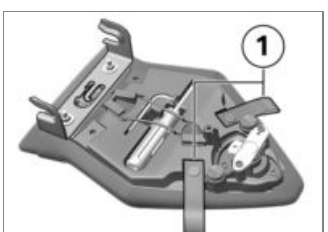
- Install the rear seat (➠ 66).
- Place the helmet on the front seat.◁

Luggage loops

– with two-up riding package OE

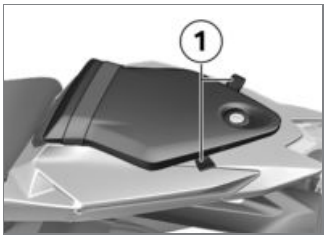
Securing luggage to motorcycle

- Removing rear seat (➠ 66).
- Turn the rear seat upside down.



- Pull luggage loops **1** out of the holders and to the outside and down.

- Install the rear seat (➠ 66).



- Use luggage 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 70
Headlight 70
Brakes 70
Steering 71
Spring preload 71
Damping 76
DDC 79

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.◀



- Applying light pressure from behind, turn adjusting screw **1** to the desired position.

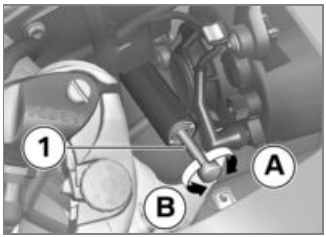
NOTICE

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

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

Steering

Adjusting steering damper



WARNING

Adjusting the steering damper while riding.
Risk of accident
- Do not attempt to adjust the steering damper unless the motorcycle is at a standstill.◀
- Turn adjusting screw **1** in direction **A** to increase damping.
- Turn adjusting screw **1** in direction **B** to reduce damping.

Steering damper basic setting
Open 8 clicks (from fully closed) (Public roads)
Open 5 clicks (from fully closed) (Race track)

Spring preload

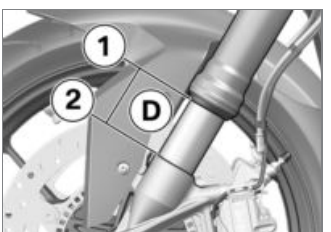
Adjustment

Front spring preload has to be adjusted to suit the rider's weight. Increase spring preload for heavier riders, decrease spring preload for lighter riders. 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

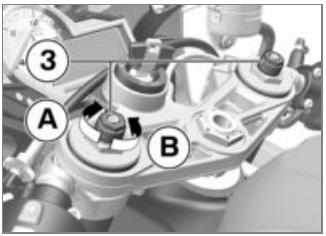
– without Dynamic Damping Control (DDC)[OE]

- 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
10...15 mm (With rider 85 kg)



WARNING

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

Impaired handling.

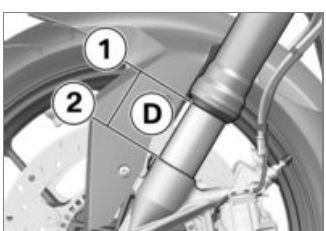
- Adjust spring-strut damping to suit spring preload.◀
- To reduce compression (i.e. to increase spring preload), use the tool from the toolkit to rotate the adjusting screws **3** in direction **A**.
- To increase compression (i.e. to reduce spring preload), use the tool from the toolkit to ro-

tate the adjusting screws **3** in direction **B**.
- Make sure that the same values are set on the left and on the right.

Adjusting spring preload for front wheel

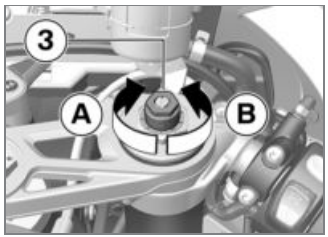
– with Dynamic Damping Control (DDC) OE

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



- 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 the distance **D** between points **1** and **2** again.
- Calculate compression as the difference between the measured values.

	Load-dependent adjustment of spring preload
Negative spring displacement of front wheel	
10...15 mm (With 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 screw **3** in direction **A**.
- To increase negative spring displacement (reduce spring

preload, in other words), use the tool from the on-board toolkit to turn adjusting screw **3** in direction **B**.

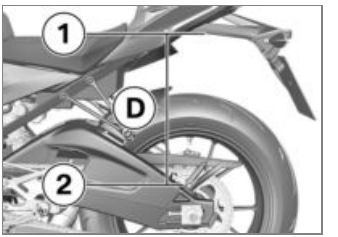
Adjusting spring preload for rear wheel

– 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.

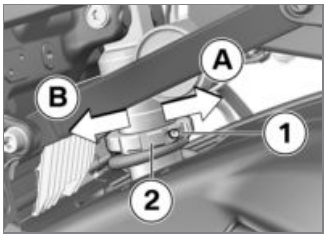


- Use the tool from the on-board toolkit to slacken screw **1**.



- 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
8...12 mm (With 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.

Screw in adjusting ring
3 Nm

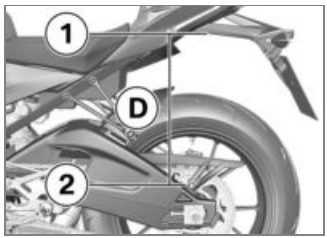
Adjusting spring preload for rear wheel

– with Dynamic Damping Control (DDC)[OE]

- Place the motorcycle on its stand on firm, even ground.
- Switch on the ignition.
- Start the engine to avoid discharging the battery.

NOTICE

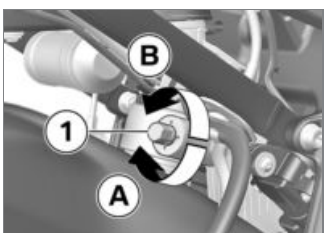
Adjustments to the DDC system are possible only with the ignition switched on, because only then are the electric valves active.◀



- 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
8...12 mm (With 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

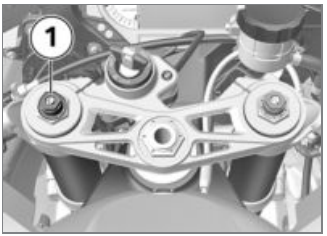
Adjustment

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

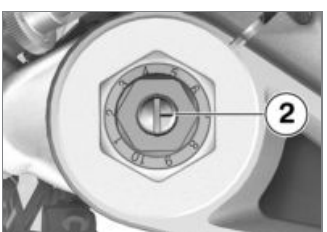
– An uneven surface requires softer damping than a smooth surface.
– An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting compression-stage damping for front wheel

– without Dynamic Damping Control (DDC)[OE]



- Adjust compression-stage damping by turning adjusting screw **1** and reading the red scale on the left fork leg.



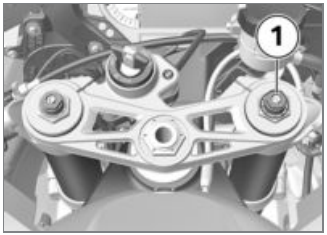
- To increase damping: Use the tool from the on-board kit to turn the adjusting screw in the

appropriate direction so that mark **2** 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 **2** points to a lower reading on the scale.

Compression stage, basic setting, front
Position 2 (comfortable setting with rider 85 kg)
Position 4 (normal setting with rider 85 kg)
Position 8 (sports setting with rider 85 kg)

Adjust the rebound-stage damping for front wheel

– without Dynamic Damping Control (DDC)[OE]



- Adjust rebound-stage damping by turning adjusting screw **1** and reading the yellow scale 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 **2** 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 **2** points to a lower reading on the scale.

Rebound stage, basic setting, front
Position 2 (comfortable setting with rider 85 kg)
Position 4 (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 4

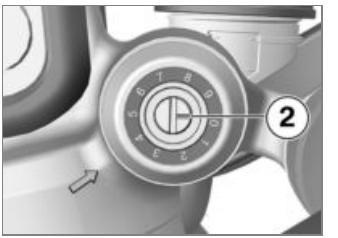
Adjusting compression-stage damping for rear wheel

– without Dynamic Damping Control (DDC)[OE]

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



• Adjust compression-stage damping by turning adjusting screw **1** and reading the red scale.



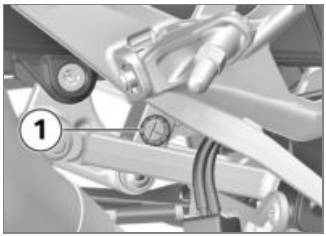
• To increase damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **2** points to a higher reading on the scale.
• To reduce damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **2** points to a lower reading on the scale.

Compression stage, basic setting, rear
Position 2 (comfortable setting with rider 85 kg)
Position 4 (normal setting with rider 85 kg)
Position 9 (sports setting with rider 85 kg)

Adjusting rebound-stage damping for rear wheel

– without Dynamic Damping Control (DDC)[OE]

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



- Adjust compression-stage damping by turning adjusting screw **1** and reading the yellow scale.



- To increase damping: Use the tool from the on-board kit to turn the adjusting screw in the appropriate direction so that mark **2** 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 **2** points to a lower reading on the scale.

Rebound stage, basic setting, rear
Position 2 (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 settings for compression/rebound stages, rear
Position 4

DDC

Adjustment

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

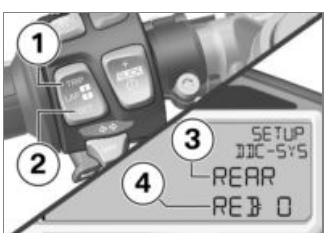
– An uneven surface requires softer damping than a smooth surface.
– An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting the damping characteristic for rear wheel

– with Dynamic Damping Control (DDC)[OE]

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Select the submenu (➠ 117).

» The SETUP DDC-SYS submenu is selected.



- To set the rebound stage for the rear wheel, repeatedly short-press TRIP **1** or SET **2** as applicable until line **3** shows REAR and line **4** shows REB: (Rebound).
- Long-press SET **2**.

» The value beside REB: flashes.

- Use TRIP **1** and SET **2** to adjust damping as desired.

» +1 ... +7: Increase damping through a maximum of seven levels (harder).
» –1 ... –7: Reduce damping through a maximum of seven levels (softer).
» 0: Factory setting

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

» The value for the riding mode currently selected is saved.

- To set the compression stage for the rear wheel, repeatedly short-press TRIP **1** or SET **2** as applicable until line **3** shows REAR and line **4** shows COM: (Compression).
- Long-press SET **2**.

» The value beside COM: flashes.

- Use TRIP **1** and SET **2** to adjust damping as desired.
- Press and hold down SET **2** until the value stops flashing.

NOTICE

The damping action is set and saved separately for all riding modes in the SETUP DDC-SYS submenu.
The damping action is also separately set and saved for the DDC modes DDC SPORT, DDC RACE and DDC SLICK possible in the USER riding mode.◀

» The value for the riding mode currently selected is saved.

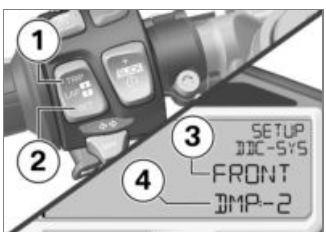
Adjusting damping characteristic for front wheel

– with Dynamic Damping Control (DDC)[OE]

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Select the submenu (➠ 117).

» The SETUP DDC-SYS submenu is selected.

FRONT DMP adjusting



- To set the damping, repeatedly short-press TRIP **1** or SET **2** until line **3** shows FRONT and line **4** shows DMP: (Damping).

NOTICE

Display differs if a spring travel sensor is used for the front forks (racing accessories).◀

- Long-press SET **2**.

» The value beside DMP: flashes.

- Use TRIP **1** and SET **2** to adjust damping as desired.

» +1 ... +7: Increase damping through a maximum of seven levels (harder).

» -1 ... -7: Reduce damping through a maximum of seven levels (softer).

» 0: Factory setting

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

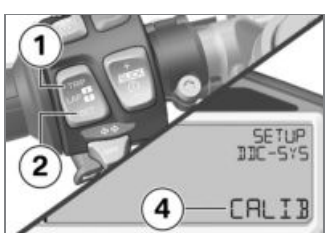
» The value for the riding mode currently selected is saved.

Performing a zero position alignment

– with Dynamic Damping Control (DDC)[OE]

- Place the motorcycle on the side stand or on a suitable auxiliary stand.
- During the alignment, do not sit on the motorcycle; remove pieces of luggage.
- Select the submenu (➠ 117).

» SETUP DDC-SYS submenu is selected.



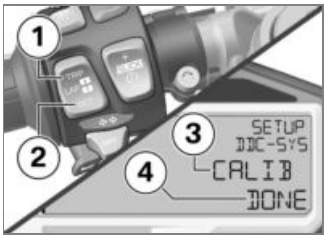
- To set the zero position, repeatedly press TRIP **1** or

SET **2** until CALIB (Calibration) is displayed in line **4**.

- Long-press SET **2** until CALIB starts to flash.

» CALIB flashes.

» Zero position is aligned.



To indicate that calibration was successful, lines **3** and **4** show CALIB DONE.

CALIB FAIL appears on the display:

- Repeat alignment.
- If CALIB DONE the check mark is still not displayed after repeating the alignment, seek the advice of a specialist workshop, preferably an authorised BMW Motorrad dealer.

Riding

Safety instructions 84
Checklist 85
Starting 86
Running in 89
Shifting gear 90
Brakes 91
Parking your motorcycle 94
Refuelling 94
Securing motorcycle for transportation 96

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.◀
- Adjusting spring preload setting and damping to the total weight.

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.◀

Checklist

Comply with checklist

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

Always before riding off:

- Check operation of the brake system.
- Check operation of the lights and signalling equipment.
- Checking clutch function (➠ 170).
- Checking tyre tread depth (➠ 173).
- Check that cases and luggage are securely held in place.

At every third refuelling stop

– without Dynamic Damping Control (DDC)[OE]

- Adjusting spring preload for rear wheel (➠ 74).◁

– with Dynamic Damping Control (DDC)[OE]

- Adjusting spring preload for rear wheel (➠ 75).

- Checking engine oil level (➠ 164).
- Checking front brake pad thickness (➠ 166).
- Check rear brake pad thickness (➠ 167).
- Checking brake-fluid level, front brakes (➠ 168).
- Checking the brake-fluid level, rear brakes (➠ 169).
- Check coolant level (➠ 171).
- Lubricating chain (➠ 194).
- Checking chain tension (➠ 195).

Starting

Start engine

- Switch on the ignition.

» Pre-Ride-Check is performed. (➠ 87)

» ABS self-diagnosis is in progress. (➠ 87)

» DTC self-diagnosis is in progress. (➠ 88)

- 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.◀

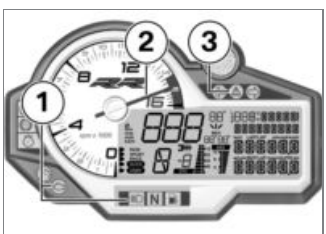
» The engine starts.

