BMW
MOTORRAD

RIDER'S MANUAL

R nineT Pure



MAKE LIFE A RIDE

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)

YOUR 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

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.

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.

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

BMW Motorrad.

01 GENERAL INSTRUCTIONS 2

Quick & easy reference 4
Abbreviations and symbols 4
Equipment 5
Technical data 5
Currency 6
Additional sources of information 6
Certificates and operating licences 6
Data memory 6

02 GENERAL VIEWS 12

General view, left side 14
General view, right side 15
Underneath the seat 16
Multifunction switch, left 17
Multifunction switch, right 18
Instrument cluster 19

03 STATUS INDICATORS 20

Indicator and warning lights 22
Multifunction display 23
Warning indicators 24
Service-due indicator 33

04 OPERATION 36

Ignition switch/steering lock 38
Emergency-off switch (kill switch) 39
Lighting 40
Display 44
Settings in the instrument cluster 47
Anti-theft alarm (DWA) 51
Traction control (ASC/DTC) 53
Riding mode 54
Cruise control 55
Heated grips 57
Front and rear seats 58

05 ADJUSTMENT 60

Mirrors 62
Headlight 63
Clutch 64
Brakes 65
Spring preload 66
Damping 66
Footrest system 68

06 RIDING 72

Safety information 74
Regular check 76
Starting 77
Running in 80
Brakes 81
Parking your motorcycle 83
Refuelling 84

Securing motorcycle for transportation 86

07 ENGINEERING DETAILS 88

General notes 90
Antilock Brake System (ABS) 90
Dynamic Brake Control 93
Traction control (ASC/DTC) 94
Riding mode 95
Dynamic engine brake control 97
Adaptive Headlight 98

08 MAINTENANCE 100

General notes 102
Toolkit 103
Front-wheel stand 103
Rear-wheel stand 104
Engine oil 104
Brake system 106
Clutch 111
Tyres 111
Wheel rims 112
Wheels 113
Lighting 120
Jump-starting 120
Battery 122
Fuses 123
Diagnostic connector 124

09 ACCESSORIES 126

General notes 128
USB charging socket 128
Luggage 129
Passenger frame 130
Optional accessories 136

10 CARE 138

Care products 140
Washing the vehicle 140
Cleaning easily damaged components 141
Care of paintwork 142
Paint preservation 143
Laying up motorcycle 143
Restoring motorcycle to use 143

11 TECHNICAL DATA 144

Troubleshooting chart 146
Threaded fasteners 147
Fuel 150
Engine oil 150
Engine R nineT Pure (0L61) 151
Engine R nineT Pure A2 (0M91) 151
Clutch 152
Transmission 152
Final drive 153
Frame 153
Chassis and suspension 153
Brakes 154

Wheels and tyres 155
Electrical system 156
Dimensions 157
Weights 157
Performance figures 158

12 SERVICE 160

Reporting safety-relevant defects 162
BMW Motorrad Service 163
BMW Motorrad Service history 163
BMW Motorrad mobility services 164
Maintenance work 164
Maintenance schedule 166
Maintenance confirmations 167
Service confirmations 179

APPENDIX 182

Declaration of Conformity 183
Certificate for electronic immobiliser 188

INDEX 192

GENERAL INSTRUCTIONS

01

QUICK & EASY REFERENCE 4
ABBREVIATIONS AND SYMBOLS 4
EQUIPMENT 5
TECHNICAL DATA 5
CURRENCY 6
ADDITIONAL SOURCES OF INFORMATION 6
CERTIFICATES AND OPERATING LICENCES 6
DATA MEMORY 6

4 GENERAL INSTRUCTIONS

QUICK & EASY REFERENCE

Chapter 2 of these operating instructions will provide you with an initial overview of your motorcycle. All maintenance and servicing work on the motorcycle is documented in the "Service" section. The 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 these operating instructions to the new owner. They are 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.

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

- Instruction.

» Result of an activity.

Reference to a page with more detailed information.

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

Tightening torque.

Technical data.

OE Optional equipment. The vehicles are assembled complete with all the BMW Motorrad optional equipment 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.
ABS	Anti-lock brake system.
ASC	Automatic Stability Control.
DTC	Dynamic Traction Control.
DWA	Anti-theft alarm.
EWS	Electronic immobiliser.
MSR	Dynamic engine brake control.

EQUIPMENT

When you ordered your BMW Motorrad, you chose various items of custom equipment. These operating instructions describe the optional equipment (OE) offered by BMW and selected optional accessories (OA). This explains why the manual may also contain descriptions of equipment that you might not have selected. Please note, too, that on account of country-specific differences, your motorcycle might not be exactly as illustrated.
If your motorcycle contains equipment that has not been described, its description can be found in a separate manual.

TECHNICAL DATA

All dimensions, weights and power ratings stated in the operating instructions are quoted to the standards and comply with the tolerance requirements of the Deutsches Institut für Normung e.V. (DIN). 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, 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 inform-

ation provided in this rider's manual.

CURRENCY

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

ADDITIONAL SOURCES OF INFORMATION

Authorised BMW Motorrad retailer

Your authorised 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 accessories and general information about BMW Motorrad, in relation to technology, for example, are available for download from **bmw-motorrad.com/manuals**.

CERTIFICATES AND OPERATING LICENCES

The certificates for the vehicle and the official operating licences for accessories can be downloaded from **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.

8 GENERAL INSTRUCTIONS

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 speed, wheel circumferential velocity, 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.
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 devices

Depending on the equipment, mobile 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 device can then be output via the multimedia system. At the same time, specific information is transferred to the mobile 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 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 transceiver unit or using personally integrated mobile devices, for example smartphones. Online functions can be accessed through 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.

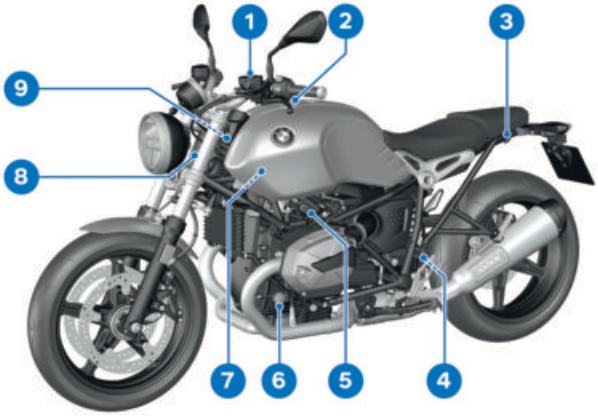
GENERAL VIEWS

02

GENERAL VIEW, LEFT SIDE 14
GENERAL VIEW, RIGHT SIDE 15
UNDERNEATH THE SEAT 16
MULTIFUNCTION SWITCH, LEFT 17
MULTIFUNCTION SWITCH, RIGHT 18
INSTRUMENT CLUSTER 19

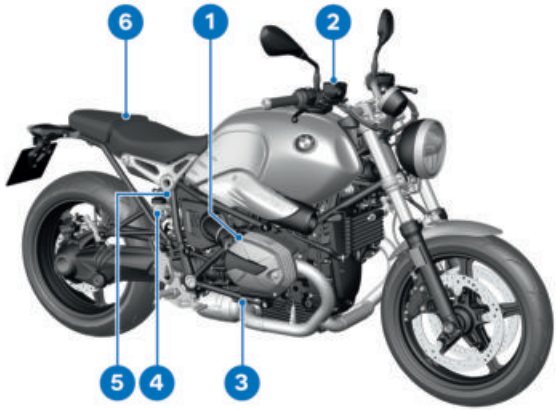
14 GENERAL VIEWS

GENERAL VIEW, LEFT SIDE



1 Checking operation of the clutch (➠ 111)
2 Fuel filler neck (➠ 84)
3 Loading correctly (➠ 129)
4 Adjusting damping for rear wheel (➠ 66)
5 USB charging socket (➠ 128)
6 Checking engine oil level (➠ 104)
7 Connector for optional accessories (underneath the tank)
8 Type plate (left side, on steering-head bearing)
9 Connector for rotational-speed sensor (optional accessories)

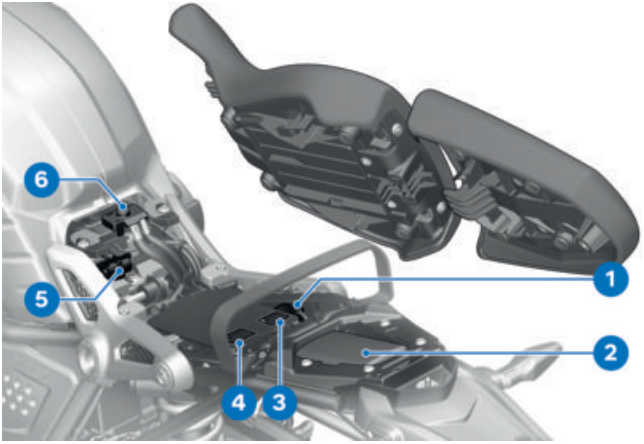
GENERAL VIEW, RIGHT SIDE



1 Topping up engine oil (➠ 105)
2 Checking brake-fluid level, front brakes (➠ 109)
3 Vehicle identification number
4 Checking brake-fluid level, rear brakes (➠ 110)
5 Adjusting spring preload for rear wheel (➠ 66)
6 Removing rider's seat (➠ 58)
Removing passenger seat (➠ 58)

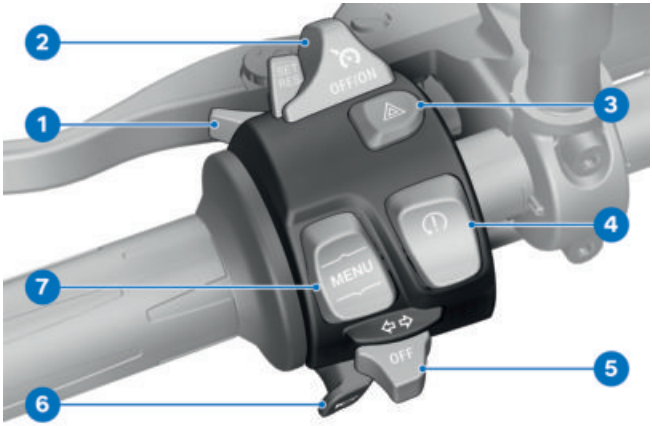
16 GENERAL VIEWS

UNDERNEATH THE SEAT



1 Diagnostic connector (➠ 124)
2 Toolkit (➠ 103)
3 Payload table
4 Tyre pressures table
5 Fuse box (➠ 123)
6 Remote positive terminal (➠ 120)

MULTIFUNCTION SWITCH, LEFT



1 High-beam headlight and headlight flasher (➠ 40)
2 Cruise control (➠ 55)
3 Hazard warning lights (➠ 42)
4 Traction control (ASC/ DTC) (➠ 53)
5 Turn indicators (➠ 43)
6 Horn
7 MENU rocker button (➠ 44)

MULTIFUNCTION SWITCH, RIGHT



1 Operating heated handlebar grips (➠ 57)
2 Selecting riding mode (➠ 54)
3 Emergency-off switch (kill switch) (➠ 39)
4 Starter button (➠ 77)

INSTRUMENT CLUSTER



1 Speedometer
2 Indicator and warning lights (➠ 22)
3 Photosensor for the brightness control in the multifunction display
–with anti-theft alarm (DWA) OE
DWA light-emitting diode (➠ 51)
4 Multifunction display (➠ 23)

STATUS INDICATORS

03

INDICATOR AND WARNING LIGHTS 22
MULTIFUNCTION DISPLAY 23
WARNING INDICATORS 24
SERVICE-DUE INDICATOR 33

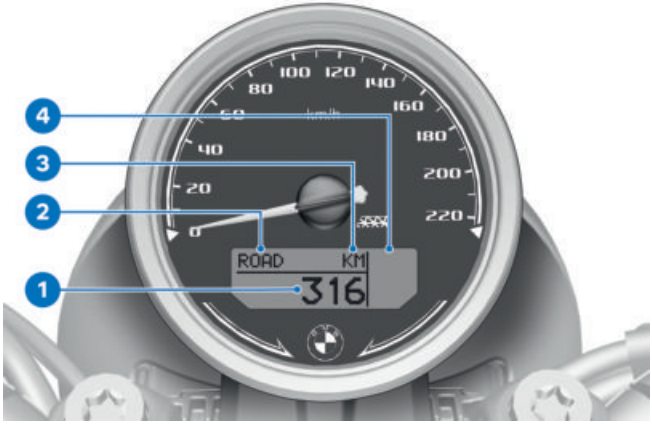
22 STATUS INDICATORS

INDICATOR AND WARNING LIGHTS



1 Warning light, drive malfunction (➠ 28)
2 High beam indicator light (➠ 40)
3 General warning light Displayed in combination with warning symbols in the multifunction display (➠ 24)
4 Neutral indicator light
5 ASC/DTC indicator and warning light (➠ 30)
6 Turn signal indicator light (➠ 43)
7 ABS indicator and warning light

MULTIFUNCTION DISPLAY



1 Value
2 Selecting riding mode (➠ 54)
3 On-board computer
Selecting display in speedometer (➠ 44)
Unit of selected display
4 Status
Warning symbol (➠ 24)

24 STATUS INDICATORS

WARNING INDICATORS

Mode of presentation

Warnings are indicated by the corresponding warning lights. If two or more warnings occur at the same time, all the appropriate warning lights show. Warning symbols corresponding to the warnings appear in alternate sequence.
The possible warnings are listed on the next pages.



Warnings that do not have warning lights of their own are indicated by a warning symbol **1** appearing in the multifunction display in combination with 'General' warning light **2**. The 'General' warning light either shows steadily or flashes, depending on the urgency of the warning.

Warnings, overview

Indicator and warning lights	Display text	Meaning
 lights up.	 is displayed.	Electronic immobiliser active (➠ 27)
 lights up.	 is displayed.	Engine in emergency-operation mode (➠ 27)
 flashes.	 is displayed.	Engine warning (➠ 27)
 lights up.		Drive malfunction (➠ 28)
 flashes.	 is displayed.	Serious drive malfunction (➠ 28)
 flashes.		
 lights up.	 is displayed.	Voltage of the vehicle electrical system critical (➠ 28)
 lights up.	 is displayed.	Voltage of the vehicle electrical system too low (➠ 29)
	 is displayed.	Outside temperature warning (➠ 29)
 lights up.	 is displayed.	Bulb faulty (➠ 29)
 flashes.		ABS self-diagnosis not completed (➠ 30)

26 STATUS INDICATORS

Indicator and warning lights	Display text	Meaning
 lights up.		ABS fault (➠ 30)
 quick-flashes.		ASC/DTC intervention (➠ 30)
 flashes.		ASC/DTC self-diagnosis not completed (➠ 31)
 lights up.		ASC/DTC switched off (➠ 31)
 lights up.		ASC/DTC fault (➠ 31)
	 is displayed.	Anti-theft alarm battery flat (➠ 31)
 lights up.	 and distance counter for reserve fuel `KM R` or, as applicable, `MI R` are displayed.	Fuel down to reserve (➠ 32)
	 is displayed.	Service due (➠ 32)
 lights up.	 is displayed.	Service overdue (➠ 33)

Electronic immobiliser active

 lights up.

 is displayed.

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 vehicle key being used.
- Have the faulty ignition key replaced, preferably by an authorised BMW Motorrad retailer.

Engine in emergency-operation mode

 lights up.

 is displayed.

WARNING

Unusual ride characteristics when engine running in emergency-operation mode
Risk of accident
- Avoid accelerating sharply and overtaking.

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

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

Engine warning

 flashes.

 is displayed.

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.
- 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.

» It is possible to continue to ride but not recommended.

Drive malfunction

 lights up.

Possible cause:
The engine control unit has diagnosed a fault that affects pollutant emissions and/or reduces power.
- Have the fault rectified by a specialist workshop, preferably an authorised BMW Motorrad retailer.

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

Serious drive malfunction

 flashes.

 flashes.

 is displayed.

Possible cause:
The engine control unit has diagnosed a fault that can lead to damage to the exhaust system.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

» It is possible to continue to ride but not recommended.

Voltage of the vehicle electrical system critical

 lights up.

 is displayed.

Generator power is no longer sufficient to supply all consumers and charge the battery. In order to ensure that the engine can be started and the motorcycle ridden, the onboard electronics switch off the electricity supply to individual consumers.

Possible cause:
Too many consumers are switched on. On-board system voltage tends to drop particularly at low engine rpm and when the engine is idling.
- When riding at low engine rpm, switch off all consumers that are not necessary for road safety (e.g. heated body warmers).

Voltage of the vehicle electrical system too low

 lights up.

 is displayed.

WARNING

Failure of the vehicle systems
Risk of accident
- Do not continue your journey.

Possible cause:
The battery is faulty.
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

Outside temperature warning

 is displayed.

Possible cause:

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

WARNING

Risk of black ice forming even when temperature is above approx. 3 °C
Risk of accident
- Always take extra care when temperatures are low; remember that there is particular danger of black ice forming on bridges and where the road is in shade.
- Ride carefully and think well ahead.

Bulb faulty

 lights up.

 is displayed.

WARNING

Vehicle overlooked in traffic due to failure of the lights on the vehicle
Safety risk
- Always replace a faulty bulb at the earliest possible opportunity. Consult a specialist workshop, preferably an authorised BMW Motorrad Retailer.

ABS self-diagnosis not completed


flashes.

Possible cause:

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

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

ABS fault


lights up.

