Rider's Manual (US Model)

S 1000 RR
Welcome to BMW

Congratulations on choosing a motorcycle from BMW Motorrad and welcome to the community of BMW motorcycle owners and riders. Familiarize yourself with your new motorcycle so that you can ride it safely and confidently in all highway traffic situations.

About this Rider’s Manual

Please read this Rider’s Manual carefully before starting to use your new BMW. It contains important information on how to operate the controls and how to get the most benefit from your BMW’s advanced technical features.

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

Suggestions and complaints

If you have any questions concerning your motorcycle, your authorized BMW Motorrad retailer is always happy to provide advice and assistance.

We wish you many miles of safe and enjoyable riding on your BMW.

BMW Motorrad.
Table of Contents

1 General instructions .................. 5
   Overview .................................. 6
   Abbreviations and symbols ............... 6
   Equipment ................................ 7
   Technical data ............................. 7
   Notice concerning current status .......... 7

2 Overviews ......................... 9
   General view, left side ............... 11
   General view, left side with DDC .......... 13
   General view, right side ............ 15
   Multifunction switch, left ........ 16
   Multifunction switch, right ............ 18
   Underneath seat ......................... 19
   Instrument cluster ...................... 20

3 Displays ...................... 21
   Warning and indicator lights ........... 22
   Multifunction display .................. 23
   Warning lights ......................... 24

4 Operation .................. 39
   Steering and ignition lock .............. 40
   Ignition ................................ 40
   Electronic immobilizer ................. 41
   Emergency on/off switch (kill switch) .... 41
   Lights .................................. 42
   Hazard warning flashers ............... 43
   Turn indicator ........................... 43
   Multifunction display .................. 45
   Alarm system ............................. 48
   Clock .................................. 50
   Anti-Lock Brake System ............... 50
   Automatic Stability Control ............. 51
   Dynamic Traction Control ................ 52
   Riding mode ............................. 53

5 Setting ...................... 65
   Mirrors ................................ 66
   Headlight ................................ 66
   Brakes ................................ 66
   Steering ................................ 67
   Spring preload ........................... 67
   Damping ................................ 72
   DDC ...................................... 75

6 Riding ...................... 79
   Safety instructions ...................... 80
   Observe checklist ....................... 81
   Starting ................................ 82
   Breaking in .............................. 85
   Shifting gears ........................... 87
   Brakes ................................ 88
   Parking your motorcycle .................. 89

Cruise control .......................... 57
Speed warning .......................... 59
Heated handlebar grips ............... 60
Rider and passenger seats ............. 61
Helmet holder ............................ 63
Luggage straps ........................... 64
Frame .................. 208
Suspension ............ 209
Brakes .................. 209
Wheels and tires ....... 210
Electrical system ...... 211
Dimensions.............. 213
Weights ................. 213
Performance data ...... 214

13 Service .............. 215
Reporting safety
defects .................. 216
BMW Motorrad Service .... 217
BMW Motorrad Mobility
Services .................. 217
Maintenance procedures .... 217
Maintenance schedule .... 221
Standard BMW Service ... 222
Confirmation of mainte-
nance work ............ 223
Confirmation of service .. 228

14 Appendix ............. 231
Certificate for Electronic
Immobilizer ............. 232

15 Index ................. 234
General instructions
Overview .............................. 6
Abbreviations and symbols ........ 6
Equipment ............................. 7
Technical data ......................... 7
Notice concerning current status .... 7
Overview

Chapter 2 of this Rider’s Manual will provide you with an initial overview of your motorcycle. All maintenance and repair work carried out on your motorcycle will be documented in Chapter 13. Documentation confirming performance of scheduled maintenance is a precondition for generous handling of out-of-warranty claims and goodwill warranty treatment.

When the time comes to sell your BMW, please remember to hand over this Rider’s Manual; it is an important part of the motorcycle.

Abbreviations and symbols

CAUTION Hazard with low risk. Failure to avoid this hazard can result in minor or moderate injury.

WARNING Hazard with moderate risk. Failure to avoid this hazard can result in death or serious injury.

DANGER Hazard with high risk. Failure to avoid this hazard results in death or serious injury.

ATTENTION Special instructions and precautionary measures. Non-compliance can cause damage to the vehicle or accessories and warranty claims may be denied as a result.

NOTICE Special information on operating and inspecting your motorcycle as well as maintenance and adjustment procedures.

Result of an activity.

Reference to a page with more detailed information.

Indicates the end of accessory or equipment-dependent information.

Tightening torque.

Technical data.

ABS Anti-Lock Brake System.

ASC Automatic Stability Control.

DDC Dynamic Damping Control.

DTC Dynamic Traction Control.
Equipment
When you ordered your BMW motorcycle, you chose various items of custom equipment. This Rider's Manual describes optional equipment (OE) offered by BMW and selected optional accessories (OA). This explains why the manual may also contain descriptions of equipment which you have not ordered. Please note, too, that your motorcycle might not be exactly as illustrated in this manual on account of country-specific differences.
If your BMW is equipped with options or accessories not described in this Rider's Manual, then this equipment is described in separate operating instructions.

Technical data
All dimensions, weights and performance data contained this Rider's Manual refer to the German DIN standards and comply with their tolerance specifications. Versions for individual countries may differ.

Notice concerning current status
The high safety and quality standards of BMW motorcycles are maintained by consistent, ongoing development efforts embracing their design, equipment and accessories. For this reason, some aspects of your motorcycle may vary from the descriptions in this Rider’s Manual. In addition, BMW Motorrad cannot guarantee the total absence of errors. We hope you will appreciate that no claims can be recognized based on the data, illustrations or descriptions in this manual.
Overviews

General view, left side .................. 11
General view, left side with DDC .......... 13
General view, right side .................. 15
Multifunction switch, left ................. 16
Multifunction switch, right ............... 18
Underneath seat ......................... 19
Instrument cluster ....................... 20
**General view, left side**

1. without Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjuster for spring preload, front (\textit{\$68})
   - Adjusting front compression damping (red scale) (\textit{\$72})

2. without Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjusting rear compression damping (red scale) (\textit{\$74})
   - Adjuster for spring preload, rear (\textit{\$70})

3. Seat lock (\textit{\$62})

4. Tire inflation pressure table
   - Load capacity table
   - Chain adjustment values

5. Engine oil level indicator (\textit{\$159})

6. Connector for optional accessories (\textit{\$139})
General view, left side with DDC
– with Dynamic Damping Control (DDC)\textsuperscript{OE}

1 Adjust spring preload on front wheel \((\Rightarrow 69)\)
2 Seat lock \((\Rightarrow 62)\)
3 Tire inflation pressure table
   Load capacity table
   Chain adjustment values
4 Adjuster for spring preload, rear \((\Rightarrow 71)\)
5 Engine oil level indicator \((\Rightarrow 159)\)
6 Connector for optional accessories \((\Rightarrow 139)\)
General view, right side

1. Brake-fluid reservoir, rear
   (⇒ 164)
2. Vehicle identification number and type plate (on steering head at right)
3. Brake-fluid reservoir, front
   (⇒ 163)
4. Adjusting rebound-stage damping
   – without Dynamic Damping Control (DDC)\textsuperscript{OE}
   Rebound-stage damping on front wheel (⇒ 73)
5. Adjusting the steering damper (⇒ 67)
6. Checking coolant level
   (⇒ 166)
7. Connector for optional accessories
   (⇒ 138)
8. Oil fill location
   (⇒ 160)
9. Adjusting rear rebound-stage damping (yellow scale) (⇒ 74)
Multifunction switch, left

1. Deactivating ABS (p. 50)
   ASC ausschalten (p. 51)
   - with Dynamic Traction Control (DTC) OE
   Deactivating DTC (p. 53)

2. High-beam headlight and headlight flasher (p. 42)
   Start time recording (p. 100)

3. with cruise control OE
   Cruise control (p. 57)

4. Hazard warning flashers (p. 43)

5. with Dynamic Traction Control (DTC) OE
   Adjusting DTC (p. 127)

6. Turn indicator (p. 43)

7. Horn
8 Setting clock (⇒ 50)
Resetting tripmeter
(⇒ 47)
Selecting displays (⇒ 46)
Individualizing lap timer
(⇒ 100)
Selecting submenu
(⇒ 113)
Multifunction switch, right
1. - with heated handlebar grips\textsuperscript{OE}
   Heated grip (\textsuperscript{60})
2. Selecting riding mode (\textsuperscript{54})
3. Emergency on/off switch (kill switch) (\textsuperscript{41})
4. Starter button
   Starting engine (\textsuperscript{82})
   - with Pro riding modes\textsuperscript{OE}
   Launch Control (\textsuperscript{128})
   Speed limiter for pit lane (\textsuperscript{130})
Underneath seat

1 Battery (☞ 185)
   - with anti-theft alarm system (DWA)\(\text{OE}\)
   Different position of battery terminals: shifted forward
2 Helmet holder (☞ 63)
3 Luggage straps (☞ 64)
4 Onboard tool kit (☞ 156)
5 Fuse box (☞ 188)
6 Rider’s Manual (US Model)
Instrument cluster

1. Indicator and warning lights (page 22)
2. Tachometer
3. Shiftpoint light (page 87)
4. Photosensor (for adjusting brightness of instrument lighting) – with anti-theft alarm system (DWA)
   - DWA LED (page 48)
5. Multifunction display (page 23)
Displays
Warning and indicator lights ........ 22
Multifunction display ................. 23
Warning lights ....................... 24
### Warning and indicator lights

1. ASC indicator and warning light (\( \Rightarrow 33 \))
   - with Dynamic Traction Control (DTC)\(^{OE} \)
   - DTC indicator light (\( \Rightarrow 33 \))
2. ABS indicator and warning light (\( \Rightarrow 32 \))
3. Turn indicator, left
4. Universal warning light, appears together with warnings in multifunction display (\( \Rightarrow 24 \))
5. Turn indicator, right
6. Fuel reserve (\( \Rightarrow 37 \))
7. Neutral indicator light
8. High-beam headlight
9. Engine-electronics warning light (\( \Rightarrow 29 \))
10. with cruise control\(^{OE} \)
   - Cruise control (\( \Rightarrow 57 \))
11. Light for fastest lap (\( \Rightarrow 102 \))
Multifunction display

1. Speedometer
2. Coolant temperature
3. Odometer (⇒ 46)
4. Clock (⇒ 50)
5. With heated handlebar grips OE
   Heated handlebar grips (⇒ 50)
6. Gear indicator display, "N" indicates "neutral".
7. Riding mode
   RAIN
   SPORT
   RACE
   Setting riding mode (⇒ 54)
   With Pro riding modes OE
   Additional riding modes
   SLICK
   USER
Refer to Chapter 7 for information regarding the display modes available for track use.

**Warning lights Display**

Warnings are displayed with appropriate warning lights.

If several warnings are active, all corresponding warning lights and warning symbol are displayed; warnings appear alternately. You will find an overview of the potential warnings on the following pages.

Warnings for which no individual warning light is present are signaled by the universal warning light 1 which lights up in combination with the appearance of a warning notice such as 2 in the multifunction display. The universal warning light shows red or yellow, depending on the urgency of the warning.
### Overview of warning indicators

<table>
<thead>
<tr>
<th>Warning and indicator lamps</th>
<th>Warning symbols in the display panel</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lights up red</td>
<td>EWS! is displayed</td>
<td>Electronic immobilizer is active (☞ 29)</td>
</tr>
<tr>
<td>Flashes red</td>
<td>Coolant temperature display flashes</td>
<td>Coolant temperature too high (☞ 29)</td>
</tr>
<tr>
<td>Lights up</td>
<td></td>
<td>Engine in emergency-operation mode (☞ 29)</td>
</tr>
<tr>
<td>Flashes yellow</td>
<td></td>
<td>Severe fault in the engine management system (☞ 30)</td>
</tr>
<tr>
<td>Lights up yellow</td>
<td>LAMP! is indicated</td>
<td>Lights for turn indicators defective (☞ 30)</td>
</tr>
<tr>
<td>Lights up yellow</td>
<td>LAMPR! is indicated</td>
<td>Taillight defective (☞ 31)</td>
</tr>
<tr>
<td>Lights up yellow</td>
<td>LAMPF! is indicated</td>
<td>Lights for front parking lights defective (☞ 31)</td>
</tr>
</tbody>
</table>
### Warning and indicator lamps

<table>
<thead>
<tr>
<th>Warning symbols in the display panel</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lights up yellow, LAMPS! is indicated</td>
<td>Taillight and lights for parking lights defective (⇒ 31)</td>
</tr>
<tr>
<td>Lights up yellow VDS! is shown in the empty display</td>
<td>Motorcycle has fallen over (⇒ 32)</td>
</tr>
<tr>
<td>Lights up yellow VDS! is displayed</td>
<td>Fall sensor defective (⇒ 32)</td>
</tr>
<tr>
<td>Flashes</td>
<td>ABS self-diagnosis not completed (⇒ 32)</td>
</tr>
<tr>
<td>Lights up</td>
<td>ABS switched off (⇒ 32)</td>
</tr>
<tr>
<td>Lights up</td>
<td>ABS error (⇒ 32)</td>
</tr>
<tr>
<td>Flashes rapidly</td>
<td>ASC intervention (⇒ 33)</td>
</tr>
</tbody>
</table>
### Warning and indicator lamps

<table>
<thead>
<tr>
<th>Warning symbols in the display panel</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flashes slowly ASC</td>
<td>ASC self-diagnosis not completed (§ 33)</td>
</tr>
<tr>
<td>Lights up ASC</td>
<td>ASC switched off (§ 33)</td>
</tr>
<tr>
<td>Lights up ASC error</td>
<td>ASC error (§ 33)</td>
</tr>
<tr>
<td>Flashes rapidly DTC</td>
<td>DTC intervention (§ 33)</td>
</tr>
<tr>
<td>Flashes slowly DTC self-diagnosis not completed</td>
<td>DTC self-diagnosis not completed (§ 34)</td>
</tr>
<tr>
<td>Lights up DTC switched off</td>
<td>DTC switched off (§ 34)</td>
</tr>
<tr>
<td>Lights up DTC error</td>
<td>DTC error (§ 34)</td>
</tr>
<tr>
<td>Lights up yellow DDC! is displayed</td>
<td>DDC error (§ 35)</td>
</tr>
<tr>
<td>Warning and indicator lamps</td>
<td>Warning symbols in the display panel</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td><img src="image" alt="Alert icon" /> lights up yellow</td>
<td><strong>DWALO!</strong> is displayed</td>
</tr>
<tr>
<td><img src="image" alt="Alert icon" /> lights up yellow</td>
<td><strong>DWA!</strong> is displayed</td>
</tr>
<tr>
<td><img src="image" alt="Alert icon" /> Shiftpoint light flashes or remains on continuously</td>
<td><img src="image" alt="Alert icon" /> <strong>SPEED!</strong> is displayed</td>
</tr>
<tr>
<td><img src="image" alt="Alert icon" /> Shiftpoint light flashes or remains on continuously</td>
<td><img src="image" alt="Alert icon" /> <strong>0L-CON!</strong> is indicated</td>
</tr>
<tr>
<td><img src="image" alt="Alert icon" /> lights up red</td>
<td><img src="image" alt="Alert icon" /> <strong>NO CAN</strong> is displayed</td>
</tr>
<tr>
<td><img src="image" alt="Alert icon" /> lights up yellow</td>
<td><img src="image" alt="Alert icon" /> <strong>NO CODING</strong> is displayed</td>
</tr>
<tr>
<td><img src="image" alt="Alert icon" /> lights up yellow</td>
<td><img src="image" alt="Alert icon" /> <strong>SERVICE!</strong> is indicated</td>
</tr>
<tr>
<td><img src="image" alt="Alert icon" /> lights up</td>
<td></td>
</tr>
</tbody>
</table>
Electronic immobilizer is active
⚠️ General warning light shows red.

EWS! is displayed.
Possible cause:
The key being used is not authorized for starting, or communication between the key and engine electronics is disrupted.
• Remove other ignition keys located on the ignition key.
• Use the reserve key.
• Have the defective key replaced, preferably by an authorized BMW Motorrad retailer.

Coolant temperature too high
⚠️ General warning light flashes red.

The coolant temperature display flashes.

**ATTENTION**

**Riding with overheated engine.**
Engine damage
• Be sure to observe the measures listed below.

Possible cause:
The coolant temperature is too high.
• If possible, continue driving in the part-load range to cool down the engine.
• Should the coolant temperature frequently be too high, have the fault rectified as quickly as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

**Engine in emergency-operation mode**
Engine electronics warning light lights up.

**WARNING**

**Unusual handling when engine is no emergency operating mode.**
Accident hazard
• Adapt your style of riding accordingly.
• Avoid rapid acceleration and passing maneuvers.

Possible cause:
The engine control unit has diagnosed a fault. The engine is running in the emergency-operation mode. In exceptional cases, the engine stops and can no longer be started.
• Continued driving is possible, however the accustomed engine output and speed range may not be available.
• Have the malfunction corrected as soon as possible at an authorized service facility,
preferably an authorized BMW Motorrad retailer.

Severe fault in the engine management system

⚠️ General warning light flashes yellow.