» Consult the troubleshooting chart below if the engine refuses to start. (➠ 206)

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 warning and indicator lights **1** light up, the general warning light **3** lights up yellow.
Needle **2** 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 revolution counter moves to the position for zero engine revolutions.
The telltale and warning lights go out.

– with ABS Pro OE

» `ABS Pro` appears if the `RAIN`, `SPORT` or `RACE` riding mode is selected.◁

The display switches to its ordinary display mode. The odometer readings appear on the 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. The motorcycle has to move forward a few metres for the wheel-speed sensors to be tested.

Phase 1

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

ABS telltale and warning light flashes.

Phase 2

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

 ABS telltale and warning light flashes.

ABS self-diagnosis completed

» The ABS telltale and warning light goes out.

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

- You can continue to ride. Bear in mind that the ABS and integral braking function are not available 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.

DTC self-diagnosis

BMW Motorrad DTC 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.

 DTC indicator and warning light flashes slowly.

Phase 2

» Pullaway test of the system components with diagnostic capability.

 DTC indicator and warning light flashes slowly.

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 sensors to be checked: min 5 km/h)

If an indicator showing an 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 Retailer.

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)
no full throttle (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

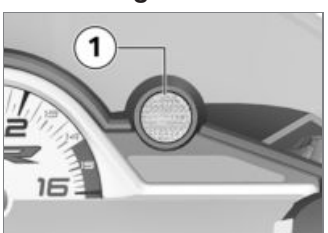
New tyres losing grip on wet roads and at extreme bank angles

Risk of accident

- Ride carefully and avoid extremely sharp inclines.◀

Shifting gear

Gearshift light



The shift light **1** indicators two speed thresholds to the rider:

Shift speed

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

– The gearshift light flashes at the preset frequency: approaching upshift rpm
– Gearshift light goes out: the engine has reached the ideal speed for an upshift

The engine-speed thresholds and the way in which the gearshift light indicates the various states that can be customised in the submenu.

Speed limit

If the gearshift flashes or lights up during a journey and `SPEED !` is shown on the display, the set maximum speed was exceeded.

Shift assistant Pro

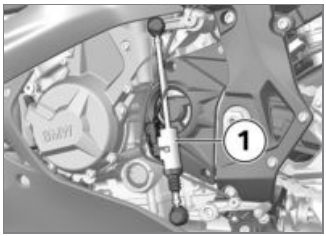
– with shift assistant Pro OE

NOTICE

See the section entitled "Engineering details" for more information on the Pro shift assistant.◀

NOTICE

Whenever the Pro shift assistant shifts gears, cruise control is automatically disengaged for safety reasons.◀



- You select the gear in the usual way by means of the foot-operated shift lever.

» The sensor **1** on the gearshift rod registers the gearshift request and triggers shift assistance.

» When riding at a steady speed in a low gear at high engine rpm, an attempt to shift gear without pulling the clutch can cause a severe load-change reaction. BMW Motorrad recommends disengaging the clutch for shifts in these circumstances. It is advisable to avoid using the shift assistant at engine speeds close to the limits at which the governor cuts in to limit engine rpm.

» Shift assistance is not available in the following situations:

– With clutch lever pulled.
– Shift lever not in its initial position.
– Upshifts with the throttle valve closed (coasting) and when decelerating.
– Downshifts with the throttle valve open and when accelerating.

- After a gearshift, the shift lever has to be fully released before another gearshift with the shift assistant can take place.

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 vehicle 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. BMW Motorrad RACE ABS prevents the front wheel from locking up.

In the "panic 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. In the absence of load on the wheel the ABS has to intervene to prevent the front wheel from locking even if the brakes are applied only very lightly. This leads to a reduced braking effect.

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, SPORT and RACE riding modes.
– The SLICK riding mode is not supported by the ABS Pro function.
– The availability of ABS Pro in the USER riding mode depends on the selected 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 RAIN, SPORT and RACE 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.
- On a gradient, the motorcycle should always face uphill; select 1st gear.

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.

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 recommended (maximum 10 % ethanol, E10) 95 ROZ/RON 90 AKI

» Pay attention to the following symbols 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.◀

WARNING

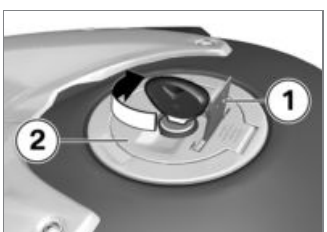
Escape of fuel due to heat-induced expansion if fuel tank is overfilled
Risk of falling
- Do not overfill the fuel tank.◀

ATTENTION

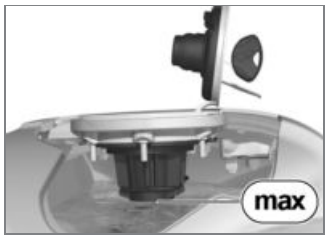
Wetting of plastic surfaces by fuel
Damage to the surfaces (surfaces become unsightly or dull)
- Clean plastic surfaces immediately after contact with fuel.◀
- Make sure the ground is level and firm and place the motorcycle on its side stand.

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 above; do not fill the tank past the bottom edge of the 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.

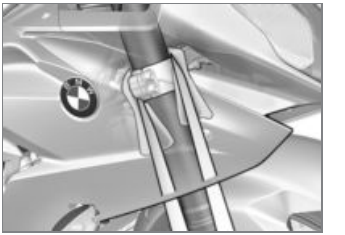


ATTENTION

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 straps behind on both sides on the rear frame 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

Status indicators for racing 100
LAPTIMER 102
RACE INFO 107
SETUP MENU 115
SETUP DDC-SYS 121
SETUP EQUIPMENT 122
SETUP RACETRACK 124
SETUP USER-MODE 129
DTC 131
Racing start 132
Speed limiter for pit lane 134
Removing/installing mirrors 134
Removing and installing number-plate carrier 135
Removing and installing front turn indicators 138
Gearshift-pattern reverser 140
Socket for optional accessories 142

Status indicators for racing

Multifunction display

1 Current heel angle when cornering

2 Direction for heel angle
\ = left
| = vertical
/ = right

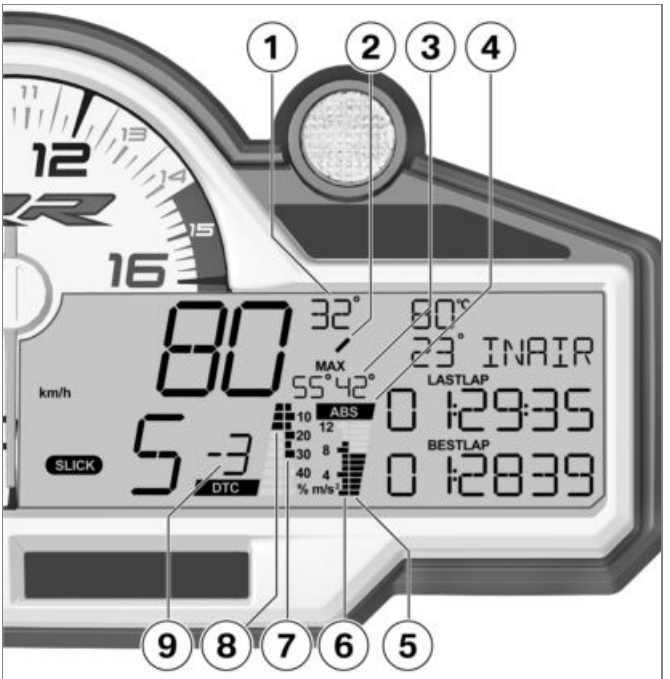
3 Maximum heel angle for left and right
Factory setting for BANK DISP (➠ 123)

4 ABS control intervention during braking process
ABS Switching off (➠ 54).
ABS Switching on (➠ 55).

5 Current deceleration during braking process
Factory setting for BRAKE DISP (➠ 124)

6 Maximum deceleration

7 Maximum DTC torque reduction

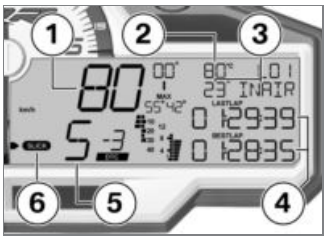


8 DTC torque reduction
Factory setting for DTC DISP (➠ 123)

9 DTC setting
DTC Adapting (➠ 131).

LAPTIMER

Multifunction display



1 Speed
2 Coolant temperature
3 Intake-air temperature
4 LAPTIMER
The readings in these lines can be changed by the rider.
Individualise the LAPTIMER (➠ 104).
LAPTIMER display layout (➠ 125)
As shown:
RUN: The running time for the lap currently displayed.
BESTLAP: The fastest of the laps currently logged in memory.
5 Gear indicator
6 Riding mode (➠ 57)

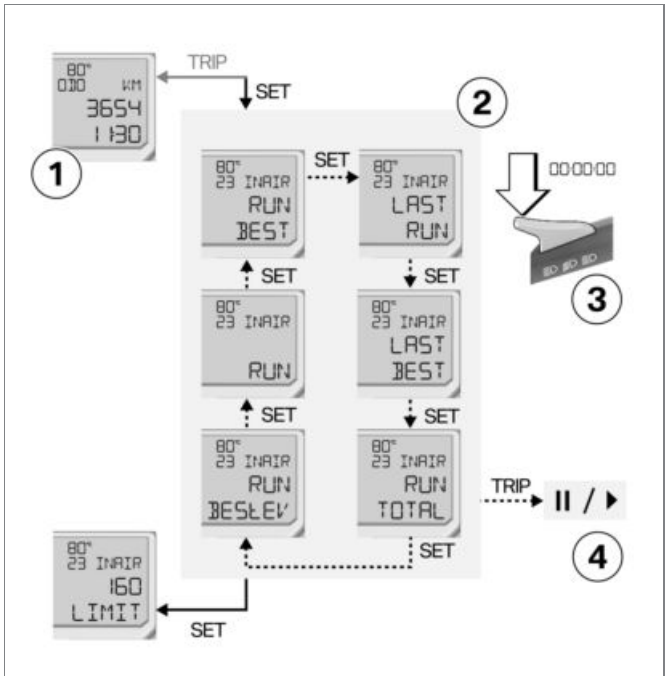
Labels for the values shown on the display

The following times can be displayed in the third line:
– The time for the preceding lap, labelled "LASTLAP".
– The running time for the current lap.

The following times can be displayed in the fourth line:
– The fastest lap saved, labelled "BESTLAP".
– The all-time best lap, no label.
– The running time for the current lap.

The possible combinations are described on page (➠ 125).

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. The length of this freeze period can be set as described on page (➠ 127).



Overview, LAPTIMER

— Solid line: short-press the button.

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

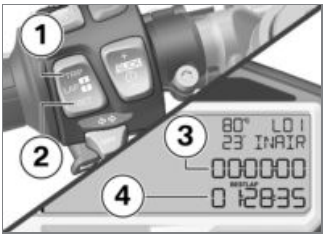
1 Odometer
Default display
Select the readings in the multifunction display (➠ 50).

2 Individualise the LAPTIMER (➠ 104).

3 Starting timing (➠ 104).

4 Pause/resume timing (➠ 105)

Individualising LAPTIMER

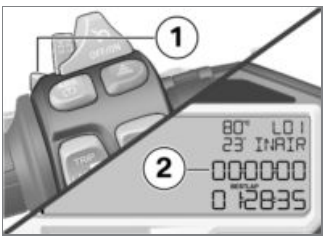


- Activate the default reading (➠ 113).
» The odometer reading (ODO) appears on the display.
- Short-press SET **2**.
» The LAPTIMER is called up and shows in the factory settings RUN **3** and BESTLAP **4**.
- If you want to change the content of lines **3** and **4** in the LAPTIMER, repeatedly long-press SET **2** until lines **3** and **4** show the readings you want.
» Your chosen LAPTIMER display layout is accepted and saved in memory.
» LAPTIMER display layout (➠ 125)

Starting timing

Requirement

The LAPTIMER is called up.



- Press button **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.◀

» Timing RUN **2** is running.
- Every time you cross the start/finish line, press button **1** again to start timing for the next lap.
» The data of the preceding lap are written into memory.
» RUN **2** starts again at 00:00:00.
» Timing continues even if you exit the display mode. In the other 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 LAPTIMER. In these circumstances, note the following:

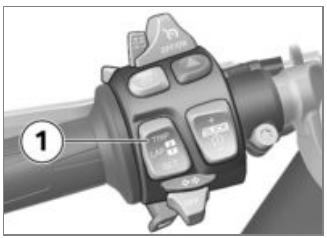
– The infrared receiver available as an optional accessory has to be connected to the plug for optional accessories located underneath the right side panel (➠ 142).
– In SETUP RACETRACK, the LAPTIMER trigger mode has to be set to LAPTM TRIG AUTO or LAPTM TRIG EXTERN (➠ 128).

The headlight flasher button can be used to operate the instrument panel even when the infrared receiver is installed. To do so you must have the LAPTIMER trigger mode set to LAPTM TRIG AUTO or LAPTM TRIG MANUAL.
A lap timeout can be defined to stop the receiver from registering completion of a lap prematurely in response to spurious signals (➠ 128). Signals received before this time elapses are ignored.

Interrupting timing

Requirement

Timing is running.

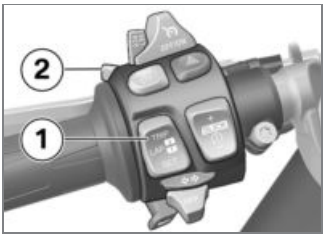


- Long-press TRIP **1** to interrupt timing.
- Long-press TRIP **1** again to resume timing.

Ending timing

Requirement

Timing is running.



- Long-press TRIP **1** to pause timing.
- Short-press button **2**.

» The time shown on the display is deleted: --:--:--
– Timing is ended.
– No lap time is saved in memory.

- Short-press TRIP **1** to exit the lap timer.