Possible cause:
The ABS control unit has detected a fault. The ABS function is not available.
- You can continue to ride the vehicle, but make due provision for the fact that the ABS function is not available. Bear in mind the more detailed information on situations that can lead to an ABS fault (➠ 91).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad dealer.

ASC/DTC intervention


quick-flashes.

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

ASC/DTC self-diagnosis not completed

 flashes.

Possible cause:

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

- Pull away slowly. Bear in mind that the ASC/DTC function and dynamic engine brake control are not available until self-diagnosis has completed.

ASC/DTC switched off

 lights up.

Possible cause:
The rider has switched off the ASC/DTC system.

- Switch on the ASC/DTC function (➠ 53).

ASC/DTC fault

 lights up.

Possible cause:
The ASC/DTC control unit has detected a fault. The ASC/DTC function and dynamic engine brake control are not available or their functionality is subject to certain restrictions.

- You can continue to ride. Bear in mind that the ASC/DTC function and dynamic engine brake control are not available or are restricted. Bear in mind the more detailed information on situations that can lead to an ASC/DTC fault (➠ 94).
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

Anti-theft alarm battery flat

–with anti-theft alarm (DWA) OE

 is displayed.

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

Possible cause:
The integral battery in the anti-theft alarm (DWA) has lost its entire original capacity. There is no assurance that the DWA anti-theft alarm will be opera-

tional if the vehicle's battery is disconnected.
- Consult a specialist workshop, preferably an authorised BMW Motorrad dealer.

Fuel reserve

The amount of fuel remaining in the fuel tank when the low-fuel warning light comes on depends on riding dynamics. The more the fuel moves inside the fuel tank (due to frequent changes in angle of lean, frequent braking and acceleration), the more difficult it becomes to determine the reserve volume of fuel remaining in the tank. For this reason, the reserve volume of fuel cannot be displayed exactly.


As soon as the low-fuel warning light comes on, the KM R or, as applicable, the MI R reading for the distance that can potentially be covered with the fuel still on board appears and counts down.
The distance that can still be travelled using the reserve volume of fuel depends on the style of riding (fuel consumption) and the amount of fuel left in the tank.
After a refuelling stop, the distance counter for reserve fuel is reset if the amount of fuel in the tank is greater than the reserve quantity.

Fuel down to reserve


lights up.


and distance counter for reserve fuel KM R or, as applicable, MI R are displayed.

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. 3.5 l	

- Fuel grade (➠ 84).

Service due


is displayed.

Possible cause:
Service is due, because of either distance covered or time expired.
- Have your motorcycle serviced regularly by a specialist workshop, preferably an authorised BMW Motorrad retailer.

» The vehicle remains operationally reliable and roadworthy.
» The vehicle retains its value.

Service overdue

 lights up.

 is displayed.

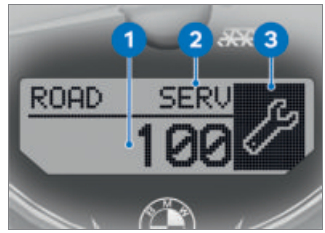
Possible cause:
Service is overdue because of the driving performance or the date.
- Have your motorcycle serviced regularly by a specialist workshop, preferably an authorised BMW Motorrad retailer.

» The vehicle remains operationally reliable and roadworthy.
» The vehicle retains its value.

SERVICE-DUE INDICATOR



When a service is due within one month, symbol for service due **3** and service due date **1** are displayed. SERV **2** appears briefly on the display after the Pre-Ride-Check or when called up by the rider for display in the on-board computer.



When a service is due within 1000 km, symbol for service due **3** and countdown distance **1** are displayed and the countdown proceeds in steps of 100 km. SERV **2** appears briefly on the display after the Pre-Ride-Check or when called

up by the rider for display in the on-board computer.

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.

OPERATION

04

IGNITION SWITCH/STEERING LOCK 38
EMERGENCY-OFF SWITCH (KILL SWITCH) 39
LIGHTING 40
DISPLAY 44
SETTINGS IN THE INSTRUMENT CLUSTER 47
ANTI-THEFT ALARM (DWA) 51
TRACTION CONTROL (ASC/DTC) 53
RIDING MODE 54
CRUISE CONTROL 55
HEATED GRIPS 57
FRONT AND REAR SEATS 58

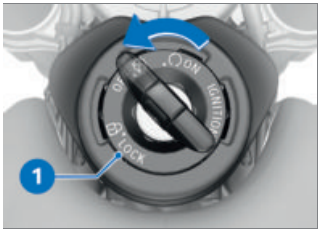
IGNITION SWITCH/STEERING LOCK

Keys

You receive 2 ignition keys and a special key for removing the passenger seat (➠ 58).
If a key is lost or mislaid, consult the information on the electronic immobiliser (EWS) (➠ 39).
Ignition switch/steering lock and the fuel filler cap lock are operated with the ignition key.

Engaging steering lock

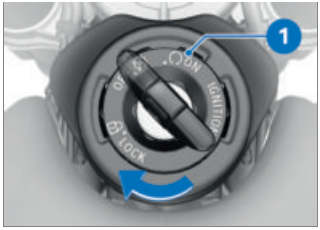
- Turn the handlebars all the way to the left.



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

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

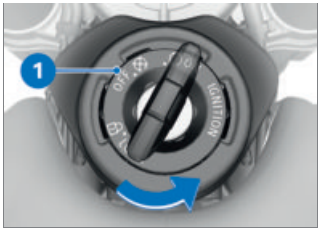
Switching on ignition



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

» Side lights and all function circuits are switched on.
» Engine can be started.
» Pre-Ride-Check is performed. (➠ 77)
» ABS self-diagnosis is in progress. (➠ 78)
» ASC/DTC self-diagnosis is in progress. (➠ 79)

Switching off ignition



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

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

» Electrically powered accessories remain operational for a limited period of time.

Electronic immobiliser (EWS)
The on-board electronics access the data saved in the ignition key via a ring aerial in the ignition lock. The engine control unit will not permit the engine to be started unless the key is identified as “authorised”.

Another vehicle key attached to the same ring as the vehicle key used to start the engine could "irritate" the electronics, in which case the enabling signal for starting is not issued. The warning with the key symbol appears in the multifunction display.
Always keep other vehicle keys separate from the vehicle key used to start the engine.

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

You can obtain extra keys only through an authorised BMW Motorrad retailer. The keys are part of an integrated security system, so the retailer 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.



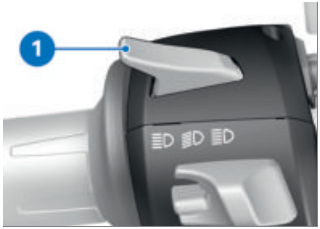
A Engine switched off
B Normal operating position (run)

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

LIGHTING

Switching on low-beam headlight

- Switch on the ignition (➠ 38).
- Start the engine (➠ 77).



- Alternatively: pull switch **1** when ignition switched on.

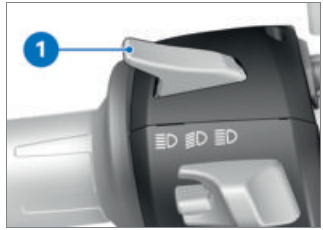
Side light

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

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

High-beam headlight and headlight flasher

- Switch on the ignition (➠ 38).



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

Headlight courtesy delay feature

- Switch off the ignition (➠ 38).



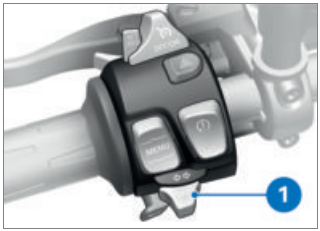
- Immediately after switching off the ignition, pull switch **1** back and hold it in that position until the headlight courtesy delay feature comes on.

» The vehicle's lights come on for one minute and then switch off automatically.

– This can be used to light up the path to the house door after the vehicle has been parked, for example.

Parking lights

- Switch off the ignition (➠ 38).



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

Automatic daytime riding light

The changeover between daytime riding light and low-beam headlight including front side lights can be effected automatically.

WARNING

The automatic daytime riding light is not a substitute for the rider's personal judgement of the light conditions

Risk of accident

- Switch off the automatic daytime riding light in poor light conditions.

- Switch on the ignition (➠ 38).



- Repeatedly short-press button **1** until SETUP ENTER is displayed.
- Long-press button **1** to open SETUP.

» SET DRL A is displayed.



- Short-press button **2** to change the set value.

The following settings are available:

– DRL A ON: Automatic daytime riding light is activated.
– DRL A OFF: Automatic daytime riding light is deactivated.

- Long-press button **1** to exit SET DRL A.

» SETUP ENTER is displayed.

» If the ambient brightness decreases below a certain value (e.g. in a tunnel) while the daytime riding light function is active, the low-beam headlight is automatically switched on. When sufficient ambient brightness is detected, the daytime riding light is switched back on.

Operating hazard warning flashers

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

If you press a turn-indicator button while the hazard warning lights are switched on, the turn-indicator function is activated instead of the hazard warning flashers and remains active until you release the button. The hazard warning flashers recommence flashing as soon as the button is released.

- Switch on the ignition (➠ 38).



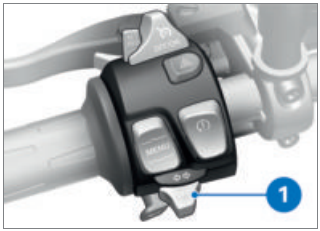
- Press button **1** to switch on the hazard warning lights system.

» Ignition can be switched off.

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

Operating turn indicators

- Switch on the ignition (➠ 38).



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

Comfort turn indicator



If button **1** has been pressed to the right or left, the turn indicators are automatically switched off under the following circumstances:

– Speed below 30 km/h: after 50 m distance covered.
– Speed between 30 km/h and 100 km/h: after a speed-dependent distance covered or in case of acceleration.
– Speed over 100 km/h: after five flashes.

If button **1** is pressed to the right or left slightly longer, the turn indicators only switch off automatically once the speed-dependent distance covered is reached.

DISPLAY

Selecting display in speedometer



WARNING

Distraction from the road and loss of control

Operating the integrated information system and communication devices while driving results in a risk of accident

- Operate those systems or devices only when the traffic situation allows for it.
- If necessary, stop and operate the systems or devices when stationary.

- Switch on the ignition (➠ 38).

» The on-board computer readings appear on the display.

- Repeatedly short-press button **1** until the desired value is displayed.

Possible displays:

–Odometer: KM

–Trip distance recorder 1: KM 1

–Automatic trip distance recorder: KM A is reset automatically 6 hours after the ignition is switched off and the date has changed.

– Distance ridden after fuel down to reserve: KM R, selectable only after the fuel level has dropped to the reserve volume.
– Outside temperature: °C
– Engine temperature: Bar indicator
– Clock: H:M
– Service due date: SERV, selectable only when next service is due within one month or service is overdue.
– Countdown distance to next service due: SERV, selectable only when next service due within 1000 km or service is overdue.
– Call up the menu for settings: SETUP ENTER, selectable only when the vehicle is at a standstill.

Resetting trip distance recorder

- Switch on the ignition (➠ 38).



- Repeatedly short-press button **1** until the trip distance recorder you want to reset **2** is displayed.
- Press and hold down button **1** until trip distance recorder **2** is reset.

SETTINGS IN THE INSTRUMENT CLUSTER

Selecting SETUP

Requirement

The vehicle is at a standstill.



- Repeatedly short-press button **1** until SETUP ENTER is displayed.
- Long-press button **1** to start SETUP.
- Short-press button **1** to step through the sequence of parameters in SETUP as follows:

–Activate DRL A ON or deactivate DRL A OFF automatic daytime riding light.

–Adjust the brightness of the backlighting in the instrument cluster BRIGHT.

–with anti-theft alarm (DWA) OE

–Automatically activate anti-theft alarm function when the ignition is switched off DWA ON or leave the automatic function switched off DWA OFF.◁

–Set the time CLOCK.

–Set the date DATE.

–Set units UNIT.

–Reset displays RESET.

–Exit SETUP menu SETUP EXIT.

Adjusting display brightness

- Switch on the ignition (➠ 38).
- Select SETUP (➠ 47).



- Repeatedly short-press button **1** until SET BRIGHT is displayed.
- Repeatedly short-press button **2** until the desired value for display brightness **3** is set.

» A display brightness value in the range 1 ... 5 (dark .... bright) is set.

- Long-press button **1** to exit SET BRIGHT.

» SETUP ENTER is displayed.

Setting clock

- Switch on the ignition (➠ 38).
- Select SETUP (➠ 47).



- Repeatedly short-press button **1** until SET CLOCK is displayed.
- Press and hold down button **2** until hours number **3** flashes.
- Short-press button **1** to increase the hours number by one.
- Short-press button **2** to reduce the hours number by one.

» The hours are set.

- Press and hold down button **2** until minutes number **4** flashes.
- Short-press button **1** to increase the minutes number by one.
- Short-press button **2** to reduce the minutes number by one.

» The minutes are set.

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

» The clock is set.

- Long-press button **1** to exit SET CLOCK.

» SETUP ENTER is displayed.

Setting date

- Switch on the ignition (➠ 38).
- Select SETUP (➠ 47).



- Repeatedly short-press button **1** until SET DATE is displayed.
- Press and hold down button **2** until day number **3** flashes.
- Short-press button **1** to increase the day number by one.
- Short-press button **2** to reduce the day number by one.

» The day is set.

- Press and hold down button **2** until month number **4** flashes.
- Short-press button **1** to increase the month number by one.
- Short-press button **2** to reduce the month number by one.

» The month is set.

- Press and hold down button **2** until SET YEAR is displayed.



- Short-press button **1** to increase year number **5** by one.
- Short-press button **2** to reduce year number **5** by one.
- Press and hold down button **2** until the year stops flashing.

» The year is set.

- Long-press button **1** to exit SET YEAR.

» The date is set.

» SETUP ENTER is displayed.

Setting units

Requirement

The vehicle is at a standstill.

- Switch on the ignition (➠ 38).
- Select SETUP (➠ 47).



- Repeatedly short-press button **1** until SET UNIT ENTER is displayed.
- Long-press button **2** to activate SET UNIT.

» UNIT SPEED is displayed.

- Short-press button **1** to step through the sequence of parameters in SET UNIT as follows:

– without Canada export NV

– Change speedometer unit between KM/H and MPH◁

– without Canada export NV

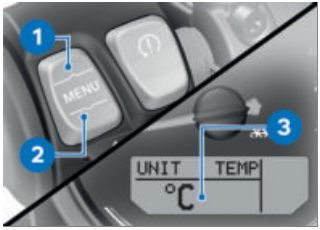
– Change distance recorder unit between KM and MI◁

– Change fuel consumption display between L/100, MPG and KM/L

– Change temperature display unit between °C and °F

– Change clock display between 24H and 12H

– Change date format between DMY and MDY



- Repeatedly short-press button **2** until the unit you want **3** is selected.
- If you want to exit setup, repeatedly press button **1** until SET UNIT EXIT is displayed.
- Long-press button **2** to exit SET UNIT.

» SETUP RESET is displayed.



- If you want to restore the factory defaults, repeatedly short-press button **1** until SET UNIT RESET is displayed.
- Long-press button **2** until RESET **3** flashes.

» Units have been reset to the factory setting.

» SET UNIT EXIT is displayed.

- Long-press button **2** to exit SET UNIT.

» SETUP RESET is displayed.

Resetting SETUP

- Switch on the ignition.
- Select SETUP (➠ 47).



- Repeatedly short-press button **1** until SETUP RESET is displayed.
- Press and hold down button **2** until RESET **3** flashes.

Date and time can also be reset to a default value by using the SETUP RESET function.

» SETUP EXIT is displayed.

- Exit SETUP (➠ 50).

Exiting SETUP

Requirement

There are four ways of exiting SETUP.



- Long-press button **1**.

» SETUP ENTER is displayed.
» Settings were saved.

- Alternatively: Repeatedly short-press button **1** until SETUP EXIT is displayed.
- Long-press button **2**.

» SETUP ENTER is displayed.
» Settings were saved.

- Alternatively: Switch the ignition off and then on again.

» SETUP exited and settings not saved.

- Alternatively, ride away.

Speed for operation in SETUP mode
max 10 km/h

» If permissible maximum speed for operation is exceeded, SETUP is exited and the settings are not saved.
» KM is displayed.

ANTI-THEFT ALARM (DWA)

–with anti-theft alarm (DWA) OE

Activating DWA

- Switch on the ignition (➠ 38).
- Adjust the DWA settings (➠ 52).
- Switch off the ignition.

» If the alarm system (DWA) is activated, the DWA will be armed automatically when you switch off the ignition.
» Activation takes approximately 30 seconds to complete.
–Turn indicators flash twice.
» Anti-theft alarm (DWA) is active.

Alarm signal

A DWA alarm can be triggered by:
–Motion sensor
–An attempt to use an unauthorised ignition 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 - acoustic alarm only, the turn indicators do not flash).

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

The alarm signal continues for approx. 26 seconds. While a DWA alarm is in progress an acoustic alarm sounds and the turn indicators flash. The type of acoustic alarm can be set by an authorised BMW Motorrad dealer.

If a DWA 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 DWA 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

Deactivating DWA

- Switch on the ignition (➠ 38).

» Turn indicators flash once.
» DWA is switched off.

Adjusting DWA settings

- Switch on the ignition (➠ 38).
- Select SETUP (➠ 47).



- Repeatedly short-press button **1** until SET DWA is displayed.
- Short-press button **2** to change the set value.