Engine electronics warning light lights up.

⚠️ WARNING
Damage to the engine when it is in the emergency operating mode.

Accident hazard

- Adapt riding style: Ride slowly, avoid rapid acceleration and passing maneuvers.
- If possible, have the motorcycle picked up and the malfunction source eliminated by a specialized service facility, preferably an authorized BMW Motorrad Retailer.

Possible cause:
The engine control unit has diagnosed a fault, which can lead to a severe secondary fault. The engine is in the emergency-operation mode.
- Continued driving is possible, however it is not recommended.
- Avoid high load and engine speed ranges if possible.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad retailer.

Lights for turn indicators defective

LAMP! is indicated.

⚠️ WARNING
Overlooking the motorcycle in traffic due to the light source on the motorcycle failing.

Safety risk
- Replace defective bulbs as soon as possible; it is best always to carry a complete set of spare bulbs on the motorcycle.

Possible cause:
Light source for turn indicator defective.
- Replacing front and rear turn indicator light sources (180).

Possible cause:
The license-plate carrier is removed and the vehicle's electronic monitoring system detects the missing turn signals.
- Install license-plate carrier (133).
- Suppress the fault message in the submenu SETUP EQUIPMENT with the WARN LAMP OFF parameter.
Taillight defective

General warning light shows yellow.
LAMPR! is indicated.
Possible cause:
Light source for taillight or brake light defective.
- The diode taillight must be replaced. Please contact a specialist service facility, preferably an authorized BMW Motorrad retailer.

Lights for front parking lights defective

General warning light shows yellow.
LAMPF! is indicated.

WARNING
Overlooking the motorcycle in traffic due to the light source on the motorcycle failing.
Safety risk
- Replace defective bulbs as soon as possible; it is best always to carry a complete set of spare bulbs on the motorcycle.

Possible cause:
Light source for parking light defective.
- Replacing light source for left-hand parking light (⇒ 178).
- Replacing right-hand parking light light source (⇒ 179).

Taillight and lights for parking lights defective

General warning light shows yellow.
LAMPS! is indicated. No fault is displayed when the low-beam or high-beam headlight fails.

Front lights defective

No fault is displayed when the low-beam or high-beam headlight fails.

WARNING
Overlooking the motorcycle in traffic due to the light source on the motorcycle failing.
Safety risk
- Replace defective bulbs as soon as possible; it is best always to carry a complete set of spare bulbs on the motorcycle.

Possible cause:
Front light source defective.
- Replacing light sources for low-beam and high-beam headlight (⇒ 176).
Motorcycle has fallen over

General warning light shows yellow.

VDS! (Vertical Down Sensor) is shown in empty display.

Possible cause:
The fall sensor has detected a fall and switched off the engine.
• Position motorcycle upright.
• Switch ignition off and then on again or switch emergency ON/OFF switch on and then off again.

Fall sensor defective

General warning light shows yellow.

VDS! (Vertical Down Sensor) is displayed.

Possible cause:
A defect was determined in the fall sensor.

ABS self-diagnosis not completed

ABS indicator light flashes.

Possible cause:
The ABS system is not available, as self-diagnosis has not been completed. To check the wheel speed sensors, the motorcycle must be driven a few yards.
• Ride off slowly. It must be noted that the ABS function is not available until the self-diagnosis has been completed.

ABS switched off

ABS indicator light lights up.

Possible cause:
The ABS system has been deactivated by the rider.
• Activating ABS (§ 51).

ABS error

ABS indicator light lights up.

Possible cause:
The ABS control unit has detected an error. The ABS function is not available at all or is restricted.
• It is possible to continue riding the motorcycle if you make allowance for the failed or limited ABS function. You should also take account of the additional information on situations that can lead to an ABS fault (§ 143).
• Have the malfunction corrected as soon as possible at an authorized service facility,
preferably an authorized BMW Motorrad retailer.

**ASC intervention**

ASC indicator and warning light flashes rapidly. ASC has detected instability at the rear wheel and responded by reducing the torque. The warning light flashes longer than the ASC intervention lasts. This feature continues to furnish the rider with visual feedback confirming that the system has initiated active closed-loop intervention even after the critical situation has passed.

**ASC self-diagnosis not completed**

ASC indicator and warning light flashes slowly.

Possible cause:

- **ASC self-diagnosis routine not completed**

  The ASC function is not available, as the self-diagnosis function has not been completed. (To check wheel sensors, motorcycle must reach a minimum speed with engine running: min 3 mph (min 5 km/h))

- **Ride off slowly.** It must be noted that the ASC function is not available until the self-diagnosis has been completed.

**ASC switched off**

ASC indicator and warning light lights up.

Possible cause:

- **The ASC system has been deactivated by the rider.**
  - **Switch on ASC (⇒ 52).**

**ASC error**

ASC indicator and warning light lights up.

Possible cause:

- **The ASC control unit has detected an error.**
  - **It remains possible to continue riding.** It must be noted that the ASC function is not available at all or is restricted. You should also take account of the additional information on situations that can lead to an ASC fault (⇒ 145).
  - **Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad retailer.**

**DTC intervention**

- **with Dynamic Traction Control (DTC)**

Displays
DTC indicator light flashes rapidly.
DTC has detected instability at the rear wheel and responded by reducing the torque. The warning light flashes longer than the DTC intervention lasts. This feature continues to furnish the rider with visual feedback confirming that the system has initiated active closed-loop intervention even after the critical situation has passed.

**DTC self-diagnosis not completed**
- with Dynamic Traction Control (DTC)

DTC indicator light flashes slowly.

Possible cause:

- **DTC self-diagnosis not completed**

The DTC function is not available, as the self-diagnosis function has not been completed. (To check wheel sensors, motorcycle must reach a minimum speed with engine running: min 3 mph (min 5 km/h))

- Ride off slowly. It must be noted that the DTC function is not available until the self-diagnosis has been completed.

**DTC switched off**
- with Dynamic Traction Control (DTC)

DTC indicator light lights up.

Possible cause:

- The DTC system has been deactivated by the rider.
  - Switching on DTC (53).

**DTC error**
- with Dynamic Traction Control (DTC)

DTC indicator light lights up.

Possible cause:

- The DTC control unit has detected an error. It must be noted that the DTC function is not available at all or is restricted.
  - It remains possible to continue riding. You should also take account of the additional information on situations that can lead to an DTC fault (145).

- Have the malfunction corrected as soon as possible at an authorized service facility,
preferably an authorized BMW Motorrad retailer.

**DDC error**
- with Dynamic Damping Control (DDC)\textsuperscript{OE}

⚠️ General warning light shows yellow.

DDC! is displayed.

Possible cause:
The DDC control unit has detected an error.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad retailer.
- Motorcycle damping is in this condition very firm and riding is rather uncomfortable - in particular on rough roads.

**DWA battery charge level low**
- with anti-theft alarm system (DWA)\textsuperscript{OE}

⚠️ General warning light shows yellow.

DWA! is displayed.

Possible cause:
The DDC control unit has detected an error.

NOTICE
This fault message is only shown for a short time immediately following the Pre-Ride-Check.

Possible cause:
The anti-theft alarm battery no longer has its full capacity. The operation of the anti-theft alarm system is only ensured for a limited time with the motorcycle battery disconnected.
- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

**DWA battery drained**
- with anti-theft alarm system (DWA)\textsuperscript{OE}

⚠️ General warning light shows yellow.

DWA! is displayed.
This fault message is only shown for a short time immediately following the Pre-Ride-Check.

Possible cause:
The anti-theft alarm system battery is completely discharged. Operation of the anti-theft alarm system is no longer ensured when the motorcycle’s battery is disconnected.
- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

**Speed warning**
Shiftpoint light flashes or remains on continuously according to the selected setting. **SPEED!** is displayed.

Possible cause:
The preset maximum speed has been exceeded.
- Reduce speed.
- Enter a new maximum speed.

**Launch Control not ready**
- with Pro riding modes OE
Shiftpoint light lights up or flashes.
**0L−CON!** is indicated.
Possible cause:
The number of possible racing starts with Launch Control has been exceeded.
- Let the clutch cool down.
- Race start with Launch Control (⇒ 128).

**CAN open/short circuit**
General warning light shows red.
NO CAN (Controller Area Network) is displayed.

Possible cause:
A defect was determined in the Controller Area Network.
- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

**Encoding missing**
General warning light shows yellow.
NO CODING is displayed.
Possible cause:
An encoding error was discovered.
- The display goes out after 10 seconds.
- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

**Service date missed**
General warning light shows yellow.
SERVICE! is indicated.
Service display

If service is due within a month, the service date 1 is displayed.

If service is due within 1,000 km (700 miles), the remaining distance 1 is displayed and is counted down in steps of 100 km (100 miles). They are briefly displayed following the Pre-Ride-Check.

When a service date elapses without service, the general warning light lights up in yellow, appearing together with the date and mileage (kilometer) display. The “Service” message is displayed continuously.

NOTICE

If the service display appears more than a month before the service date, the stored date must be adjusted in the instrument cluster. This situation can occur if the battery has been disconnected for a longer time. Consult a certified workshop, preferably an authorized BMW Motorrad retailer, for setting of the date.

Fuel down to reserve

Fuel-reserve warning light lights up.

WARNING

Rough engine running or switching off of the engine due to a fuel shortage. Accident hazard. Damage to the catalytic converter.

• Do not drive to the extent that the fuel tank is completely empty.

Possible cause:
At the most, the fuel tank still contains the reserve fuel quantity.

Fuel reserve

Approx. 1.1 gal (Approx. 4 l)

Refueling \(\Rightarrow 90\).
Cruising range

The RANGE cruising range indicates the distance that can still be driven with the remaining fuel. This distance is calculated based on fuel quantity and average consumption.

**RANGE**

- If the motorcycle is standing on its side stand, the motorcycle's inclined position will prevent the fuel level from being registered accurately. For this reason travel range is only calculated with the side stand retracted.

- The travel range automatically appears in the multifunction display after the fuel reserve level is reached.
- After refueling, the travel range is recalculated when the fuel quantity is greater than the fuel reserve.

**NOTICE**

The determined range is an approximate reading. BMW Motorrad therefore recommends that you do not try to use the full range before refueling.
## Operation

<table>
<thead>
<tr>
<th>Feature</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering and ignition lock</td>
<td>40</td>
</tr>
<tr>
<td>Ignition</td>
<td>40</td>
</tr>
<tr>
<td>Electronic immobilizer</td>
<td>41</td>
</tr>
<tr>
<td>Emergency on/off switch (kill switch)</td>
<td>41</td>
</tr>
<tr>
<td>Lights</td>
<td>42</td>
</tr>
<tr>
<td>Hazard warning flashers</td>
<td>43</td>
</tr>
<tr>
<td>Turn indicator</td>
<td>43</td>
</tr>
<tr>
<td>Multifunction display</td>
<td>45</td>
</tr>
<tr>
<td>Alarm system</td>
<td>48</td>
</tr>
<tr>
<td>Clock</td>
<td>50</td>
</tr>
<tr>
<td>Anti-Lock Brake System</td>
<td>50</td>
</tr>
<tr>
<td>Automatic Stability Control</td>
<td>51</td>
</tr>
<tr>
<td>Dynamic Traction Control</td>
<td>52</td>
</tr>
<tr>
<td>Riding mode</td>
<td>53</td>
</tr>
<tr>
<td>Cruise control</td>
<td>57</td>
</tr>
<tr>
<td>Speed warning</td>
<td>59</td>
</tr>
<tr>
<td>Heated handlebar grips</td>
<td>60</td>
</tr>
<tr>
<td>Rider and passenger seats</td>
<td>61</td>
</tr>
<tr>
<td>Helmet holder</td>
<td>63</td>
</tr>
<tr>
<td>Luggage straps</td>
<td>64</td>
</tr>
</tbody>
</table>
Steering and ignition lock

Keys
You are provided with 2 ignition keys. Should you lose your keys please refer to the information regarding the electronic immobilizer (EWS) (41).
A single key fits the steering and ignition lock, the fuel filler cap and the seat lock.

Locking handlebars
- Turn handlebars to left.

Ignition
Switch on ignition
- Turn the ignition key to position 1 while moving the handlebars somewhat.
  » Ignition, lights and all electrical circuits switched off.
  » Handlebars locked.
  » The ignition key can now be removed.

- Turn ignition key to position 1.
  » Parking lights and all function circuits switched on.
  » Engine can be started.
  » Pre-Ride-Check is carried out. (83)
  » ABS self-diagnosis is performed. (83)
  » ASC self-diagnosis is performed. (84)
  - with Dynamic Traction Control (DTC)\textsuperscript{OE}
  » DTC self-diagnosis is performed. (85)
Switch off ignition

- Turn ignition key to position 1.
- Light switched off.
- Handlebars not locked.
- The ignition key can now be removed.

Electronic immobilizer

The motorcycle's electronic circuitry monitors the data stored in the key through a ring antenna incorporated in the ignition lock. The engine management system does not enable engine starting until the vehicle key has been recognized as "authorized" for your motorcycle.

**NOTICE**

A further key attached to the same ring as the ignition key used to start the engine could "irrate" the electronics, in which case the enabling signal for starting is not issued. The EWS! warning is shown in the multifunction display.

Always store further vehicle keys separately from the ignition key.

If you lose an ignition key, you can have it disabled by your BMW Motorrad partner. When having a key disabled you should also bring all of the motorcycle's remaining keys with you.

The engine can no longer be started using a disabled vehicle key; however, a disabled vehicle key can be enabled again.

Replacement and spare keys are only available through an authorized 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 vehicle keys.

Emergency on/off switch (kill switch)
**WARNING**

Operation of the emergency ON/OFF switch when riding.
Danger of falling due to blocking of rear wheel.
- Do not operate the emergency ON/OFF switch when riding.

The engine can be switched off easily and quickly using the emergency on/off switch.

---

**NOTICE**

The parking lights are a strain on the battery. Do not leave the ignition switched on longer than absolutely necessary.

---

**Lights**

**Parking lights**
The parking lights come on automatically when the ignition is switched on.

---

**Low-beam headlight**
The headlights automatically come on in their low-beam mode as soon as you start the engine.

**High-beam headlight and headlight flasher**
- Start engine.

---

**Operation**

- Press switch 1 toward front to switch on high-beam headlight.
- Pull switch 1 toward rear to actuate headlight flasher.

**Parking lights**
- Switch off ignition.
Immediately after switching off ignition, push button 1 to left and hold it until parking lights come on.

**NOTICE**
The parking lights can only be switched on within 10 seconds after switching off the ignition.

- Switch ignition on and then off again to switch off parking light.

**Hazard warning flashers**

Switching on hazard warning flashers

- Switch on ignition.

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

- Press button 1 to switch on hazard warning flashers.

- Ignition can be switched off.
  - Switch on ignition and press button 1 again to switch off hazard warning flashers.

**Turn indicator**

Operating turn indicators

- Switch on ignition.

- Press button 1 to left to switch on left-side turn indicators.
- Press button 1 to right to switch on right-side turn indicators.
Press button 1 into center position to switch off turn indicators.

NOTICE

The turn indicators automatically switch off when the defined driving time and distance have been reached. The defined driving time and distance can be set by an authorized BMW Motorrad retailer.
Multifunction display

Overview

- Solid line: briefly press button.
- Dotted line: press and hold button.

1 Odometer
Standard display
Select displays in multifunction display (§ 46)

2 LAP TIMER (§ 99)

3 LIMIT (§ 59)
Factory setting for WARN SPEED (§ 118)

4 RACE INFO (§ 103)

5 SETUP MENU (§ 111)

6 TRIP 1/TRIP 2
Reset tripmeter (§ 47)

7 Average consumption and average speed
Reset average data (§ 47)
Selecting displays in multifunction display

- Switch on ignition.
- All information required for operation on public roads is provided in the multifunction display.

Press TRIP 1 repeatedly until desired value is displayed in area 2.

The following values of the onboard computer can be displayed:
- Total distance ODO (standard display)
- Cruising range RANGE
- Trip distance 1 TRIP 1
- Trip distance 2 TRIP 2
- Average consumption AVG in volume per distance or vice versa
- Average speed AVG in distance per hour

Selecting additional displays

Briefly press SET 2 to obtain additional displays.
Briefly press TRIP 1 to return to odometer ODO (standard display).

Repeatedly press SET 2 until desired display is selected. The following displays are available:
- LAPTIMER: The lap times and additional data can be recorded here and displayed again in the RACE INFO menu.
- RACE INFO: The stored information from the LAPTIMER can be displayed here. RACE INFO can only be opened with the motorcycle at a standstill.
- SETUP MENU: The behavior of the instrument cluster can be adjusted to the driver’s preferences here. SETUP MENU can only be opened with the motorcycle at a standstill.
- If LAPTIMER is shown, press and hold SET 2 to open various displays for LAPTIMER.
• If LIMIT is shown, press and hold SET 2 to set current driving speed as new limit.
• If RACE INFO ENTER or SETUP MENU ENTER is shown, press and hold SET 2 to open the respective menu.

**Resetting tripmeter**
- Switch on ignition.

- Briefly press TRIP 1 repeatedly until desired tripmeter is displayed.
  - “TRIP 1” or “TRIP 2” is indicated.