NOTICE

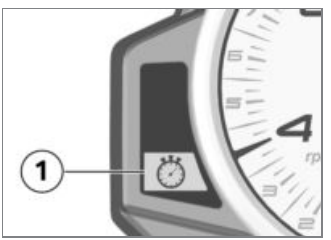
Lap numbering resumes if more laps are subsequently timed. Numbering is not restarted at lap 1 unless you delete the current

timing session in the RACE INFO display mode.◀

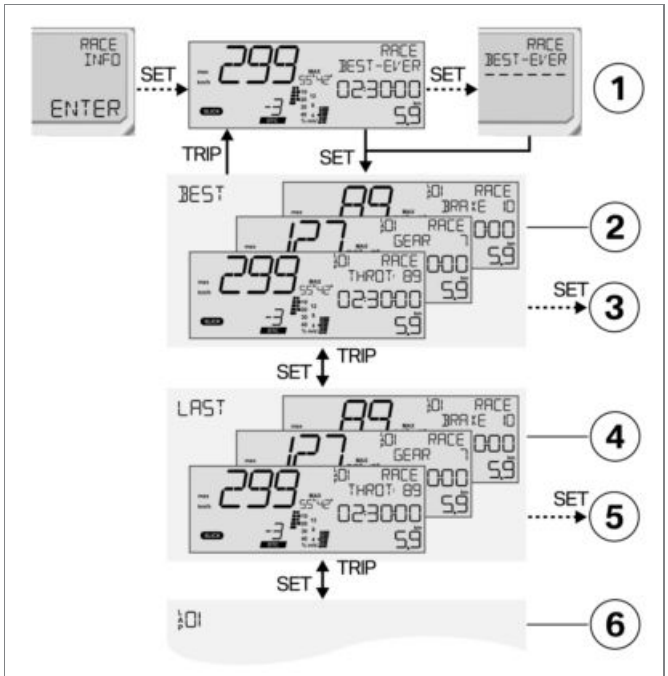
» ODO appears on the display.

Expected fastest lap

This function must be activated in the SETUP RACETRACK (➠ 128).



After starting a new lap, the sector time is stopped every 100 m and compared with the corresponding sector time from the saved best lap. 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

RACE INFO part 1

— Solid line: short-press the button.

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

1 Delete the all-time best lap.

2 Information about the current best lap.
Succession of three readings.
Information per lap
(➠ 110)

3 Delete current best lap.

4 Information about last lap.

5 Delete last lap.

6 Information about other laps.
Select a saved lap
(➠ 109).
Delete the lap (➠ 112).

RACE INFO part 2

— Solid line: short-press the button.

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

1 Information about lap 01. Select a saved lap (➠ 109). Information per lap (➠ 110)

2 Delete the lap (➠ 112).

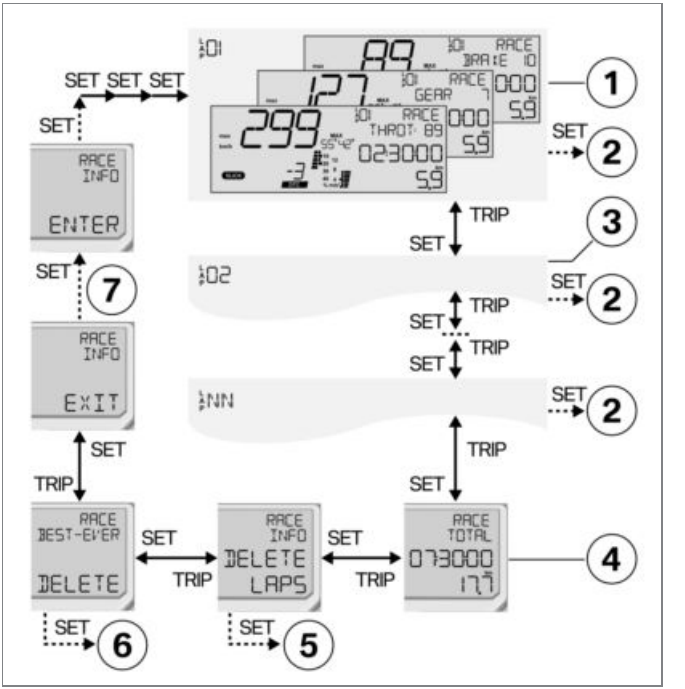
3 Information about lap 02.

4 Total of all lap times and distances.

5 Clearing all saved data (➠ 112).

6 Delete the all-time best lap.

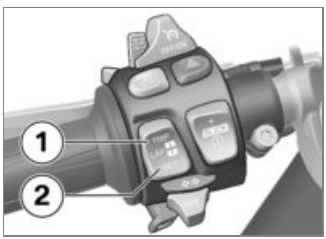
7 Exit the RACE INFO (➠ 113). Activate the default reading (➠ 113).



Selecting saved lap

Requirement

RACE INFO appears on the display.



- Short-press TRIP **1** or SET **2** to step through the laps stored in memory one by one.

NOTICE

The electronics switch automatically to the LAPTIMER function if you pull away in this mode.◀

Each time SET **2** is pressed the laps logged in memory and the functions are shown in the sequence described below; each time TRIP **1** is pressed they are shown in reverse sequence:

– Best-ever lap BEST-EVER.
– Best lap logged in memory BEST.
– Last lap logged in memory LAST.
– All other laps logged in memory LAP 01 ... LAP 60.
– Aggregate time and distance 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 RACE INFO RACE INFO EXIT.

Information per lap

1 In succession for the lap currently displayed:
Maximum speed (max)
Average speed (Ø)
Minimum speed (min)

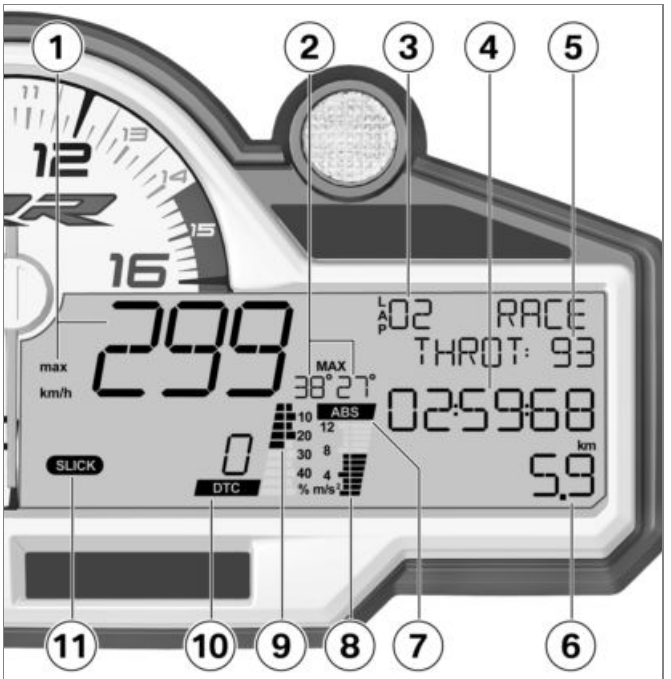
2 Maximum heel angle for left and right of the lap currently displayed

3 Lap for which the data on the display apply

4 Lap time for the lap currently displayed

5 In succession for the lap currently displayed:
Average throttle utilisation (THROT) in percent
Percentage of lap ridden with brakes applied (BRAKE)
Number of gear changes (GEAR) in the lap currently displayed

6 Distance covered in the lap currently displayed



7 ABS control intervention:
"ABS" shown = lap with ABS control intervention
"ABS" hidden = lap without ABS control intervention

8 Maximum deceleration in the lap currently displayed

9 Maximum DTC torque reduction in the lap currently displayed

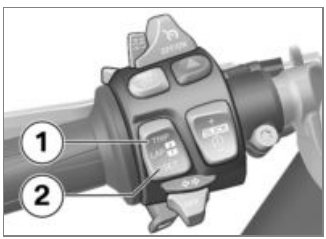
10 DTC setting in the lap currently displayed

11 Riding mode in the lap currently displayed

Clearing all saved data

Requirement

RACE INFO appears on the display.



- Repeatedly short-press TRIP **1** or SET **2** until DELETE LAPS appears on the display.
- Long-press SET **2** to delete all the logged data from memory.

» BEST-EVER DELETE appears on the display.

- Either short-press SET **2** to skip deleting the best-ever lap time.
- Or long-press SET **2** to delete the data for the best-ever lap time.

» BEST-EVER is deleted: --:--:--

» All logged data are deleted.

» RACE INFO EXIT appears on the display.

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 is timed.

The best-ever 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-ever lap from earlier races.

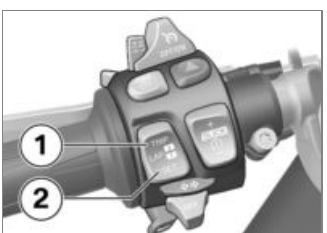
The best-ever lap can also be deleted from memory.

If the best-ever lap is from a race timed in the past, it is accompanied on the display by the appropriate lap number. If the best-ever 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

Requirement

RACE INFO appears on the display.



- Repeatedly short-press TRIP **1** or SET **2** until the lap you want to delete appears on the display.

- Long-press SET **2** to delete the lap.

» When a logged lap has been deleted from memory it is superseded as follows:

– BEST-EVER: The best race-lap time still in memory becomes the new all-time best lap.

– BEST: The lap that was the second-best time until the best time was deleted becomes the new best lap.

– LAST: The lap that was the preceding lap until the lap was deleted becomes the new last lap.

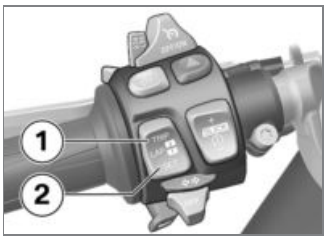
» When a random lap has been deleted the following is taken into account:

– Total time is reduced by the time for the lap you deleted.

– Total distance is reduced by the distance for the lap you deleted.

– The numbering of the remaining laps remains unchanged.

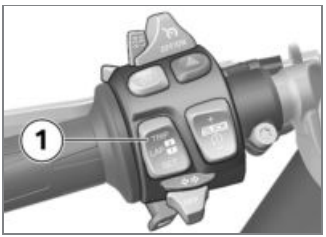
Exiting RACE INFO



- Repeatedly short-press TRIP **1** or SET **2** until RACE INFO EXIT appears on the display.
- Long-press SET **2** to exit RACE INFO.

» The readings already recorded remain saved in memory.

Activating default reading



- Long-press TRIP **1**.

NOTICE

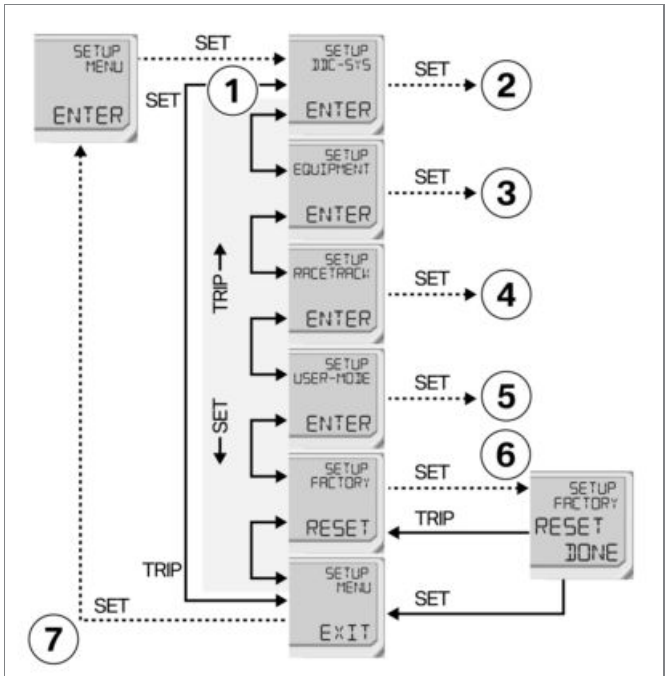
Regardless of what is shown on the multifunction display at any given time, pressing and holding TRIP always calls up the default display with the odometer reading (ODO).

The only exceptions are the following displays:

LAPTIMER with timing in progress/paused: pressing and holding TRIP pauses or resumes timing.

LIMIT: pressing and holding TRIP switches speed limit warning (LIMIT OFF).◀

» ODO appears on the display.



SETUP MENU

Overview, SETUP MENU

— Solid line: short-press the button.

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

1 Select the submenu (➠ 117).

2 Call up submenu
– with Dynamic Damping Control (DDC)[OE]
`SETUP DDC-SYS` (➠ 117)
Setting parameters (➠ 119).

3 Call up submenu
`SETUP EQUIPMENT` (➠ 117)

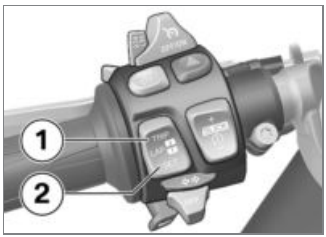
4 Call up submenu
`SETUP RACETRACK` (➠ 118)

5 Call up submenu
Only when the USER riding mode is active
– with riding modes Pro[OE]
SETUP USER-MODE
(➠ 119)

6 Reset all parameters
FACTORY RESET

7 Exit SETUP MENU
Exiting SETUP mode
(➠ 120).

Selecting submenu



- Switching on ignition (➠ 44).
- Repeatedly short-press SET **2** until SETUP MENU ENTER appears on the display.

NOTICE

If you scroll down too far, repeatedly press SET briefly until the menu returns to the start and then to the display you want.◀

- Long-press SET **2**.
- Repeatedly short-press TRIP **1** or SET **2** until the submenu you want appears on the display.
- Long-press SET **2** to call up the submenu you want.

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

SETUP DDC-SYS

– with Dynamic Damping Control (DDC)OE

SETUP DDC-SYS
– Rebound-stage damping, rear REAR REB
– Compression-stage damping, rear REAR COM
– Without spring travel sensor for front forks: Front damping FRONT DMP
– With spring travel sensor for front forks: Front rebound-stage damping FRONT REB
– With spring travel sensor for front forks: Front compression-stage damping FRONT COM
– Calibration CALIB
– Damping adjustable while riding: Switch function on SET-DR ON (During Ride) or off SET-DR OFF.
– Reset DDC parameters for the current riding mode RESET ACTUAL.
– Reset DDC parameters for all riding modes RESET ALL.◁

SETUP EQUIPMENT

SETUP EQUIPMENT
– with anti-theft alarm (DWA)OE
– Automatically activate anti-theft alarm function when the ignition is switched off DWA AUTO ON or leave the automatic function switched off DWA AUTO OFF.◁
– Set the time CLOCK TIME.