The following settings are available:

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

- Long-press button **1** to exit SET DWA.

» SETUP ENTER is displayed.

TRACTION CONTROL (ASC/DTC)

Switch off the ASC/DTC function

- Switch on the ignition (➠ 38).

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



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

starts to show.

» The ASC/DTC function is switched off.

Switch on the ASC/DTC function



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

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

» The ASC/DTC function is switched on.

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

If the ASC/DTC indicator and warning light remains on even though the vehicle has accelerated past the minimum speed stated below after the ignition was switched off and then on again, an ASC/DTC fault has occurred.

min 5 km/h

- For more information on ASC/DTC traction control, see the

section entitled "Engineering details" (➠ 94).

RIDING MODE

Using riding modes

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

Standard

–RAIN: Riding on a rain-wet road surface.

–ROAD: Riding on a dry road surface.

–with riding modes Pro[OE]

With riding modes Pro additionally

–DYNA: Dynamic riding on a dry road surface.

The respective optimum interplay of engine characteristic, ABS control and ASC/DTC control is provided for each of these scenarios.

For more information on the riding modes, see the section entitled "Engineering details" (➠ 95).

Selecting riding mode

• Switch on the ignition (➠ 38).



• Press button **1**.

» The current riding mode **2** is displayed.



• Repeatedly press button **1** until the riding mode you want **2** is displayed.

» With the motorcycle at a standstill, the selected mode is activated after approximately 2 seconds.

» The following conditions must be satisfied for activation of a new riding mode while riding:

–Throttle grip is in idle position.

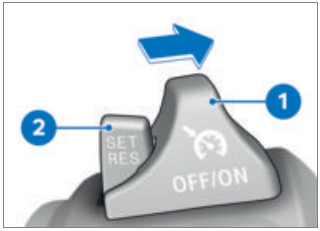
–Brake is not applied.

–with cruise control OE
» additionally on vehicles with cruise control:
–Cruise control is deactivated.◁
» The riding mode selected in this way is retained, with the engine-characteristic and, ABS control and ASC/DTC control adaptation settings, even after the ignition has been switched off.

CRUISE CONTROL

–with cruise control OE

Switching on cruise control



• Slide switch **1** to the right.
» Button **2** is enabled for operation.

Setting road speed



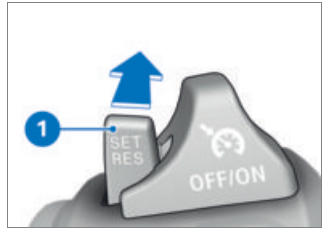
• Short-push button **1** forward.

Adjustment range for cruise control (gear-dependent)
20...210 km/h

is displayed.

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

Accelerating



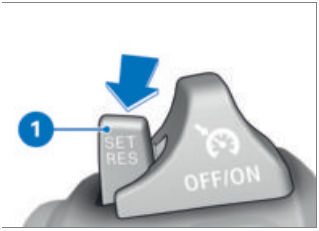
• Short-push button **1** forward.
» Speed is increased by approx. 1 km/h each time you push the button.

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

» The vehicle accelerates smoothly.

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

Decelerating



- Short-push button **1** back.

» Speed is reduced by approx. 1 km/h each time you push the button.

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

» The vehicle decelerates smoothly.

» 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 grip (close the throttle by turning the grip back past the idle position) to deactivate cruise control.

For safety reasons, cruise control is automatically deactivated whenever ASC/DTC intervention occurs.

» Symbol for cruise control disappears.

Resuming former cruising speed



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

Opening the throttle does not deactivate cruise control. When the twistgrip is released the motorcycle decelerates only to the speed saved in memory, even if the rider intended slowing to a lower speed.

 is displayed.

Switching off cruise control



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

» The system is deactivated.

» Button **2** is disabled.

HEATED GRIPS

–with heated grips[OE]

Operating heated handlebar grips

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

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

- Start the engine (➠ 77).



- Repeatedly press button **1** until desired heating stage **2** is displayed.

The following settings are available:

Heating off

Low heating power

High heating power

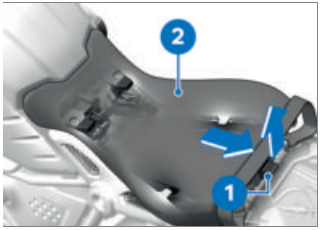
» High heating power is for heating the grips quickly: it is advisable to switch back to a lower heating power as soon as the grips are warm.

» If you allow a certain length of time to pass without making further changes, the selected heating stage is saved and the grip-heating symbol disappears.

FRONT AND REAR SEATS

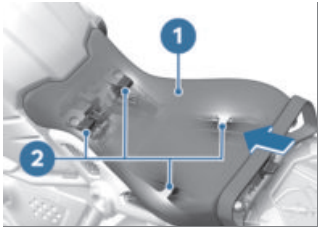
Removing rider's seat

- Remove the passenger seat (➠ 58).



- Pull lock **1** up.
- Pull rider's seat **2** to the rear and remove.

Installing rider's seat

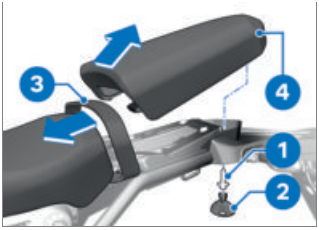


- Insert rider's seat **1** into lugs **2**.
- Push down on rider's seat **1**, applying pressure to the rear of the seat.

» The rider's seat engages with an audible click.

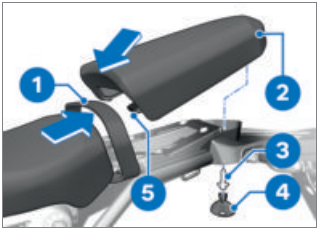
- Install the passenger seat (➠ 58).

Removing passenger seat



- Remove screw **1** with motorcycle seat key **2**.
- Pull grab strap **3** toward the rider's seat and work passenger seat **4** to the rear to remove.

Installing passenger seat



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

ADJUSTMENT

05

MIRRORS 62
HEADLIGHT 63
CLUTCH 64
BRAKES 65
SPRING PRELOAD 66
DAMPING 66
FOOTREST SYSTEM 68

MIRRORS

Adjusting mirrors



- Turn the mirror to the appropriate position.

–with Option 719 Billet Pack Classic II[OE]
or
–with Option 719 Billet Pack Shadow II[OE]



DANGER

Functional restriction due to incorrect installation position
Risk of crash and accident
- Do not change the installation position of the mirror.

- Turn the mirror head to the desired position.◁

Adjusting mirror arm



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

	Mirror (lock nut) to adapter
M10 x 1.25	
22 Nm (Left-hand thread)	

- Push the protective cap over the threaded fastener.

HEADLIGHT

Headlight adjustment for right- or left-hand traffic

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

Headlight beam throw and spring preload

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

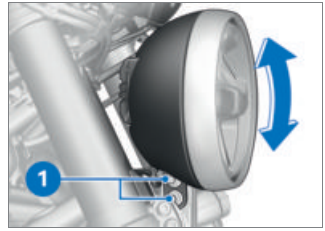
However, a spring preload adjustment might not suffice if the motorcycle is very heavily loaded. Under these circumstances, headlight beam throw has to be adjusted to suit the weight carried by the motorcycle.

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

Adjusting headlight beam throw

Requirement

Even with spring preload correctly adjusted, oncoming traffic is dazzled if the motorcycle is heavily loaded.



- Loosen screws **1**.
- Swivel the headlight to adjust beam throw.
- Tighten screws **1** while holding the headlight so that it cannot move out of position.

	Headlight to bracket
M8 x 40	
19 Nm	

When the motorcycle is again ridden with a lower load:

- Have the basic settings of the headlight restored by a specialist workshop, preferably an authorised BMW Motorrad retailer.

CLUTCH

Adjusting clutch lever

WARNING

Relocated clutch-fluid reservoir

Air in the clutch system

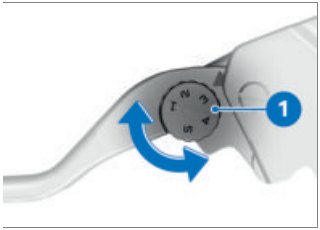
- Do not turn the handlebars or the handlebar fitting on the handlebar.

WARNING

Adjusting the clutch lever while riding

Risk of accident

- Adjust the clutch lever only when the motorcycle is at a standstill.



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

The adjusting screw can be turned more easily if the clutch lever is pushed forward.

» Adjustment options:

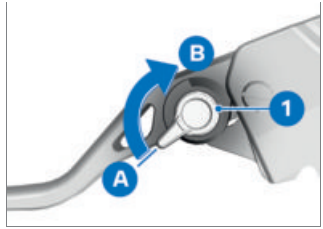
– From position 1: narrowest span between handlebar grip and clutch lever

– To position 5: widest span between handlebar grip and clutch lever

– with Option 719 Billet Pack Classic II OE

or

– with Option 719 Billet Pack Shadow II OE



- Turn adjustment lever **1** to the desired position.

» Adjustment options:

– From position **A**: narrowest span between handlebar grip and clutch lever.

– In 5 steps toward position **B** to increase the span between handlebar grip and clutch lever.◁

BRAKES

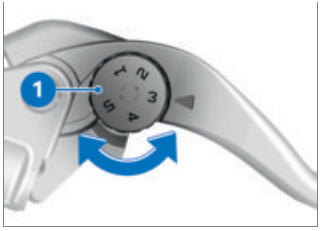
Adjusting handbrake lever

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 handbrake lever while riding
Risk of accident
- Do not attempt to adjust the handbrake lever unless the motorcycle is at a standstill.

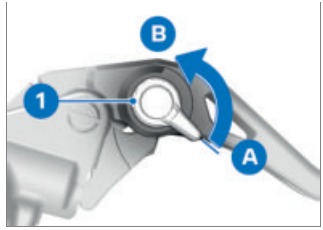


- Applying light pressure from behind, turn adjusting screw **1** to the desired position.

The adjusting screw is easier to turn when the handbrake lever is pushed forward.

» Adjustment options:
– From position 1: narrowest span between handlebar grip and handbrake lever
– To position 5: widest span between handlebar grip and handbrake lever

– with Option 719 Billet Pack Classic II OE
or
– with Option 719 Billet Pack Shadow II OE



- Turn adjustment lever **1** to the desired position.

» Adjustment options:
– From position **A**: narrowest span between handlebar grip and handbrake lever.
– In 5 steps toward position **B** to increase the span between handlebar grip and handbrake lever.◁

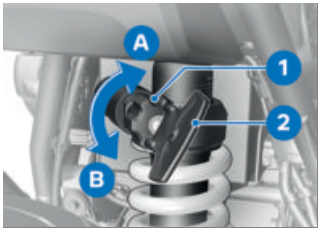
SPRING PRELOAD

Adjustment for rear suspension

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

Adjusting spring preload for rear wheel

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



WARNING

Spring preload setting and spring-strut damping setting not matched.
Impaired handling.
- Adjust spring-strut damping to suit spring preload.

- To increase spring preload, engage wrench **2** on adjuster **1** and turn it in direction **A**.
- To reduce spring preload, engage wrench **2** on adjuster **1** and turn it in direction **B**.
- Adjust the damping characteristic to suit spring preload.

See the section on suspension in "Technical data" for a recommendation on how to set up the suspension.

- Adjust the damping for rear wheel (➠ 66).

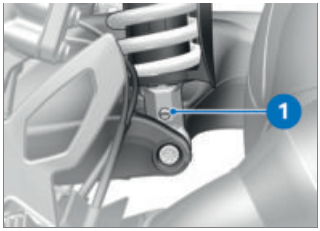
DAMPING

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 damping for rear wheel

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



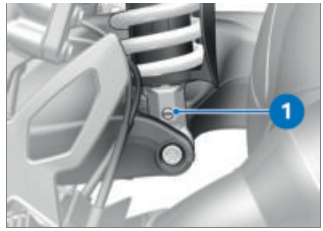
CAUTION

Adjusting the spring-strut damping when the silencer is hot
Risk of burn injury
• Allow the silencer to cool.

CAUTION

Working with hot components
Risk of burn injury
• Wear protective gloves.

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



- Turn the adjusting screw **1** clockwise to harden the damping action.
- Turn the adjusting screw **1** anticlockwise to soften the damping action.

Recommended suspension setting for one-up riding
Turn the adjuster knob counter-clockwise as far as it will go (Spring preload)
Turn the adjusting screw clockwise as far as it will go, then back it off 2 full turns (Damping)

Recommended suspension setting for two-up riding
Turn the adjuster knob clockwise as far as it will go (Spring preload)
Turn the adjusting screw clockwise as far as it will go, then back it off 1 turn (Damping)

FOOTREST SYSTEM

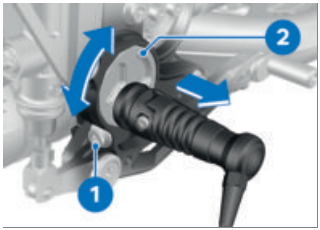
–with Option 719 Billet Pack Classic II[OE]
or
–with Option 719 Billet Pack Shadow II[OE]

Adjusting rotor

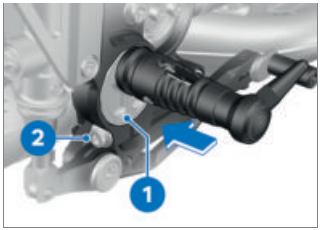
WARNING

Steep bank angles can lead to hard components striking the roadway during cornering.
Risk of falling
- Do not use footrests as an indicator of critical bank angles.

- Setting of the rotor is the same on the right and left.
- The position of the rotor must be set identically on the right and left.



- You can adjust foot clearance and set the footrest for a higher foot position by turning rotor **2**.
- Slacken screw **1** until rotor **2** can be pulled out.
- Rotor **2** is adjustable to any of 12 positions. To set the footrest to the highest position, turn rotor **2** through 180° clockwise or counterclockwise.



- Install rotor **1** in the desired position and tighten screw **2**.

Rotor to base plate
M6 x 25
20 Nm

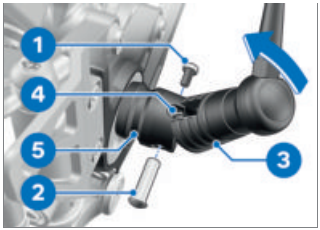
WARNING

Incorrectly adjusted footrest as a result of movement of the rotor.
Risk of falling
- The footrest setting must be adjusted accordingly if the rotor has moved.

- The footrest may only fold upwards and slightly towards the rear.

Adjusting footrest hinge

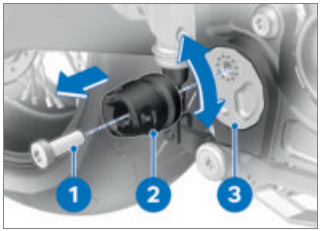
- Setting of the footrest joint is the same on the right and left.



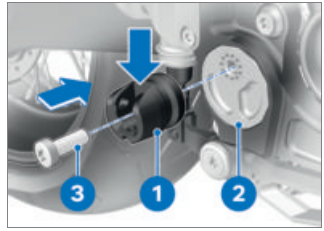
- Remove screw **1** and pin **2**.
- Fold footrest body **3** in the direction indicated by the arrow.

» The spring is relieved.

- Disengage spring **4** from footrest joint **5**.

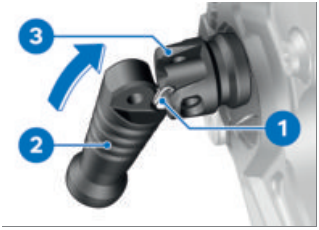


- Remove screw **1**.
- Pull footrest joint **2** off rotor **3**.
- Change the position of footrest joint **2** by turning counter-clockwise or clockwise.

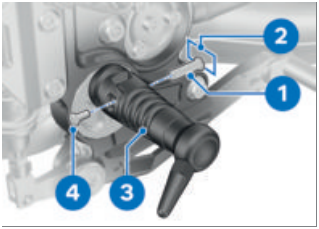


- When fitted, footrest joint **1** **must** be seated on rotor **2** in a position in which the opening **arrow** is pointing either upward or up and slightly to the rear.
- Install screw **3**.
- Remove and refit the footrest hinge on the shifting unit side in the same way.

	Positioning joint to rotor
M8 x 20	
20 Nm	



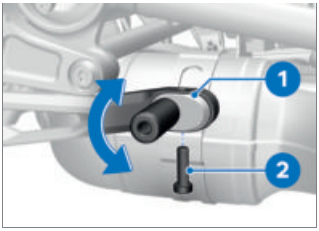
- Hook spring **1** into the eye of footrest joint **3**.
- Fold footrest body **2** up in footrest joint **3**.



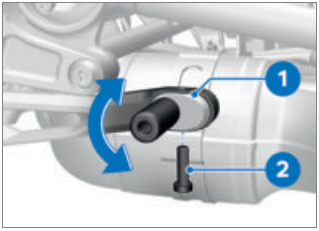
- Install pin **1** with head flattened on one side **2** flush in the footrest joint and footrest body **3**.
- Install screw **4**.
- Remove and refit the footrest body on the shifting unit side in the same way.

Footrest body to positioning joint
M4 x 8
3 Nm

Adjusting footbrake lever peg



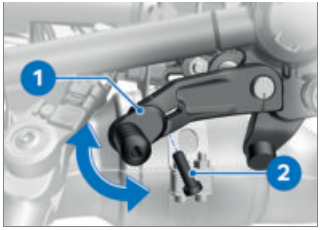
- Foot clearance and height relative to peg **1** can be adjusted by turning to different positions.
- Remove screw **2**.