- Press and hold TRIP 1 until tripmeter has been reset.
  - Trip mileage = 0.0

**Resetting average data**
- Switch on ignition.

- Briefly press TRIP 1 repeatedly until average value to be reset is displayed.
  - AVG is indicated.
- Press and hold TRIP 1 until selected value has been reset.
  - Average value = 0.0
**Alarm system**
- with anti-theft alarm system (DWA)\(^\text{OE}\)

**Activation**
- Switch on ignition (\(\text{40}\)).
- DWA Adjusting (\(\text{49}\)).
- Switch off ignition.
  - If the DWA is activated, the DWA is automatically activated after the ignition is switched off.
  - Activation takes approximately 30 seconds to complete.
  - Turn indicators are illuminated twice.
  - Confirmation tone sounds twice (if programmed).
  - DWA is armed.

**Alarm**
The alarm can be set off by:
- motion sensor
- an attempt to use an unauthorized key to switch on the ignition
- disconnecting the alarm system from the motorcycle battery (alarm system battery takes over the power supply - alarm tone only, no illumination of the turn indicators).

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

An alarm lasts for approximately 26 seconds. During the alarm, an alarm tone sounds and the turn indicators flash. The alarm tone type can be adjusted by an authorized BMW Motorrad retailer.

If an alarm was triggered while the motorcycle was unattended, the rider is notified accordingly by an alarm tone sounding once when the ignition is switched on. The alarm system LED then indicates the reason for the alarm signal for one minute. The meanings of the flash codes are as follows:
- 1 flash: Motion sensor 1
- 2 flashes: Motion sensor 2
- 3 flashes: Ignition switched on with unauthorized key
- 4 flashes: Alarm system is disconnected from the motorcycle battery
- 5 flashes: Motion sensor 3

**Deactivation**
- Emergency on/off switch (kill switch) in normal operating position.
- Switch on ignition.
  - Turn indicators light up once.
» Confirmation tone sounds once (if programmed).
» DWA is now switched off.

**DWA Adjusting**
- Switch on ignition (→ 40).

![](image1)

- Briefly press SET 2 repeatedly until SETUP MENU ENTER 3 is displayed.

**NOTICE**
If the display has been scrolled too far, briefly press SET 2 repeatedly until the menu returns to the start and finally to the desired display.
- Press and hold SET 2 to open the menu.

![](image2)

- Briefly press SET 2 repeatedly until SETUP EQUIPMENT ENTER 4 is displayed.

**NOTICE**
If the display has been scrolled too far, briefly press TRIP 1 to scroll back.
- Press and hold SET 2 to change the value.
- Briefly press TRIP 1 or SET 2 to change the value.

The following settings are available:
- **DWA AUTO ON**: DWA is activated respectively is activated automatically when the ignition is switched off.

- **Parameter DWA AUTO 5 and its current value 6 are displayed.**
- Press and hold SET 2 to edit the set value 6.
- The value 6 flashes.
- Briefly press TRIP 1 or SET 2 to change the value.
 Clock
 Setting clock
 • Switch on ignition.

 Anti-Lock Brake System
 Deactivate ABS
 • Switch on the ignition.

 Operation

 - DWA AUTO OFF: DWA is deactivated.
   • Press and hold SET 2 to save the set value.
   • The value no longer flashes.
   • The clock is now set.
   • Press and hold TRIP 1 to cancel the adjustment procedure.
   • Adjustment canceled.
   • ODO is indicated.

 Clock
 Setting clock
 • Switch on ignition.

 Anti-Lock Brake System
 Deactivate ABS
 • Switch on the ignition.

 Operation

 - DWA AUTO OFF: DWA is deactivated.
   • Press and hold SET 2 to save the set value.
   • The value no longer flashes.
   • The clock is now set.
   • Press and hold TRIP 1 to cancel the adjustment procedure.
   • Adjustment canceled.
   • ODO is indicated.

 Clock
 Setting clock
 • Switch on ignition.

 Anti-Lock Brake System
 Deactivate ABS
 • Switch on the ignition.
NOTICE

The BMW Motorrad Race ABS function can also be deactivated while driving. 

Press and hold the button until first the ASC / DTC indicator light and then the ABS indicator and warning light change their display behavior.

> The ASC/DTC setting remains unchanged.

ABS indicator light lights up.

Release button within two seconds.

ABS indicator light continues to be lit up.

> ABS is deactivated.

Activating ABS

Press and hold the button until first the ASC / DTC indicator light and then the ABS indicator and warning light change their display behavior.

> The ASC/DTC setting remains unchanged.

ABS indicator light goes out, and starts to flash if self-diagnosis has not been completed.

If the coding plug for the SLICK/USER riding mode is not installed, the ignition can also be switched off and then on again as an alternative.

If the ABS indicator light lights up after switching the ignition off and on and then continuing to ride above the minimum speed, an ABS fault has occurred.

Automatic Stability Control

Deactivating ASC

Switch on the ignition.
NOTICE

The Automatic Stability Control (ASC) can also be deactivated while riding.

Press and hold the button until the ASC -indicator and warning light changes its display behavior.

ASC indicator and warning light starts to light up.

Release button within two seconds.

ASC is deactivated.

Switch on ASC

Press and hold the button until the ASC -indicator and warning light changes its display behavior.

ASC indicator and warning light continues to be lit up.

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

ASC activated.

As an alternative, the ignition can also be switched off and then on again.

If the ASC indicator and warning light lights up after switching the ignition off and on and then continuing to ride at the following minimum speed, an ASC fault has occurred.

Dynamic Traction Control

– with Dynamic Traction Control (DTC)
Deactivating DTC

- Switch on the ignition.

**NOTICE**
The Dynamic Traction Control (DTC) can also be deactivated while riding.

- Press and hold the 1 button until the DTC --indicator light changes its display behavior.
- Release button 1 within two seconds.

Switching on DTC

- DTC indicator light continues to be lit up.
- DTC is deactivated.

Switching on DTC

- Press and hold the 1 button until the DTC --indicator light changes its display behavior.
- DTC indicator light goes out, and if self-diagnosis has not been completed, it begins to flash.
- Release button 1 within two seconds.
- DTC indicator light remains off or continues to flash.
- DTC activated.

- If the coding plug is not installed, the ignition can also be switched off and then on again as an alternative.

If the DTC indicator light lights up after switching the ignition off and on and then continuing to ride at the following minimum speed, a DTC fault has occurred.

- min 6 mph (min 10 km/h)

Riding mode

**Use of the riding modes**

BMW Motorrad has developed 5 riding scenarios for your motorcycle from which you can select the one matching your situation:
- Riding on wet roads.
- Sporty riding on dry roads.
- Riding on racetracks with series tires.

- with Dynamic Traction Control (DTC)\textsuperscript{OE}
- Riding on racetracks with series tires.
- Riding on racetracks with racing tires while taking settings by driver into account.

For each of those 5 scenarios, the optimum balance between engine torque, throttle response, ABS control and ASC or DTC control for the situation concerned is provided.

- with Dynamic Damping Control (DDC)\textsuperscript{OE}

The suspension settings is adjusted to the selected scenario as well.

**Setting riding mode**

- Switch on ignition (\textsuperscript{40}).
- Press button 1.

\textbf{NOTICE}

Details on the selectable driving modes are provided in the chapter "Technology in Detail".

The selection arrow 2 and the selectable riding modes 3 are displayed. The last active riding mode flashes.
With the coding plug installed, the riding modes SLICK 4 and USER 5 are also offered.

**WARNING**

Activating the SLICK mode outside the racetrack or without racing tires.
Risk of accident caused by low tire grip.
- Only activate SLICK mode on racetracks and with racing tires fitted.
- Press 1 button repeatedly until selection arrow 2 points to desired riding mode.
- When the vehicle is stationary, the selected riding mode is activated after approx. 2 seconds.

- Selection arrow 2 and inactive riding modes are hidden.
- The new riding mode is activated during operation under the following conditions:
  - The throttle grip is in the neutral position.
  - The brake lever is not being operated.

The following riding modes can be selected:
- RAIN: When riding on wet roads.
- SPORT: For sporty riding on dry roads.
- RACE: For riding on racetracks with series tires.

The following riding modes can also be selected:
- with Pro riding modes
- SLICK: For riding on racetracks with racing tires (only with coding plug installed).
- with Pro riding modes
- USER: Riders can combine the settings from all available functions (ENGINE, ABS, DTC and DDC) in any way they wish, according to their preferences or current prevailing conditions. A technical understanding of the settings is assumed (only with coding plug installed, see the chapter "Technology in detail").

» The riding mode selected and its associated engine-characteristic, ABS DTC and DDC settings are retained even after the ignition has been switched off.
» When selecting SLICK riding mode: Observe restricted ABS control intervention at rear wheel (see chapter "Technology in detail").
» The values set in the SETUP USER-MODE are not continually displayed, but instead only after the following events for a limited time:
  » After every pre-ride check with USER riding mode active.
  » After changing to USER riding mode.
  » When 1 (MODE) button is pressed in USER riding mode without changing riding mode.

**Install coding plug**
- with Pro riding modes

**WARNING**
Increased engine performance in all riding modes by inserting the coding plug on motorcycles with power reduction.
Accident hazard
- Familiarize yourself with the more performance-oriented response.

Do not use the encoding plug on public roads.
Switch off ignition (☞ 41).
Removing rider’s seat (☞ 63).

**ATTENTION**
Penetration of dirt and moisture in the open connector.
Malfunctions
- After removing the encoding plug, refit the cover cap.
- Remove cap 1 of connector.
To do so, press in locking device 2 and pull off cap.
• Insert coding plug.
• Switch on the ignition.
  » For safety reasons, after the coding plug is connected, the RAIN riding mode is automatically activated.
• Set riding mode (☞ 54).
  » The set riding mode remains active even after the ignition is switched off.
• Installing driver's seat (☞ 63).
• Remove license-plate carrier (☞ 132).

Cruise control
– with cruise control\textsuperscript{OE}

Switching on cruise control

Push switch 1 to right.
» Button 2 is unlocked.

Storing speed

Briefly press button 1 forward.

Adjustment range for cruise control
19...130 mph (30...210 km/h)

Indicator light for cruise-control system lights up.

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

**Acceleration**

- Briefly press button 1 forward.
- **Increase speed**
  - Speed is increased each time button is pressed.
  - 1 mph (1 km/h)
- Press button 1 forward and hold.
  - The motorcycle accelerates steplessly.
- If the button 1 is no longer pressed, the speed achieved is maintained and saved.

**Decreasing speed**

- Briefly press button 1 backward.
- **Decreasing the speed**
  - Speed is decreased each time button is pressed.
  - 1 mph (1 km/h)
- Press button 1 back and hold.
  - The motorcycle decelerates steplessly.
- If the button 1 is no longer pressed, the speed achieved is maintained and saved.

**Deactivating cruise control**

- Actuate brakes, clutch or throttle grip (take back throttle beyond back position) to deactivate cruise-control system.

**NOTICE**

When changing gear using the Pro Gear-shift Assistance function, the cruise-control system is automatically deactivated for safety reasons.

**NOTICE**

With ASC and DTC interventions, the cruise control is automatically deactivated for safety reasons.

» Cruise control indicator light goes out.
Resuming former cruising speed

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

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

Switching off cruise control

- Push switch 1 to left.
  » The system is deactivated.
  » Button 2 is locked.

Speed warning

Setting speed warning
- If necessary, activate speed warning in SETUP EQUIPMENT submenu. See chapter "On the racetrack":

Either the current preset speed or OFF appears in the display.
To set current speed as new limit: press and hold SET 2.
- The current speed is displayed.
- To increase set speed: briefly press TRIP 1.
- Each time you press the button the speed increases by 3 mph (5 km/h).

When the preset speed is exceeded, the shiftpoint light 1 responds by lighting up or flashing at the preset frequency and the warning 2 appears in the display.

To deactivate the speed warning: Press and hold TRIP 1 until OFF appears in the display.

**Heated handlebar grips**
- with heated handlebar grips OE

**Operating heated grips**
- Start engine.

**NOTICE**
The heated grips option can only be activated when the engine is running.
NOTICE

The increase in power consumption caused by the heated grips can drain the battery if you are riding at low engine speeds. If the battery is inadequately charged, the heated grips are switched off to ensure starting capability.

Press button 1 repeatedly until desired heating level is displayed in multifunction display.

The handlebar grips can be heated at two different levels. The second stage 2 is intended for rapid heating of the grips. Once they are warm you should switch back to the first stage.

First step: 50 % heating capacity
Second step: 100 % heating capacity

If no further changes are made the selected heating level is adopted as the setting.

Rider and passenger seats

Removing hump cover
- with passenger seat cover OE

- Park motorcycle, ensuring that support surface is firm and level.

Unlock lock 2 in hump cover 1 using ignition key.

Lift hump cover at rear, then remove by pulling back and upward.
### Installing hump cover
- with passenger seat cover

1. Mount hump cover in mounts 1 on left and right.
2. Lock lock with ignition key.
3. Press the hump cover forward slightly then fold it down.

### Removing passenger seat

1. Park motorcycle, ensuring that support surface is firm and level.
2. Unlock seat lock 1 with vehicle ignition key.
3. Lift passenger seat at rear, then remove by pulling back and upward.
4. Remove ignition key and lay passenger seat on a clean surface with upholstered side on bottom.

### Install the passenger seat

1. Mount passenger seat in mounts 1 on left and right.
2. Press the rear seat forward slightly then fold it down.
Lock seat lock with ignition key.

**Removing rider’s seat**

- Press cover of driver’s seat above screws 1 forward somewhat and hold in place.
- Remove screws.
- Push the rider’s seat forward, lift it at the rear and remove it. When doing so, make sure that the paneling is not damaged by the screws.
- Lay the rider’s seat on a clean surface with the upholstered side down.

**Installing driver’s seat**

- Mount rider’s seat in mount 2, then position over screw sockets 3. When doing so, make sure that the paneling is not damaged by the screws.
- Press cover of driver’s seat over screw sockets toward front somewhat and hold in place.
- Install screws 1.

**Helmet holder**

**Securing helmet on motorcycle**

- Remove passenger seat (62).
- Turn over passenger seat.
ATTENTION
Incorrect positioning of the helmet lock.
- Faring scratched.
- When hooking on the helmet, watch the position of the helmet lock.
- Secure helmet on helmet holder 1 using a steel cable.
- Install the passenger seat (⇒ 62).
- Set down helmet on driver's seat.

Luggage straps
Securing luggage on motorcycle
- Remove passenger seat (⇒ 62).
- Turn over passenger seat.

- Remove luggage loops 1 from holders and lay to outside.
- Install the passenger seat (⇒ 62).

- Use luggage loops 1, e.g. in conjunction with passenger footrests, to lash luggage onto passenger seat. When doing so, make sure that the rear trim is not damaged.
Setting

- Mirrors ........................................ 66
- Headlight .................................... 66
- Brakes ........................................ 66
- Steering ....................................... 67
- Spring preload ............................... 67
- Damping ...................................... 72
- DDC ........................................... 75
Mirrors
Adjusting mirrors

- Move mirror to the desired position by turning it.

Headlight
Adjusting headlight for RHD/LHD traffic

This motorcycle’s headlight features a symmetrical low beam. No special adjustments or procedures are required prior to operating the motorcycle in a country where traffic travels on the side of the road opposite to that of your home country (left-hand drive to right-hand drive or vice versa).

Headlight range and spring preload

The headlight range generally remains constant due to the adjustment of the spring preload to the loading state.

- NOTICE
If there are doubts as to the correct headlight range, have the adjustment checked by a specialized workshop, preferably by an authorized BMW Motorrad retailer.

Brakes
Adjusting brake lever

- WARNING

WARNING

Air in the brake system.
- Do not twist the handlebar fitting or the handlebars.

WARNING

Adjusting the brake lever while driving.
Accident hazard
- Only adjust the brake lever when the motorcycle is stationary.

- NOTICE

Modified position of the brake-fluid reservoir.

- WARNING

Air in the brake system.
- Do not twist the handlebar fitting or the handlebars.

- NOTICE

Modified position of the brake-fluid reservoir.

- WARNING

Air in the brake system.
- Do not twist the handlebar fitting or the handlebars.
NOTICE
The adjusting screw can be turned more easily if you push the brake lever forward when doing so.

» Adjustment options:
- From position 1: Largest distance between handlebar grip and brake lever
- To position 6: Smallest distance between handlebar grip and brake lever

Steering
Adjusting steering damper

![Image]

WARNING
Adjusting the steering damper while riding.
Accident hazard
- Never adjust the steering damper except while the motorcycle is stationary.
- Turn adjustment screw 1 in direction A to increase damping force.
- Turn the screw 1 in direction B to reduce damping force.

Basic steering damper adjustment setting
- Opens at 8 clicks (starting at fully closed) (Highway operation)
- Opens at 5 clicks (starting at fully closed) (Racetrack)

Spring preload
Setting
The spring preload on the front wheel must be adapted to the weight of the rider. Higher weight requires a higher spring preload, lower weight requires a lower spring preload.
It is essential to set the spring preload to suit the load carried by the motorcycle. Increase spring preload when the vehicle is heavily loaded and reduce spring preload accordingly when the vehicle is lightly loaded.
Adjusting spring preload on front wheel

- without Dynamic Damping Control (DDC) OE

1. Park motorcycle, ensuring that support surface is firm and level.
2. Make sure there is no load on the motorcycle, removing any cargo or luggage.