– Adjust display brightness DISP BRIGHT.
– Switch speed warning on WARN SPEED ON or off WARN SPEED OFF.
– Switch warning for defective bulbs on WARN LAMP ON or off WARN LAMP OFF.
– Switch off indicator for current bank angle BANK DISP OFF or switch on with a preset update interval: BANK DISP FAST, BANK DISP MID or BANK DISP SLOW
– Switch indicator for current and maximum DTC torque reduction on DTC DISP ON or off DTC DISP OFF.
– Switch indicator for current and maximum braking BRAKE DISP ON or off BRAKE DISP OFF.
– Submenu for changing units of measure for speed, odometer reading, range, temperature, average consumption and time UNITS

SETUP EQIP:UNITS

SETUP EQIP:UNITS
– Change unit of measure for speed: UNIT SPEED KM/H or UNIT SPEED MPH
– Change unit of measure for odometer: UNIT ODO KM or UNIT ODO MLS
– Change unit of measure for temperature: UNIT TEMP DEG: C or UNIT TEMP DEG: F
– Change unit of measure for average consumption: UNIT CONS L/100, UNIT CONS MPG: US, UNIT CONS MPG: UK or UNIT CONS KM/L
– Set 24-hour or 12-hour mode for clock: UNIT CLOCK 24 or UNIT CLOCK 12

SETUP RACETRACK

SETUP RACETRACK
– Switch-on speed for gearshift light GSL ON-RPM (Gear Shift Light)
– Switch-off speed for gearshift light GSL OFF-RPM
– Gearshift-light brightness GSL BRIGHT
– Gearshift light flash frequency GSL FREQ
– Set LAPTIMER readings: Current lap LAPTM RUN, time required for preceding lap LAPTM LAST, best lap LAPTM BEST, total of all lap times and lap distances logged in memory LAPTM TOTAL, best-ever lap LAPTM BEST-EVER
– Display-freeze period for the most recent lap time LAPTM HOLD
– Debounce time (waiting time before a new lap can be started) of the headlight-

flasher button for LAPTIMER LAPTM DEB-TM in seconds or LAPTM DEB-TM CUSTOM in minutes and seconds.
– Have a lap that is anticipated as the fastest lap indicated by the "best lap" light BLIP ON (Best Lap In Progress) or not indicated BLIP OFF.
– with infrared receiver OA
– Change the headlight-flasher button to trigger lap timing. LAPTM TRIG AUTO: Trigger by headlight-flasher button or infrared receiver; LAPTM TRIG MANUAL: Trigger by headlight-flasher button only; LAPTM TRIG EXTERN: Trigger by infrared receiver only.◁
– with riding modes Pro OE
– Set engine speed for pit lane limiter PIT LIMIT ... or switch off pit lane limiter PIT LIMIT OFF.◁

SETUP USER-MODE

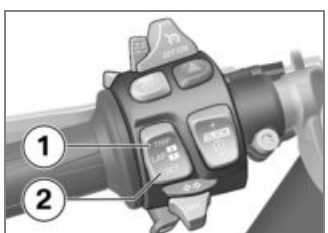
– with riding modes Pro OE

SETUP USER-MODE
– Antilock brake system for racing tyres ABS SLICK
– Sport mode for antilock brake system ABS SPORT
– Antilock brake system for racing with stock tyres ABS RACE
– Dynamic traction control for racing tyres DTC SLICK
– Dynamic traction control for racing with stock tyres DTC RACE
– Sport mode for dynamic traction control DTC SPORT
– Dynamic traction control for wet surface DTC RAIN
– Sport mode for dynamic traction control DDC SPORT
– Dynamic damping control for racing with stock tyres DDC RACE
– Dynamic damping control for racing tyres DDC SLICK
– Throttle response for racing ENGINE RACE
– Throttle response for wet surface ENGINE RAIN
– Reset all USER mode settings RESET.◁

Setting parameters

Requirement

Parameter appears on the display.



- Press and hold down SET **2** until the parameter starts to flash.

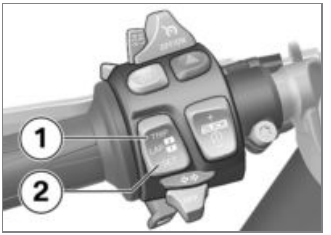
- Repeatedly short-press TRIP **1** or SET **2** until the value you want appears on the display.

When the value you want is shown:

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

» The value is saved.

Exiting SETUP mode



- Press and hold down TRIP **1** until the multifunction display switches to the default display mode.

» A value that is still flashing will be saved.

- Alternatively: Repeatedly press TRIP **1** or SET **2** until `SETUP ... EXIT` appears in the submenu.
- Long-press SET **2** to exit the submenu.

» `SETUP ... ENTER` appears on the display.

- Repeatedly press TRIP **1** or SET **2** until `SETUP MENU EXIT` appears on the display.
- Long-press SET **2** to exit the `SETUP MENU`.

» `SETUP MENU ENTER` appears on the display.

SETUP DDC-SYS

– with Dynamic Damping Control (DDC)[OE]

Adjusting damping, rear



Adjusting rebound damping on the rear suspension strut.

Range of values

– -7 (soft) … +7 (hard)
– Factory setting: 0



Adjusting compression damping on the rear suspension strut.

Range of values

– -7 … +7
– Factory setting: 0

Adjusting damping, front



Adjust damping on the front suspension strut without separation of rebound and compression damping.

Range of values

– -7 … +7
– Factory setting: 0

NOTICE

The spring travel sensor required for separate adjustment of rebound and compression stages is not offered by BMW Motorrad. It is available

as a racing accessory. You can request further information from "hp-race-support@bmw-motorrad.com".◀

Calibration of height sensor



Calibration of ride-height sensor on the rear spring strut, e.g. after changes to the suspension height (➠ 81)

SETUP EQUIPMENT

Display brightness



You can set display brightness to any of five levels.

Range of values

– 1, 2, 3, 4, 5
– Factory setting: 5

Speed warning



You can set a LIMIT speed. If your speed exceeds this limit SPEED! appears as a warning and the gearshift light shows or flashes.

Range of values

– ON, OFF
– Factory setting: OFF

Bulb fault



If the turn indicators are removed in preparation for a race-track session, the electronics detect a bulb failure and the appropriate warning appears on the display. This function can be used to suppress this warning.

Range of values

– ON, OFF
– Factory setting: ON

heel angle



Status-indicator display settings for bank angle: Bank angle, direction for bank angle and maximum bank angle on the current lap for heeling the motorcycle left and right. You can set the interval for updating of the status indicators can be set, and you also have the option of hiding or showing the status indicators.

Range of values

– OFF, FAST, MID, SLOW
– Factory setting: OFF

Dynamic Traction Control



Setting the displays for DTC: current and maximum DTC torque reduction and DTC setting. The displays can be shown or hidden.

Range of values

– OFF, ON
– Factory setting: OFF

Braking



Status-indicator display settings for braking: Current and maximum braking rate in m/s², and ABS intervention. You can either show or hide the status indicators.

Range of values

- OFF, ON
- Factory setting: OFF

SETUP RACETRACK

Engine speed for shift light ON



Switch-on rpm setting for the gearshift light.

Range of values

- 7000, 9000, 10000, 11000, 12000, 12500, 13000, 13500, 14000
- Factory setting: 7000
- You can select only engine speeds that are lower than the gearshift light OFF speed.

Engine speed for shift light OFF



Switch-off rpm setting for the gearshift light.

Range of values

- 9000, 10000, 11000, 12000, 12500, 13000, 13500, 14000, 16000
- Factory setting: 16000
- You can select only engine speeds that are higher than the shift light ON speed.

Shift-light brightness



Setting for gearshift-light brightness as a percentage of maximum brightness.
The shift light remains on while brightness is being adjusted and immediately adjusts to the selected brightness setting.

Range of values

– 20, 30, 40, … 100
– Factory setting: 100

Shift-light flash frequency



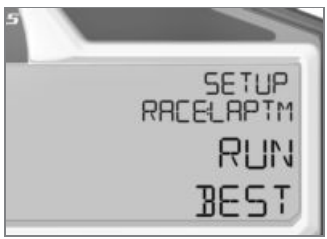
Settings for the frequency at which the gearshift light and the speed warning flash, in Hz (1/s).

Range of values

– 0, 4, 8
– Factory setting: 4
– If you select 0, the gearshift light and the speed warning show continuously.
– If you select 4, the gearshift light and the speed warning flash slowly.
– If you select 8, the gearshift light and the speed warning flash quickly.

LAPTIMER display layout

There is a choice of six LAPTIMER display layouts.



Layout 1 (factory setting)

Line 3 shows the running time for the current lap, the best lap currently logged in memory is shown in line 4.



Version 2

Line 3 shows the time recorded for the preceding lap, the running time for the current lap is shown in line 4.



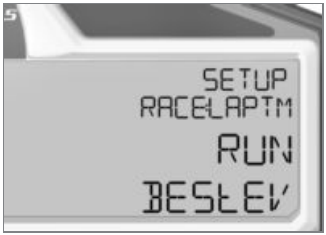
Version 3

Line 3 shows the time needed for the preceding lap, the best lap currently logged in memory is shown in line 4.



Version 4

Line 3 shows the running time for the current lap, the total time for all the laps currently logged in memory is shown in line 4.



Version 5

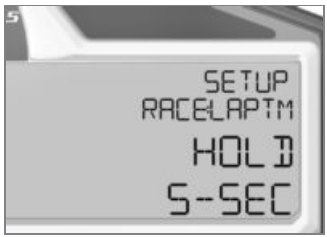
Line 3 shows the running time for the current lap, the all-time best lap (➠ 112) is shown in line 4.



Version 6

Line 3 is blank, line 4 shows the running time for the current lap.

Display-freeze period for the most recent time



Setting for HOLD time in seconds.
After the start of a new lap the time for the preceding lap remains visible for this preset HOLD time. When this hold time expires the readout switches back to the running time for the current lap.

Range of values

– 0, 3, 8, 13, 18, ... 30
– Factory setting: 3

Minimum lap time



You can set the minimum time that must elapse from when the first signal is received until a second signal will be accepted.

– Within this debounce time the headlight flasher can be used without it triggering the signal for a new lap.
– When an infrared receiver is being used this prevents the signals from two or more transmitters in close proximity from being accepted for processing.

Range of values

– 0, 10, 30, 45, 60, CUSTOM
– Factory setting: 10



If you select CUSTOM you can enter the debounce time in minutes and seconds (MM:SS).

Range of values

– 00:00 ... 99:99
– Factory setting: 01:00

Fastest lap



The "Fastest lap anticipated" (➠ 106) function is switched on or off, as applicable.

Range of values

– ON, OFF
– Factory setting: ON

LAPTIMER trigger mode

– with infrared receiver[OA]



There are the various options for starting lap timing.

Range of values

- AUTO, EXTERN, MANUAL
- Factory setting: AUTO
- AUTO: Pressing the headlight flasher button and a signal from the lap trigger are both accepted as the trigger source.
- EXTERN: Only a signal from the lap trigger is accepted as the trigger source.
- MANUAL: Only pressing the headlight flasher button is accepted as the trigger source.

Speed limiter for pit lane

– with riding modes Pro[OE]



Setting for maximum engine rpm (±100) for riding in the pit lane in 1st gear with the start button pressed and held down. The engine is throttled back if this setting is exceeded. You have the option of switching off the rpm limiter for the pit lane.

Range of values

- 4000, 4100, 4200, …, 8000, OFF
- Factory setting: OFF

SETUP USER-MODE

ABS



ABS antilock brake system setting in USER-MODE mode.

Range of values

- SPORT, RACE, SLICK
- Factory setting: SLICK
- The tick appears only if the setting was changed.
- With tick: The specified value was accepted by the ABS.
- Without tick: The specified value was not accepted.

DTC



Settings for Dynamic Traction Control DTC in USER-MODE mode.

Range of values

- RAIN, SPORT, RACE, SLICK
- Factory setting: SLICK
- The tick appears only if the setting was changed.
- With tick: The specified value was accepted by the DTC.
- Without tick: The specified value was not accepted.

DDC

- with Dynamic Damping Control (DDC)[OE]



Setting for Dynamic Damping Control DDC in USER-MODE.

Range of values

- SPORT, RACE, SLICK
- Factory setting: SLICK
- The check mark is only displayed if an adjustment has been made!
- With check mark: The specified value was adopted by DDC.
- Without check mark: The specified value was not adopted.

ENGINE



Settings for throttle response ENGINE in USER-MODE mode.

Range of values

- RAIN, RACE, SLICK
- Factory setting: SLICK
- The tick appears only if the setting was changed.
- With tick: The specified value was accepted by ENGINE.
- Without tick: The specified value was not accepted.

DTC

DTC setting

The DTC controls permissible rear-wheel slip in accordance with your selected riding mode. In the SLICK and USER riding modes it is also possible to adjust the systemic DTC setting.

DTC Adapting

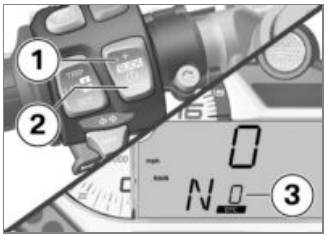
- Activate SLICK or USER mode; install encoding plug, if necessary.

NOTICE

It is only possible to adapt the DTC in the SLICK and USER riding modes.◀

NOTICE

It is also possible to adjust the DTC settings while on the move.◀



- Short press button **1** (+) to increase the value **3**.

WARNING

Loss of stability because of rear wheel spinning when DTC control is reduced.

Risk of falling

- Reduce DTC for riding on racing circuits only.◀
- Short press button **2** (-) to reduce the value **3**.

» The set value **3** is shown on the multifunction display and is between −7 and +7:

» +1 ... +7: Reducing the slip on the rear wheel by a maximum of seven stages. The value +7 corresponds to the earliest DTC intervention.

» −1 ... −7: Increasing the slip on the rear wheel by a maximum of seven stages. The value −7 corresponds to the latest DTC intervention.

» 0: Factory setting

» DTC display and value **3** hidden: DTC switched on.

DTC deactivation

On very loose surfaces (for example in a gravel trap of a race track), the DTC's attempts to control propulsive power might reduce drive to the extent that the rear wheel no longer turns. Under these circumstances, BMW Motorrad recommends temporarily switching off DTC. Bear in mind that the rear wheel will spin on the loose surface and

close the throttle in good time before you reach a firm surface. Then reactivate DTC.

Racing start

– with riding modes Pro OE

Launch Control

Launch Control supports riders by maintaining ideal engine revving for a racing start. Launch Control can be activated in the SLICK and USER riding modes only.

 Engine speed after activating Launch Control at full throttle
9000 min^{-1}

When L-CON is active engine torque is reduced so that forward propulsion is maximised on the flat with the front wheel just starting to lift off the ground. Torque is temporarily reduced slightly when the electronics detect front-wheel lift. Engine rpm limitation is deactivated when the motorcycle reaches a certain speed.

 Speed when deactivating engine speed limitation for Launch Control
approx. 70 km/h

Launch Control is 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 Launch Control is limited in order to protect the clutch. The number of possible starts still remaining is shown in the multifunction display.

Racing start with Launch Control

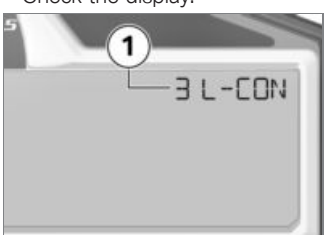
CAUTION

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 SLICK or USER 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.



The display shows the remaining number of permissible starts **1** with Launch Control and L-CON.

Start with Launch Control possible.

- Start as described below.



If no start using Launch Control is currently possible, the number 0 is shown, alongside an exclamation mark **1**.

- Allow the clutch to cool.

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

Clutch cooling time
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.

Gearshift light lights up or flashes.