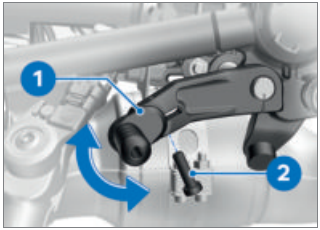
- Clean the threads.
- Turn peg **1** to the desired position.
- Install **new** screw **2**.

Peg to footbrake lever
M6 x 20
Thread-locking compound: micro-encapsulated
10 Nm

Adjusting gearshift lever peg



- Foot clearance and height relative to peg **1** can be adjusted by turning to different positions.
- Remove screw **2**.



- Clean the threads.
- Turn peg **1** to the desired position.
- Install **new** screw **2**.

	Peg to gearshift lever
M6 x 20	
Thread-locking compound: micro-encapsulated	
10 Nm	

RIDING

06

SAFETY INFORMATION 74
REGULAR CHECK 76
STARTING 77
RUNNING IN 80
BRAKES 81
PARKING YOUR MOTORCYCLE 83
REFUELLING 84
SECURING MOTORCYCLE FOR TRANSPORTATION 86

SAFETY INFORMATION

Rider's equipment

Do not ride without the correct clothing! Always wear
–Helmet
–Suit
–Gloves
–Boots

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

WARNING

Loose textiles, items of luggage or straps snagged by open rotating parts of the vehicle (wheels, drive shaft)
Risk of accident
- Make sure that loosely worn or carried textiles cannot be snagged by openly rotating parts of the vehicle.
- Keep all items of luggage and straps well clear of openly rotating parts of the vehicle.

Loading correctly

WARNING

Handling adversely affected by overloading and imbalanced loads
Risk of falling
- Do not exceed the permissible gross weight and be sure to comply with the instructions on loading.

- Set spring preload, damping characteristic and tyre pressures to suit total weight.
- Pack heavy items at the bottom and toward the inboard side.

–with tank bag OA
- Note the maximum permissible payload of the tank bag.

 Payload of tank rucksack
≤5 kg◁

–with rear softbag OA
- Note the maximum payload of the rear softbag.

 Payload of rear softbag
max 10 kg◁

Speed
If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle, e.g.:
– Spring-strut and shock-absorber system not set up correctly
– Imbalanced load
– Loose clothing
– Insufficient tyre pressure
– Poor tyre tread
– On-board luggage systems such as a tank bag or rear softbag.

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.

WARNING

Inhalation of harmful vapours
Health hazard
- Do not inhale vapours from operating fluid and plastics.
- Use the vehicle only outdoors.

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.

REGULAR CHECK

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

Always before riding off
–Check operation of the brake system (➠ 106).
–Check operation of the lights and signalling equipment.
–Check operation of the clutch (➠ 111).
–Check the tyre tread depth (➠ 112).
–Check the tyre pressures (➠ 111).
–Check security of luggage.

Every 3rd refuelling stop

–Check the engine oil level (➠ 104).
–Check the brake pad thickness, front brakes (➠ 106).
–Check the brake pad thickness, rear brakes (➠ 107).
–Check the brake-fluid level, front brakes (➠ 109).
–Check the brake-fluid level, rear brakes (➠ 110).

STARTING

Starting engine

- Switch on the ignition (➠ 38).

» Pre-Ride-Check is performed. (➠ 77)

» ABS self-diagnosis is in progress. (➠ 78)

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

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

- Cold starts and low temperatures:

» Pull the clutch lever.



- Press starter button **1**.

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

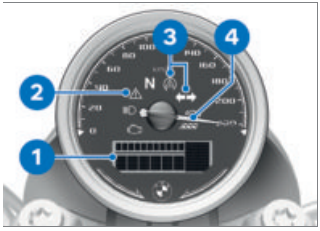
» The engine starts.

» Consult the troubleshooting chart below if the engine refuses to start. (➠ 146)

Pre-Ride-Check

When the ignition is switched on, the instrument cluster carries out a test of the instruments, the indicator and warning lights and the display, the "Pre-Ride-Check". The test is aborted if you start the engine before it completes.

Phase 1



All the segments in display **1** light up.
At the same time, all the indicator and warning lights **3** are switched on.

Phase 2
'General' warning light **2** changes from ON to flashing.
The needle **4** for the speed indicator moves to maximum speed.

Phase 3
Speedometer needle **4** moves to the zero position.
The indicator and warning lights go out or assume operational status, as applicable.

The malfunction indicator lamp (MIL) does not go out until 15 seconds have elapsed.

The display switches to its ordinary display mode. The onboard computer readings appear on the display.

If the needle did not move, an indicator or warning light did not show or segments in the display failed to light up:
- Have the fault rectified as quickly as possible by a specialist workshop, preferably an authorised BMW Motorrad retailer.

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

Phase 1
» Test of the diagnosis-compatible system components with the vehicle at a standstill.


flashes.

Phase 2
» Test of the wheel-speed sensors as the vehicle pulls away from rest.


flashes.

ABS self-diagnosis completed
» The ABS indicator and warning light goes out.

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

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

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

ASC/DTC self-diagnosis

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

Phase 1

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

 flashes.

Phase 2

» Test of the diagnosis-compatible system components while the motorcycle is on the move.

 flashes.

ASC/DTC self-diagnosis completed

» The ASC/DTC indicator and warning light goes out.

- Observe all the indicator and warning lights.

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

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

- You can continue to ride. Bear in mind that the ASC/DTC function is not available.
- 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.
- Bear in mind the load condition when running in.

 Load condition for running in
no full load (Odometer reading 0...1000 km)

- Be aware of the running-in speeds.

 Running-in speeds
0...1000 km
max 50 km/h (1st gear)
max 70 km/h (2nd gear)
max 90 km/h (3rd gear)
max 110 km/h (4th gear)
max 125 km/h (5th gear)
max 140 km/h (6th gear)

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

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

Brake pads

New brake pads have to be run in before they can achieve their optimum frictional force. 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. Only once the surface has been roughened can the tyres 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.

BRAKES

How can stopping distance be minimised?

Each time the brakes are applied, a load distribution shift takes place with the load shifting forward from the rear to the front wheel. The sharper the motorcycle decelerates, the more load is shifted to the front wheel. The higher the wheel load, the more braking force can be transmitted without the wheel locking.
To optimise stopping distance, apply the front brakes rapidly and keep on increasing the force you apply to the brake lever. This makes the best possible use of the dynamic increase in load at the front wheel. Remember to pull the clutch at the same time. In the extreme sudden-stop braking situations that are trained so frequently, braking force is applied as rapidly as possible and with the rider's full force applied to the brake levers; under these circumstances the dynamic shift in load distribution cannot keep pace with the increase in deceleration and the tyres cannot transmit the full braking force to the surface of the road.
BMW Motorrad ABS prevents the front wheel from locking up.

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.

Emergency braking

If you brake sharply from a speed in excess of 50 km/h, the brake light flashes rapidly as a warning for road users behind you.
If you brake until your speed is less than 15 km/h, the hazard warning lights start to flash as well. The hazard warning lights switch off automatically

as soon as you start to accelerate and vehicle speed reaches 20 km/h.

Descending mountain passes

WARNING

Braking mostly 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
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.

Possibility of a fall not precluded
Although ABS Pro and Dynamic Brake Control provide 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.

Use on public roads

ABS Pro and Dynamic Brake Control help 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 ABS Pro system prevents the wheels from locking and skidding away. In panic braking, Dynamic Brake Control increases the braking effect and intervenes if the throttle grip is accidentally turned during braking.

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

PARKING YOUR MOTORCYCLE

Side stand

- Switch off the engine.

ATTENTION

Poor ground underneath the stand

Risk of damage to parts if vehicle topples

- Always check that the ground under the stand is level and firm.

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.

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

REFUELLING

Fuel grade

Requirement

For optimum 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 15%, that is E15, can be used.

Fuel additives clean the fuel injection system and the combustion zone. It is advisable to use fuel additives when the engine is operated with low-grade fuel or if the vehicle is to be out of use for a lengthy period of time. More information is available from your authorised BMW Motorrad retailer.

	Recommended fuel grade
E5 E10	Premium unleaded (maximum 15% ethanol, E15) 95 ROZ/RON 90 AKI
	Alternative fuel grade
E5 E10	Regular unleaded (maximum 15% ethanol, E15) 91 ROZ/RON 87 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.

ATTENTION

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

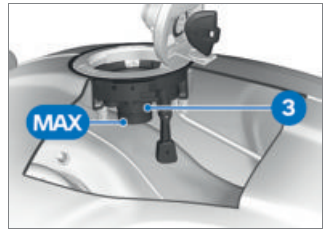
ATTENTION

Wetting of plastic surfaces by fuel
Damage to the surfaces (surfaces become unsightly or dull)
- Clean plastic surfaces immediately after contact with fuel.

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



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



- Refuel with fuel of the grade stated below; do not fill the tank past the bottom edge of the filler neck **3**.

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.

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.

Fuel tank capacity
approx. 17.0 l
Fuel reserve
approx. 3.5 l

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

SECURING MOTORCYCLE FOR TRANSPORTATION

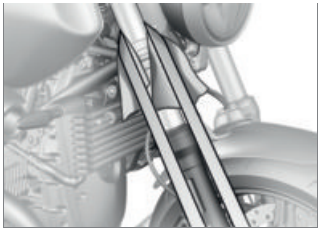
- Make sure that all components that might come into contact with straps used to secure the motorcycle are adequately protected against scratching. Use adhesive tape or soft cloths, for example, for this purpose.



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.

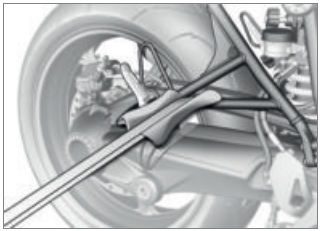
- Push the motorcycle onto the transportation flat and hold it in position: do not place it on the side stand.



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.



- At the rear, secure the straps to the frame for the passenger footrests on both sides and tighten the straps.
- Uniformly tighten all the straps.

» The vehicle's springs are compressed.

ENGINEERING DETAILS

07

GENERAL NOTES 90
ANTILOCK BRAKE SYSTEM (ABS) 90
DYNAMIC BRAKE CONTROL 93
TRACTION CONTROL (ASC/DTC) 94
RIDING MODE 95
DYNAMIC ENGINE BRAKE CONTROL 97
ADAPTIVE HEADLIGHT 98

GENERAL NOTES

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

ANTILOCK BRAKE SYSTEM (ABS)

How does ABS work?

The amount of braking force that can be transferred to the road depends on factors that include the coefficient of friction of the road surface. Loose stones, ice and snow or a wet road all have much lower coefficients of friction than a clean and dry asphalt surface. The lower the coefficient of friction, the longer the stopping distance.
If the rider increases the brake pressure to the extent that the brake force exceeds the maximum transferable limit, the wheels start to lock and the vehicle loses its directional stability; a fall is imminent. Before this situation can occur, ABS intervenes and adapts braking pressure to the maximum transferable braking force. The wheels continue to turn and the driving stability is retained irrespective of the road condition.

What are the effects of surface irregularities?

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

Rear wheel lift

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

which the motorcycle can flip over.

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.

What is the design baseline for BMW Motorrad ABS?
Within the limits imposed by physics, the BMW Motorrad ABS ensures directional stability on any surface.

At speeds above 4 km/h, within the limits imposed by physics the BMW Motorrad ABS can ensure directional stability on any surface. Limitations inherent to the design principle mean that at lower speeds the BMW Motorrad ABS cannot provide optimum assistance on all surfaces.

The system is not optimised for special requirements that apply under extreme competitive conditions off-road or on the track.

Special situations
The speeds of the front and rear wheels are compared as one means of detecting a wheel's incipient tendency to lock. If the system registers implausible values for a lengthy period the ABS function is deactivated for safety reasons and an ABS fault message is issued. Self-diagnosis has to complete before fault messages can be issued.
In addition to problems with the BMW Motorrad ABS, exceptional riding conditions can lead to a fault message being issued:
– Riding for a lengthy period with the front wheel lifted off the ground (wheelie)
– Rear wheel rotating with the vehicle held stationary by application of the front wheel brake (burn-out)
– Heating up with the motorcycle on the centre stand or an auxiliary stand, engine idling or with a gear engaged

– Rear wheel locked for a lengthy period, for example while descending off-road

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

How important is regular maintenance?

WARNING

Brake system not regularly serviced
Risk of accident
- In order to ensure that the BMW Motorrad ABS is always maintained in optimum condition, it is essential for you to comply strictly with the specified inspection intervals.

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

WARNING

Braking when cornering
Risk of accident despite ABS
- 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 margin of safety offered by this system.

ABS Pro
ABS Pro increases safety, particularly when braking in bends. ABS Pro prevents the wheels from locking even under sharp braking. ABS Pro reduces abrupt changes in steering force, particularly in shock-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. They come from the angular rate sensor, an integral component of Dynamic Traction Control DTC.
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.

DYNAMIC BRAKE CONTROL

–with riding modes Pro[OE]

How Dynamic Brake Control works
The Dynamic Brake Control function assists the rider in emergency braking situations.

Detection of emergency braking
–Sudden, sharp application of the front brake is interpreted as emergency braking.

Behaviour in emergency braking
–If emergency braking occurs at a speed in excess of 10 km/h, the ABS function is further assisted by Dynamic Brake Control.

Behaviour during accidental actuation of the throttle grip
–If the throttle is accidentally opened (throttle grip position > 5 %) during emergency braking, Dynamic Brake Control ensures the desired braking effect by ignoring actuation of the throttle grip. The effectiveness of emergency braking is ensured.
–If the throttle is closed (throttle grip position < 5 %) while Dynamic Brake Control is in action, the engine torque requested by the ABS brake system is restored.
–If emergency braking ceases and the rider still has not changed the position of the throttle grip, Dynamic Brake Control steadily ramps engine torque

back to the rider's requested level.

TRACTION CONTROL (ASC/ DTC)

How does traction control work?

Traction control is available in two versions

– **without** provision for the bank angle: Automatic Stability Control ASC
– ASC is a rudimentary function intended to prevent falls.
– **with** provision for bank angle: Dynamic Traction Control DTC
– DTC regulation is more delicate and more comfortable thanks to the additional bank angle and acceleration information.

Traction control compares the front and rear wheel circumferential velocities. 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. BMW Motorrad ASC/DTC is designed as an assistant system for the rider and for use on public roads. The extent to which the rider affects ASC/ DTC control can be considerable (weight shifts when cornering, items of luggage loose on the motorcycle), especially when the style of riding takes rider and machine close to the limits imposed by physics. The system is not optimised for special requirements that apply under extreme competitive conditions off-road or on the track. The BMW Motorrad ASC/DTC can be deactivated in these cases.

WARNING

Risky riding

Risk of accident despite ASC/ DTC

- 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.

Special situations

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

The speeds of the front and rear wheels are compared as one means of detecting the rear wheel's incipient tendency to spin or slip sideways. If the system registers implausible values for a lengthy period the ASC/DTC function is deactivated for safety reasons and an ASC/DTC fault message is issued. Self-diagnosis has to complete before fault messages can be issued.
The BMW Motorrad ASC/DTC can issue a fault message under the exceptional riding conditions outlined below:

Exceptional riding conditions:

–Riding for a lengthy period with the front wheel lifted off the ground (Wheelie) with ASC/DTC deactivated.
–Rear wheel rotating with the vehicle held stationary by application of the front brake (burn-out).
–Warming up with the motorcycle on an auxiliary stand, in neutral or with a gear engaged.

The ASC/DTC is reactivated by switching the ignition off and on again and then riding at a minimum speed.

 Minimum speed for activation of ASC/DTC
min 5 km/h

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

RIDING MODE

Selection

To adjust the motorcycle to the road condition and the desired driving experience, the following riding modes can be selected:
–RAIN
–ROAD

–with riding modes Pro[OE]
–DYNA

For each of these riding modes, there is a matching setting for the ABS and ASC/DTC systems and for throttle response.

ASC/DTC can be switched off in each riding mode. The explanations below always refer to the dynamic safety systems that are switched on.

Throttle response
–In RAIN riding mode: Restrained
–In ROAD riding mode: Optimum

–with riding modes Pro[OE]
–In DYNA riding mode: Direct

ABS
–The rear wheel lift-off detection is activated in all riding modes.
–ABS Pro is fully available in all riding modes. The tendency of the motorcycle to straighten up when the brakes are applied with the machine banked for cornering is reduced to a minimum.
–In RAIN and ROAD riding modes, the ABS is set up for on-road riding.

–with riding modes Pro[OE]
–In DYNA riding mode, the ABS is set up for on-road riding.

ASC
–ASC is set up for on-road riding.
–ASC provides high driving stability in ROAD riding mode and maximum driving stability in RAIN riding mode.

–with riding modes Pro[OE]

DTC

Tyres
–In the DTC settings RAIN, ROAD and DYNA, DTC is set up for on-road riding with road tyres.

Riding stability
–In the DTC setting RAIN, DTC intervenes early to maximise riding stability.
–In the DTC setting ROAD, DTC intervenes later than in the RAIN riding mode. This prevents the rear wheel from spinning whenever possible.
–In the DTC settings for RAIN and ROAD, the front wheel is prevented from lifting.
–In the DTC setting DYNA, DTC intervenes later than in the DTC setting ROAD, so slight drift can be induced when exiting corners and brief wheelies are also possible.