Hold motorcycle in a vertical position and measure distance D between lower edge 1 of immersion tube and front axle 2.

- Load motorcycle with driver.
- With the assistance of a helper, measure distance D between points 1 and 2 again and calculate difference (spring deflection) between the measured values.

Adjustment of spring preload dependent on loading
Compressing front wheel
0.4...0.6 in (10...15 mm) (With rider 187 lbs (85 kg))

WARNING
Uncoordinated settings of spring preload and spring strut damping.
Poorer handling.

- Adjust damping characteristic to changed spring preload.
- To decrease spring deflection (increase spring preload), turn adjusting screws 3 with tool of onboard tool kit in direction A.
- To increase spring deflection (decrease spring preload), turn adjusting screws 3 with tool of onboard tool kit in direction B.
• Ensure that settings on left and right sides are identical.

Adjusting spring preload on front wheel
– with Dynamic Damping Control (DDC)\textsuperscript{OE}

• Park motorcycle, ensuring that support surface is firm and level.

• Hold motorcycle in vertical position, preferably with help of a second person (not the side stand).

• Measure distance $D$ between lower edge 1 of immersion tube and front axle 2.
• Load motorcycle with driver.
• Measure distance $D$ between points 1 and 2 with assistance of a 2nd person.
• Calculate spring deflection as difference between measured values.

Adjusting spring preload dependent on loading
Compressing front wheel
0.4...0.6 in (10...15 mm) (With rider 187 lbs (85 kg))

**WARNING**

Uncoordinated settings of spring preload and spring strut damping.
Poorer handling.

• Adjust damping characteristic to changed spring preload.

• To decrease spring deflection (increase spring preload), turn adjusting screw 3 with tool of onboard tool kit in direction A.
• To increase spring deflection (decrease spring preload), turn adjusting screw 3 with tool of onboard tool kit in direction B.
Adjusting spring preload at rear wheel

- without Dynamic Damping Control (DDC) OE

- Park motorcycle, ensuring that support surface is firm and level.
- Make sure there is no load on the motorcycle, removing any cargo or luggage.
- Loosen screw 1 with tool from onboard tool kit.
- Hold motorcycle in vertical position (not with side stand) and measure distance D between lower edge 1 of license-plate carrier and screw 2 of chain guard.
- Load motorcycle with driver.
- With the assistance of a helper, measure distance D between points 1 and 2 again and calculate difference (spring deflection) between the measured values.

Adjustment of spring preload dependent on loading

Spring deflection of rear wheel

0.31...0.47 in (8...12 mm) (With rider 187 lbs (85 kg))

WARNING

Uncoordinated settings of spring preload and spring strut damping. Poorer handling.
- Adjust damping characteristic to changed spring preload.
To increase the spring deflection (reduce spring preload), use the tool from the onboard tool kit to turn the adjustment ring 2 in direction B.

To decrease the spring deflection (increase spring preload), use the tool from the onboard tool kit to turn the adjustment ring 2 in direction A.

Tighten screw 1 to specified torque.

Switch on ignition.

Start engine to avoid discharging battery.

**NOTICE**

Settings on the DDC system are only possible with the ignition switched on, as the electric valves are only active in this case.

Hold motorcycle in vertical position, preferably with the help of a second person (not the side stand).

Measure distance D between points 1 and 2 again and calculate difference (spring deflection) between the measured values.

**Setting**

- **Adjustment of spring preload dependent on loading**
- **Spring deflection of rear wheel**
  - 0.31...0.47 in (8...12 mm) (With rider 187 lbs (85 kg))

**Adjusting spring preload at rear wheel**

- with Dynamic Damping Control (DDC) OE

- Park motorcycle, ensuring that support surface is firm and level.

- Tighten screw 1 to specified torque.

- Switch on ignition.

- Start engine to avoid discharging battery.

- Hold motorcycle in vertical position, preferably with the help of a second person (not the side stand).

- Measure distance D between lower edge 1 of license-plate carrier and screw 2 of chain guard.

- Load motorcycle with driver.

- With the assistance of a helper, measure distance D between points 1 and 2 again and calculate difference (spring deflection) between the measured values.
To decrease the spring deflection (increase spring preload), use the tool from the onboard tool kit to turn the adjustment ring 1 in direction A.

To increase the spring deflection (reduce spring preload), use the tool from the onboard tool kit to turn the adjustment ring 1 in direction B.

Damping Setting
Damping must be adjusted to the road conditions and the spring preload.

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

Adjusting compression damping on front wheel
- without Dynamic Damping Control (DDC) OE

- Adjust compression damping with adjusting screw 1 and red scale on left-hand fork leg.

- To increase damping: turn adjusting screw with tool from onboard tool kit so that mark-
Compression stage, basic setting, front

Position 2 (comfortable setting with rider 187 lbs (85 kg))
Position 4 (standard setting with rider 187 lbs (85 kg))
Position 8 (sport-oriented setting with rider 187 lbs (85 kg))

Rebound-stage damping on front wheel
- without Dynamic Damping Control (DDC)\textsuperscript{GE}

Rebound stage, basic setting, front

Position 2 (comfortable setting with rider 187 lbs (85 kg))
Position 4 (standard setting with rider 187 lbs (85 kg))
Position 7 (sport-oriented setting with rider 187 lbs (85 kg))

Factory settings at front wheel
- Use following specification data to adjust to factory settings.

- To increase damping: turn adjusting screw with tool from onboard tool kit so that marking 2 points to a higher scale figure.
- To decrease damping: turn adjusting screw with tool from onboard tool kit so that marking 2 points to a lower figure on the scale.
Factory settings for jounce/rebound at front
Position 4

Adjusting compression damping (jounce) at rear wheel
- without Dynamic Damping Control (DDC)\textsuperscript{OE}

- Park motorcycle, ensuring that support surface is firm and level.

- Adjust compression damping with adjusting screw 1 and red scale.

- To increase damping: turn adjusting screw with tool from onboard tool kit so that marking 2 points to a higher scale figure.

- To decrease damping: turn adjusting screw with tool from onboard tool kit so that marking 2 points to a lower figure on the scale.

Position 2 (comfortable setting with rider 187 lbs (85 kg))
Position 4 (standard setting with rider 187 lbs (85 kg))
Position 9 (sport-oriented setting with rider 187 lbs (85 kg))

Adjusting rebound-stage damping at rear wheel
- without Dynamic Damping Control (DDC)\textsuperscript{OE}

- Park motorcycle, ensuring that support surface is firm and level.
Adjust rebound-stage damping with adjusting screw 1 and yellow scale.

To increase damping: turn adjusting screw with tool from onboard tool kit so that marking 2 points to a higher scale figure.

To decrease damping: turn adjusting screw with tool from onboard tool kit so that marking 2 points to a lower figure on the scale.

Rebound stage, basic setting, rear

| Position 2 (comfortable setting with rider 187 lbs (85 kg)) |
| Position 4 (standard setting with rider 187 lbs (85 kg)) |
| Position 7 (sport-oriented setting with rider 187 lbs (85 kg)) |

Factory settings at rear wheel

- Use the following specification data to adjust to factory settings.

| Factory settings for jounce/rebound at rear |
| Position 4 |

**DDC Setting**

Damping must be adjusted to the road conditions and the spring preload.

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

Adjusting damping on rear wheel

- with Dynamic Damping Control (DDC)

Adjustment is carried out in the SETUP DDC-SYS submenu.
- Park motorcycle, ensuring that support surface is firm and level.
- Select submenu (113).
- The SETUP DDC-SYS sub-menu has been selected.

To adjust the rebound at the rear wheel, briefly press TRIP 1 or SET 2 repeatedly until in line 3 REAR and in line 4 REB: (Rebound) is displayed.
- Press and hold SET 2.
  - The value next to REB: flashes.

Adjust damping as desired with TRIP 1 and SET 2.
- +1 ... +7: Damping increase in a maximum of seven steps (harder).
- -1 ... -7: Damping decrease in a maximum of seven steps (softer).
- 0: Factory setting
- Press and hold SET 2 until displayed value no longer flashes.
  - The value for the current riding mode is saved.

To adjust the rebound at the rear wheel, briefly press TRIP 1 or SET 2 repeatedly until in line 3 REAR and in line 4 COM: (Compression) is displayed.
- Press and hold SET 2.
  - The value next to COM: flashes.
- Adjust damping as desired with TRIP 1 and SET 2.
- Press and hold SET 2 until displayed value no longer flashes.

**NOTICE**
Damping is adjusted and saved separately for all riding modes in the SETUP DDC-SYS sub-menu.
- Damping is also adjusted and saved separately for the DDC modes DDC SPORT, DDC RACE and DDC SLICK possible in the USER riding mode.
  - The value for the current riding mode is saved.

Adjusting damping on front wheel
- with Dynamic Damping Control (DDC) OE

Adjustment is carried out in the SETUP DDC-SYS sub-menu.
- Park motorcycle, ensuring that support surface is firm and level.
- Select submenu (113).
The SETUP DDC-SYS submenu has been selected.

**FRONT DMP Adjusting**

- The adjust damping, briefly press TRIP 1 or SET 2 repeatedly until in line 3 FRONT is displayed and in line 4 DMP: (Damping).
- Press and hold SET 2.
- The value next to DMP: flashes.
- Adjust damping as desired with TRIP 1 and SET 2.
  - +1 ... +7: Damping increase in a maximum of seven steps (harder).
  - −1 ... −7: Damping decrease in a maximum of seven steps (softer).
  - 0: Factory setting
- Press and hold SET 2 until displayed value no longer flashes.
- The value for the current riding mode is saved.

**Performing zero position alignment**

- with Dynamic Damping Control (DDC)\textsuperscript{OE}
- Adjustment is carried out in the SETUP DDC-SYS submenu.
- Place motorcycle on side stand or a suitable auxiliary stand.
- During the alignment, do not sit on the motorcycle and remove any cargo or luggage.
- Select submenu (\textsuperscript{ consultants}).
- The SETUP DDC-SYS submenu has been selected.

**NOTICE**

The display differs when a spring travel sensor for the front forks is used (racing accessory).

- Press and hold SET 2.

5

77

Setting

To set the zero position, briefly press TRIP 1 or SET 2 repeatedly until CALIB (Calibration) is displayed in line 4.
- Press and hold SET 2 until CALIB begins to flash.
  - CALIB flashes.
  - Zero position is calibrated.
If the zero position alignment has been carried out successfully, CALIB DONE is displayed in line 3 and 4.

If CALIB FAIL is displayed:
- Repeat alignment.
- If CALIB DONE is not displayed after repeated calibration, please contact a BMW authorized workshop, preferably an authorized BMW Motorrad retailer.
Riding

Safety instructions ..................... 80
Observe checklist ....................... 81
Starting .................................. 82
Breaking in ................................ 85
Shifting gears ............................ 87
Brakes ..................................... 88
Parking your motorcycle ............... 89
Refueling ................................. 90
Secure motorcycle for transport .... 92
Riding

Safety instructions

Rider's Equipment
Do not ride without the correct clothing. Always wear:
- Helmet
- Rider's suit
- Gloves
- Boots

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

Loading

WARNING
Reduced riding stability caused by overloading and uneven loading.
Accident hazard

- Do not exceed the gross weight limit and observe the loading information.
- Adjust spring preload and damping rate for the current gross vehicle weight.

Speed
If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:
- Settings of spring-strut and shock absorber system
- Imbalanced load
- Loose clothing
- Insufficient tire inflation pressure
- Poor tire tread
- Etc.

Risk of poisoning
Exhaust fumes contain carbon monoxide, which is colorless and odorless but highly toxic.

WARNING
Harmful exhaust gas.
Danger of suffocation
- Do not inhale exhaust fumes.
- Do not run the engine in closed rooms.

Burn hazard

CAUTION
Engine and exhaust system become very hot when the motorcycle is in use.

Burn hazard
- After parking the vehicle, make sure that no persons or objects come into contact with the engine and exhaust system.
Catalytic converter
If misfiring causes unburned fuel to enter the catalytic converter, there is a danger of overheating and damage. For this reason, observe the following points:
- Do not run the fuel tank dry
- Do not run the engine with the spark-plug cap removed
- Stop engine immediately if it misfires
- Use unleaded fuel only
- Comply with all specified maintenance intervals

ATTENTION
Unburned fuel in the catalytic converter.
Damage to the catalytic converter.
- Note the points listed for protection of the catalytic converter.

Danger of overheating
ATTENTION
Engine idling for a lengthy period while at a standstill.
Overheating caused by insufficient cooling. In extreme cases, the motorcycle could catch fire.
- Do not allow the engine to idle unnecessarily.
- After starting, ride off immediately.

Modifications
ATTENTION
Modifications to the motorcycle (e.g. engine control unit, throttle valves, clutch).
Damage to the affected parts, failure of safety-relevant functions. Damage caused by modifications invalidates the warranty.
- Do not make any modifications.

Observe checklist
- Use the following checklist to check your motorcycle at regular intervals.

Before every journey:
- Function of the brake system
- Function of the lighting and signal system
- Check clutch function (☞ 165).
- Checking tire tread depth (☞ 168).
- Firm seating of cases and luggage

At every third refuelling stop:
- without Dynamic Damping Control (DDC)\(^{OE}\)
- Adjusting spring preload at rear wheel (☞ 70).
- Adjusting compression damping (jounce) at rear wheel (☞ 74).<}
Riding

6

Starting
Starting engine
- Switch on ignition.
- Pre-Ride-Check is carried out. (⇒ 83)
- ABS self-diagnosis is performed. (⇒ 83)
- ASC self-diagnosis is performed. (⇒ 84)
- Engage neutral, or pull back clutch lever if a gear is engaged.

NOTICE
You cannot start the motorcycle with the side stand extended and a gear engaged. The engine will switch itself off if it is started with the transmission in neutral and then a gear is engaged before retracting the side stand.

- For cold starts and at low ambient temperatures: pull lever to disengage clutch and twist throttle grip slightly.

NOTICE
The starting attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you attempt to start the engine again, or use jumper cables and a donor battery to start. More detailed information can be found in the "Maintenance" chapter under "Jump-starting".

- Engine starts.

with Dynamic Damping Control (DDC):
- Adjusting spring preload at rear wheel (⇒ 71).
- Adjusting damping on rear wheel (⇒ 75).
- Check engine oil level (⇒ 159).
- Check front brake pad thickness (⇒ 161).
- Check rear brake pad thickness (⇒ 162).
- Check front brake fluid level (⇒ 163).
- Check rear brake fluid level (⇒ 164).
- Checking coolant level (⇒ 166).
- Lubricate chain (⇒ 189).
- Checking chain tension (⇒ 189).
Consult the troubleshooting chart if the engine refuses to start. (⇒ 200)

Pre-Ride-Check
After switching off the ignition, the instrument cluster carries out a test on the warning lights and the engine speed display (the Pre-Ride-Check). Starting the engine before the test routine is completed will cancel the remainder of the routine.

Phase 1
The indicator and warning lights 1 light up and the universal warning light 3 lights up in yellow. The tachometer needle 2 is run up to the maximum engine speed. All segments are shown in the display.

Phase 2
The universal warning light changes from yellow to red.

Phase 3
The tachometer needle drops back to zero.

The indicator and warning lights go out. The display reverts to the standard format. The odometer is displayed.

Should one of the warning lights fail to appear:

**WARNING**

Defective warning lights.
Lack of display of malfunctions.
- Watch all warning and indicator lights on the display.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

ABS self-diagnosis
The readiness for operation of the BMW Motorrad Race ABS is checked by the self-diagnosis. The self-diagnosis routine runs automatically when you switch on...
the ignition. To check the wheel speed sensors, the motorcycle must be driven a few yards.

**Phase 1**
- Check on system components monitored by diagnostic system while motorcycle is parked.
  - ABS indicator light flashes.

**Phase 2**
- Check wheel sensors while starting off.
  - ABS indicator light flashes.

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

If an ABS error is displayed after the ABS self-diagnosis is completed:
- It remains possible to continue riding. It must be noted that the ABS and integral function is not available at all or is restricted.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad retailer.

**ASC self-diagnosis**
The self-diagnosis routine is determining whether BMW Motorrad ASC is ready for operation. The self-diagnosis routine runs automatically when you switch on the ignition.

**Phase 1**
- Check on system components monitored by diagnostic system while motorcycle is parked.
  - ASC indicator and warning light flashes slowly.

**Phase 2**
- Checking the diagnosable system components while driving. In order that the ASC self-diagnosis can be completed, the motorcycle must be traveling at a speed of at least 3 mph (5 km/h).
  - ASC indicator and warning light flashes slowly.

**ASC self-diagnosis completed**
- The ASC symbol is no longer displayed.

If an ASC error is displayed after the ASC self-diagnosis is completed:
- It remains possible to continue riding. It must be noted that the ASC function is not available.
- Have the malfunction corrected as soon as possible at an authorized service facility,
preferably an authorized BMW Motorrad Retailer.