» Launch Control controls the ideal torque on the rear wheel and keeps the engine speed constant up to the speed specified below.

- Leave the throttle grip completely open.

Speed when deactivating engine speed limitation for Launch Control
approx. 70 km/h

» As soon as rpm limitation ceases, engine rpm increases because the throttle twistgrip is in the full-throttle position.
» The throttle grip again reacts as normal.
• Depending on the racetrack, upshift and lean into bends.
» If in third gear or leaning further than 30°, the ... L-CON display disappears.
» The race start with Launch Control is completed.

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

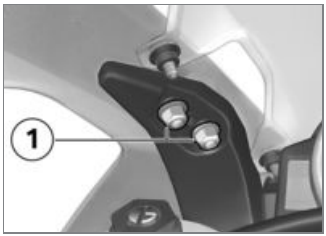
As soon as the starter button is released the vehicle accelerates in accordance with the position of the throttle twistgrip.
Risk of crashing due to severe jerk forward if throttle twistgrip in full load position.

• 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

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



- Remove nuts **1** on left and right and remove mirror.



- Secure trim panel **2** on left and right to fairing bracket **3**. If cable straps are used, protect any chafe points using adhesive tape.

NOTICE

Use the HP Race Cover Kit from BMW Motorrad to cover the screw holes and restore the secure fastening of the mount.◀

Install mirror

- Place the motorcycle on its stand on firm, even ground.
- Remove trim panel mounting.



- Insert mirror on left and right in the mounts **4**.
- Use nuts on the trim panel rear side with torque.

Mirror to front panel carrier
Thread-locking compound: mechanical
8 Nm

Removing and installing number-plate carrier

Removing number-plate carrier

ATTENTION

Removal of the number plate carrier

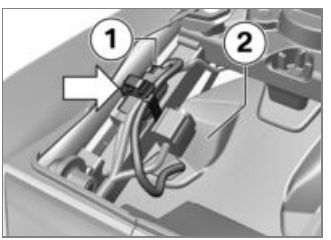
Voiding of homologation for riding on public roads

- With the number-plate carrier removed, do not ride the motorcycle on public roads.◀

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

– with two-up riding package OE

- Removing rear seat (➠ 66).
- Removing the tail-hump cover (➠ 65).



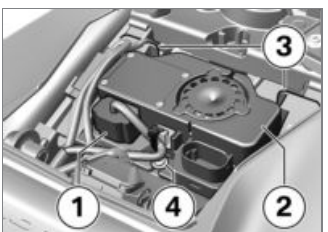
- Remove cable strap **(arrow)** and disconnect plug connection **1** for number plate carrier.

NOTICE

If the number-plate carrier is removed in preparation for a 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.◀

- Feed plug connection **1** and cable out through the tail bottom section **2**.

– with anti-theft alarm (DWA) OE

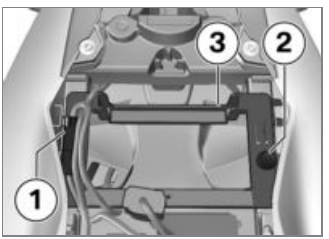


- Disconnect plug connection **1** for DWA.

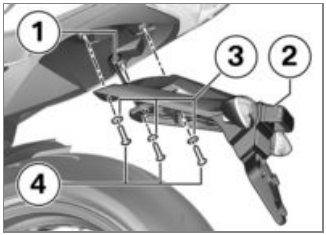
NOTICE

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

- Remove screw **4**.
- Remove DWA **2**, detaching it from bracket **3**.



- Release plug connection **1** for number plate carrier.
- Remove expanding rivets **2** left and right.
- Remove bracket **3** for DWA.◁



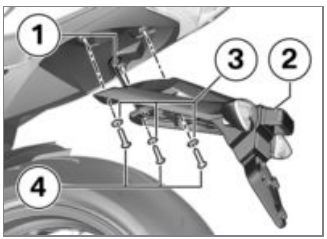
- Remove screws **4** and washers **3**.
- Remove number plate carrier **2** and feed the wiring harness **1** out.

– with two-up riding package OE
- Install the rear seat (➠ 66).
- Installing tail-hump cover (➠ 66).

Installing number-plate carrier

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

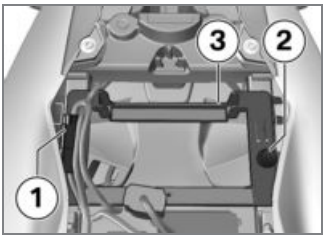
– with two-up riding package OE
- Removing rear seat (➠ 66).
- Removing the tail-hump cover (➠ 65).



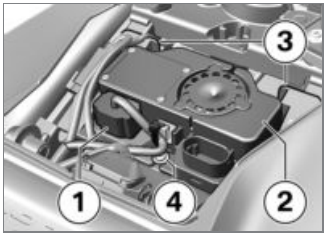
- Position the number plate carrier **2** and feed the wiring harness **1** through.
- Fit screws **4** with washers **3**.

Number-plate carrier to rear frame
5 Nm

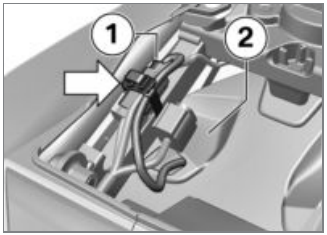
– with anti-theft alarm (DWA) OE



- Install bracket **3** for DWA.
- Install expanding rivet **2**.
- Secure plug connection **1** for number plate carrier.



- Insert DWA **2**, attaching it in bracket **3**.
- Install the screw **4**.
- Connect plug connection **1** for DWA.◁



- Feed plug connection **1** and cable through the tail bottom section **2**.
- Attach and position 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.◀

– with two-up riding package OE
- Install the rear seat (➠ 66).
- Installing tail-hump cover (➠ 66).

Removing and installing front turn indicators

Removing front flashing turn indicator

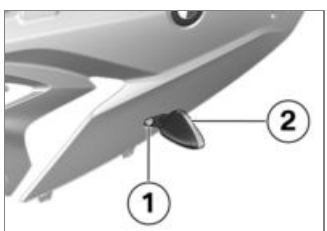
NOTICE

The steps described here for the right-hand turn indicator apply correspondingly for the left-hand side.◀

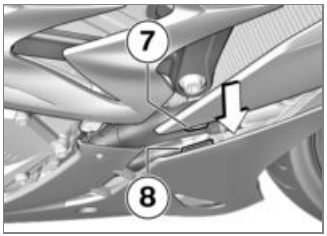
- Remove the side panel (➠ 187).



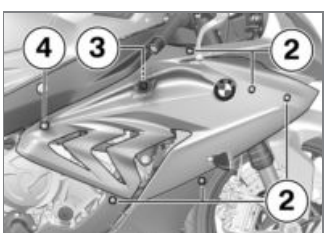
- Disengage cable **3** from holder **4**.



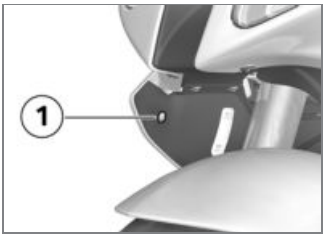
- Remove screw **1** and remove turn indicator **2**.
- Guide cable through the fairing side panel.



- Insert fairing side panel **7** in the mounting **8** on the engine spoiler.

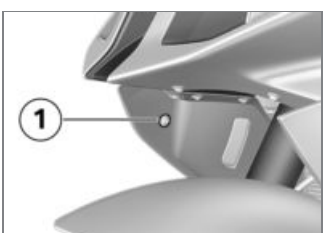


- Secure fairing side panel in grommet **3** and detent pin **4**.
- Install screws **2**.

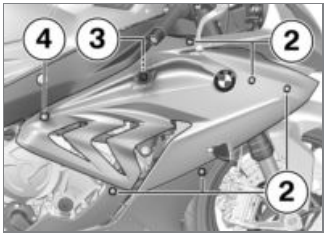


- Install screw **1**.

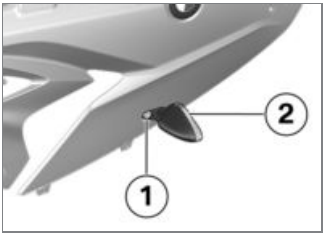
Installing front flashing turn indicator



- Remove screw **1** on the inside of the side trim panel.



- Remove screws **2**.
- Release fairing side panel from grommet **3** and detent pin **4**.
- Guide cable through the fairing side panel.



- Put turn indicator **2** in position and install screw **1**.



- Clip cable **3** to holder **4**.
- Installing side panel (➠ 188).

Gearshift-pattern reverser

Shift pattern for racing

The shift pattern can be reversed for racing by changing the position of the selector rod. Reversing the shift pattern means that the gearshift lever is lifted up for 1st gear and pressed down for all the other gears. This is the reverse of the arrangement for riding on public roads.

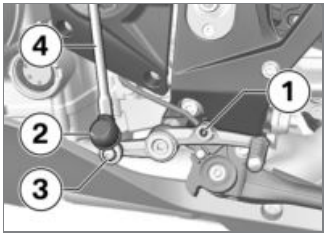
Reversing shift pattern

ATTENTION

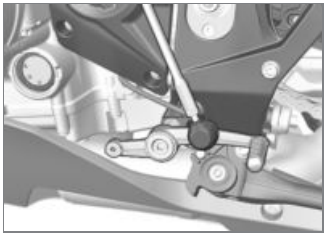
Riding with shift pattern reversal on public roads

Voiding of homologation for riding on public roads

- Do not install the gearshift-pattern reverser for riding on public roads.◀



- Clean thread **1**.
- Push protective cap **2** onto gearshift rod **4**.
- Remove screw **3**.
- Remove washer between ball joint and gearshift lever.
- Relocate gearshift rod **4** to thread **1**.



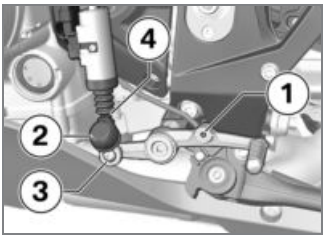
- Insert screw through ball joint and washer and install in thread for gearshift-pattern reverser.

Selector rod to gearshift lever
Thread-locking compound: Micro-encapsulated
8 Nm

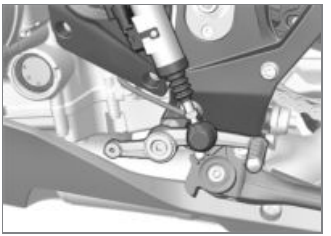
- Push on protective cap.

» The gearshift-pattern reverser for racing is set up.

– with shift assistant Pro OE



- Clean thread **1**.
- Push protective cap **2** onto gearshift rod **4**.
- Remove screw **3**.
- Remove washer between ball joint and gearshift lever.
- Relocate gearshift rod **4** to thread **1**.



- Insert screw through ball joint and washer and install in thread for gearshift-pattern reverser.

Selector rod to gearshift lever
Thread-locking compound: Micro-encapsulated
8 Nm

- Push on protective cap.

» The gearshift-pattern reverser for racing is set up.◁

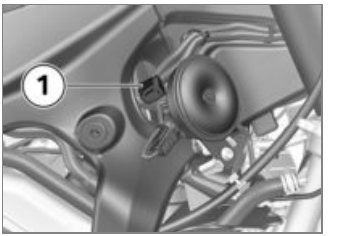
Socket for optional accessories

Equipment

The vehicle is fitted with the following plugs for optional accessories and racing accessories:

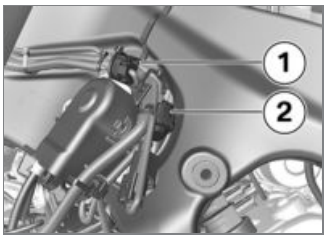
– Infrared receiver
– Spring-travel sensor
– Optional accessory
– HP Race data logger

Underneath the right side panel



1 Plug for infrared receiver

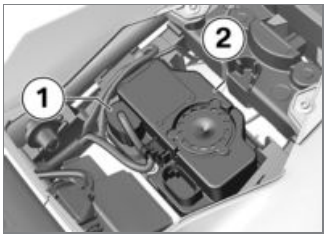
Underneath the left side panel



1 Optional accessory (plug with power supply + LIN; for example for navigation system)
2 Spring travel sensor for front forks (racing accessory)

Beneath the tail-hump cover

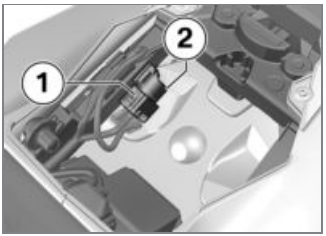
– with anti-theft alarm (DWA)[OE]



1 Plug for DWA and HP Race data logger
2 DWA

Beneath the tail-hump cover

– without anti-theft alarm (DWA)[OE]



1 Plug for DWA and HP Race data logger
2 Terminating resistor

Connecting optional accessories and racing accessories

Requirement

Remove the side panel, rear seat or tail-hump cover, as applicable, to gain access to the plugs.

- Remove the side panel (➠ 187).

– with two-up riding package[OE]

- Removing rear seat (➠ 66).

- Removing the tail-hump cover (➠ 65).
- Unlock the protective cap or terminating resistor, as applicable, and disconnect it from the plug.
- Connect the optional accessory or racing accessory, as applicable.

NOTICE

Comply with the installation instructions supplied with the optional accessory or racing accessory.◀

NOTICE

Tightening the cable ties has to be the last step in the process; this is in order to ensure that the wiring harness can be positioned correctly and that there is no strain on the cable legs with plugs.◀

ATTENTION

Dirt and damp penetrating inside open connectors

Malfunctions

- Reinstall the cap or terminating resistor, as applicable, after removing the plug.◀
- After removing the accessory: Reinstall the cap or terminating resistor, as applicable.
- Installing side panel (➠ 188).

– with two-up riding package OE

- Install the rear seat (➠ 66).
- Installing tail-hump cover (➠ 66).

Engineering details

Anti-lock brake system (ABS) 146
Dynamic Damping Control (DDC) 149
Dynamic Traction Control (DTC) 150
Riding mode 151
Shift assistant Pro 156

Anti-lock brake system (ABS)

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, 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 brake lever.

When the brake 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 brake 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 of the S 1000 RR 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. These signals come from the angular rate sensor, an integral component of Dynamic Traction Control DTC and Dynamic Damping Control DDC.

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.

NOTICE

ABS Pro is available only in the RAIN SPORT and RACE riding modes.◀

Dynamic Damping Control (DDC)

DDC

Movement of the rear spring strut is registered by the ride height sensor. The electric EDC (Electronic Damper Control) valve is opened or closed, depending on the direction of travel and speed of travel registered by the sensor, and also on the chosen riding mode. Front-wheel damping also depends on the riding mode, but spring travel is not measured.

The damping values for the front wheel and for the rear wheel can be changed in the SETUP DDC-SYS menu either to one of seven levels to make the damping "softer" or one of seven levels to make the damping "harder". Rebound and compression damping can be altered on the back wheel separately.