Mode changes
The riding mode can be changed while the vehicle is stationary with the ignition on. It is possible to change it while driving under the following conditions:
–No drive torque on the rear wheel.
–No brake pressure in the brake system.

The following steps must be taken to change the riding mode:
–Close the throttle twistgrip.
–Release the brake levers.

–with cruise control OE
–Deactivate cruise control.

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.

DYNAMIC ENGINE BRAKE CONTROL

–with riding modes Pro OE

How does dynamic engine brake control work?
The purpose of dynamic engine brake control is to prevent the unstable riding states that can be produced by excessive engine braking moment acting on the rear wheel. Depending on the road condition and riding dynamic, excessive braking torque can produce a sharp rise in rear-wheel slip and impair directional stability. Dynamic engine brake control limits this slip at the rear wheel to a safe, mode-dependent regulated slip.
Causes for excessive slip at the rear wheel:
–Riding with engine overrun on a surface with a low coefficient of friction (e.g. wet leaves).
–Rear-wheel hop when rider downshifts.
–Sharp braking during sporty riding.

In the same way as BMW Motorrad ASC, dynamic engine brake control compares the wheel circumferential velocities of the front and rear wheels. Dynamic engine brake control uses this differential to compute slip as a measure of

the reserve of stability available at the rear wheel.
If slip overshoots the applicable limit, the throttle valves are opened very slightly to increase engine torque. Slip is reduced and the vehicle is stabilised.

Effect of dynamic engine brake control
–In RAIN and ROAD riding modes: Maximum stability
–In DYNA riding mode: Compared with the RAIN and ROAD riding modes, reduced intervention.

ADAPTIVE HEADLIGHT

–with adaptive head light OE

Function
In addition to the bulbs for low beam, high beam and daytime riding light, or side light, the headlight has two separate LED elements complete with their own reflectors. The LED elements are activated as a function of bank angle in addition to the low-beam headlight, enabling the headlight to illuminate the inside of the bend as the motorcycle banks for cornering. The adaptive cornering headlight is optimised for bank angles up to 25°.

The adaptive cornering headlight is activated under the following conditions:
–Bank angle is more than 7°.
–Speed is higher than 10 km/h.
–The low-beam headlight is switched on.

MAINTENANCE

08

GENERAL NOTES 102
TOOLKIT 103
FRONT-WHEEL STAND 103
REAR-WHEEL STAND 104
ENGINE OIL 104
BRAKE SYSTEM 106
CLUTCH 111
TYRES 111
WHEEL RIMS 112
WHEELS 113
LIGHTING 120
JUMP-STARTING 120
BATTERY 122
FUSES 123
DIAGNOSTIC CONNECTOR 124

GENERAL NOTES

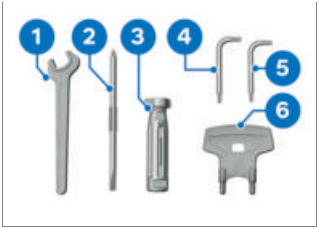
The Maintenance chapter describes straightforward procedures for checking and replacing certain wear parts.

Microencapsulated screws
The microencapsulation is a chemical thread-locker. An adhesive compound creates a secure connection between bolt and nut or between screw and component. Consequently, microencapsulated screws are for once-only use and are not intended for re-installation after being slackened.
After removal of the screw, clean the internal thread to remove all traces of thread-locking compound. Always use new microencapsulated screws when re-assembling. Consequently, prior to disassembly make sure that you have suitable tools for cleaning the threads and a new replacement for each screw to be removed. If the job is not done correctly there is no guarantee that the screw will remain secure, which means that you would be putting yourself at risk!

Further information
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, available from your authorised BMW Motorrad retailer.

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 retailer.

TOOLKIT



1 Open-ended spanner
Width across flats 14 mm
–Adjust the mirror arm (➠ 62).

2 Reversible screwdriver blade
With star-head and plain-tip ends
–Adjust the damping for rear wheel (➠ 66).

3 Screwdriver handle
–Top up the engine oil (➠ 105).
–Use with screwdriver insert

4 Torx wrench, T25
–Loosen positive battery terminal.

5 Torx wrench, T20

6 Handwheel wrench for adjusting spring preload
–Adjust the spring preload for rear wheel (➠ 66).

FRONT-WHEEL STAND

Installing front-wheel stand

ATTENTION

Use of the BMW Motorrad front-wheel stand without also using the auxiliary stand
Risk of damage to parts if vehicle topples
- Place the motorcycle on an auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.

- Make sure the motorcycle is standing firmly.
- Place the motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad auxiliary stand.
- Install the rear-wheel stand (➠ 104).



- See the instructions issued with the front-wheel stand for the details of the correct procedure for installation.
- BMW Motorrad offers an auxiliary stand suitable for every vehicle. Your BMW Motorrad retailer will be happy to help you with the selection of a suitable auxiliary stand.

REAR-WHEEL STAND

Installing rear-wheel stand



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

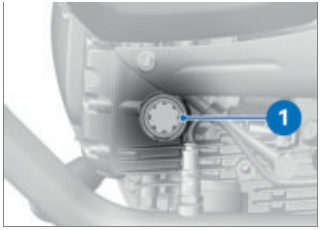
ENGINE OIL

Checking engine oil level

ATTENTION

Misinterpretation of oil level reading, because oil level is temperature-dependent (the higher the temperature, the higher the oil level)
Engine damage
- Check the oil level only after a lengthy ride or when the engine is at operating temperature.

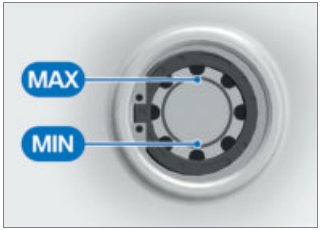
- Switch off the engine when it is at operating temperature.
- Make sure the ground is level and firm and hold the motorcycle upright.
- Wait five minutes for the oil to drain into the oil pan.



ATTENTION

Vehicle toppling sideways
Risk of damage to parts if vehicle topples
- Secure the vehicle, preferably with the assistance of a second person, so that it cannot topple sideways.

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



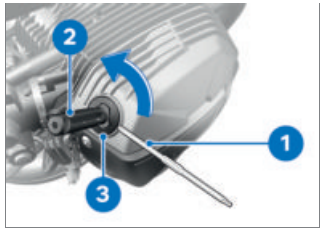
Engine oil, specified level
Between **MIN** and **MAX** marks

If the oil level is below the **MIN** mark:
- Top up the engine oil (➠ 105).

If the oil level is above the **MAX** mark:
- Have the oil level corrected by a specialist workshop, preferably an authorised BMW Motorrad retailer.

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

Topping up engine oil
- Make sure the ground is level and firm and place the motorcycle on its stand.



- Wipe the area around the oil filler opening clean.
- Insert cross-head end of reversible screwdriver insert **1** into screwdriver handle **2** (onboard toolkit).

- Engage the tool in cap **3** and turn the cap counter-clockwise.
- Remove cap **3** of the oil filler opening.

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.

 Engine oil, quantity for topping up
max 0.5 l (Difference between **MIN** and **MAX**)

- Check the engine oil level (➠ 104).
- Install cap **3**.

BRAKE SYSTEM

Checking operation of the brakes
- Operate the brake lever.

» There is a clearly perceptible pressure point.
- Press the footbrake lever.

» There is a clearly perceptible pressure point.

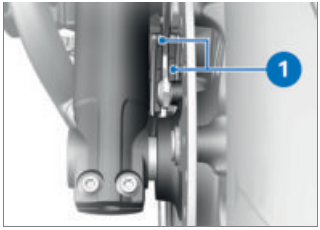
If pressure points are not clearly perceptible:

ATTENTION

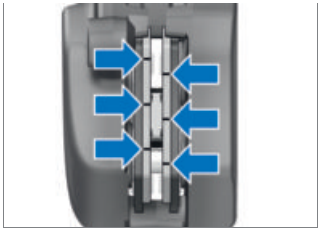
Work on brake system not in compliance with correct procedure
Risk to operational reliability of the brake system
- Have all work on the brake system undertaken by trained and qualified specialists.

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

Checking brake pad thickness, front brakes
- Make sure the ground is level and firm and place the motorcycle on its stand.



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



Brake-pad wear limit, front
1.0 mm (friction pad only, without backing plate. The wear indicators (grooves) must be clearly visible.)

If the wear indicating marks are no longer clearly visible:

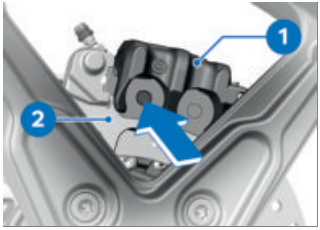
WARNING

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.

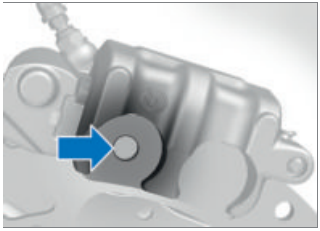
- Have the brake pads replaced by a specialist workshop, preferably an authorised BMW Motorrad retailer.

Checking brake pad thickness, rear brakes

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



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



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

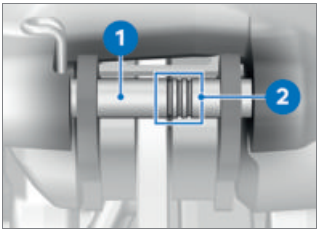
If brake disc **2** is visible:

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 retailer.

Brake pad wear
The rear wheel brake has a brake-pad wear indicator.



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

How to interpret the marks:
–3 rings visible: brake-pad thickness is at least 75 %
–2 rings visible: brake pad thickness is at least 50 %
–1 ring visible: brake pad thickness is at least 25 %
–No ring visible: wear limit has been reached, check as described above

Checking brake-fluid level, front brakes

WARNING

Not enough brake fluid in brake fluid reservoir, or contaminants in brake fluid
Considerably reduced braking power due to presence of air, contaminants or water in the brake system
- Cease operation of the vehicle immediately and do not ride it until the fault has been rectified.
- Check the brake-fluid levels at regular intervals.
- Always make sure that the lid of the brake fluid reservoir and the area around the lid are cleaned before opening.
- Make sure that only fresh brake fluid from a sealed container is used.

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



- Turn the handlebars to a position in which the brake fluid reservoir is horizontal.
- Check the brake fluid level in sight glass **1**.

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



Brake fluid level, front
Brake fluid, DOT4


Brake fluid level, front

The brake fluid level may not drop below the **MIN** mark (Brake fluid tank horizontal, vehicle upright.)

If the brake fluid level drops below the permitted level:

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

Checking brake-fluid level, rear brakes

WARNING

Not enough brake fluid in brake fluid reservoir, or contaminants in brake fluid

Considerably reduced braking power due to presence of air, contaminants or water in the brake system

- Cease operation of the vehicle immediately and do not ride it until the fault has been rectified.
- Check the brake-fluid levels at regular intervals.
- Always make sure that the lid of the brake fluid reservoir and the area around the lid are cleaned before opening.
- Make sure that only fresh brake fluid from a sealed container is used.

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



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

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:

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

CLUTCH

Checking operation of clutch

- Pull the clutch lever.

» There is a clearly perceptible pressure point.

If the pressure point is not clearly perceptible:

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

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.

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Check tyre pressures against the data below.

 Tyre pressure, front
2.5 bar (One-up and two-up with luggage, tyre cold)
 Tyre pressure, rear
2.7 bar (One-up, tyre cold)
2.9 bar (Two-up mode with load, with cold tyres)

If tyre pressure is too low:
- Correct tyre pressure.

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.

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

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

If the tyre tread is worn to minimum:
- Replace tyre or tyres, as applicable.

WHEEL RIMS

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

Checking spokes
–with spoked wheels OE

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

- Draw the handle of a screwdriver or a similar instrument across the spokes and listen to the sequence of sounds made by the individual spokes.

If there is a variation in the sequence of sounds:

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

WHEELS

Effect of wheel size on chassis and suspension control systems

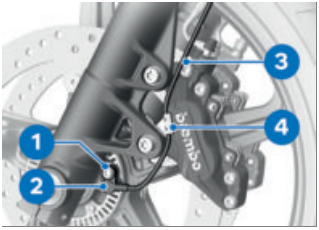
Wheel size is very important as a parameter for the running-gear control systems such as ABS, for example. In particular, the diameter and the width of a vehicle's wheels are programmed into the control unit and are fundamental to all calculations. Any change in these influencing variables, caused for example by a switch to wheels other than those installed ex-works, can have serious effects on the performance of the control systems.

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

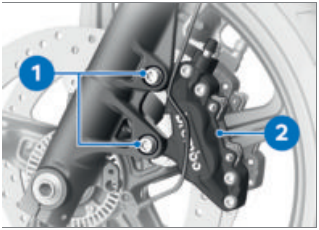
If you decide that you would like to fit non-standard wheels to your motorcycle, it is very important to consult a specialist workshop beforehand, preferably an authorised BMW Motorrad retailer. In these cases, the data programmed into the control units has to be changed to suit the new wheel sizes.

Removing front wheel

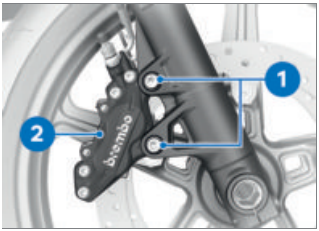
- Place the motorcycle on an auxiliary stand. BMW Motorrad recommends you use the BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand (➠ 104).
- Lift the front of the motorcycle until the front wheel is clear of the ground, preferably using a BMW Motorrad front-wheel stand.
- Install the front-wheel stand (➠ 103).



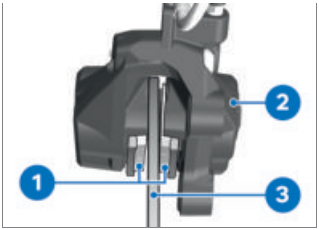
- Remove screw **1**.
- Release wheel speed sensor **2**.
- Disengage cable **3** from holder **4**.



- Remove screws **1**.
- Loosen left brake caliper **2**.



- Remove screws **1**.
- Loosen right brake caliper **2**.



- Force brake pads **1** slightly apart by rocking brake caliper **2** back and forth against brake disc **3**.

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.

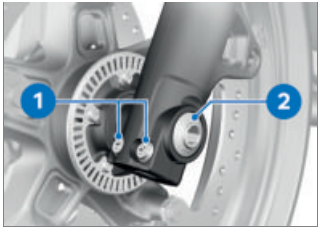
ATTENTION

Use of hard or sharp-edged objects in proximity to component

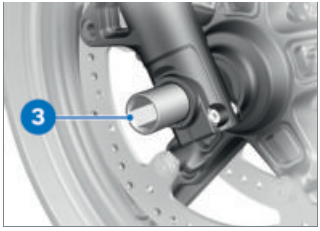
Component damage

- Take care not to scratch components; cover or mask as necessary.

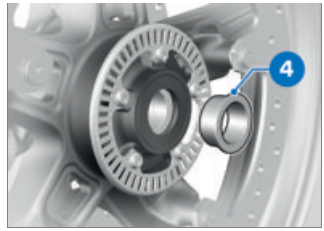
- Carefully pull the brake calipers back and out until clear of the brake discs.



- Slacken clamping bolts **1** on left and right.
- Slacken screw **2**, but **do not remove it**.
- Press quick-release axle slightly toward the inside, so as to be better able to grip it on the right-hand side.
- Remove screw **2**.



- Withdraw quick-release axle **3**, support the front wheel when doing this.
- Set down front wheel and roll forwards out of the front suspension.



- Remove spacer bushing **4** from the wheel hub.

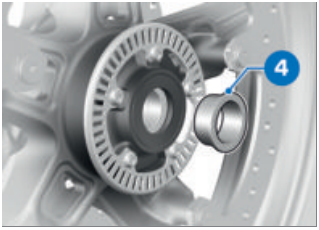
Installing front wheel

WARNING

Use of a non-standard wheel
Malfunctions during ABS and ASC/DTC intervention
- See the information on the effect of wheel size on the ABS and ASC/DTC systems at the start of this chapter.

ATTENTION

Tightening threaded fasteners to incorrect tightening torque
Damage, or threaded fasteners work loose
- Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.



- Lubricate the friction face of spacer bushing **4**.

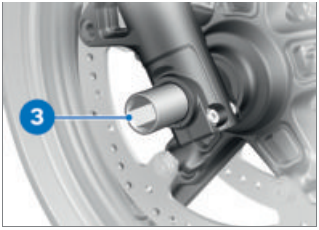
Lubricant
Optimoly TA

- Insert spacer bushing **4**, turned with the collar facing out, into the wheel hub on the left-hand side.

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 forks of the front suspension.



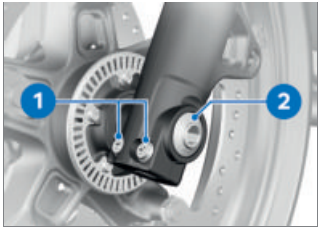
- Lubricate quick-release axle **3**.

Lubricant
Optimoly TA

WARNING

Improper installation of the quick-release axle
Loosening of the front wheel
- After securing the brake calipers and relieving the front forks, tighten the quick-release axle and the axle clamping to the specified tightening torque.

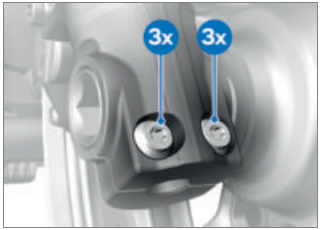
- Lift the front wheel and insert quick-release axle **3**.
- Remove front-wheel stand and firmly compress front forks several times. Do not operate the handbrake lever in this process.
- Install the front-wheel stand (➠ 103).