**DTC self-diagnosis**

- with Dynamic Traction Control (DTC)\(^{OE}\)

The self-diagnosis routine is determining whether BMW Motorrad DTC is ready for operation. The self-diagnosis routine runs automatically when you switch on the ignition.

**Phase 1**

» Check on system components monitored by diagnostic system while motorcycle is parked.

[Icon: DTC indicator light flashes slowly.]

**Phase 2**

» Checks diagnosis-capable system components when motorcycle starts to move.

[Icon: DTC indicator light flashes slowly.]

**DTC self-diagnosis completed**

» The DTC symbol is no longer displayed.

- Watch all warning and indicator lights on the display.

[Icon: DTC self-diagnosis completed]

**DTC self-diagnosis not completed**

The DTC function is not available, as the self-diagnosis function has not been completed. (To check wheel sensors, motorcycle must reach a minimum speed with engine running: min 3 mph (min 5 km/h))

If a DTC error is indicated after the DTC self-diagnosis is completed:

- It remains possible to continue riding. It must be noted that the availability of the DTC function is restricted or it is not available at all.

- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad retailer.

**Breaking in Engine**

- In the period preceding the running-in check (initial inspection), attempt to change rpm and engine load as frequently as possible, avoiding extended periods at constant rpm.

- Choose curvy, slightly hilly sections of road if possible.

- Observe the engine run-in speeds.

**Breaking in Engine**

- In the period preceding the running-in check (initial inspection), attempt to change rpm and engine load as frequently as possible, avoiding extended periods at constant rpm.

- Choose curvy, slightly hilly sections of road if possible.

- Observe the engine run-in speeds. 
Engine run-in speed

- <7000 min\(^{-1}\) (Odometer reading 0...186 miles (0...300 km))
- <9000 min\(^{-1}\) (Odometer reading 186...621 miles (300...1000 km))
- No full throttle (Odometer reading 0...621 miles (0...1000 km))

- Observe mileage, after which the running-in check should be performed.

**NOTICE**
The speed is limited by the engine management system up to the running-in check. This speed monitoring function is switched off during the running-in check by your authorized BMW Motorrad retailer.

**Mileage until running-in check**
- 300...750 miles (500...1200 km)

**Speed monitoring function until running-in check**
- Max 9000 min\(^{-1}\)

**Brake pads**
New brake pads must be run in before they achieve their optimum friction force. This initial reduction in braking efficiency can be compensated for by exerting greater pressure on the brake levers.

**WARNING**
New brake pads.
- Extension of the braking distance.
- Accident hazard.
- Brake early.

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

**WARNING**
Loss of adhesion of new tires on wet roads and at extreme angles.
- Accident hazard
- Always think well ahead and avoid extreme angles.
Shifting gears

Shiftpoint light

The shiftpoint light 1 indicates two engine speed thresholds to the driver:

- **Shifting speed**
  - During driving the shiftpoint light indicates the speed at which the rider should shift into the next-highest gear.
  - Shiftpoint light flashes at the preset frequency: engine speed will soon reach upshift rpm
  - Shiftpoint light goes out: shifting speed reached

The engine rpm limits and the upshift light's display characteristics can both be adjusted in the SETUP menu.

**Speed limit**
If the shiftpoint light flashes or lights up during operation while SPEED! simultaneously appears in the display this means that the preset speed has been exceeded.

**Pro Gear Shift Assistant**
- with Pro shift assistant OE

The gearshift assistant provides help with upward and downward gear shifts without the clutch or the accelerator having to be operated. This is not an automatic transmission. The rider is an essential part of the system and makes the decision as to when to change gear.

**NOTICE**
More detailed information on Pro Gear-shift Assistance can be found in the section “Technology in detail”.

**NOTICE**
When changing gear using the Pro Gear-shift Assistance function, the cruise-control system is automatically deactivated for safety reasons.
The gears are shifted into as usual with foot force on the shift lever. The sensor 1 on the gear-shift rod detects the intention to change gear and initiates gear-shift assistance.

When driving at constant speed in low gears at high revs, changing gear without using the clutch can result in major load change reactions. BMW Motorrad recommends only changing gear using the clutch in such situations. The shifting assistant should not be used in the area of the rev-limiter.

- No shifting support is provided in the following situations:
  - If the clutch is operated
  - If the gear lever is not in the zero position
  - When upshifting with the throttle closed (overrun mode) or when decelerating
  - To be able to make another gear shift using gear-shift assistance, the gear lever must be fully released after the first gear change.

### Brakes

**How do you achieve the shortest stopping distances?**

The dynamic load distribution between the front and rear wheel changes during braking. The heavier you brake, the greater the weight transfer to the front wheel. Increases in the load on an individual wheel are accompanied by a rise in the effective braking force that the wheel can provide. To achieve the shortest possible braking distance, the front brake must be applied quickly and with progressively greater levels of force. This procedure provides ideal exploitation of the extra weight transfer to the front wheel. The clutch should also be disengaged at the same time. Locking up of the front wheel is prevented by BMW Motorrad Race ABS.

With the frequently instructed "forced braking," in which the brake pressure is generated as quickly as possible and with great force, dynamic load distribution lags behind the progressive increases in deceleration rate and the braking force cannot be completely transferred to the
road surface. Due to the missing wheel load, the ABS must already prevent a tendency of the front wheel to lock up with minimal braking action. This results in a reduced braking action.

Descending mountain passes

![WARNING]

Braking only with the rear-wheel brake when descending mountain passes.
Loss of braking action. Destruction of the brakes caused by overheating.
- Use both front and rear brakes, and make use of the engine’s braking effect as well.

Wet, soiled brakes

Moisture and dirt on the brake rotors and the brake pads result in a decrease in the braking action. Delayed or poorer braking action must be expected in the following situations:
- When driving in the rain and through puddles.
- After washing the vehicle.
- When driving on roads spread with salt.
- After working on the brakes due to oil or grease residues.
- When driving on soiled roads or offroad.

![WARNING]

Moisture and dirt.
Poorer braking action.
- Brake until brakes are dry or clean; clean if necessary.

Parking your motorcycle

Side stand

- Switch off engine.
- On a grade, the motorcycle should always face uphill; select 1st gear.

![ATTENTION]

Poor ground conditions in area of stand.
Component damage caused by tipping over.
- Always check that the ground under the stand is level and firm.
- Fold out side stand and park motorcycle.
ATTENTION

Loading of the side stand with additional weight.
Component damage cause by tipping over.
- Do not sit on the motorcycle when it is parked on the side stands.
- If the slope of the road permits, turn the handlebars to the left.

Refueling

Fuel specifications
For optimal fuel economy, the gasoline should be sulfur-free or very low in sulfur content.

ATTENTION
Leaded fuel.
Damage to the catalytic converter.
- Do not refuel with leaded gasoline or gasoline with metallic additives, e.g. manganese or iron.

ATTENTION
Use of Ethanol E85 as fuel.
Damage to the engine and fuel supply.
- Do not refuel with E85, i.e. fuel with an ethanol content of 85 %, or with Flex Fuel.
- Fuels with a maximum ethanol content of 10 %, i.e., E10, may be used for refueling.

Recommended fuel quality
Premium grade unleaded fuel (max. 10 % ethanol, E10)
91 AKI (98 ROZ/RON)
91 AKI

Alternative fuel quality
Super unleaded (minor restrictions with regard to power and fuel consumption) (max. 10 % ethanol, E10)
89 AKI (95 ROZ/RON)
89 AKI

Refueling

WARNING
Fuel is highly flammable.
Fire and explosion hazard.
- Do not smoke. Never bring a naked flame near the fuel tank.

WARNING
Escaping of fuel due to expansion under exposure to heat with overfilled fuel tank.
Accident hazard
\begin{itemize}
\item Do not overfill the fuel tank.
\end{itemize}

**ATTENTION**

Fuel attacks plastic surfaces. Surfaces become unattractive or cloudy.
- Immediately clean plastic parts after contact with fuel.
- Make sure ground is level and firm and place motorcycle on side stand.

**NOTICE**

The available fuel tank volume can only be optimally used with the vehicle standing on the side stand.
- Open protective cap.

**NOTICE**

Unlock fuel tank cap 1 with ignition key and fold up.
- Refuel with a fuel meeting the specifications above, continuing until fuel is no higher than lower edge of filler neck.

**NOTICE**

When refueling after running on fuel reserve, the resulting total fuel quantity must be greater than the fuel reserve, so that the new filling level is detected and the fuel warning light is switched off.

**NOTICE**

The “usable fuel quantity” specified in the technical data is the fuel quantity, which can be refueled if the fuel tank was completely emptied, i.e., if the engine dies off due to lack of fuel.

Usable fuel quantity
- Approx. 4.6 gal (Approx. 17.5 l)
Fuel reserve
Approx. 1.1 gal (Approx. 4 l)
• Press fuel tank cap down firmly to close.
• Remove key and close protective cap.

Secure motorcycle for transport
• Protect all component surfaces against which straps are routed against scratching. For example, use adhesive tape or soft cloths.

**ATTENTION**
Motorcycle tips to the side when raising.
Component damage can be caused by tipping over.
• Secure the motorcycle against tipping to the side, preferably with the assistance of a second person.
• Push motorcycle onto transport surface, and do not place on side stand.

**ATTENTION**
Pinching of components.
Component damage
• Do not pinch components, e.g. brake lines or wiring harnesses.
• Lay straps at front over lower fork bridge on both sides.
• Tension straps downward.
Fasten rear straps on both sides to the passenger foot-pegss and then tighten them.
Tension all straps evenly; the motorcycle should be pulled down against its springs with the suspension compressed as much as possible.
On the racetrack
Display for racing mode ............ 96
LAPTIMER .......................... 98
RACE INFO .......................... 103
SETUP MENU ....................... 111
SETUP DDC-SYS .................... 117
SETUP EQUIPMENT ................. 118
SETUP RACETRACK ................. 120
SETUP USER-MODE ................. 125
DTC ............................... 127
Start of race ....................... 128
Speed limiter for pit lane ........... 130
Mirror removal and installation ... 131
Removing and installing license-plate carrier ................. 132
Removing and installing front turn indicator ................. 134
Shift pattern reversal ............... 136
Connector for optional accessories .................... 138
Display for racing mode
Multifunction display

1. Current angle of inclination during cornering
   \ = left
   | = vertical
   / = right

2. Direction for angle of inclination

3. Maximum angle of inclination for left and right
   Factory setting for BANK DISP (119)

4. ABS control intervention during braking
   Deactivate ABS (50)
   Activating ABS (51)

5. Current deceleration during braking
   Factory setting for BRAKE DISP (120)

6. Maximum deceleration

7. Maximum DTC torque reduction
8 DTC torque reduction
   - with Dynamic Traction Control (DTC)\textsuperscript{OE}
   Factory setting for DTC DISP (\textsuperscript{\(\Rightarrow\)} 119)
9 DTC setting
   - with Dynamic Traction Control (DTC)\textsuperscript{OE}
   Adapt DTC (\textsuperscript{\(\Rightarrow\)} 127)
LAP TIMER

Multifunction display

1 Speed
2 Coolant temperature
3 Intake air temperature
4 LAP TIMER
   The display in these lines can be switched over.
   Individualize LAPTIMER (» 100).
   LAPTIMER display structure (» 121)
   In illustration:
   RUN: Running time of the current lap.
   BESTLAP: Fastest of the currently saved laps.
5 Gear indicator
6 Riding mode (» 53)

Marking displayed value

The following times can be shown in the third line:
- The time of the previous lap is marked with "LASTLAP".
- The running time of the current lap.

The following times can be shown in the fourth line:
- The fastest of the stored laps, marked with "BESTLAP".
- The all-time best lap time, without a marking.
- The running time of the current lap.

The possible combinations are described on Page (» 121).

The stopped time of the preceding lap is shown briefly at the start of each new lap before the display switches over to the running time of the current lap. The duration of this delay can be set as described on Page (» 123).
Overview of LAP TIMER

- Solid line: briefly press button.
- Dotted line: press and hold button.

1. Odometer
   Standard display
   Select displays in multifunction display (1.46).

2. Individualize LAPTIMER (1.100).

3. Start time recording (1.100).

4. Interrupt/continue time entry (1.101)
**Individualizing LAPTIMER**

- Activate standard display (⇒ 109).
  - The odometer (ODO) is displayed.
- Briefly press SET 2.
  - The LAPTIMER is opened and shows RUN 3 and BEST-LAP 4 in the factory setting.
- To change content of lines 3 and 4 in LAPTIMER, repeatedly press and hold SET 2 until lines 3 and 4 are displayed as desired.
  - The desired LAPTIMER display structure is adopted and saved.

**Starting time recording**

The LAPTIMER is opened.

- Press button 1 to start recording.

**NOTICE**

For the headlight flasher signal to be detected, the engine must be running and the motorcycle moving.

- LAPTIMER display structure (⇒ 121)

**Starting time recording**

The LAPTIMER is opened.

- Press button 1 to start recording.

**NOTICE**

For the headlight flasher signal to be detected, the engine must be running and the motorcycle moving.

- When driving over Start/Finish line, press button 1 again to start recording for next race lap.
  - The data of the preceding race lap will be saved.
  - RUN 2 restarts at 00:00:00.
  - If the display mode is exited during a recording, then the recording continues to run. However, the recording of a new lap can only be started in the other modes with an external signal.

**Infrared receiver**

- With infrared receiver OA

The LAPTIMER can be conveniently operated with an infrared signal. On this, the following should be noted:
The infrared receiver available as an optional accessory must be connected to the connector for optional accessories under the right-hand fairing side panel (⇒ 138).

In the SETUP RACETRACK, the LAPTIMER trigger mode must be set to LAPTM TRIG AUTO or LAPTM TRIG EXTERN (⇒ 124).

Operation with the headlight flasher button is also possible with the integrated infrared receiver. For this purpose, the LAPTIMER trigger mode must be set to LAPTM TRIG AUTO or LAPTM TRIG MANUAL.

To avoid the premature detection of a completed lap due to interference signals, a minimum lap time can be specified (⇒ 124). Signals received before this time expires are then ignored.

**Interrupting time entry**
Time recording is running.
- Press and hold TRIP 1 to interrupt time recording.
- Press and hold TRIP 1 to continue time recording.

**Ending time entry**
Time recording is running.
- Press and hold TRIP 1 to stop time recording.
- Briefly press button 2.
  - The indicated time is deleted:
    - -- : -- : --
  - Time recording is ended.
  - No lap time is saved.
  - Briefly press TRIP 1 to exit lap timer.

**NOTICE**
If additional laps are recorded at a later time, the numbering of the laps is continued. Numbering does not begin with lap 1 again until after all laps
have been deleted from the RACE INFO. » ODO is displayed.

**Fastest lap expected**

This function must be activated in the SETUP RACETRACK menu (⇒ 124).

When a new lap is started the intermediate elapsed times are monitored at 100 meter intervals and then compared with the corresponding elapsed times for the fastest recorded lap. If the current intermediate elapsed time is better than that of the previous fastest lap then a new fastest lap can be anticipated. The "fastest lap" light 1 lights up.
RACE INFO Part 1

— Solid line: briefly press button.
- - Dotted line: press and hold button.
1 Delete all-time best lap.
2 Information on the current best lap.
   Three displays in alternation.
   Information on each race lap (106)
3 Deleting currently best lap.
4 Information on the last lap.
5 Deleting the last lap.
6 Information on additional laps.
Select saved lap (105).
Delete lap (108).
RACE INFO Part 2

- Solid line: briefly press button.
- Dotted line: press and hold button.
1 Information on lap 01.
2 Select saved lap (⇒ 105).
3 Information on each race lap (⇒ 106)
4 Delete lap (⇒ 108).
5 Information on lap 02.
6 Clear recording (⇒ 108).
7 Delete all-time best lap.
8 Exit RACE INFO (⇒ 109).
9 Activate standard display (⇒ 109).
Selecting saved lap

RACE INFO is displayed.

- Briefly press TRIP 1 or SET 2 to display saved laps consecutively.

**NOTICE**

If the rider pulls away in this mode, the display automatically switches over to the LAPTIMER.

When SET 2 is pressed, the stored laps and functions are displaced in the following order, each time TRIP 1 is pressed, they are displayed in the reverse order:
- All-time best lap time BEST-EVER
- Best stored lap time BEST
- Last stored lap time LAST
- All other stored laps LAP 01 ... LAP 60
- The totals of all saved lap times and lap distances TOTAL
- Delete the stored data DELETE LAPS
- Delete the stored best lap BEST-EVER DELETE
- Exiting RACE INFO RACE INFO EXIT

On the racetrack
Information on each race lap

1. In alternation for the indicated lap:
   - Top speed (max)
   - Average speed (Ø)
   - Minimum speed (min)
2. Maximum angle of inclination for left and right of indicated lap
3. Race lap to which displayed data refer
4. Lap time of displayed race lap
5. In alternation for the indicated lap:
   - Average gas utilization (THROT) in percent
   - Riding share with brake actuation (BRAKE) in percent
   - Number of gearshifts (GEAR) in the indicated lap
6. Distance of indicated lap covered

On the racetrack
ABS control intervention:
"ABS" displayed = lap with ABS control intervention
"ABS" hidden = lap without ABS control intervention

8 Maximum deceleration in the indicated lap
9 Maximum DTC torque reduction in the indicated lap
10 DTC setting in the indicated lap
11 Riding mode in the indicated lap
Clearing recording

RACE INFO is displayed.