A spring travel sensor (racing accessory) has to be installed on the front forks for separate compression-stage and rebound-stage adjustment of the damping values for the front suspension. A connecting plug for the sensors is already present on the motorcycle; it can be found under the left side panel. Calibration is necessary if a spring travel sensor has been installed on the front forks, an existing ride-height sensor on the rear spring strut replaced, or the height of the suspension altered. Calibration is started in the SETUP DDC-SYS menu.

Dynamic Traction Control (DTC)

How does traction control work?

DTC takes the vehicle tilt into accounts, conveniently controls it and is useful for improving lap times on the racetrack.
The traction control system compares the speed of rotation at the circumferences 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 management system intervenes and adapts 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

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.

With DTC, 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 for the bank angle that it considers implausible over a lengthy period, a dummy value is used for the bank angle 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 Traction Control can shut down automatically under the exceptional riding conditions outlined below.

Exceptional riding conditions:

– Riding for a lengthy period with the front wheel lifted off the ground (wheelie).
– Rear wheel rotating with the vehicle held stationary by applying the front brake (burnout).

– 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 DTC reduces engine torque in the RAIN and SPORT riding modes until the front wheel regains contact with the ground. Wheelie assistance is deactivated in the SLICK 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.

Riding mode

Selection

Five riding modes enable the motorcycle's characteristics to adapt to the prevailing weather conditions, the road surface, and the rider's style of riding:
– RAIN
– SPORT (default mode)
– RACE
– SLICK (only with encoding plug inserted)
– USER (only with encoding plug inserted)

Each of these modes produces perceptible differences in the way the motorcycle behaves. ABS and/or DTC can be switched off in each mode: the explanations below invariably apply 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 DTC systems offer decreases accordingly.
The RAIN, SPORT and RACE riding modes are set up for riding with standard tyres recommended by BMW Motorrad. The SLICK and USER riding modes assume that racing tyres are being used and roadways with very good 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!

RAIN

Throttle response

– The engine's maximum torque is not made available. The torque curve for rain is imposed.
– Power increase when you open the throttle is virtually linear, engine response is soft.
– Overrun cut-off is activated.

DTC

– The DTC intervenes early enough to prevent the rear wheel from spinning whenever possible.
– Front wheel lift-off detection is switched on and provides maximum support.
– DTC changeover is switched off.
– Launch Control (L-CON) is switched off.

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.

ABS Pro

– ABS Pro provides full support for all friction coefficients.

DDC

– Setting for damping action: Road = comfortable damping action
– It is possible to make a fine adjustment to the damping action using the instrument cluster.

SPORT

Throttle response

– The engine's maximum torque is made available.
– Engine response is optimum and direct.
– Overrun cut-off is activated.

DTC

– The DTC intervenes later than in RAIN mode, so it is possible to induce slight drift when exiting corners.
– The front wheel lift-off detection is switched on and provides maximum support.
– DTC changeover is switched off.
– Launch Control (L-CON) is switched off.

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.

ABS Pro

– ABS Pro provides full support for all friction coefficients.

DDC

– Setting for damping action: Road = comfortable damping action
– It is possible to make a fine adjustment to the damping action using the instrument cluster.

RACE

Throttle response

– The engine's maximum torque is made available.
– Engine response is optimum and direct.
– Overrun cut-off is activated.

DTC

– The DTC intervenes even later to also allow prolonged oversteering and short wheelies on the exit of bends.
– Front-wheel lift detection is ON, but it offers less assistance.
– DTC changeover is switched off.
– Launch Control (L-CON) is switched off.

ABS

– The ABS always intervenes early enough to prevent the wheels locking wherever possible.
– The ABS intervenes later in this riding mode. It still prevents the wheels from locking, but the function that detects the tendency of the rear wheel to lift clear of the ground is reduced. The rear wheel can lift clear of the ground.
– Assistance with integral pressure build-up is reduced.
– ABS for the rear wheel is switched on.

ABS Pro

– ABS Pro, like Race ABS, is designed for a sporty driving style through late intervention.
– The full support from ABS Pro is only provided when the friction coefficients are optimal.

DDC

– Setting for damping action: Dynamic = sporty damping action
– It is possible to make a fine adjustment to the damping action using the instrument cluster.

– with riding modes Pro[OE]

SLICK

The SLICK mode cannot be activated unless the coding plug is inserted.

The SLICK mode was developed for situations in which the rider has an open view of the road ahead and the surroundings and is riding on surfaces with the high level of grip generally encountered only on race tracks. Similarly, the assumption on which the parameter settings for this mode are based is that the motorcycle is fitted with racing slicks with a very high level of dry-surface grip.

Throttle response

– The engine's maximum torque is made available.
– Engine response is optimum and direct.
– The overrun fuel cutoff is switched off at engine speeds greater than 4000 rpm.

DTC

– When this mode is selected the DTC control assumes that the motorcycle is running on racing tyres with maximum grip (slicks). Long wheelies are possible and the same applies to wheelies at slight angles of heel, and it is important to bear in mind that under these circumstances it is also possible that the motorcycle might flip over backwards!
– The DTC intervenes even later to also allow prolonged oversteering and short wheelies on the exit of bends.
– Front-wheel lift detection is deactivated.
– DTC changeover is switched on.
– Launch Control (L-CON) is switched on.

ABS

– ABS only intervenes when the hand brake lever is actuated.
– ABS intervenes later in this riding mode. The wheels continue to be prevented from locking, but the rear wheel may lift!
– Assistance with integral pressure build-up is reduced sooner than in the SPORT riding mode.
– ABS for the rear wheel is deactivated. If the rider operates the footbrake lever, there is no ABS control on the rear wheel. Under these circumstances, the rear wheel can lock up.

– Rear-wheel lift detection is deactivated.

ABS Pro

– Anti-theft alarm (ABS Pro) is deactivated.

DDC

– Setting for damping action: Track = sporty damping action for race tracks
– It is possible to make a fine adjustment to the damping action using the instrument cluster.

USER

The USER mode cannot be activated unless the encoding plug is inserted.
The behaviour is the same as in SLICK riding mode; however, the following systems can be individually adjusted:

Throttle response (ENGINE)

– RAIN
– RACE
– SLICK

DTC

– RAIN
– SPORT
– RACE
– SLICK
– DTC changeover is switched on. The DTC changeover is saved separately for each DTC mode.
– Launch Control (L-CON) is switched on.

ABS and ABS Pro

– SPORT
– RACE
– SLICK

DDC

– SPORT
– RACE
– SLICK

DTC off

– DTC assistance is deactivated.
– Front-wheel lift detection is deactivated.
– DTC changeover is switched off.
– Launch Control (L-CON) may be activated, but only the engine speed limiter takes effect.

ABS off

– ABS assistance is deactivated.
– No support for integral pressure build-up if only the hand brake lever is operated.
– ABS for the rear wheel is deactivated.
– Rear-wheel lift detection is deactivated.

Mode changes

A changeover of the functions in the engine control, the ABS and the DTC 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 (during the journey)

– 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.

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 gearshift lever while shifting is in progress. Once the gearshift has completed the shift lever has to be fully released before another gearshift with the Pro shift assist-

ant can take place. When shifting gears with the shift assistant, the rider has to keep load state (throttle twistgrip position) constant before and during the gearshift. 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 provides no assistance for the gearshift if the rider declutches.

Downshifting

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

 Maximum engine speed
max 14200 min^{-1}

Upshifting

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

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

Maintenance

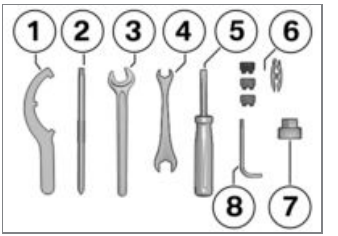
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General instructions

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 (➠ 74).

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 (➠ 185).

3 Open-ended spanner
Width across flats 17
- without Dynamic Damping Control (DDC)[OE]
- Adjusting spring preload for front wheel (➠ 72).
- with Dynamic Damping Control (DDC)[OE]
- Adjusting spring preload for front wheel (➠ 73).

4 Open-ended spanner
Width across flats 10/13
- Removing battery (➠ 192).
- with Dynamic Damping Control (DDC)[OE]
- Adjusting spring preload for rear wheel (➠ 75).

5 Reversible-blade screwdriver with star-head and plain tips

5 – without Dynamic Damping Control (DDC) OE
– Adjusting compression-stage damping for front wheel (➠ 76).
– without Dynamic Damping Control (DDC) OE
– Adjust the rebound-stage damping for front wheel (➠ 77).
– without Dynamic Damping Control (DDC) OE
– Adjusting rebound-stage damping for rear wheel (➠ 78).
– without Dynamic Damping Control (DDC) OE
– Adjusting compression-stage damping for rear wheel (➠ 78).

6 Spare fuses with gripping clamp
Mini-fuses 4 A, 7.5 A and 10 A

6 – Clamps for removing the fuses
– Replacement fuses

7 Plastic cap
– with Dynamic Damping Control (DDC) OE
– Adjusting spring preload for front wheel (➠ 73).

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

Front-wheel stand

Installing auxiliary stand at front wheel

ATTENTION

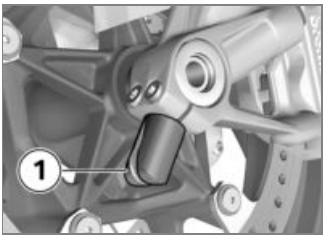
Use of the BMW Motorrad front wheel stand without accompanying use of centre stand or auxiliary stand

Risk of damage to parts if vehicle topples

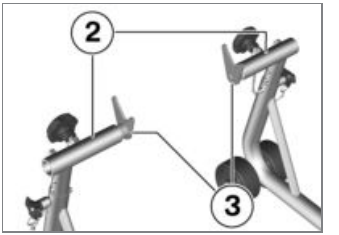
- Place the motorcycle on its centre stand or another auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.◀
- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad auxiliary stand.
- Install the rear-wheel stand (➠ 163).



- Use basic stand (83 30 0 402 241) with the adapters (83 30 2 152 839).



- Insert service adapters (83 30 2 152 840) **1** into the front suspension on left and right.



- Turn brackets **2** with long ends facing inwards.
- Adjust adapters **3** to the width of the service adapters inserted in the front suspension.
- Set the height of the auxiliary stand to raise the front wheel slightly clear of the ground.



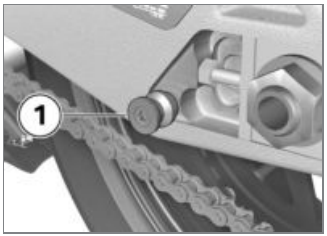
- Engage the auxiliary stand in the front suspension and apply even pressure to push it down to the ground.

Rear-wheel stand

Install the rear-wheel stand

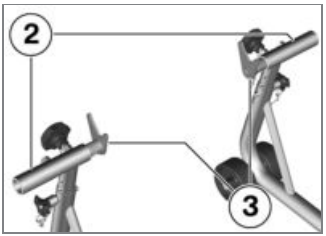


- Use basic stand with tool number (83 30 0 402 241) and adapters (83 30 2 152 839).



- Install service adapters (83 30 2 152 841) **1** in the rear wheel swinging arm on left and tighten to the specified torque.

	Swinging-arm adapter to rear wheel swinging arm
20 Nm	



- Turn brackets **2** long ends out.
- Adjust adapters **3** to the width of the service adapters inserted in the rear wheel swinging arm.
- Set the height of the rear-wheel stand to raise the rear wheel slightly clear of the ground.



- Engage the rear-wheel stand in the rear wheel swinging arm and apply even pressure to push it down to the ground.

Engine oil

Checking engine oil level

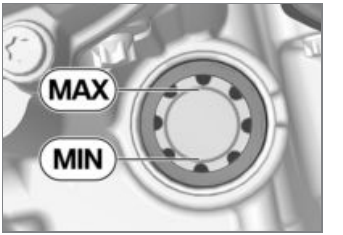
ATTENTION

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.
- Switch off the ignition.



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



Engine oil, specified level
between **MIN** and **MAX** mark

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

If the oil level is below the minimum mark:

- Topping up the engine oil (➠ 165).

If the oil level is above the maximum 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 (➠ 164).
- 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

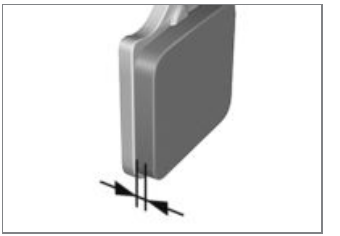
an authorised BMW Motorrad dealer.

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)

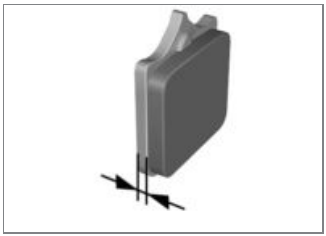
If the brake pads are worn:

⚠ 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

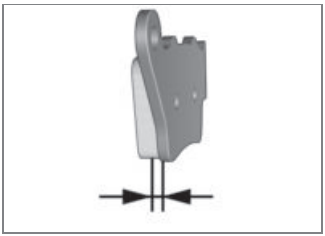
- Use only brake pads with brake pad carrier plates of adequate thickness.◀
- BMW Motorrad recommends installing only genuine BMW Motorrad brake pads.

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 0.9 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 may not drop below the **MIN** mark. (Brake-fluid reservoir horizontal)

If the brake fluid level drops below the permitted level:

WARNING

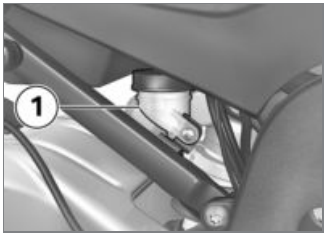
Not enough brake fluid in brake fluid tank

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 may 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

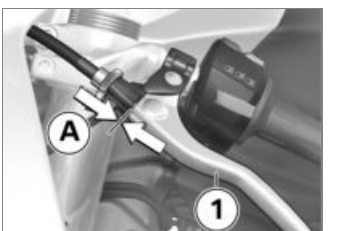
- Pull the clutch lever.

» 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 (➠ 170).

Adjust the clutch-lever play



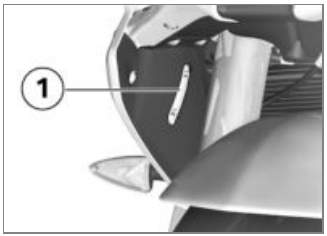
- To increase clutch play: turn screw **2** in the tightening direction, i.e. into the handlebar fitting.

- To reduce clutch play: turn screw **2** in the loosening direction, i.e. out of the handlebar fitting.
- Checking clutch-lever play (➠ 170).
- Repeat the steps in this procedure until clutch play is set correctly.