- Install screw **2**. In this process, counter-hold the quick-release axle on the right side.

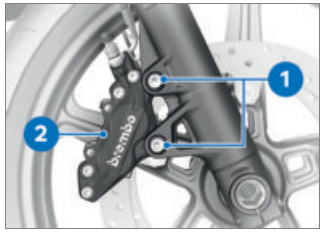
Screw to quick-release axle
M20 x 1.5
50 Nm

- Tighten clamping screws **1** on the left and right to the specified torque.



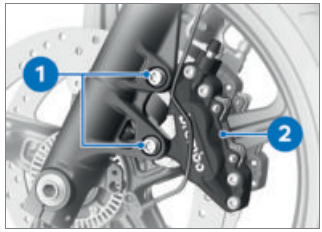
Clamping screws in axle holder
Tightening sequence: Tighten screws six times in alternate sequence
M8 x 35

Clamping screws in axle holder
19 Nm



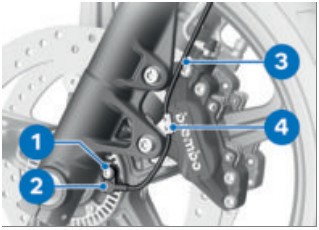
- Hold right brake caliper **2** in position and install screws **1**.

Brake caliper to telescopic fork
M10 x 40 x 1.25
38 Nm



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

Brake caliper to telescopic fork
M10 x 40 x 1.25
38 Nm



- Hold wheel speed sensor **2** in position.
- Install screw **1**.

	Wheel-speed sensor to fork leg
M6 x 20	
8 Nm	

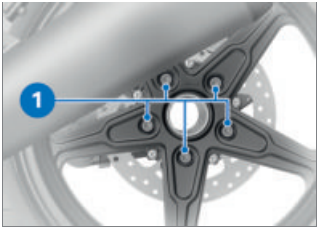
- Secure cable **3** in holder **4**.

WARNING

Brake pads not lying against the brake disc
Risk of accident due to delayed braking effect.
- Before driving, check that the brakes respond without delay.

- Operate the brake several times until the brake pads are bedded.
- Remove the front-wheel stand.
- Extend the side stand.
- Remove the rear-wheel stand.
- Place the motorcycle on its side stand.

Removing rear wheel
- Lift the motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Install the rear-wheel stand (➠ 104).
- Engage first gear.



- Support the wheel and remove screws **1**.

ATTENTION

Use of hard or sharp-edged objects in proximity to component
Component damage
- Take care not to scratch components; cover or mask as necessary.

- Raise the rear wheel, swing out to the rear left and remove.

Installing rear wheel

WARNING

Use of a non-standard wheel
Malfunctions during ABS and ASC/DTC intervention
- See the information on the effect of wheel size on the ABS and ASC/DTC systems at the start of this chapter.

ATTENTION

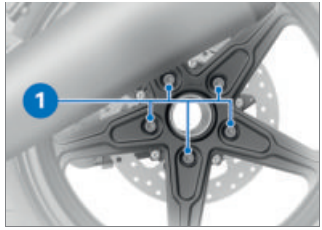
Tightening threaded fasteners to incorrect tightening torque
Damage, or threaded fasteners work loose
- Always have the security of the fasteners checked by a specialist workshop, preferably an authorised BMW Motorrad dealer.

- Clean the wheel centring spigot and contact surfaces.

ATTENTION

Use of hard or sharp-edged objects in proximity to component
Component damage
- Take care not to scratch components; cover or mask as necessary.

- Fit the rear wheel from the rear left and set on the wheel carrier.



- Install screws **1**.

	Rear wheel to wheel carrier
Tightening sequence: Tighten in diagonally opposite sequence	
M10 x 53 x 1.25	
60 Nm	

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

LIGHTING

Replacing LED light sources

WARNING

Vehicle overlooked in traffic due to failure of the lights on the vehicle
Safety risk
- Always replace a faulty bulb at the earliest possible opportunity. Consult a specialist workshop, preferably an authorised BMW Motorrad Retailer.

All light sources of the vehicle are LED light sources. The service life of the LED light sources is longer than the presumed vehicle service life. If an LED light source is faulty contact a specialist workshop, preferably an authorised BMW Motorrad retailer.

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

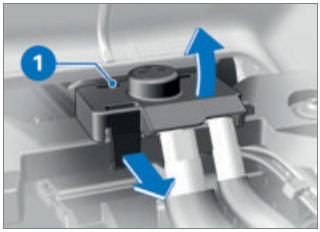
Contact between crocodile clips of jump leads and vehicle
Risk of short-circuit
- Use jump leads fitted with fully insulated crocodile clips at both ends.

ATTENTION

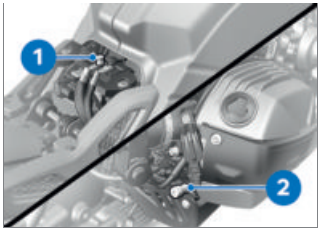
Jump-starting with a voltage greater than 12 V
Damage to the on-board electronics
- Make sure that the battery of the donor vehicle has a voltage rating of 12 V.

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the passenger seat (➠ 58).

- Remove the rider's seat (➠ 58).



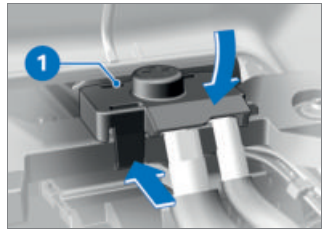
- Unclip cover **1** at the bottom (**arrow**) and work it up to remove.



- Begin by connecting one end of the red jump lead to remote positive terminal **1** and the other end to the positive terminal of the donor battery.
- Connect one end of the black jump lead to vehicle's remote ground terminal **2** and the other end to the negative terminal of the donor battery.
- Run the engine of the donor vehicle during jump-starting.
- Start the engine of the vehicle with the discharged battery in the usual way; if the engine does not start, wait a few minutes before repeating the attempt in order to protect the starter motor and the donor battery.

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

- Allow both engines to run for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from remote ground terminal **2** first, then disconnect the second jump lead from remote positive terminal **1**.



- Install cover **1**.
- Install the rider's seat (➠ 58).
- Install the passenger seat (➠ 58).

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.
– Follow the loading instructions 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.

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

Recharging connected battery

ATTENTION

Charging the battery that is connected to the vehicle via the battery terminals

Damage to the on-board electronics

- Disconnect the battery at the battery terminals before charging.

- Charge the disconnected battery directly at the terminals.

Recharging disconnected battery

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

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

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

Replacing battery

If there is a fault in the battery, seek the advice of a specialist workshop, preferably an authorised BMW Motorrad Retailer.

FUSES

Replacing fuses

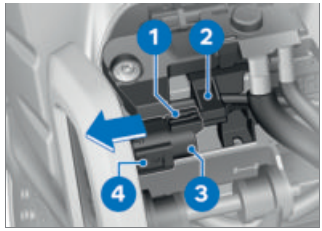
ATTENTION

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.
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Remove the passenger seat (➠ 58).
- Remove the rider's seat (➠ 58).



- Press hook **1**.

» The fuse box is unlocked and can be pulled to the left and disengaged from holder **2**.

- Remove the fuse box from holder **2**.
- Press lock **4** on each side and remove cap **3**.

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

- Consult the fuse assignment diagram below and replace the defective fuse.

» Fuse assignment (➠ 124)

- Re-install cap **3**. Make sure that lock **4** engages.
- Push the fuse box into holder **2** until hook **1** engages.
- Install the rider's seat (➠ 58).
- Install the passenger seat (➠ 58).

Fuse assignment



Fuse 1
10 A (Instrument cluster, anti-theft alarm system (DWA), ignition switch, OBD diagnostic socket, ignition coil isolating relay)

Fuse 2
4 A (Sensor box, multifunction switch, left)

DIAGNOSTIC CONNECTOR

Disengaging diagnostic socket

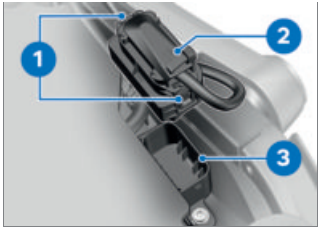
CAUTION

Incorrect disconnection of the diagnostic socket for on-board diagnosis

Malfunctions of the vehicle

- Do not disconnect the diagnostic socket or allow it to be disconnected except in the course of a BMW Motorrad service by a specialist workshop or by other authorised persons.
- Have the work carried out by appropriately trained personnel.
- Comply with the stipulations of the vehicle manufacturer.

- Remove the passenger seat (⇒ 58).
- Remove the rider's seat (⇒ 58).

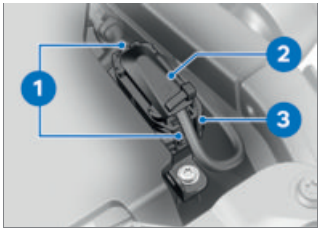


- Press locks **1**.
- Disengage diagnostic socket **2** from holder **3**.

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

Securing diagnostic socket

- Disconnect the interface for the diagnosis and information system.



- Insert diagnostic socket **2** into holder **3**.

» The locks **1** engage.

- Install the rider's seat (➠ 58).
- Install the passenger seat (➠ 58).

ACCESSORIES

09

GENERAL NOTES 128
USB CHARGING SOCKET 128
LUGGAGE 129
PASSENGER FRAME 130
OPTIONAL ACCESSORIES 136

GENERAL NOTES

CAUTION

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

BMW has conducted extensive testing of the parts and accessory products to establish that they are safe, functional and suitable. Consequently, BMW accepts responsibility for the products. BMW accepts no liability whatsoever for parts and accessories that it has not approved.

All modifications must be in compliance with legal requirements. Make sure that the vehicle does not infringe the national road-vehicle construction and use regulations applicable in your country.
Your authorised BMW Motorrad retailer can offer expert advice on the choice of genuine BMW parts, accessories and other products.
To find out more about accessories go to:
bmw-motorrad.com/equipment

USB CHARGING SOCKET

Notes on use:

Charge current
This is a 5 V USB charging interface that provides a maximum charge current of 2.4 A (maximum charging power 12 W).

Automatic shutdown
The USB charging sockets are shut down automatically under the following circumstances:
– If battery charge state is too low, to maintain the vehicle's start capability.
– If the maximum load capacity as stated in the technical data is exceeded.

–During the starting operation.

Connection of electrical devices

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

While riding in the rain, you should disconnect the device from the interface in order to protect against damage.

To prevent dirtying, keep the protective cover closed when no device is connected.

Cable routing

Note the following with regard to the routing of cables from USB charging sockets to items of electronic equipment:

–Make sure that cables do not impede the rider.

–Make sure that cables do not restrict the steering angle or obstruct handling.

–Make sure that cables cannot be trapped.

LUGGAGE

Securing luggage to motorcycle

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.



- Secure luggage (e.g. rear bag) to lashing eyes **1**.
- Note the maximum payload.

Payload of rear softbag
–with rear softbag OA
max 10 kg◁

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

PASSENGER FRAME

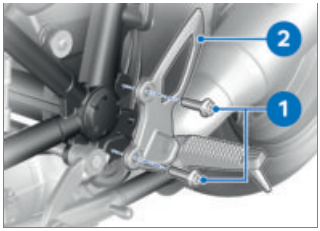
Removing passenger frame

ATTENTION

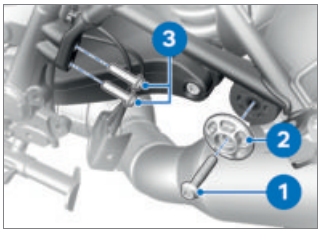
Hard or sharp-edged components
Scratches and damage to paintwork
- Use a suitable soft cover or mask off the areas at risk.

An additional optional accessory (bracket for silencer) has to be installed if the passenger frame is removed. Detailed information is available from your authorised BMW Motorrad retailer or on the internet at **bmw-motorrad.com**.
Also observe the general notes at the beginning of this chapter.

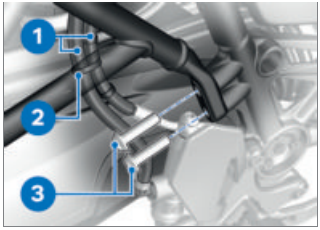
- Make sure the ground is level and firm and place the motorcycle on its stand.
- Install the rear-wheel stand (➠ 104).
- Remove the passenger seat (➠ 58).
- Remove the rider's seat (➠ 58).



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



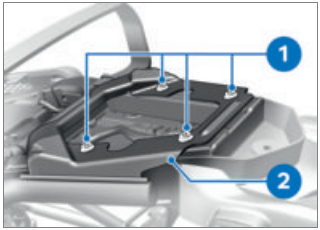
- Remove screw **1** and washer **2**.
- Remove screws **3**.



ATTENTION

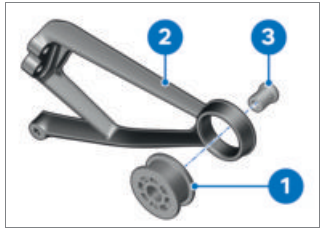
Trapping of components
Component damage
- Do not trap components such as brake lines or cable legs.

- Disengage cable ties **2** from lines **1**.
- Remove screws **3**.

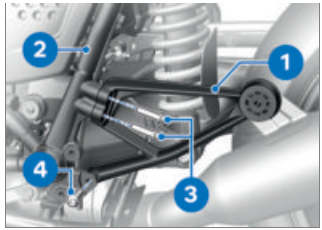


- Remove screws **1** and work passenger frame **2** to the rear to remove.

–with bracket for silencer[OA]



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



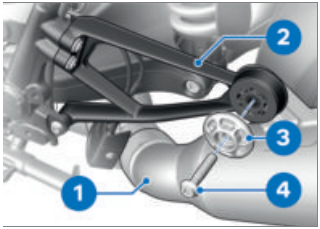
- Hold bracket **1** for the silencer in position at rear frame **2**.
- Loosely install screws **3** and **4**.
- Tighten screws **3**.

Rear-seat frame to rear frame
M8 x 30
19 Nm

- Tighten screw **4**.

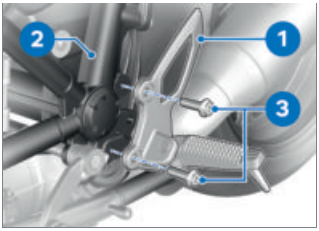
Bracket for the silencer on the rear frame
–with bracket for silencer OA
M8 x 30
19 Nm
M8 x 25
19 Nm◁◁

–with bracket for silencer OA



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

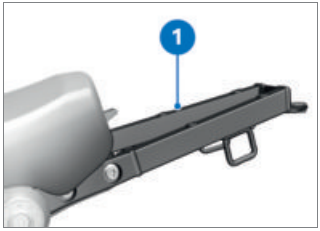
Silencer to bracket
M8 x 40
10 Nm◁



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

Footrest system to rear frame
M8 x 25
19 Nm

Loading correctly; passenger frame not fitted



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.

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

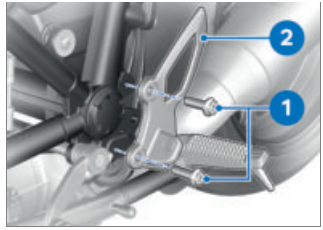
Load on luggage frame
max 8 kg

Installing passenger frame

ATTENTION

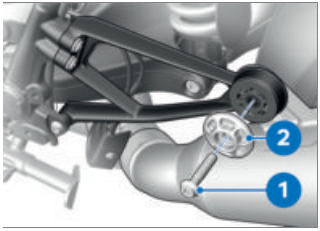
Hard or sharp-edged components
Scratches and damage to paintwork
- Use a suitable soft cover or mask off the areas at risk.

- Make sure the ground is level and firm and place the motorcycle on its stand.
- Install the rear-wheel stand (➠ 104).
- Remove the rider's seat (➠ 58).

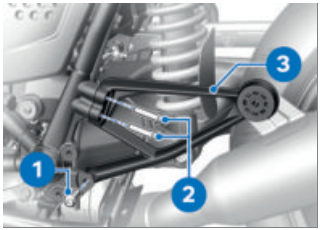


- Remove screws **1** and remove left footrest system **2**.

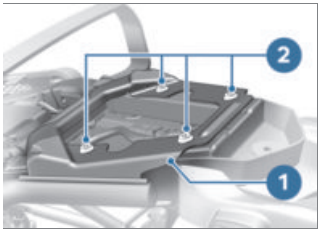
–with bracket for silencer OA



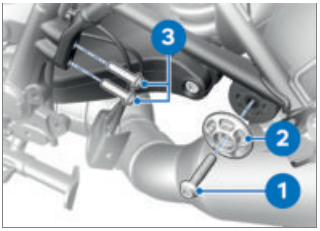
- Remove screw **1** and washer **2**.



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



- Insert passenger frame **1** from the rear and loosely install screws **2**.

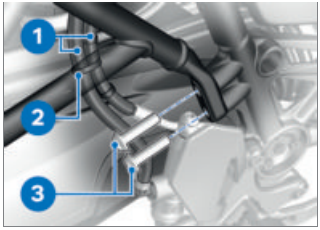


- Loosely install screw **1** and lock washer **2**.
- Install screws **3**.

Rear-seat frame to rear frame
M8 x 30
19 Nm

- Tighten screw **1**.