* Briefly press TRIP 1 or SET 2 repeatedly until DELETE LAPS is displayed.
* Press and hold SET 2 to delete all recorded data. BE BEST-EVER DELETE is indicated.
* Either briefly press SET 2 to skip deleting of all-time best lap.
* Or press and hold SET 2 to delete data of all-time best lap.

BEST-EVER is deleted: --:--:--
All recordings have now been deleted.
RACE INFO EXIT is displayed.

Deleting lap

RACE INFO is displayed.

All-time best lap

The all-time best lap (BEST-EVER) is the fastest of all recorded racing laps and is updated as soon as a faster lap has been recorded. The all-time best lap remains stored even if the recorded laps are deleted. As a result, a new race can be recorded at other times and compared with the best lap from previous races. The all-time best lap can also be deleted.

If the all-time best lap is from a stored recording, the corresponding lap number is also displayed. If the all-time best lap does not have a lap number, it is from a recording that has already been deleted.

BEST-EVER: The best lap saved is adopted as the new all-time best lap time.
- **BEST**: The lap that previously had been the second best lap is adopted as the new best lap.
- **LAST**: The lap that previously had been the second-to-the-last lap is adopted as the new last lap.

* If any desired saved lap has been deleted, the following must be taken into account:
  - The deleted lap is subtracted from the overall time.
  - The deleted lap is subtracted from the overall time.
  - The numbering of the remaining laps is maintained.

---

**Exiting RACE INFO**

<table>
<thead>
<tr>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

- Briefly press TRIP 1 or SET 2 repeatedly until RACE INFO EXIT is displayed.
- Press and hold SET 2 to exit RACE INFO.
- The recorded values are stored.

---

**Activating standard display**

| 1 |

- Press and hold TRIP 1.

---

**NOTICE**

Regardless of what the multifunction display shows, the standard display with the odometer ODO is always shown by pressing and holding TRIP 1.

The only exceptions are the following displays:
- LAPTIMER with running/stopped time recording: pressing and holding TRIP 1 stops time recording or continues it.
Pressing and holding LIMIT: TRIP 1 switches the speed warning off (LIMIT OFF). ▶
> ODO is displayed.
SETUP MENU

Overview SETUP MENU

- Solid line: briefly press button.
- Dotted line: press and hold button.

1. Select submenu (⇒ 113)
2. Display submenu
   - with Dynamic Damping Control (DDC)®
   SETUP DDC-SYS (⇒ 113)
   Set parameter (⇒ 115)
3. Display submenu
   SETUP EQUIPMENT (⇒ 113)
4. Display submenu
   SETUP RACETRACK (⇒ 114)
5 Display submenu
   Only with USER riding mode active
   – with Pro riding modes
   SETUP USER-MODE
   (☞ 115)

6 Reset all parameters
   FACTORY RESET

7 Exit SETUP MENU
   Exit settings (☞ 116)

On the racetrack
Selecting submenu

• Switch on ignition (⇒ 40).
• Briefly press SET 2 repeatedly until SETUP MENU ENTER is displayed.

NOTICE
If the display has been scrolled too far, briefly press SET 2 repeatedly until the menu returns to the start and finally to the desired display.

• Press and hold SET 2.

• Briefly press TRIP 1 or SET 2 repeatedly until desired submenu is displayed.
• Press and hold SET 2 to open desired submenu. When SET 2 is pressed, the possible parameters are displayed in the following order; each time TRIP 1 is pressed, they are displayed in the reverse order.

SETUP DDC-SYS
– with Dynamic Damping Control (DDC)⩭

SETUP DDC–SYS
– Rebound stage damping, rear REAR REB
– Rear compression-stage damping REAR COM
– Without spring travel sensor for front forks: Front damping FRONT DMP
– With spring travel sensor for front forks: Front rebound-stage damping FRONT REB
– With spring travel sensor for front forks: Front compression damping FRONT COM
– Zero calibration CALIB
– Activate SET–DR ON (During Ride) or deactivate SET–DR OFF adjustable damping while riding.
– Reset DDC settings of current riding mode RESET ACTUAL.
– Reset DDC settings of all riding modes RESET ALL.

SETUP EQUIPMENT

SETUP EQUIPMENT
– with anti-theft alarm system (DWA)⩭
– Automatically activate the alarm function of the anti-theft alarm system after switching off the ignition DWA AUTO ON
- or leave deactivated
- Set time display
- CLOCK TIME.
- Set brightness
- DISP BRIGHT.
- Switch speed warning on
- WARN SPEED ON or off
- WARN SPEED OFF.
- Switch display for light fault
- WARN LAMP ON or off
- WARN LAMP OFF.
- Switch off the display for the
current angle of inclination
- BANK DISP OFF or switch it on with the desired update
interval: BANK DISP FAST, BANK DISP M ID or
BANK DISP SLOW
- with Dynamic Traction Control
( DTC) 
- Switch the display for the current angle of inclination
- BANK DISP OFF or switch it on with the desired update
interval: BANK DISP FAST, BANK DISP M ID or
BANK DISP SLOW
- with Dynamic Traction Control
( DTC)
- Switch the display for the current and maximum DTC torque
reduction on DTC DISP ON or off DTC DISP OFF.
- Switch the display for the current and maximum delay on
- BRAKE DISP ON or off
- BRAKE DISP OFF.
- Submenu for switching over the units for the odometer
display, residual-range display, temperature display, average
consumption display and time display UNITS

SETUP EQIP: UNITS

SETUP EQIP: UNITS
- Change over the temperature unit:
UNIT TEMP DEG: C
or UNIT TEMP DEG: F
- Change over the average consumption unit:
UNIT CONS L/100, UNIT CONS MPG: US, UNIT CONS MPG: UK or UNIT CONS KM/L
- Set the 24 or 12-hour mode for the time display:
UNIT CLOCK 24 or
UNIT CLOCK 12

SETUP RACETRACK

SETUP RACETRACK
- Switch on speed for shiftpoint
light GSL ON-RPM (Gear
Shift Light)
- Switch-off speed for shiftpoint
light GSL OFF-RPM
- Shiftpoint light brightness
GSL BRIGHT
- Shiftpoint light flashing fre-
quency GSL FREQ
- Set LAPT M ER display
version: Running lap time
LAP TM RUN, the required
time for the previous lap
LAP TM LAST, best lap time
LAP TM BEST, the total of
all saved lap times and lap
distances LAP TM TOTAL,
all-time best lap time
LAP TM BEST-EVER
Display duration for last stopped lap time
LAPTM HOLD

Anti-rebound time (waiting time until new lap can be started) of the headlight flasher button for the LAP TIMER LAPTM DEB- TM in seconds or LAPTM DEB- TM CUSTOM in minutes and seconds.

If the fastest lap is expected, this can be displayed with the "Fastest lap" light BLIP ON (Best Lap In Progress) or not displayed BLIP OFF.

- with infrared receiver OA
- Changeover of the headlight flasher button for starting time recording. LAPTM TRIG AUTO: Operation via headlight flasher button or infrared receiver; LAPTM TRIG MANUAL: Operation only via headlight flasher button; LAPTM TRIG EXTERN: Operation only via infrared receiver.

- with Pro riding modes
- Adjust the speed for the pit lane limiter PIT LIMIT .... or switch off the pit lane limiter PIT LIMIT OFF.

SETUP USER-MODE
- with Pro riding modes

- Antilock brake system for racing tires ABS SLICK
- Sport mode for antilock brake system ABS SPORT
- Antilock brake system for racing with series tires ABS RACE
- Dynamic traction control for racing tires DTC SLICK
- Dynamic traction control for racing with series tires DTC RACE
- Sport mode for dynamic traction control DTC SPORT
- Dynamic traction control for wet roads DTC RAIN
- Sport mode for Dynamic Damping Control DDC SPORT
- Dynamic Damping Control for racing with series tires DDC RACE
- Dynamic Damping Control for racing tires DDC SLICK
- Throttle response for racing mode ENGINE RACE
- Throttle response for wet roads ENGINE RAIN
- Reset all USER MODE settings RESET.

Setting parameter
Parameter is indicated.
Press and hold SET 2 until displayed parameter begins to flash.

Briefly press TRIP 1 or SET 2 repeatedly until desired value is displayed.

If desired value is displayed:
- Press and hold SET 2 until displayed value no longer flashes.
  » The value has been saved.

Exiting settings

- Press and hold TRIP 1 until multifunction display is switched over to standard display.
  » A flashing value will still be saved.
- As an alternative: repeatedly press TRIP 1 or SET 2 until SETUP ... EXIT is shown in the respective submenu.
  » Press and hold SET 2 to exit submenu.
  » SETUP ... ENTER is indicated.

- Repeatedly press TRIP 1 or SET 2 until SETUP MENU EXIT is displayed.
- Press and hold SET 2 to exit SETUP MENU.
  » SETUP MENU ENTER is indicated.
SETUP DDC-SYS
- with Dynamic Damping Control (DDC)\textsuperscript{OE}

Adjusting rear damping

Rebound stage damping adjustment on the rear spring strut.

Reading display range
- -7 (soft) ... +7 (stiff)
- Factory setting: 0

Compression stage damping adjustment on the rear spring strut.

Reading display range
- -7 ... +7
- Factory setting: 0

Adjusting front damping

Damping adjustment on the front spring strut without separation between compression and rebound stage.

Reading display range
- -7 ... +7
- Factory setting: 0

\textbf{NOTICE}

The spring travel sensor required for the separate adjustment of the rebound and compression stage is not offered by BMW Motorrad. It is available...
as racing accessory. Further information can be requested under "hp-race-support@bmw-motorrad.com".

Leveling sensor calibration
Calibration of the leveling sensor on the rear spring strut, e.g. after changes to the running gear height (☞ 77)

SETUP EQUIPMENT
Display brightness
Five different intensities are available for adjusting the display brightness.
Reading display range
- 1, 2, 3, 4, 5
- Factory setting: 5

Speed warning
The speed is set in the LIMIT display. If the riding speed exceeds this limit, SPEED! is displayed as a warning and the shiftpoint light lights up or flashes.
Reading display range
- ON, OFF
- Factory setting: OFF
Light error

If the turn indicators are removed or the license plate carrier is detached for track use, the vehicle's electronic monitoring system will interpret this as a defective light or light source and the corresponding warning message will appear in the display. This function enables the display to be suppressed.

Reading display range
- ON, OFF
- Factory setting: ON

Lean angle

Adjustment of the display for angle of inclination: angle of inclination, direction for angle of inclination and maximum angle of inclination of the current lap for left and right. The interval for updating the display can be adjusted for the display can be hidden.

Reading display range
- OFF, FAST, MID, SLOW
- Factory setting: OFF

Dynamic Traction Control

Adjustment of the displays for DTC: Current and maximum DTC torque reduction and DTC setting. The displays can be displayed and hidden.

Reading display range
- OFF, ON
- Factory setting: OFF

On the racetrack
Deceleration

Adjustment of the displays for deceleration: Current and maximum deceleration in m/s², and ABS intervention. The displays can be displayed and hidden.

Reading display range
- OFF, ON
- Factory setting: OFF

On the racetrack

SETUP RACETRACK

Switch-on speed of shifting flasher

Adjustment of the switch-on speed for the shiftpoint light.

Reading display range
- 7000, 9000, 10000, 11000, 12000, 12500, 13000, 13500, 14000
- Factory setting: 7000
- Only speeds which lie below the switch-off speed can be selected.

Switch-off speed of shifting flasher

Adjustment of the switch-off speed for the shiftpoint light.

Reading display range
- 9000, 10000, 11000, 12000, 12500, 13000, 13500, 14000, 16000
- Factory setting: 16000
- Only speeds which lie above the switch-on speed can be selected.
Brightness of shifting flasher

Adjustment of shifting flasher brightness as a percentage of the maximum brightness. The shifting flasher remains switched on during setting and is immediately adjusted to the selected brightness.

**Reading display range**
- 20, 30, 40, ... 100
- Factory setting: 100

Flashing frequency of shiftpoint light

Adjustment of the flashing frequency of the shiftpoint light and the speed warning in Hz (cycles per second).

**Reading display range**
- 0, 4, 8
- Factory setting: 4

- When 0 is selected, the shiftpoint light and the speed warning remain on constantly.
- When 4 is selected, the shiftpoint light and the speed warning flash slowly.
- When 8 is selected, the shiftpoint light and the speed warning flash rapidly.

LAPTIMER display structure

The LAPTIMER display structure can be selected from six versions.

Version 1 (factory setting)

The running time of the current lap is shown in the third line and the best lap time of the stored values is shown in the fourth line.
On the racetrack

Version 2
The required time of the previous lap is shown in the third line and the running time of the current lap is shown in the fourth line.

Version 3
The required time of the previous lap is shown in the third line and the best lap time of the stored values is shown in the fourth line.

Version 4
Running time of the current lap is shown in the third line and the total of all lap times is shown in the fourth line.
Version 5
The running time of the current lap is shown in the third line and the all-time best lap time (108) is shown in the fourth line.

Version 6
The third line remains empty and the running time of the current lap is shown in the fourth line.

Display duration for last stopped time
Adjustment of the display duration in seconds.
After the start of a new lap, the measured lap time of the previous lap is displayed for the HOLD set time. Then the running time of the current lap is shown again.

Reading display range
- 0, 3, 8, 13, 18, ... 30
- Factory setting: 3
On the racetrack

Minimum lap time

When determining the lap times, the time can be set which must elapse after the first received signal before a new signal is accepted.

- Within this anti-rebound time, the headlight flasher can be used without the signal for a new lap being output.
- When an infrared receiver is used, this prevents the signals of several transmitters positioned next to each other from being evaluated.

Reading display range
- 0, 10, 30, 45, 60, CUSTOM
- Factory setting: 10

Fastest lap

The "fastest lap expected" function ([102] is activated or deactivated.

Reading display range
- ON, OFF
- Factory setting: ON

LAP TIMER trigger mode
- with infrared receiver OA
The various possibilities for starting time recording are set.

**Reading display range**
- AUTO, EXTERN, MANUAL
- Factory setting: AUTO
- AUTO: Both the headlight flasher button and the lap trigger are accepted as a trigger source.
- EXTERN: Only the lap trigger is accepted as a trigger source.
- MANUAL: Only the headlight flasher button is accepted as a trigger source.

**Speed limiter for pit lane**
- with Pro riding modes\(^{OE}\)

Adjustment of the maximum speed (±100) of the engine when riding in the pit lane in 1st gear with the start button pressed. If exceeded, the engine speed is limited. The speed limiter for the pit lane can also be deactivated.

**Reading display range**
- 4000, 4100, 4200, ..., 8000, OFF
- Factory setting: OFF

**SETUP USER-MODE**

Adjustment of antilock brake system ABS in USER-MODE.

**Reading display range**
- SPORT, RACE, SLICK
- Factory setting: SLICK
- The checkmark is only displayed if an adjustment has been made!
- With checkmark: The specified value has been adopted by the ABS.
- Without checkmark: The specified value has not been adopted.
On the racetrack

**DTC**
Adjustment of the Dynamic Traction Control DTC in the USER-MODE.

Reading display range
- RAIN, SPORT, RACE, SLICK
- Factory setting: SLICK
- The checkmark is only displayed if an adjustment has been made!
- With checkmark: The specified value has been adopted by the DTC.
- Without checkmark: The specified value has not been adopted.

**DDC**
Adjustment of the Dynamic Damping Control DDC in the USER-MODE.

Reading display range
- SPORT, RACE, SLICK
- Factory setting: SPORT
- The checkmark is only displayed if an adjustment has been made!
- With checkmark: The specified value has been adopted by the DDC.
- Without checkmark: The specified value has not been adopted.

**ENGINE**
Adjustment of the ENGINE throttle response in the USER-MODE.

Reading display range
- RAIN, RACE, SLICK
- Factory setting: SLICK
- The checkmark is only displayed if an adjustment has been made!
- With checkmark: The specified value has been adopted by the ENGINE.
- Without checkmark: The specified value has not been adopted.
DTC with Dynamic Traction Control (DTC)\textsuperscript{OE}

**DTC setting**
The permissible slip on the rear wheel is controlled by the DTC according to the selected riding mode.
In the SLICK and USER riding modes, it is also possible to adjust the system-dependent DTC setting.

**Adapting DTC**
- Activate SLICK or USER riding mode by installing coding plug if necessary.

**NOTICE**
The DTC can only be adjusted in the SLICK and USER riding modes.

**NOTICE**
The DTC can also be adjusted while riding.

**WARNING**
Loss of stability with spinning rear wheel caused by reduction of DTC control.
Accident hazard
- Reduce DTC control on race tracks only.

- Briefly press button 1 (+) to increase value 3.
- Briefly press button 2 (-) to decrease value 3.

The DTC can be set in the range from \(-7\) to \(+7\).