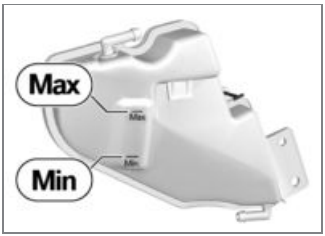
Coolant

Check coolant level

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



- Check the coolant level in expansion tank **1**. Viewing direction: From in front toward the inside of the right side panel.



Coolant, specified level
Between MIN and MAX marks 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 (➠ 187).



- Open cap **1** of the expansion tank.
- Top up coolant to specified level.
- Check coolant level (➠ 171).
- Close the cap of the expansion tank.

- Installing side panel (➠ 188).

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

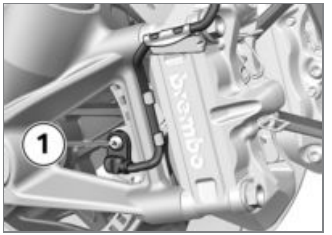
Effect of wheel size on chassis and suspension control systems

The wheel sizes play an essential role with DTC. In particular, the diameter and the width of the 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.

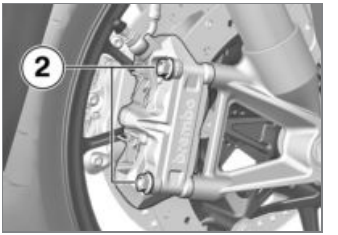
The sensor rings are essential for correct road-speed calculation, and they too must match the motorcycle's control systems and consequently cannot be changed.
If you decide that you would like to fit non-standard wheels to your motorcycle, it is very important to consult a specialist workshop beforehand, preferably an authorised BMW Motorrad dealer. In these cases, the data programmed into the control units has to 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.

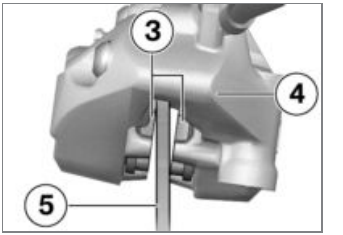


ATTENTION

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

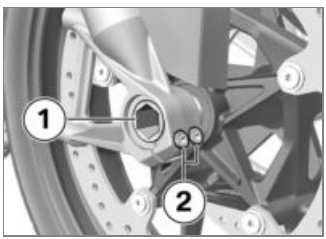
- Do not operate the brakes with a brake caliper not correctly secured.◀
- Remove screws **2** of the brake callipers on left and right.



- Force the brake pads **3** slightly apart by rotational movement of the brake caliper **4** against brake disc **5**.
- Carefully pull the brake calipers back and out until clear of the brake discs.

- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand (➠ 163).
- Lift the front of the motorcycle until the front wheel is clear of

the ground, preferably using a BMW Motorrad front-wheel stand.
- Installing auxiliary stand at front wheel (➠ 161).



ATTENTION

Incorrect gap between sensor ring and wheel speed sensor due to misaligned threaded bush in front suspension

Damage to wheel speed sensor. ABS malfunction
- Left clamp locates the threaded bush; do not loosen or remove this clamp.◀
- Loosen clamping bolts **2**.
- Remove quick-release axle **1**, while supporting the wheel.
- Roll the front wheel forward to remove.

Installing front wheel

WARNING

Use of a non-standard wheel

Malfunctions in operation of ABS and DTC
- See the information on the effect of wheel size on the ABS and DTC systems at the start of this chapter.◀

ATTENTION

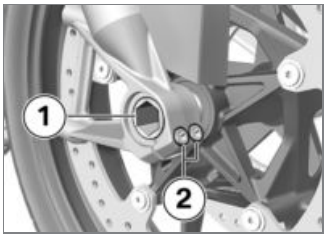
Tightening threaded fasteners to incorrect tightening torque

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

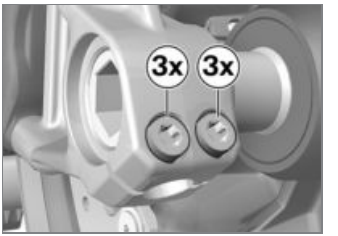
Risk of accident
- Note direction-of-rotation arrows on tyre or rim.◀
- Roll the front wheel into position between the front forks.



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

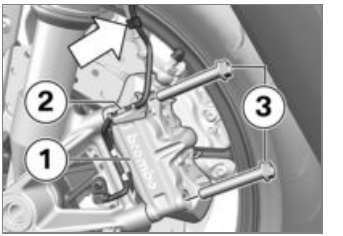
Quick-release axle in threaded bush
50 Nm

- Tighten clamping bolts **2** to the specified tightening torque.



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

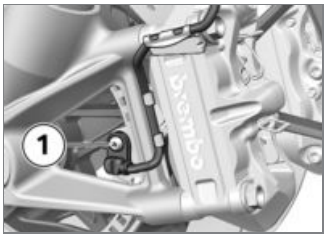
- Remove front-wheel stands and auxiliary stands.
- Place brake calliper on the brake discs.



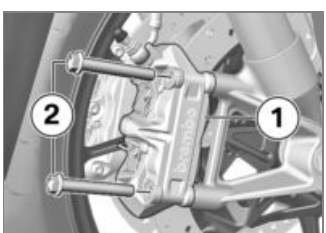
- Place brake calliper **1** on left and position cable routing **2**.
- Install screws **3** and tighten to specified torque.

Radial brake caliper to axle mount
38 Nm

- Secure cables for wheel speed sensor in holder **(arrow)**.



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



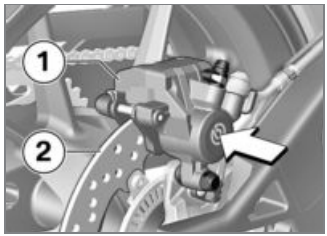
- Locate brake calliper **1** in position on right and install screws **2** to specified torque.

	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.

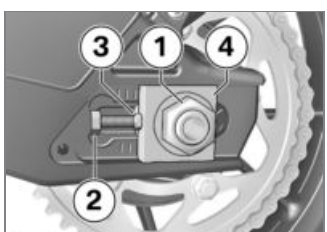
Removing rear wheel

- Lift the motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand (➠ 163).
- Slip wooden chocks or similar under the rear wheel to prevent it from dropping out after the quick-release axle has been removed.



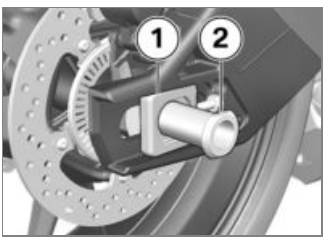
- Press brake caliper **1** against brake disc **2**.

» Brake pistons are pushed back.

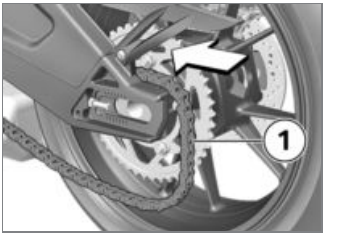


- Remove axle nut **1** with washer.

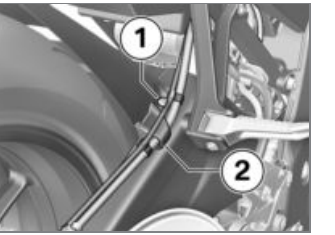
- Slacken locknuts **2** on left and right.
- Slacken adjusting screws **3** on left and right.
- Remove adjusting plate **4** and push the axle in as far as it will go.



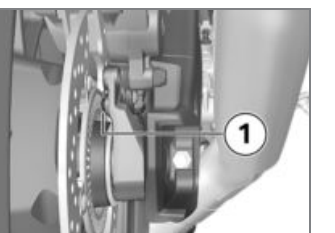
- Remove quick-release axle **2** and remove adjusting plate **1**.



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

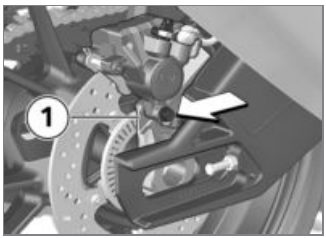


- Remove screw **1** and disengage the brake line from holder **2**.



- 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

ATTENTION

Change in tyre size

Effect on control systems

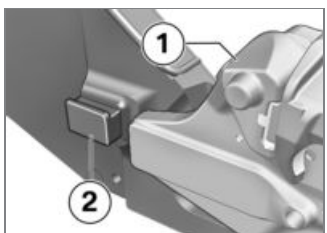
- If the rear wheel tyre size is changed from 190 / 55 ZR 17 to 200 / 55 ZR 17 or vice versa, the parameters of the control systems have to be re-coded by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀

ATTENTION

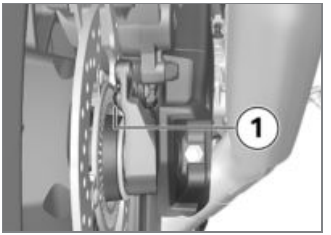
Tightening threaded fasteners to incorrect tightening torque

Damage, or threaded fasteners work loose

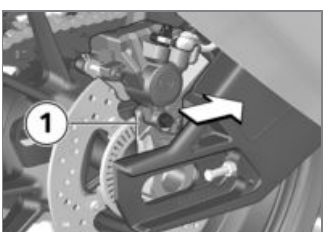
- Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.◀
- Roll the rear wheel on the support into the swinging arm as far as necessary to permit the brake-caliper carrier to be inserted.



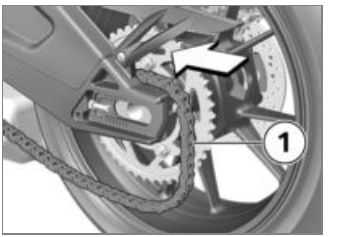
- Insert brake-caliper carrier **1** into guide **2**.



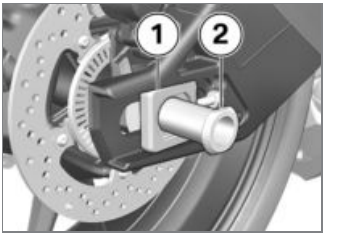
- When rolling the rear wheel into position, take care not to damage wheel-speed sensor **1**.



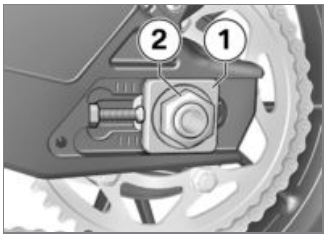
- Roll the rear wheel further into the swinging arm, while pushing brake-caliper carrier **1** forward at the same time.



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



- Install right adjusting plate **1** in the swinging arm.
- Lift the rear wheel and work quick-release axle **2** through the adjusting plate and into the brake-caliper carrier and the rear wheel.
- Make sure that the quick-release axle fits into the recess for the flats.



- 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 (➠ 195).

Lighting

Replacing bulbs for low-beam headlight and high-beam headlight

NOTICE

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

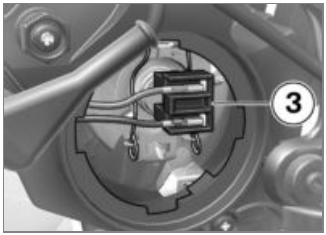
- Place the motorcycle on its stand on firm, even ground.
- Switch off the ignition.



- Remove cover panel **1** to replace the bulb for the low-beam headlight.



- Remove cover panel **2** to replace the bulb for the high-beam headlight.



- Disconnect plug **3**.



- Release spring clip **4** at left and right and swing it up.
- Remove bulb **5** from the socket.
- Replace the defective bulb.

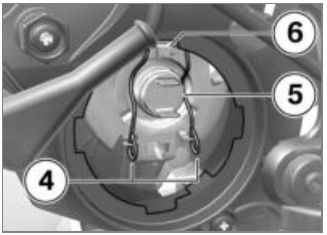
NOTICE

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

Bulb for high-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 **5**. Begin by seating lug **6** and then press the bulb into the socket.
- Engage spring clip **4** in the catch on left and right.



- Connect plug **3**.

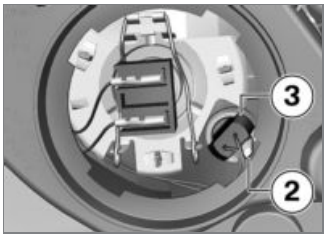
- Install the cover.

Replacing bulb for left parking light

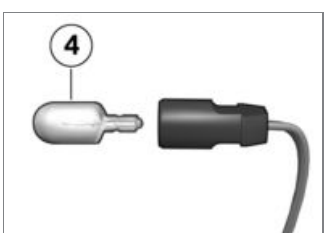
- Place the motorcycle on its stand on firm, even ground.
- Switch off the ignition.



- Remove cover **1**.



- Push down retainer **2** (using a screwdriver if necessary) and pull socket **3** out of the headlight housing.

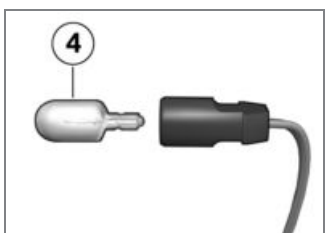


- Remove bulb **4** from the socket.

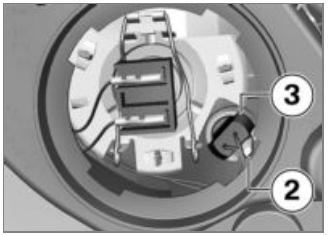
- Replace the defective bulb.

	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 dirt and foreign matter.



- Insert bulb **4** into the socket.



- Insert socket **3** into the headlight housing, making sure that retainer **2** engages.
- Install the cover.

Replacing bulb for right side light

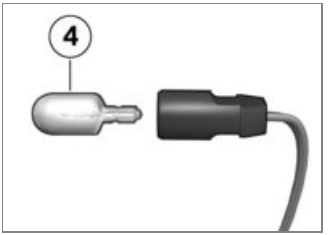
- Place the motorcycle on its stand on firm, even ground.
- Switch off the ignition.



- Remove cover **1**.



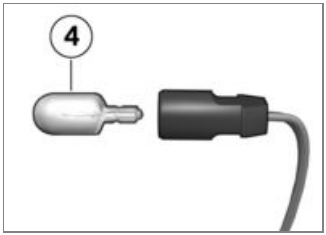
- Push down retainer **2** (using a screwdriver if necessary) and pull socket **3** out of the headlight housing.



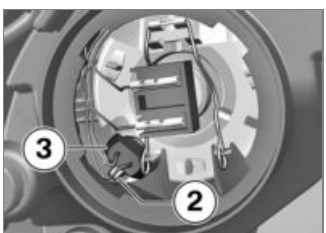
- Remove bulb **4** from the socket.
- Replace the defective bulb.

	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 **4** into the socket.



- Insert socket **3** into the headlight housing, making sure that retainer **2** engages.
- Install the cover.