Silencer to passenger frame
M8 x 40
19 Nm

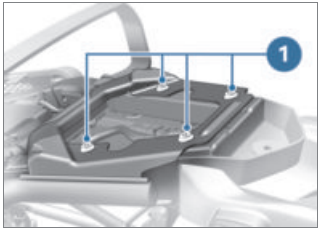


ATTENTION

Trapping of components
Component damage
- Do not trap components such as brake lines or cable legs.

- Secure lines **1** with cable ties **2**.
- Install screws **3**.

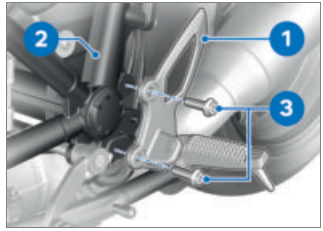
Rear-seat frame to rear frame
M8 x 30
19 Nm



- Tighten screws **1**.

Rear-seat frame to luggage frame
M6 x 20
8 Nm

- Remove all masking tape.



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

Footrest system to rear frame
M8 x 25
19 Nm

- Install the rider's seat (➠ 58).
- Install the passenger seat (➠ 58).
- Remove the rear-wheel stand.

OPTIONAL ACCESSORIES

Available optional accessories



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

CARE

10

CARE PRODUCTS 140
WASHING THE VEHICLE 140
CLEANING EASILY DAMAGED COMPONENTS 141
CARE OF PAINTWORK 142
PAINT PRESERVATION 143
LAYING UP MOTORCYCLE 143
RESTORING MOTORCYCLE TO USE 143

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 Motorrad Care Products 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.

ATTENTION

Use of strongly acidic or strongly alkaline cleaning agents

Damage to vehicle parts

- Dilute in accordance with the dilution ratio stated on the packaging of the cleaning agent.
- Do not use strongly acidic or strongly alkaline cleaning agents.

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.

After a ride in the rain, when humidity is high or after the vehicle has been washed, condensation might

form inside the headlight. This can cause temporary fogging on the headlight lens. If moisture is constantly present inside the headlight consult a specialist workshop, preferably an authorised BMW Motorrad retailer.

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.

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

Headlight glass and lenses made of plastic
Remove dirt and insects with a soft sponge and plenty of water.

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


Clean with water and sponge only.


Do not use any chemical cleaning agents.

Chrome
Carefully clean chrome parts with plenty of water and motorcycle cleaner from the BMW Motorrad Care Products range. This is particularly important to counter the effects of road salt.
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

Washing the vehicle regularly will help counteract the long-term effects of substances that can damage the paint, especially if your vehicle is ridden in areas with high air pollution or natural sources of dirt, for example tree resin or pollen. Remove particularly aggressive substances immediately, however, as otherwise the paint can be affected or become discoloured. Substances of this nature include spilt fuel,

oil, grease, brake fluid and bird droppings. For this, we recommend BMW Motorrad solvent cleaner followed by BMW Motorrad gloss polish for preservation.
Marks on the paintwork are particularly easy to see after the motorcycle has been washed. Remove stains of this kind at the earliest possible opportunity, using cleaning benzene or petroleum spirit on a clean cloth or ball of cotton wool. BMW Motorrad recommends using BMW tar remover for removing specks of tar. Then apply preserving agent to the areas treated in this way.

PAINT 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 MOTORCYCLE

- Fill the motorcycle's fuel tank.

Fuel additives clean the fuel injection system and the combustion zone. It is advisable to use fuel additives when the engine is operated with low-grade fuel or if the vehicle is to be out of use for a lengthy period of time. More information is available from your authorised BMW Motorrad retailer.

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

RESTORING MOTORCYCLE TO USE

- Remove the protective wax coating.
- Clean the motorcycle.
- Install the battery.
- Note the checklist (➠ 76).

TECHNICAL DATA

11

TROUBLESHOOTING CHART	146
THREADED FASTENERS	147
FUEL	150
ENGINE OIL	150
ENGINE R NINET PURE (0L61)	151
ENGINE R NINET PURE A2 (0M91)	151
CLUTCH	152
TRANSMISSION	152
FINAL DRIVE	153
FRAME	153
CHASSIS AND SUSPENSION	153
BRAKES	154
WHEELS AND TYRES	155
ELECTRICAL SYSTEM	156
DIMENSIONS	157
WEIGHTS	157
PERFORMANCE FIGURES	158

TROUBLESHOOTING CHART

The engine does not start.

Possible cause	Rectification
Side stand is extended and gear is engaged.	Retract the side stand.
Gear is engaged and clutch is not pressed.	Select neutral or pull the clutch lever.
Fuel tank is empty.	Fuel grade (➠ 84).
Battery is flat.	Recharging connected battery (➠ 122).
Starter motor overheating protection has tripped. The starter motor can be operated for a limited time only.	Allow the starter motor to cool down for approximately 1 minute before trying again.

THREADED FASTENERS

Front wheel	Value	Valid
Brake caliper to telescopic fork		
M10 x 40 x 1.25	38 Nm	
Clamping screws in axle holder		
M8 x 35	**Tightening sequence: Tighten screws six times in alternate sequence**	
	19 Nm	
Screw to quick-release axle		
M20 x 1.5	50 Nm	
Wheel-speed sensor to fork leg		
M6 x 20	8 Nm	

Rear wheel	Value	Valid
Rear wheel to wheel carrier		
M10 x 53 x 1.25	**Tightening sequence: Tighten in diagonally opposite sequence**	
	60 Nm	

Mirror arm	Value	Valid
Mirror (lock nut) to adapter		
M10 x 1.25	Left-hand thread, 22 Nm	

Mirror arm	Value	Valid
Adapter to clamping block		
M10	25 Nm	
Mirror to spacer sleeve		
M5 x 20	3 Nm	–with Option 719 Billet Pack Classic II[OE] or –with Option 719 Billet Pack Shadow II[OE]

Frame	Value	Valid
Footrest system to rear frame		
M8 x 25	19 Nm	
Rear-seat frame to rear frame		
M8 x 30	19 Nm	
Rear-seat frame to luggage frame		
M6 x 20	8 Nm	

Exhaust system	Value	Valid
Silencer to passenger frame		
M8 x 40	19 Nm	

Exhaust system	Value	Valid
Bracket for the silencer on the rear frame		
M8 x 30	19 Nm	–with bracket for silencer[OA]
M8 x 25	19 Nm	
Silencer to bracket		
M8 x 40	10 Nm	–with bracket for silencer[OA]

FUEL

Recommended fuel grade	E5 E10 Premium unleaded (maximum 15% ethanol, E15) 95 ROZ/RON 90 AKI
Alternative fuel grade	E5 E10 Regular unleaded (maximum 15% ethanol, E15) 91 ROZ/RON 87 AKI
Fuel tank capacity	approx. 17.0 l
Fuel reserve	approx. 3.5 l
Fuel consumption	5.1 l/100 km, according to WMTC
CO2 emission	119 g/km, according to WMTC
Exhaust emissions standard	EU 5
–with Canada export NV	TIER 2, measured in accordance with FTP75

ENGINE OIL

Engine oil, capacity	approx. 3.95 l, with filter change
Specification	SAE 15W-50, API SJ / 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 Pro oil.

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Engine oil, quantity for topping up	max 0.5 l, Difference between **MIN** and **MAX**

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

ENGINE R NINET PURE (0L61)

Engine number location	Crankcase, bottom right, below cylinder
Engine type	A72B12A
Engine design	Air/oil-cooled two-cylinder, four-stroke, opposed-twin engine with two overhead spur gear-driven camshafts and a counterbalance shaft
Displacement	1170 cm^3
Cylinder bore	101 mm
Piston stroke	73 mm
Compression ratio	12.0:1
Nominal capacity	80 kW, at engine speed: 7250 min^{-1}
Torque	116 Nm, at engine speed: 6000 min^{-1}
Maximum engine speed	max 8500 min^{-1}
Idle speed	$1150^{\pm 50}$ min^{-1}, Engine at regular operating temperature

ENGINE R NINET PURE A2 (0M91)

Engine number location	Crankcase, bottom right, below cylinder
Engine type	A72B12A

Engine design	Air/oil-cooled two-cylinder, four-stroke, opposed-twin engine with two overhead spur gear-driven camshafts and a counterbalance shaft
Displacement	1170 cm^3
Cylinder bore	101 mm
Piston stroke	73 mm
Compression ratio	12.0:1
Nominal capacity	70 kW, at engine speed: 7000 min^{-1}
Torque	112 Nm, at engine speed: 5750 min^{-1}
Maximum engine speed	max 8500 min^{-1}
Idle speed	$1150^{\pm 50}$ min^{-1}, Engine at regular operating temperature

CLUTCH

Clutch type	Single-plate dry clutch

TRANSMISSION

Type of transmission	Constant-mesh six-speed transmission with helical-cut gearing
Gearbox transmission ratios	1.737, Primary transmission ratio 2.375 (38:16 teeth), 1st gear 1.696 (39:23 teeth), 2nd gear 1.296 (35:27 teeth), 3rd gear 1.065 (33:31 teeth), 4th gear 0.939 (31:33 teeth), 5th gear 0.848 (28:33 teeth), 6th gear

FINAL DRIVE	
Type of final drive	Shaft drive with bevel gears
Type of rear suspension	Cast aluminium single swinging arm featuring BMW Motorrad Paralever
Gear ratio of final drive	2.910 (32/11 teeth)
Rear axle differential oil	SAE 70W-80 / Hypoid Axle G3

FRAME	
Frame type	Tubular spaceframe with partially load-bearing drive unit
Type plate location	Frame, front left at steering head
Position of the vehicle identification number	Main frame front right at bottom

CHASSIS AND SUSPENSION	
Front wheel	
Type of front suspension	Telescopic forks
Spring travel, front	120 mm, at wheel
–with low-slung[OE]	102 mm, at wheel
Rear wheel	
Type of rear suspension	Cast aluminium single swinging arm featuring BMW Motorrad Paralever
Type of rear-wheel suspension	direct-pivot spring strut with adjustable spring preload
Spring travel at rear wheel	120 mm
–with low-slung[OE]	105 mm

Recommended suspension setting for one-up riding	Turn the adjuster knob counter-clockwise as far as it will go, Spring preload Turn the adjusting screw clockwise as far as it will go, then back it off 2 full turns, Damping
Recommended suspension setting for two-up riding	Turn the adjuster knob clockwise as far as it will go, Spring preload Turn the adjusting screw clockwise as far as it will go, then back it off 1 turn, Damping

BRAKES	
Front wheel	
Type of front brake	Twin disc brakes with 4-piston fixed calipers
Brake-pad material, front	Sintered metal
Brake disc thickness, front	min 4 mm, Wear limit
Rear wheel	
Type of rear brake	Single-disc brake with 2-piston floating caliper
Brake-pad material, rear	Organic material
Brake disc thickness, rear	min 4.5 mm, Wear limit

WHEELS AND TYRES	
Recommended tyre combinations	An overview of currently approved tyres is available from your authorised BMW Motorrad retailer or on the Internet at **bmw-motorrad.com/service**.
Speed category, front/rear tyres	V, required at least: 240 km/h
Front wheel	
Front-wheel type	Aluminium cast wheel
–with spoked wheels OE	Spoked wheel
Front-wheel rim size	3.5" x 17"
Tyre designation, front	120/70 ZR 17
Load index, front tyre	min. 58
Permissible front-wheel imbalance	max 5 g
Rear wheel	
Rear-wheel type	Aluminium cast wheel
–with spoked wheels OE	Spoked wheel
Rear wheel rim size	5.50" x 17"
Tyre designation, rear	180/55 ZR 17
Load index, rear tyre	min. 73
Permissible rear-wheel imbalance	max 5 g
Tyre pressures	
Tyre pressure, front	2.5 bar, One-up and two-up with luggage, tyre cold
Tyre pressure, rear	2.7 bar, One-up, tyre cold 2.9 bar, Two-up mode with load, with cold tyres

ELECTRICAL SYSTEM	
Fuses	
Fuse 1	10 A, Instrument cluster, anti-theft alarm system (DWA), ignition switch, OBD diagnostic socket, ignition coil isolating relay
Fuse 2	4 A, Sensor box, multifunction switch, left
Battery	
Battery type	AGM battery (Absorbent Glass Mat)
Battery rated voltage	12 V
Battery rated capacity	14 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK MAR8AI-10DS
Lighting	
Bulb for low-beam and high-beam headlight	LED
Bulb for parking light	LED
Bulb for tail light/brake light	LED
Light source for the number plate light	LED
Bulbs for turn indicators	LED

DIMENSIONS	
Length of motorcycle	2105 mm, measured over rear wheel
Height of motorcycle	1240 mm, measured over mirrors, at DIN unladen weight
–with low-slung OE	1210 mm, measured over mirrors, at DIN unladen weight
Width of motorcycle	865 mm, measured over hand levers
Height of rider's seat	805 mm, measured without rider, at DIN unladen weight
–with low-slung OE	775 mm, measured without rider, at DIN unladen weight
Rider's inside-leg arc, heel to heel	1785 mm, measured without rider, at DIN unladen weight
–with low-slung OE	1730 mm, measured without rider, at DIN unladen weight

WEIGHTS	
Vehicle kerb weight	219 kg, DIN unladen weight, ready for road, 90 % load of fuel, without optional extras (OE)
Permissible gross vehicle weight	430 kg
Maximum payload	211 kg

PERFORMANCE FIGURES	
Top speed	>200 km/h

SERVICE

12

REPORTING SAFETY-RELEVANT DEFECTS 162
BMW MOTORRAD SERVICE 163
BMW MOTORRAD SERVICE HISTORY 163
BMW MOTORRAD MOBILITY SERVICES 164
MAINTENANCE WORK 164
MAINTENANCE SCHEDULE 166
MAINTENANCE CONFIRMATIONS 167
SERVICE CONFIRMATIONS 179

REPORTING SAFETY-RELEVANT DEFECTS

–with Canada export[NV]

If you think that your motorcycle has a fault which may cause an accident, injury or death, you must inform the NHTSA (National Highway Traffic Safety Administration) immediately and BMW of North America, LLC.

If the NHTSA receives other similar complaints, it may open an investigation. If it finds that a safety defect exists in a group of vehicles, the NHTSA may order the manufacturer to perform a recall and remedy campaign. However, the NHTSA cannot become involved in individual problems between you, your retailer, or BMW of North America, LLC.

You can contact the NHTSA by calling the Vehicle Safety hotline on 1–888–327–4236 (teletypewriter TTY for the hearing impaired: 1–800–424–9153) for free, by visiting the website at http:// www.safercar.gov or by writing to Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. Further information on vehicle safety is available at http:// www.safercar.gov.

Canadian customers who wish to report a safety-related defect to Transport Canada, Defect Investigations and Recalls can call the toll-free hotline 1–800–333–0510. You can also obtain other information about motor vehicle safety from http:// www.tc.gc.ca/ roadsafety.

BMW MOTORRAD SERVICE

BMW Motorrad has an extensive network of retailers in place to look after you and your motorcycle in more than 100 countries. Authorised BMW Motorrad retailers have the technical information and the technical know-how to carry out reliably all preventive maintenance and repair work on your BMW.
You can locate the nearest authorised BMW Motorrad retailer 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 carried out confirmed in the "Service" chapter in this manual. Evidence of regular preventive maintenance is essential for generous treatment of claims submitted after the warranty period has expired.

Your authorised BMW Motorrad retailer can provide information on BMW Motorrad 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.
When 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, Germany.
If there is a change in vehicle ownership, 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 the owner of a new BMW motorcycle, in the event of a breakdown you can benefit from the protection afforded by the various BMW Motorrad mobility services (e.g. BMW Mobile Service, breakdown service, vehicle recovery service).
Your authorised BMW Motorrad dealer will be happy provide information about the mobility services available to you.

MAINTENANCE WORK

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

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

BMW Motorrad Service
The BMW Motorrad Service is carried out once a year; the extent of servicing can vary, depending on the age of the vehicle and the distance it has covered. Your authorised BMW Motorrad retailer confirms that the service work has been carried out and enters the date when the next service will be due.
Riders who cover long distances in a year might have to bring in their vehicles for service before the next sched-

uled date. It is to allow for these cases that a maximum odometer reading is entered as well in the confirmation of service. Servicing has to be brought forward if this odometer reading is reached before the next scheduled date for the service.

The service display 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.

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

The maintenance tasks necessary for your vehicle are set out in the maintenance schedule below.

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		X		X		X[b]
5		X	X	X	X	X	X	X	X	X	X		
6					X				X			X[c]	X[c]
7			X		X		X		X		X		
8			X		X		X		X		X		
9					X[d]				X[d]				
10												X[e]	X[e]

1 BMW Motorrad running-in check (including oil change)
2 BMW Motorrad Service, standard scope
3 Engine-oil change, with filter
4 Oil change in bevel gears rear
5 Check valve clearances
6 Change transmission oil
7 Replace all spark plugs
8 Replace air-filter element
9 Replace belt for alternator
10 Change brake fluid, entire system

[a] annually or every 10000 km (whichever comes first)
[b] every 2 years or every 20000 km (whichever comes first)
[c] for the first time after one year, then every two years or 40000 km (whichever comes first)
[d] every six years or every 40000 km (whichever comes first)
[e] for the first time after one year, then every two years

MAINTENANCE CONFIRMATIONS

BMW Motorrad Service standard scope

The tasks included in the BMW_Motorrad Service standard scope are listed below. The actual scope of maintenance work applicable for your vehicle may vary.