- \(+1\) to \(+7\): Reduction of slip at rear wheel by a maximum of seven steps. The value \(+7\) is equal to the earliest DTC intervention.
- \(-1\) to \(-7\): Increasing of slip at rear wheel by a maximum of seven steps. The value \(-7\) is equal to the latest DTC intervention.
- 0: Factory setting
- DTC display and value 3 hidden: DTC activated.

**DTC switch-off**
On very loose substrates (e.g. a gravel bed at a racetrack) the interventions of the DTC can reduce the drive force at the rear wheel to such a degree that the rear wheel no longer turns. In
this case, BMW Motorrad recommends switching off the DTC temporarily.
Note that the rear wheel will spin in the loose substrate, and close the throttle in a timely manner before reaching a solid substrate. Then switch on the DTC again.

**Start of race**
- with Pro riding modes

**Launch Control**
Launch Control supports the rider in maintaining the ideal speed for a race start. Launch Control can only be activated in the SLICK and USER riding modes.

<table>
<thead>
<tr>
<th>Engine speed after activation of launch control at full throttle</th>
</tr>
</thead>
<tbody>
<tr>
<td>9000 min⁻¹</td>
</tr>
</tbody>
</table>

When L-CON is active, the engine torque is reduced so that, for example, the maximum propulsion on level ground is set with the front wheel slightly lifting off. If the front wheel is detected as lifting off, the torque is temporarily slightly reduced. From a speed the speed limiter is deactivated.

<table>
<thead>
<tr>
<th>Speed for deactivation of speed governing for launch control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. 43 mph (Approx. 70 km/h)</td>
</tr>
</tbody>
</table>

Launch Control is switched off under the following conditions:
- Third gear is engaged.
- Angle becomes greater than 30°.
- Engine or ignition is switched off.
- Riding mode is changed.

The number of subsequent starts with Launch Control is limited for clutch protection. The number of starts still possible is shown in the display.

**Race start with Launch Control**

**CAUTION**
Launch Control allows maximum acceleration, which could cause unfamiliar riding situations.
Risk of injury due to increased acceleration.
- Only use Launch Control on race tracks.
- Activate SLICK or USER riding mode.
- Bring motorcycle in start position.
- Vehicle is standing, engine is running.
Press and hold the starter button 1 until the display changes.
Check display.

The number of starts still possible is shown in the display 1 with Launch Control and L-CON.

Start with Launch Control possible.
• Perform start as described below.

If no start with Launch Control is currently possible, the number 0 is displayed with an exclamation mark 1 added.
• Let the clutch cool down.

Let the clutch cool down.

Start with Launch Control possible.
• Perform start as described below.

If no start with Launch Control is currently possible, the number 0 is displayed with an exclamation mark 1 added.
• Let the clutch cool down.

Let the clutch cool down.

Clutch cool-down time
Approx. 3 min (With the engine running)

Clutch cool-down time
Approx. 20 min (With the engine switched off)

Perform start as usual, open throttle grip at least to such an extent that speed limiting is reached.
Open throttle grip completely after clutch engagement. Shiftpoint light lights up or flashes.

Launch Control controls the ideal torque at the rear wheel and maintains a constant engine speed up to the speed specified below.
Leave throttle grip completely open.
Due to the full-throttle position of the throttle grip, the engine speed increases, as soon as speed limiting is deactivated.

- The throttle grip reacts again in the accustomed manner.
- Depending on the race course, upshifting and cornering at an angle.
- When third gear is engaged or the angle becomes greater than 30°, the... L-CON display disappears.
- The start of a race is completed with Launch Control.

**Speed limiter for pit lane**

- with Pro riding modes

- Hold down starter button 1.
- Twist throttle grip open until PIT LIMIT... is reached.
- The engine speed is limited with ignition interruption.

**WARNING**

When the starter button is released, the engine accelerates according to the position of the throttle grip.

Risk of accident by violent jerk with throttle grip in full load position.

- Do not open the throttle grip completely, but instead only until the limit speed is reached.
- Release starter button 1.
- The motorcycle accelerates with maximum acceleration.
Mirror removal and installation

Removing mirror

- Make sure ground is level and firm and park motorcycle.
- Remove nuts 1 on left and right and take off mirror.
- Secure the paneling 2 on the left and right to the fairing bracket 3. If cable ties are used, protect possible locations of abrasion marks using an adhesive strip.
- Use the HP Race Cover Kit from BMW Motorrad to cover the exposed screw sockets and secure the mounting attachment.

**NOTICE**

Installing mirrors

- Make sure ground is level and firm and park motorcycle.
- Remove fairing fastener.
- Mount mirrors on left and right in mounts 4.
- Install nuts on back of fairing with torque.
- Thread-locking compound: mechanical
  - 6 lb/ft (8 Nm)
Removing and installing license-plate carrier

Remove license-plate carrier

ATTENTION

Removing the number plate carrier.

Expiry of operating license for public roads.

- Do not ride on public roads without a number plate carrier.
- Park motorcycle, ensuring that support surface is firm and level.
- Remove passenger seat (62).
- Remove hump cover (61).

NOTICE

If the license plate carrier is removed for racetrack use, the vehicle’s electronic monitoring system will interpret this as a defective light or light source and the corresponding warning message will appear in the display. This warning message is suppressed by activating the WARN LAMP OFF function in the SETUP EQUIPMENT submenu.

- Thread out connector 1 with cable through lower rear section 2.
- With anti-theft alarm system (DWA) OE

- Unplug connector 1 for anti-theft alarm system.

NOTICE

Before the connector for the anti-theft alarm system is disconnected, it must be ensured that the DWA has been deactivated.
in the SETUP EQUIPMENT submenu with the DWA AUTO OFF function.

- Remove screw 4.
- Remove anti-theft alarm system 2 while unhooking at bracket 3.
- Disconnect connector 1 for license-plate carrier.
- Remove body-bound rivets 2 on left and right.
- Remove bracket 3 for anti-theft alarm system.

Install license-plate carrier
- Take off license-plate carrier 2 and thread out wiring harness 1.
- Install the passenger seat (62).
- Position license-plate carrier 2 and thread in wiring harness 1.
- Install screws 4 with washers 3.

Number-plate carrier to rear frame
4 lb/ft (5 Nm)

On the racetrack
with anti-theft alarm system (DWA) OE

1. Install bracket 3 for anti-theft alarm system.
2. Install body-bound rivet 2.
3. Fasten connector 1 for license-plate carrier.

- Insert anti-theft alarm system 2 while hooking into bracket 3.
- Install screw 4.
- Connect connector 1 for anti-theft alarm system.

Thread connector 1 with cable through lower rear section 2.

Connect connector 1, position and fasten cable tie (arrow).

**NOTICE**
If the light defect warning message for racetrack use is suppressed in the display, this must be activated in the SETUP EQUIPMENT submenu under the SETUP EQIP: WARN LAMP ON function before the motorcycle is put into operation in road traffic.

- Install the passenger seat (⇒ 62).

Removing and installing front turn indicator
Remove front turn signal

**NOTICE**
The working steps described here for the right turn indicator
also apply logically for the left side.

- Remove fairing side panel (⇒ 183).
- Detach cable 3 from bracket 4.
- Remove screw 1 and take off turn indicator 2.
- Guide cable through fairing side panel.
- Mount fairing side panel 7 in mount 8 on engine spoiler.
- Fasten fairing side panel in grommet 3 and detent pin 4.
- Install screws 2.
- Install screw 1.
Installing front turn signal

- Remove the screw 1 on the inside of the right side panel.
- Remove screws 2.
- Detach fairing side panel from grommet 3 and detent pin 4.
- Guide cable through fairing side panel.
- Position turn signal 2 and install screw 1.
- Clip in cable 3 on bracket 4.
- Installing fairing side panel (⇒ 184).

Shift pattern reversal

Shift pattern for racing mode

For the racing mode, the shift pattern can be reversed by modifying the gear-shift rod. Shift pattern reversal means that the gearshift lever must be actuated upward for 1st gear and downward for all other gears. This is the opposite of operation on public roads.

ATTENTION

Riding with shift pattern reversal.

Expiry of operating license for public roads.

Do not use shift pattern reversal on public roads.
• Clean thread 1.
• Slide protective cap 2 onto gear-shift rod 4.
• Remove screw 3.
• Remove washer between ball joint and gearshift lever.
• Reposition gear-shift rod 4 to thread 1.

• Insert screw through ball joint and washer and install in thread for shift pattern reversal.

* Joint compound: Micro-encapsulated or medium-strength screw lock

6 lb/ft (8 Nm)

• Fit the protective cap.

> The shift pattern reversal has been set up for the racing mode.

On the racetrack

– with Pro shift assistant (OE)
Insert screw through ball joint and washer and install in thread for shift pattern reversal.

Joint compound: Micro-encapsulated or medium-strength screw lock

6 lb/ft (8 Nm)

Fit the protective cap.

The shift pattern reversal has been set up for the racing mode.

Connector for optional accessories

Equipment

The vehicle is equipped with the following connectors for special and racing accessories:
- Infrared receiver
- Spring travel sensor
- Optional accessory
- HP Race Data Logger

Connector for infrared receiver

Under right-hand fairing side panel
Under left-hand fairing side panel

1  Optional accessories (connector with power supply + LIN; e.g. as for navigation system)

2  Spring travel sensor for front forks (racing accessory)

Under passenger seat
- with anti-theft alarm system (DWA)\textsuperscript{OE}

1  Connector for DWA and HP Race data logger
2  DWA

Under passenger seat
- without anti-theft alarm system (DWA)\textsuperscript{OE}

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

Mounting special and racing accessories
To access connectors, remove respective fairing side panel, passenger seat and/or hump cover.
- Remove fairing side panel (\textsuperscript{183}).
- Remove passenger seat (\textsuperscript{62}).
  - with passenger seat cover\textsuperscript{OE}
  - Remove hump cover (\textsuperscript{61}).
Unlock protective cap or terminating resistor and pull off connector.
Mount special or racing accessories.

**NOTICE**
Observe installation instructions of special or racing accessories.

**NOTICE**
So that the wiring harness can be correctly positioned and the wiring harnesses with the connectors are not routed under tension, the cable times must not be tightened until the end.

**ATTENTION**
Penetration of dirt and moisture in the open connector.
Malfunctions

- Remount cover cap or terminating resistor after removing connector.
- Remount cover cap or terminating resistor after removing connector.
- Installing fairing side panel (184).
- Install the passenger seat (62),
- with passenger seat cover^{OE}
- Install hump cover (62).
<table>
<thead>
<tr>
<th>Technology in detail</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-Lock Brake System</td>
<td>142</td>
</tr>
<tr>
<td>Dynamic Damping Control</td>
<td>144</td>
</tr>
<tr>
<td>Traction Control</td>
<td>145</td>
</tr>
<tr>
<td>Riding mode</td>
<td>146</td>
</tr>
<tr>
<td>Pro Gear Shift Assistant</td>
<td>152</td>
</tr>
</tbody>
</table>
Anti-Lock Brake System

Partially integral brake

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

ATTENTION

Spinning the rear wheel with the front brake applied (Burn Out) is made considerably more difficult due to the integral function.

Damage to rear-wheel brake and clutch.
- Only do Burn Outs with the ABS switched off.

How does ABS work?
The maximum braking force that can be transferred to the road surface is partially dependent on the friction coefficient of the road surface. Gravel, ice, snow and wet roads offer a considerably poorer friction coefficient than a dry, clean asphalt surface. The poorer the friction coefficient of the road surface is, the longer the braking distance will be.

If the maximum transferable braking force is exceeded when the rider increases the brake pressure, the wheels begin to lock and driving stability is lost, and a fall can result. Before this situation occurs, ABS intervenes and adjusts the brake pressure to the maximum transferable braking force. This enables the wheels to continue to turn and maintains driving stability regardless of the road surface condition.

What happens when rough roads are encountered?

Bumpy or rough roads can briefly lead to a loss of contact between the tires and the road surface, until the transferable braking force is reduced to zero. If braking is carried out in this situation, ABS must reduce the brake pressure to ensure driving stability when restoring contact to the road. At this point in time, the BMW Motorrad Integral ABS must assume extremely low friction coefficients (gravel, ice, snow) so that the running wheels turn in every imaginable case and the driving stability is ensured.

After detecting the actual conditions, the system adjusts the optimum brake pressure.
In what ways is the BMW Motorrad Race ABS noticeable to the rider?

If the ABS has to reduce the braking force due to the circumstances described above, vibrations can be felt through the brake lever.

If the brake lever is operated, braking pressure is also built up at the rear wheel via the integral function. If the footbrake lever is not operated until afterwards, the brake pressure already built up is noticeable as counterpressure earlier than when the footbrake pedal is operated before or at the same time as the brake lever.

Lifting off rear wheel

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

**WARNING**

Lifting off of the rear wheel due to heavy braking. Accident hazard

- When braking heavily, bear in mind that the ABS control cannot always be relied on to prevent the rear wheel from lifting off the ground.

Special situations

To detect the tendency of the wheels to lock up, the speeds of the front and rear wheel are compared. If implausible values are detected over an extended period of time, the ABS function is deactivated for safety reasons and an ABS fault is indicated. A self-diagnosis routine must be completed before the error will be displayed.

Apart from problems on the BMW Motorrad Race ABS, unusual riding conditions can also cause a fault message to be generated.

Unusual riding conditions:

- Heating up on an auxiliary stand at idle speed or with gear engaged.
- Rear wheel locked-up for a longer period of time by engine brake, e.g. when riding down steep hills.

Should a fault code result due to one of the driving conditions described above, the ABS function can be reactivated by switching the ignition off and then on again.
How important is regular maintenance?

**WARNING**
Failure to have maintenance performed on the brake system regularly.

Accident hazard
- To ensure that the BMW Motorrad Race ABS is in a properly maintained condition, it is vital that the specified service intervals are kept to.

**Reserves for safety**
But remember: the potentially shorter braking distances which BMW Motorrad Race ABS permits must not be used as an excuse for careless riding. ABS is primarily a means of ensuring a safety margin in genuine emergencies.

Be careful in curves! When you apply the brakes on a corner, the motorcycle's weight and momentum take over and even BMW Motorrad Race ABS is unable to counteract their effects.

### Dynamic Damping Control

**DDC**
Using the leveling sensor, the motions of the rear spring strut are recorded. Depending on the determined motion direction and speed, as well as depending on the riding mode selected, the EDC (Electronic Damper Control) valve is opened or closed. Damping on the front wheel depends on the riding mode as well, however the spring travel is not measured. The damping values for the front wheel and for the rear wheel can be adjusted in the SETUP DDC-SYS menu via seven steps in the "softer" direction and seven steps in the "harder" direction. On the rear wheel, compression stage and rebound stage can be separately adjusted. In order to separately adjust the damping values on the front wheel according to rebound and compression stage, a spring travel sensor (racing accessory) must be installed on the front forks. A plug connector for sensor connection is already available on the motorcycle. It is located behind the left side panel. If an additional leveling sensor is installed, an existing sensor is replaced, or the running gear height is changed, a calibration must be performed. The calibration is started in the SETUP DDC-SYS menu.
Traction Control
How does Traction Control function?

Traction Control is available in two versions
- **Without** taking the angle into account: Automatic Stability Control ASC
- **With** taking the angle into account: Dynamic Traction Control DTC

ASC is a rudimentary function intended to prevent falls. DTC conveniently controls and is suitable for improving lap times on the racetrack.

Traction Control compares the wheel circumferential speeds of the front and rear wheels. The slip, and with it the stability reserves at the rear wheel, are determined from the speed difference. The engine management system adapts the engine torque when the slip limit is exceeded.

---

**WARNING**

Risky riding style.
Risk of accident despite ASC/DTC.
- The rider is always responsible for adapting his/her driving style.
- Do not reduce the system’s extra safety margin with careless riding or unnecessary risks.

Special situations
As lean angles increase, acceleration potential is also progressively restricted by the laws of physics. This can result in reduced acceleration when coming out of very tight curves.

To detect spinning or slipping away of the rear wheel, among other things the speeds of the front and rear wheel are compared and the angle with DTC compared to ASC is taken into account.

- with Dynamic Traction Control (DTC) OE

If the value for the angle are detected to be implausible for a long period, a replacement value is used for the angle or the DTC function is deactivated. In these cases, a DTC error is displayed. A self-diagnosis routine must be completed before the error will be displayed.

Under the following unusual riding conditions, BMW Motorrad Traction Control may be deactivated automatically.

**Unusual riding conditions:**
- Driving on the rear wheel (wheely) for a longer period.
- Rear wheel spinning in place with front brake engaged (burn out).
- Heating up on an auxiliary stand at idle speed or with gear engaged.

If the coding plug is not used for the SLICK and USER riding modes, the DTC is reactivated by switching the ignition off and on and then riding at a minimum speed.

Minimum speed for DTC activation

<table>
<thead>
<tr>
<th>Minimum speed for DTC activation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 mph (10 km/h)</td>
</tr>
</tbody>
</table>

If the front wheel loses contact with the ground under extreme acceleration, the ASC or DTC function reduces the engine torque in the RAIN and SPORT riding modes until the front wheel makes contact with the ground again. Wheely support is deactivated in the SLICK riding mode.