Replacing bulbs for front and rear turn indicators

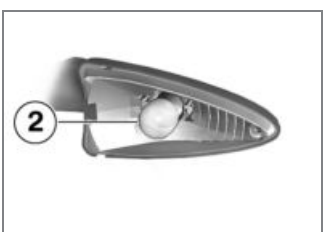
- Place the motorcycle on its stand on firm, even ground.
- Switch off the ignition.



- Remove screw **1**.



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



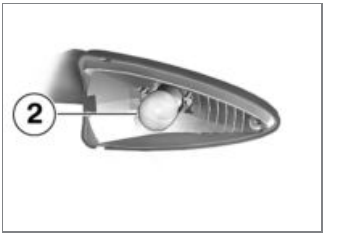
- Press light source **2** in, turn it counter-clockwise and remove it from the light housing.

- Replace the defective bulb.

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

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

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



- Push light source **2** in and turn clockwise to install it in the light housing.



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



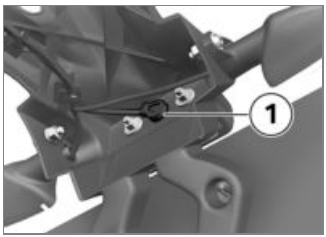
- Install screw **1**.

LED rear light

If LEDs in the rear light fail the rear light has to be replaced. Under these circumstances:

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

Replacing bulb for number-plate light



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



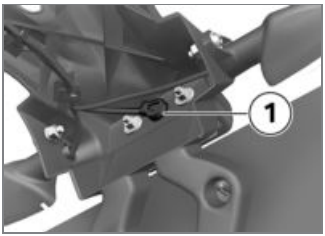
- Remove the bulb from the socket.
- Replace the defective bulb.

	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.

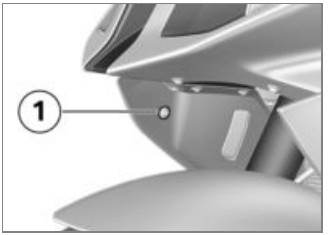
Body panels

Remove the side panel

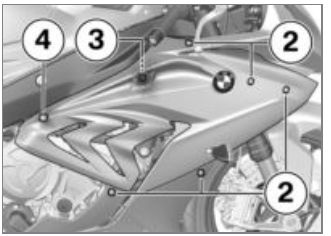
NOTICE

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

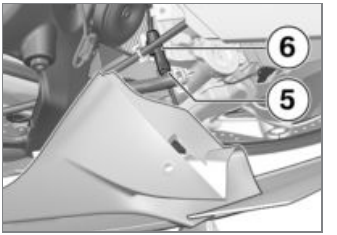
- Place the motorcycle on its stand on firm, even ground.



- Remove screw **1** from the inboard side of the side panel.

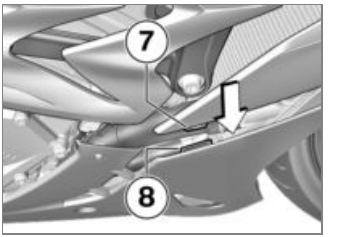


- Remove screws **2**.
- Release fairing side panel from grommet **3** and detent pin **4**.

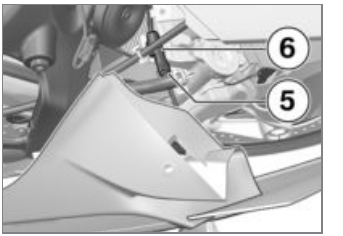


- Disconnect plug **5** for turn indicator.
- Remove the side panel.
- Protect connector **6** on vehicle from contamination.

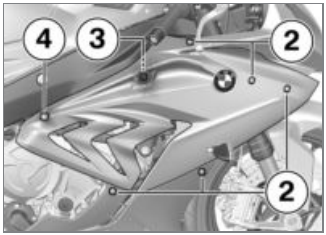
Installing side panel



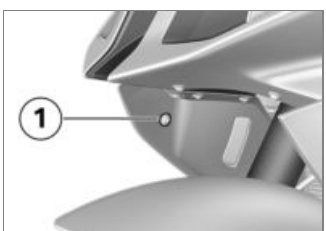
- Insert fairing side panel **7** in the mounting **8** on the engine spoiler.



- Insert connector **5** in connector **6**.



- Secure fairing side panel in grommet **3** and detent pin **4**.
- Install screws **2**.



- Install screw **1**.

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 does not exceed a voltage 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 sys-

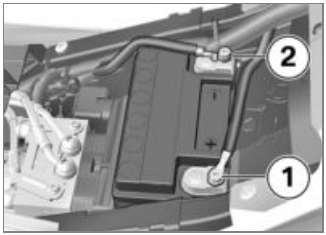
tems. You can obtain additional information from your authorised BMW Motorrad dealer.◀

Disconnecting battery from motorcycle

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

– with anti-theft alarm (DWA)[OE]

- If applicable, switch off DWA.◁



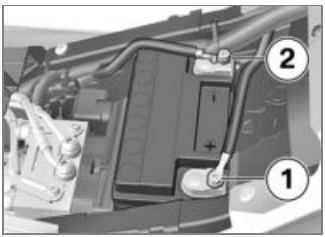
ATTENTION

Battery not disconnected in accordance with correct procedure

Risk of short-circuit

- Always proceed in compliance with the specified disconnection sequence.◀
- First disconnect negative battery cable **2**.
- Then disconnect positive battery cable **1**.

Connecting battery to motorcycle



ATTENTION

Battery not connected in accordance with correct procedure

Risk of short-circuit

- Always proceed in compliance with specified installation sequence.◀
- First connect positive battery cable **1**.
- Then install negative battery cable **2**.

- Installing front seat (➠ 65).

Recharging battery

- Disconnecting battery from motorcycle (➠ 191).
- 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 (➠ 191).

Removing battery

- Removing front seat (➠ 64).
- Disconnecting battery from motorcycle (➠ 191).
- 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 (➠ 191).
- Installing front seat (➠ 65).
- Setting the clock (➠ 52).

Fuses

Removing the fuse

ATTENTION

Jumpering of blown fuses

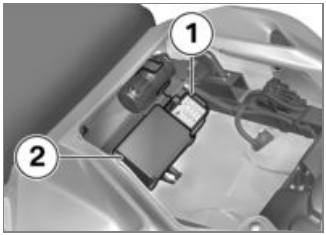
Risk of short-circuit and fire

- 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.

– with two-up riding package OE

- Removing rear seat (➠ 66).
- Removing the tail-hump cover (➠ 65).

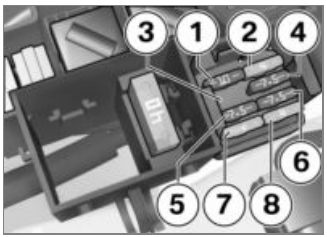


- Press the locking lever together and remove the fuse box cover **1**.
- To replace the main fuse, remove the cover **2**.
- Remove the faulty fuse upwards out of the fuse box.

NOTICE

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

Installing a 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.

– with two-up riding package OE

- Install the rear seat (➠ 66).
- Installing tail-hump cover (➠ 66).

Diagnostic connector

Disengaging diagnostic connector

CAUTION

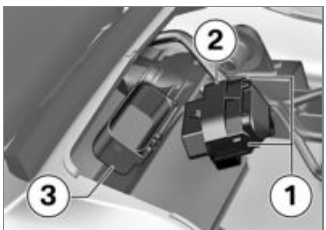
Incorrect procedure followed when loosening the diagnostic connector for the on-board diagnosis

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.◀

– with two-up riding package OE
• Removing rear seat (➠ 66).

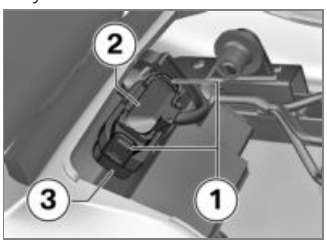
• Removing the tail-hump cover (➠ 65).



• 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.
– with two-up riding package OE
• Install the rear seat (➠ 66).
• Installing tail-hump cover (➠ 66).

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 drive chain every 800 km at the latest. Lubricate the chain more frequently if the motorcycle is ridden in wet, dusty or dirty conditions.

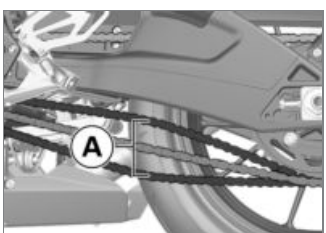
• Switch the ignition off and select neutral.
• Clean the drive chain with a suitable cleaning product, dry it and apply chain lubricant.
• To prolong chain life, BMW Motorrad recommends the use of BMW Motorrad chain lubricant, or:

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 up and down at a point midway along the run between pinion and sprocket and measure difference **A**.

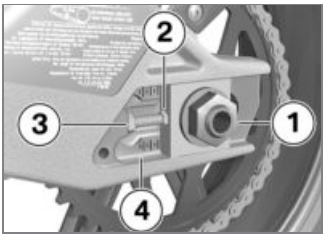
Chain deflection
45...50 mm (Motorcycle with no weight applied, supported on its side stand)

If measured value is outside permitted tolerance:

- Adjust the chain tension (➠ 195).

Adjust the chain tension

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



- Slacken quick-release axle nut **1**.
- Slacken locknuts **3** on left and right.
- Use adjusting screws **2** on left and right to adjust chain tension.
- Checking chain tension (➠ 195).
- 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.

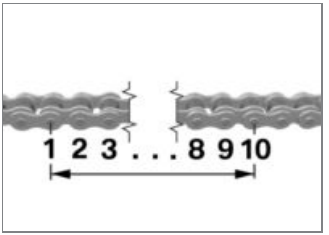
Locknut of the final-drive chain tensioning screw
19 Nm

- Tighten quick-release axle nut **1** 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 198
BMW Motorrad ABS Pro 198

General instructions

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

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

Also bear in mind the information on the effect of wheel size on suspension-control systems (➠ 173).

⚠ 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.◀

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.

BMW Motorrad ABS Pro

– with ABS Pro[OE]

Ever since it introduced Race ABS, BMW Motorrad has been able to offer ABS tailored to the specific needs and preferences of supersport riders. ABS Pro is an evolved functionality based on Race ABS; it enables ABS-assisted braking as a function of bank angle with the vehicle heeled over for cornering. ABS Pro is an all-software update of the ABS control unit and the KOMBI control unit of the instrument panel.

ABS Pro can also be obtained from and retrofitted by your au-

thorised BMW Motorrad dealer
as an optional accessory.

Care

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Washing the vehicle 202
Cleaning easily damaged components 203
Care of paintwork 204
Vehicle preservation 204
Laying up the motorcycle 204
Restoring motorcycle to use 204

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 vehicle.
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.◀

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.

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.

Laying up the motorcycle

- Clean the motorcycle.
- Fill the motorcycle's fuel tank.
- Removing battery (➠ 192).
- 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).

Restoring motorcycle to use

- Remove the protective wax coating.
- Clean the motorcycle.
- Installing battery (➠ 192).
- Comply with checklist (➠ 85).

Technical data

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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 (➠ 95).
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	
Screw in adjusting ring		
M5 x 25	3 Nm	– without Dynamic Damping Control (DDC)[OE]
Spring strut to main frame		
M10 x 65 - 10.9	56 Nm	

Mirrors	Value	Valid
Mirror to front panel carrier		
M6, Replace nuts mechanical	8 Nm	

Selector rod to gearshift lever	Value	Valid
Selector rod to gearshift lever		
M6 x 20, Replace screw Micro-encapsulated	8 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 recommended (maximum 10 % ethanol, E10) 95 ROZ/RON E10 90 AKI
Usable fuel capacity	approx. 17.5 l
Fuel reserve	approx. 4 l
Fuel consumption	6.7 l/100 km, as per WMTC

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 bottom section, right, behind coolant pump
Engine type	104EA
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	13:1
Nominal output	146 kW, at engine speed: 13500 min^{-1}
– with power reduction OE	79 kW, at engine speed: 8000 min^{-1}
Torque	113 Nm, at engine speed: 10500 min^{-1}
– with power reduction OE	95 Nm, at engine speed: 7000 min^{-1}
Maximum engine speed	max 14200 min^{-1}
Idle speed	1270 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 (33:22 teeth), 4th gear 1.360 (34:25 teeth), 5th gear 1.261 (29:23 teeth), 6th gear

Rear-wheel drive

Type of final drive	Chain drive
Type of rear suspension	Two-arm aluminium swing arm
Number of teeth, rear-wheel drive (Pinion / sprocket)	17:45
Secondary transmission ratio	2.647

Frame

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

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	Two-arm aluminium swing 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
– with forged wheels[OE]	200/55 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
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 lock / electronic immobiliser (EWS)
Fuse 8	4 A, Angular rate sensor, left multi-function switch, infrared receiver (optional accessory)
Main fuse	40 A

Battery	
Battery type	AGM battery (Absorbent Glass Mat)
– with HP battery[OE]	lithium ion battery
Battery rated voltage	12 V
– with HP battery[OE]	12.8 V
Battery rated capacity	9 Ah
– with HP battery[OE]	5 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK LMAR9D-J
Light source	
Bulb for high-beam headlight	H7 / 12 V / 55 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
Bulbs for flashing turn indicators, front	RY10W / 12 V / 10 W
Bulbs for flashing turn indicators, rear	RY10W / 12 V / 10 W
Light source for the number plate light	W5W / 12 V / 5 W

Dimensions

Length of motorcycle	2050 mm, via spray guard
Height of motorcycle	1140 mm, To windscreen at DIN unladen weight
Width of motorcycle	826 mm, via mirror
Front-seat height	815 mm, Without rider
Rider's inside-leg arc, heel to heel	1805 mm, Without rider

Weights

Vehicle kerb weight	208 kg, DIN unladen weight, ready for road, 90 % load of fuel, without OE
Permissible gross weight	407 kg
Maximum payload	199 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 carry out reliably 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 vehicle, 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-due indicator in the multifunction display reminds you about one month or 1000 km in advance when the time for a service is approaching, on the basis of the programmed values.

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.

To find out more about service, go to:
bmw-motorrad.com/service

The scope of maintenance work required for your vehicle can be found in the following maintenance schedule:

	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 of roadworthiness
- 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	☐	☐

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carried out

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at km_____

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at the latest
at_____
or, when reached earlier
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carried out

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at km_____

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or, when reached earlier
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or, when reached earlier
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or, when reached earlier
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Oil change in telescopic front forks	☐	☐
Change brake fluid in entire system	☐	☐

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at_____
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carried out

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at km_____

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at_____
or, when reached earlier
at km_____

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carried out

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at km_____

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at_____
or, when reached earlier
at km_____

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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

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 248

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.
The right to modify designs, equipment and accessories is reserved.
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Original rider's manual, printed in Germany.

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 recommended (maximum 10 % ethanol, E10) 95 ROZ/RON 90 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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Order No.: 01 40 9 467 151
04.2018, 2nd edition, 01