–Performing vehicle test with BMW Motorrad diagnosis system
–Visual inspection of clutch system
–Checking steering-head bearing
–Visual inspection of the brake lines, brake hoses and connections
–Checking front brake pads and brake discs for wear
–Checking brake-fluid level, front wheel brake
–Checking rear brake pads and brake disc for wear
–Checking brake-fluid level, rear wheel brake
–Draining the condensate hose
–Checking tyre pressure and tread depth
–Check the side stand's ease of movement
–Checking spoke tension, adjusting if necessary
–Check lighting and signalling system
–Function test, engine start suppression
–Checking battery state of charge
–Final inspection and check for road safety
–Setting service-due date and countdown distance with BMW Motorrad diagnosis system
–Confirming BMW Motorrad service in on-board literature

BMW pre-delivery check
carried out

on_____

Stamp, signature

BMW Running-in Check
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

BMW Motorrad service
carried out

on_____
odometer reading_____

Next service
at the latest
on_____
or, when reached earlier
odometer reading_____

Work performed

	Yes	No
BMW Motorrad service	☐	☐
Oil change, engine, with filter	☐	☐
Renewing air cleaner insert	☐	☐
Checking valve clearance	☐	☐
Renewing all spark plugs	☐	☐
Oil change in rear bevel gears	☐	☐
Change gearbox oil	☐	☐
Changing brake fluid, front brakes	☐	☐
Changing brake fluid, rear brakes	☐	☐

Notes

Stamp, signature

SERVICE CONFIRMATIONS

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

Work performed	odometer reading	Date

Work performed	odometer reading	Date

DECLARATION OF CONFORMITY 183
CERTIFICATE FOR ELECTRONIC IMMOBILISER 188

DECLARATION OF CONFORMITY

Simplified EU Declaration of Conformity under RED (2014/53/EU).



Vehicular immobilizer system transceiver EWS4
Technical information
Frequency band: 134 kHz
Transponder: TMS37145 / TypeDST80, TMS3705 Transponder Base Station IC
Output Power: 50 dBµV/m

Manufacturer
BECOM Electronics GmbH
Technikerstraße 1, A-7442 Hochstraß, Austria

Hereby, BECOM Electronics GmbH declares that the vehicular immobilizer system transceiver EWS4 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

Keyless Ride HUF5750
Technical information
Frequency band: 434,42 MHz
Transmission Power: 10 mW

Manufacturer
Huf Hülsbeck & Fürst GmbH & Co. KG
Steeger Str. 17, 42551 Velbert, Germany

Hereby, Huf Hülsbeck & Fürst GmbH & Co. KG declares that the radio equipment type HUF5750 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

Keyless Ride HUF8465
Technical information
Frequency band: 134,45 kHz
Output Power: 42 dBµV/m

Manufacturer
Huf Hülsbeck & Fürst GmbH & Co. KG
Steeger Str. 17, 42551 Velbert, Germany

Hereby, Huf Hülsbeck & Fürst GmbH & Co. KG declares that the radio equipment type HUF8465 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

Anti-theft alarm (DWA) TXBMWMR
Technical information
Frequency band: 433.05 MHz - 434.79 MHz
Output power: 10 mW e.r.p.

Manufacturer
Meta System S.p.A.
Via Galimberti 5, 42124 Reggio Emilia, Italy

Hereby, Meta System S.p.A. declares that the radio equipment type TXBMWMR is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

Tyre pressure control (RDC) BC5A4
Technical information
Frequency band: 433.895 - 433.945 MHz
Output Power: <10 mW e.r.p.

Manufacturer
Schrader Electronics Ltd.
Technology Park, N. Ireland
BT41 1QS Antrim, United Kingdom

Hereby, Schrader Electronics Ltd. declares that the radio equipment type BC5A4 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

Wireless charging device WCA Motorrad-Ladestaufach
Technical information
Frequency band: 110 kHz - 115 kHz
Output power: < 6 W

Manufacturer
Bury Sp. z o.o.
ul. Wojska Polskiego 4, 39-300 Mielec, Poland

Hereby, Bury Sp. z o.o. declares that the radio equipment type WCA Motorrad-Ladestaufach is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

TFT instrument cluster ICC6.5in
Technical information
BT operating frq. Range: 2402 MHz - 2480 MHz
BT version: 4.2 (no BTLE)
BT output power: < 4 dBm
WLAN operating frq. Range: 2412 MHz – 2462 MHz
WLAN standards: IEEE 802.11 b/g/n
WLAN output power: < 20 dBm

Manufacturer
Robert Bosch Car Multimedia GmbH
Robert Bosch Str. 200, 31139 Hildesheim, Germany

Hereby, Robert Bosch Car Multimedia GmbH declares that the radio equipment type ICC6.5in is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

TFT instrument cluster ICC10in
Technical information
The ICC10in can operate in one of two operating modes:
1. Normal mode, with Bluetooth and WLAN on, and
2. Radio off mode (only available during vehicle manufacturing).
BT operating frq. Range: 2402 MHz - 2480 MHz
BT version: 4.2 (no BTLE)
BT output power: < +4 dBm (internal antenna)
WLAN operating frq. Range: 2402 MHz - 2472 MHz
WLAN standards: IEEE 802.11 b/g/n
WLAN output power: <+14 dBm (internal antenna)

Manufacturer
Robert Bosch GmbH
Robert-Bosch-Platz 1, 70839 Gerlingen, Germany

Hereby, Robert Bosch GmbH declares that the radio equipment type ICC10in is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

bmw-motorrad.com/certification

Intelligent emergency call TPM E-CALL EU
Technical information
Antenna internal:
Frequency band: 880 MHz - 915 MHz
Radiated Power [TRP]: < 22 dBm
Not acessable by user:
Frequency band: 1710 MHz - 1785 MHz
Radiated Power [TRP]: < 26 dBm
Frequency band: 1920 MHz - 1980 MHz
Radiated Power [TRP]: < 22 dBm
Frequency band: 880 MHz - 915 MHz
Radiated Power [TRP]: < 23 dBm

Manufacturer
Robert Bosch Car Multimedia GmbH
Robert Bosch Str. 200, 31139 Hildesheim, Germany

Hereby, Robert Bosch Car Multimedia GmbH declares that the radio equipment type TPM E-CALL EU is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

Mid Range Radar MRRe14FCR
Technical information
Frequenzy band: 76 - 77 GHz
Nominal radiated power: e.i.r.p. (peak detector): 32 dBm
Nominal radiated power:e.i.r.p. (RMS detector): 27 dBm

Manufacturer
Robert Bosch GmbH
Robert-Bosch-Platz 1, 70839 Gerlingen, Germany

Hereby, Robert Bosch GmbH declares that the radio equipment type MRRe14FCR is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
bmw-motorrad.com/certification

Audio system MCR001
Manufacturer
ALPS ALPINE CO., LTD.

Hereby, ALPS ALPINE CO., LTD. declares that the radio equipment type MCR001 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following in-

ternet address:
bmw-motorrad.com/certification

Declaration of Conformity

Radio equipment electronic immobiliser (EWS4)

For all countries without EU

Technical information
Frequency Band: 134 kHz
(Transponder: TMS37145 / Type DST80, TMS3705 Transponder Base Station IC)
Output Power: 50 dBµV/m

Manufacturer and Address
Manufacturer:
BECOM Electronics GmbH
Address: Technikerstraße 1, A-7442 Hochstraß

Argentina

RAMATEL
H-25246

Australia/New Zealand

R-NZ

Brunei

AITI
TA No: DTA-007061

United Arab Emirates

TRA
REGISTERED No:
ER89926/20

DEALER No:
DA96133I20

Philippiens

NTC
Type Approved
No.: ESD-RCE-2023298

South Africa

TA-2020/6131
ICASA
APPROVED

India

ETA-SD-20200905860

Belarus

TP BY

Indonesia

72790/SDPPI/2021
13349

Dilarang melakukan perubahan Spesifikasi yang dapat Menimbulkan gangguan fisik dan/atau elektromagnetik terhadap lingkungan sekitarnya

Paraquay

CONATEL

NR: 2020-11-I-0834

Singapore

Complies with
IMDA Standards
N3504-20

Taiwan

低功　電波　射性電機管　辦法
第十二條　經型式認證合格之低功率射頻電 機，非經許可，公司、商號或使用者均不得擅 自變更頻率、加大功率或變更原設計之特性及 功能。第十四條　低功率射頻電機之使用不 得影響飛航安全及干擾合法通信；經發現有干 擾現象時，應立即停用，並改善至無干擾時方 得繼續使用。 前項合法通信，指依電信法規定作業之無線電 通信。

Malaysia

MCMC

RFCL/47A/0920/S(20-3358)

Israel

מספר אישור אלחוטי של משרד התקשורת הוא 51-74908
אסור להחליף את האנטנה המקורית של המכשיר ולא
לעשות בו כל שינוי טכני אחר

United States (USA)

Contains FCC ID:
ODE-MREWS5012
FCC § 15.19 Labelling requirements
This device complies with part 15 of the FCC Rules and Industry Canada's licence-exempt RSS standard(s). Operation is subject to the following two conditions:

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

FCC § 15.21 Information to user

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Requirements

To comply with FCC RF exposure compliance requirements, the device must be installed to provide a separation distance of at least 20 cm from all persons.

Serbia

P1620118300

Canada

Contains IC:
10430A-MREWS5012
This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

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

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Vietnam

A1109091120AF04A3

A
Abbreviations and symbols, 4
ABS
Engineering details, 90
Indicator and warning light, 30
Self-diagnosis, 78
Accessories
general notes, 128
Adaptive Headlight, 98
Engineering details, 98
Ambient temperature
Outside temperature warning, 29
Anti-theft alarm
activating, 51
adjusting, 52
deactivating, 52
Indicator light, 19
operating, 51
Warning, 31
ASC
Engineering details, 94
Indicator and warning light, 30
operating, 53
Self-diagnosis, 79
switching off, 53
switching on, 53

B
Battery
Maintenance instructions, 122
Position on the vehicle, 16
recharging connected battery, 122
recharging disconnected battery, 122
Replacing battery, 123
Technical data, 156
Voltage of the vehicle electrical system too low, 29
Beam throw
adjusting, 63
Brake fluid
Checking fluid level, front, 109
Checking fluid level, rear, 110
Reservoir, front, 15
Reservoir, rear, 15
Brake pads
checking front, 106
checking rear, 107
Running in, 80
Brakes
ABS Pro, 92
ABS Pro depending on riding mode, 82
Adjusting handbrake lever, 65
Checking function, 106
Checking operation, 106
Dynamic Brake Control depending on riding mode, 82
Safety information, 81
Technical data, 154
Wear indicator, 108

C
Care
Chrome, 142
Paintwork preservation, 143
Chassis and suspension
Technical data, 153
Checklist, 76
Clock
Display: CLOCK, 44
Setting clock, 47

Clutch
Adjusting clutch lever, 64
Checking function, 111
Fluid reservoir, 14
Technical data, 152
Coolant temperature
Display: ENGTMP, 44
Cruise control
operating, 55
Currency, 6

D
Damping
adjusting, 66
Date
Setting date, 48
Daytime riding lights
automatic daytime riding light, 41
Diagnostic connector
disengaging, 124
securing, 125
Dimensions
Technical data, 157
Display
Adjusting display brightness, 47
Distance recorders
resetting, 46
DTC
Engineering details, 94
switching on, 53
Dynamic Brake Control, 93
Engineering details, 93
Dynamic engine brake control, 97

E
Electrical system
Technical data, 156
Emergency off switch (kill switch), 18
operating, 39
Engine, 28
Engine electronics indicator light, 27
Severe fault, 27
starting, 77
Technical data, 151
Engine oil
Checking fill level, 104
Filler neck, 15
Fill-level indicator, 14
Technical data, 150
topping up, 105
Equipment, 5

F
Final drive
Technical data, 153
Frame
Technical data, 153
Front-wheel stand
installing, 103
Fuel
Filler neck, 14
Fuel reserve, 32
Refuelling, 84
Technical data, 150
Fuel reserve
Display distance remaining: KM R, 44
Indicator light, 32
Fuses
Fuse assignment, 124
replacing, 123
Technical data, 156

G
General views
Indicator and warning lights, 22
Instrument cluster, 19
Left multifunction switch, 17
left side of vehicle, 14
Multifunction display, 23
Right handlebar fitting, 18
right side of vehicle, 15
Underneath the seat, 16

H
Hazard warning flashers
Control, 17
operating, 40
Headlight
Adjusting headlight beam throw, 63
Adjustment for right-hand/left-hand traffic, 63
Headlight beam throw, 63
Headlight courtesy delay feature, 40
Heated handlebar grips
operating, 57
Horn, 17

I
Ignition
switching off, 38
switching on, 38
Immobiliser
Spare key, 39
Warning, 27
Indicator lights, 19
Overview, 22
Instrument cluster
Ambient-light brightness sensor, 19
Overview, 19
Setting units, 49

J
Jump-starting, 120

K
Keys, 38

L
Lighting
Indicator light for faulty bulb, 29
Replacing LED light sources, 120
Technical data, 156
Lights
automatic daytime riding light, 41
Control, 17
Headlight courtesy delay feature, 40
Headlight flasher, operating, 40
High-beam headlight, operating, 40
Low-beam headlight, 40
Parking lights, operating, 41
Side light, 40
Luggage
lashing, 129

M
Maintenance
Maintenance schedule, 166
Maintenance confirmations, 167
Maintenance intervals, 164

Mirrors
adjusting, 62
Mobility services, 164
Motorcycle
care, 138
cleaning, 138
lashing, 86
laying up, 143
parking, 83
restoring to use, 143
Multifunction display, 19
Exiting SETUP, 50
Overview, 23
Selecting display, 44
SETUP, 47
Multifunction switch
Overview, left side, 17
Overview, right side, 18

O
Odometer
Display: KM, 44

P
Parking, 83
Passenger frame
installing, 133
removing, 130
Passenger seat
installing, 58
Lock, 15
removing, 58
Payload table
Sign, 16
Performance figures
Technical data, 158
Power socket
Position on the vehicle, 14
Pre-Ride-Check, 77

R
Rear-wheel stand
installing, 104
Refuelling, 84
Rider's seat
installing, 58
removing, 58
Riding mode, 54
Engineering details, 95
Running in, 80

S
Safety instructions
for brakes, 81
for riding, 74
Screw connections, 147
Service, 163
Reporting safety-relevant defects, 162
Service history, 163
Service-due indicator, 33
Settings
Display: SETUP ENTER, 44
SETUP
exiting, 50
resetting, 50
selecting, 47
Spark plugs
Technical data, 156
Speedometer, 19, 23
Spring preload
Adjuster, rear, 15
adjusting, 66
Starting, 77
Control, 18
Steering lock, 38

T
Technical data
Battery, 156
Brakes, 154

Chassis and suspension, 153
Clutch, 152
Dimensions, 157
Electrical system, 156
Engine, 151
Engine oil, 150
Final drive, 153
Frame, 153
Fuel, 150
Fuses, 156
General notes, 5
Lighting, 156
Performance figures, 158
Spark plugs, 156
Standards, 5
Transmission, 152
Weights, 157
Wheels and tyres, 155
Toolkit
Position on the vehicle, 16
Torques, 147
Traction control
ASC, 94
DTC, 94
Transmission
Technical data, 152
Tripmeter
Display: KM 1 or KM A, 44
Troubleshooting chart, 146
Turn indicators
Control, 17
operating, 40
Type plate
Position on the vehicle, 14
Tyre pressures
Sign, 16
Tyres
Checking tread depth, 111, 112
Checking tyre pressure, 111
Pressures, 155
Running in, 80
Technical data, 155

U
USB charging socket
Position on the vehicle, 14

V
Vehicle Identification Number
Position on the vehicle, 15

W
Warning indicator lights, 28
ABS, 30
Anti-theft alarm, 31
ASC/DTC, 30
Bulb faulty, 29
Electronic immobiliser, 27
Engine electronics, 27
Engine warning, 27
Fuel reserve, 32
Mode of presentation, 24
Outside temperature warning, 29
Overview, 22
Voltage of the vehicle electrical system too low, 29
Warning light, drive malfunction, 28
Warning lights, 19
Warnings, overview, 25
Weights
Technical data, 157
Wheels
Change of size, 113
Checking rims, 112

Checking spokes, 112
Installing rear wheel, 119
Removing rear wheel, 118
Technical data, 155

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

© 2021 Bayerische Motoren Werke Aktiengesellschaft
80788 Munich, Germany
Not to be reproduced by any means whatsoever, wholly or in part, without the written permission of BMW Motorrad, After Sales.
Original rider's manual, printed in Germany.

Important data for refuelling:

Fuel	
Recommended fuel grade	E5 E10 Premium unleaded (maximum 15% ethanol, E15) 95 ROZ/RON 90 AKI
Alternative fuel grade	E5 E10 Regular unleaded (maximum 15% ethanol, E15) 91 ROZ/RON 87 AKI
Fuel tank capacity	approx. 17.0 l
Fuel reserve	approx. 3.5 l
Tyre pressures	
Tyre pressure, front	2.5 bar, One-up and two-up with luggage, tyre cold
Tyre pressure, rear	2.7 bar, One-up, tyre cold 2.9 bar, Two-up mode with load, with cold tyres

For further information on all aspects of your vehicle, visit: **bmw-motorrad.com**

Order No.: 01 40 7 107 231
04.2021, 2nd edition, 01