BMW Motorrad recommends that you respond to this condition by twisting back the throttle grip somewhat to return to stable dynamic operating conditions as quickly as possible.

On a slippery surface, the throttle grip should never be suddenly twisted back completely unless the clutch is disengaged at the same time. The engine braking torque can cause the rear wheel to slip, resulting in an unstable driving state. This case cannot be controlled by BMW Motorrad DTC.

**Riding mode Selection**

There are 5 riding modes to choose from for adjusting the motorcycle to the weather, road conditions and driving style:

- RAIN
- SPORT (default mode)
- RACE
- SLICK (with coding plug installed only)
- USER (only with coding plug installed)
- with Pro riding modes\(^{OE}\)

**WARNING**

*Increased engine performance in all riding modes by inserting the coding plug on motorcycles with power reduction.*

Accident hazard

- Familiarize yourself with the more performance-oriented response.
- Do not use the encoding plug on public roads.
ATTENTION

Riding on public roads with the coding plug installed on motorcycles with power reduction.

Accident hazard. Expiry of operating license for public roads.

- Do not use the coding plug on motorcycles with power reduction on public roads.

Each riding mode affects the behavior of the motorcycle in a different way. ABS and/or DTC can be switched off in each mode; the following explanations always refer to the activated systems.

The last selected riding mode is reactivated automatically after the ignition is switched off and on again.

The following always applies:

The sportier the selected mode, the more directly the engine output can be utilized. At the same time, the support of the driver by the ABS and DTC systems is increasingly reduced.

The RAIN, SPORT, and RACE riding modes are designed for riding with series tires recommended by BMW Motorrad. The SLICK and USER riding modes are configured for racing tires and roads with excellent adhesion. Therefore, consider the following when selecting the riding mode: The sportier the setting, the more demanding the requirements for the driving skill of the rider are!

RAIN

Throttle response

- The maximum torque is not provided. The torque curve for rain applies.
- For motorcycles with power reduction: with the coding plug, the torque curve for rain applies. The operating permit for public roads is voided.
- Twisting the throttle produces a virtually linear increase in power while the engine’s response is smooth.
- The overrun cutoff is activated.

ASC

- The ASC system intervenes early enough to always prevent the rear wheel from spinning if possible.
- The front wheel lift-off detection is switched on and offers maximum support.

DTC

- The DTC system intervenes early enough to always prevent the rear wheel from spinning if possible.
- The front wheel lift-off detection is switched on and offers maximum support.
- DTC switchover is deactivated.
Launch Control (L-CON) is deactivated.

**ABS**
- The ABS system always intervenes early enough to prevent the wheels from locking up and the rear wheel from lifting off the ground if possible.
- Maximum support for integral pressure buildup when only the handbrake lever is actuated.
- ABS for rear wheel is activated.
- The rear wheel lift-off detection function is activated.

**DDC**
- Damping adjustment: Road = comfortable damping
- Fine adjustment of damping is possible with the instrument cluster.

**SPORT**

**Throttle response**
- The maximum torque is provided.
- For motorcycles with power reduction: with the coding plug, the torque curve for maximum torque applies. The operating permit for public roads is voided.
- The engine's response is optimal and direct.
- The overrun cutoff is activated.

**ASC**
- The ASC system intervenes later than in the RAIN riding mode so that minor drifts are possible at the ends of curves.
- The front wheel lift-off detection is switched on and offers maximum support.

**DTC**
- The DTC system intervenes later than in the RAIN riding mode so that minor drifts are possible at the ends of curves.
- The front wheel lift-off detection is switched on and offers maximum support.

**Technology in detail**
- Launch Control (L-CON) is deactivated.
- The AB system always intervenes early enough to prevent the wheels from locking up and the rear wheel from lifting off the ground if possible.
- Maximum support for integral pressure buildup when only the handbrake lever is actuated.
- ABS for rear wheel is activated.
- The rear wheel lift-off detection function is activated.

**DDC**
- Damping adjustment: Road = comfortable damping
- Fine adjustment of damping is possible with the instrument cluster.

**SPORT**

**Throttle response**
- The maximum torque is provided.
- For motorcycles with power reduction: with the coding plug, the torque curve for maximum torque applies. The operating permit for public roads is voided.
- The engine’s response is optimal and direct.
- The overrun cutoff is activated.

**ASC**
- The ASC system intervenes later than in the RAIN riding mode so that minor drifts are possible at the ends of curves.
- The front wheel lift-off detection is switched on and offers maximum support.

**DTC**
- The DTC system intervenes later than in the RAIN riding mode so that minor drifts are possible at the ends of curves.
- The front wheel lift-off detection is switched on and offers maximum support.

**Technology in detail**
- Launch Control (L-CON) is deactivated.
- The AB system always intervenes early enough to prevent the wheels from locking up and the rear wheel from lifting off the ground if possible.
- Maximum support for integral pressure buildup when only the handbrake lever is actuated.
- ABS for rear wheel is activated.
- The rear wheel lift-off detection function is activated.

**ABS**
- The behavior of the ABS system is comparable to that of the RAIN riding mode.
- The ABS system always intervenes early enough to prevent the wheels from locking up and the rear wheel from lifting off the ground if possible.
- Maximum support for integral pressure buildup when only the handbrake lever is actuated.
- ABS for rear wheel is activated.
- The rear wheel lift-off detection function is activated.
DDC
- Damping adjustment: Road = comfortable damping
- Fine adjustment of damping is possible with the instrument cluster.

RACE
The RACE riding mode is the sportiest mode as long as the coding plug is not installed.

Throttle response
- The maximum torque is provided.
- For motorcycles with power reduction: with the coding plug, the torque curve for maximum torque applies. The operating permit for public roads is voided.
- The engine’s response is optimal and direct.
- The overrun cutoff is activated.

ASC
- The ASC system intervenes early enough to always prevent the rear wheel from spinning if possible.
- The front wheel lift-off detection is switched on and offers maximum support.

DTC
- The DTC system intervenes even later so that longer drifts and brief wheelies are also possible at the end of curves.
- The front wheel lift-off detection is switched on, however it offers only minimal support.
- DTC switchover is deactivated.
- Launch Control (L-CON) is deactivated.

ABS
- The ABS system always intervenes so early that locking of the wheels is avoided whenever possible.
- The ABS system intervenes later in this riding mode. The wheels are still prevented from locking up, however the lift-off detection for the rear wheel is reduced. The rear wheel can lift off the ground!
- Support for integral pressure buildup is reduced.
- ABS for rear wheel is activated.

DDC
- Damping adjustment: Dynamic = sporty damping
- Fine adjustment of damping is possible with the instrument cluster.

SLICK
To activate the SLICK riding mode, the coding plug must be used.
The SLICK riding mode was developed for roads with good visibility and very high friction coefficients, as they are usually...
found only on racetracks. This mode also assumes that the motorcycle is riding with racing tires that have very good adhesion.

**Throttle response**
- The maximum torque is provided.
- For motorcycles with power reduction: with the coding plug, the torque curve for maximum torque applies. The operating permit for public roads is voided.
- The engine output, increase in power and response are designed for maximum sportiness.
- The overrun cutoff is deactivated.

**DTC**
- In this riding mode the control of the DTC system assumes that racing tires with maximum adhesion (slick tires) are mounted. Longer wheelies and wheelies at small angles are also permitted, which means it is possible to flip over backward in extreme cases!
- The DTC system intervenes even later so that longer drifts and brief wheelies are also possible at the end of curves.
- The front wheel lift-off detection is deactivated.
- The DTC switchover is activated.
- Launch Control (L-CON) is activated.

**ABS**
- The ABS system is only operative when the handbrake lever is actuated.
- The ABS system intervenes later in this riding mode. Although wheel locking is still prevented, it is possible that the rear wheel lifts off the ground.
- Support during integral pressure buildup is reduced earlier than in the SPORT riding mode.
- ABS for rear wheel is deactivated. However, if the footbrake lever is operated, there is no more ABS regulation on the rear wheel. The rear wheel can lock up.
- The rear wheel lift-off detection is deactivated.

**DDC**
- Damping adjustment: Track = sporty damping for racetracks
- Fine adjustment of damping is possible with the instrument cluster.

**USER**
To activate the USER riding mode, the coding plug must be used.
The behavior corresponds to the SLICK riding mode, however the following systems can be adjusted individually:
Throttle response (ENGINE)
- RAIN
- RACE
- SLICK
- The following torque curves apply for motorcycles with power reduction and mounted coding plug: RACE/SLICK setting = maximum torque, RAIN setting = torque curve for rain. The operating permit for public roads is voided.
- The overrun cutoff is deactivated.

DTC
- RAIN
- SPORT
- RACE
- SLICK
- The DTC switchover is activated. The DTC switchover is saved separately for each DTC mode.
- Launch Control (L-CON) is activated.

ABS
- SPORT
- RACE
- SLICK

DDC
- SPORT
- RACE
- SLICK

ASC off
- Support by the ASC function is deactivated.
- The front wheel lift-off detection is deactivated.

DTC off
- Support by the DTC function is deactivated.
- The front wheel lift-off detection is deactivated.
- DTC switchover is deactivated.
- Launch Control (L-CON) is activated, however only the engine speed limitation is effective.

ABS off
- Support by the ABS function is deactivated.
- No support for integral pressure buildup when only the handbrake lever is actuated.
- ABS for rear wheel is deactivated.
- The rear wheel lift-off detection is deactivated.

Changing the setting
The switchover process for the functions in the engine management system, the ABS and the DTC is only possible in certain operating modes:
- No drive torque at rear wheel
- No brake pressure in the brake system.

To stop transmission of drive torque,
Your motorcycle is equipped with a Gear Shift Assistant originally developed for racing but now specially adapted for use in public road traffic. It allows you upshift and downshift under almost any load conditions and in virtually all engine-speed ranges without operating the clutch or accelerator.

**Benefits**
- 70-80% of all gear changes can be performed without using the clutch.
- Less movement between pilot and pillion due to shorter gear-change intervals.
- Throttle does not have to be closed when changing gear under acceleration.
- During deceleration and downshifts (throttle plate closed) the system blips the throttle to obtain the correct engine speed.
- Shifting times are faster than when the clutch is used to change gears.

For the system to detect the rider’s intention to change gear, the gear lever previously not operated must be moved against the force of the spring by a certain amount of "overtravel" in the desired direction with a normal to brisk action and held in that position until the gear change is completed. A further increase of the force applied to the gear lever during the gear-shift operation is not necessary. After the gear change is completed, the gear lever must be fully released before the Gear Shift Assistant Pro can execute a new gear change. When changing gear using the gear-shift assistance function, the throttle setting (twist-grip position) must be kept constant before and during the gear-change sequence.
Changing the accelerator twist-grip position during the gear-shift sequence may cause the function to abort and/or the gear change to fail. No support is provided by the Gear Shift Assistant during gear changes made using the clutch.

**Downshifts**
- Downshifts are assisted up to the speed at which the engine reaches maximum rpm in the gear to be engaged. Over-revving is thus prevented.

**Upshifts**
- The Gear Shift Assistant does not provide added support when the engine speed would fall below idle in the new gear.

<table>
<thead>
<tr>
<th>Maximum engine speed</th>
<th>Idle speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>max 14200 min⁻¹</td>
<td>1250 min⁻¹ (Engine at operating temperature)</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------</td>
<td>------</td>
</tr>
<tr>
<td>General instructions</td>
<td>156</td>
</tr>
<tr>
<td>Onboard tool kit</td>
<td>156</td>
</tr>
<tr>
<td>Front wheel stand</td>
<td>157</td>
</tr>
<tr>
<td>Rear-wheel stand</td>
<td>158</td>
</tr>
<tr>
<td>Engine oil</td>
<td>159</td>
</tr>
<tr>
<td>Brake system</td>
<td>161</td>
</tr>
<tr>
<td>Clutch</td>
<td>165</td>
</tr>
<tr>
<td>Coolant</td>
<td>166</td>
</tr>
<tr>
<td>Tires</td>
<td>167</td>
</tr>
<tr>
<td>Wheel rims and tires</td>
<td>168</td>
</tr>
<tr>
<td>Wheels</td>
<td>168</td>
</tr>
<tr>
<td>Light sources</td>
<td>176</td>
</tr>
<tr>
<td>Fairings and panels</td>
<td>183</td>
</tr>
<tr>
<td>Jump-starting</td>
<td>184</td>
</tr>
<tr>
<td>Battery</td>
<td>185</td>
</tr>
<tr>
<td>Fuses</td>
<td>188</td>
</tr>
<tr>
<td>Chain</td>
<td>189</td>
</tr>
</tbody>
</table>
General instructions

The ‘Maintenance’ chapter describes work involving the checking and replacement of wear parts that can be performed with a minimum of effort.

If special tightening torques are to be taken into account for assembly, these are listed. An overview of all required tightening torques is contained in the chapter “Technical Data”. Information on additional maintenance and repair work is provided in the Repair Manual for your motorcycle on DVD, which you can obtain from your authorized BMW Motorrad retailer.

Special tools and thorough specialized knowledge are required to carry out some of the work described here. If you are in doubt, consult an authorized workshop, preferably your authorized BMW Motorrad retailer.

Onboard tool kit

1. Hook wrench
   - without Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjusting spring preload at rear wheel (\textsuperscript{70}).
2. Reversible screwdriver insert
   - Phillips PH1 and Torx T25
   - Removing and installing body panels.
   - Removing rider’s seat (\textsuperscript{63}).
   - Replacing front and rear turn indicator light sources (\textsuperscript{180}).
3. Open-ended wrench
   - Wrench size: 17 mm
   - without Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjusting spring preload on front wheel (\textsuperscript{69}).
   - with Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjust spring preload on front wheel (\textsuperscript{69}).
4. Open-ended wrench
   - Wrench size: 10/13
   - Removing battery (\textsuperscript{187}).
   - with Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjusting spring preload at rear wheel (\textsuperscript{71}).
5. Reversible screwdriver with Phillips and straight blade
   - without Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjust compression damping on front wheel (\textsuperscript{72}).
5  - without Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Rebound-stage damping on front wheel (\textsuperscript{73}).
   - without Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjusting rebound-stage damping at rear wheel (\textsuperscript{74}).
   - without Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjusting compression damping (jounce) at rear wheel (\textsuperscript{74}).

6  Spare fuses with gripper
   Miniature fuses, 4 A, 7.5 A and 10 A
   - Puller for removing fuses
   - Replacement fuses

7  Plastic attachment
   - with Dynamic Damping Control (DDC)\textsuperscript{OE}
   - Adjust spring preload on front wheel (\textsuperscript{69}).

8  TORX wrench, T25
   - Removing and installing body panels.
   - Removing rider’s seat (\textsuperscript{63}).

Front wheel stand
Installing the auxiliary stand on the front wheel

\textbf{ATTENTION}

Use of the BMW Motorrad front wheel stand without an additional center or auxiliary stand.
Component damage caused by tipping over.
- Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad front wheel stand.
- Place motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad auxiliary stand.
- Mounting rear-wheel stands (\textsuperscript{156}).

- Use basic stand (83 30 0 402 241) with mounting pieces (83 30 2 152 839),

9  Maintenance
Insert the service adapter (83 30 2 152 840) at the left and right into the front suspension.

Adjust the mounting pieces to the width of the service adapter inserted into the front suspension.

Adjust the height of the auxiliary stand so that the front wheel is lifted slightly off the ground.

Turn in the bracket 2 with the long sides facing the inside.

Adjust the mounting pieces 3 to the width of the service adapter inserted into the front suspension.

Attach the auxiliary stand to the front suspension and press it on the ground evenly.

Rear-wheel stand
Mounting rear-wheel stands

Use basic stand with part number (83 30 0 402 241) and the mounting pieces (83 30 2 152 839).
• Install the service adapter (83 30 2 152 841) 1 on the left and right into the rear wheel swinging arm, tightening to specified torque.

Swinging-arm adapter on rear wheel swinging arm
15 lb/ft (20 Nm)

• Turn in the bracket 2 with the long sides facing the outside.
• Adjust the mounting pieces 3 to the width of the service adapter inserted into the front suspension.
• Adjust the height of the rear wheel stand so that the rear wheel is lifted slightly off the ground.

• Attach the rear wheel stand to the rear wheel swing arm and press it on the ground evenly.

Engine oil
Check engine oil level

ATTENTION
The oil level varies with the temperature of the oil. The higher the temperature, the higher the level of oil in the sump.

Misinterpretation of the oil capacity
• Only check the oil level after a longer journey or when the engine is warm.
• Make sure ground is level and firm and hold motorcycle at operating temperature vertically.
• Allow engine to run in neutral for one minute.
• Switch off ignition.

Read oil level in display 1.

Specified level of engine oil between MIN- and MAX mark

Engine oil, capacity

SAE 5W-40, API SL
JASO MA2, Additives (for instance, molybdenum-based substances) are prohibited, because they would attack the coatings on engine components, BMW Motorrad recommends BMW Motorrad ADVANTEC Ultimate Oil

Engine oil, capacity

Approx. 3.7 quarts (Approx. 3.5 l) (with filter replacement)

If oil level is below minimum mark:
• Top up engine oil (⇒ 160).

If oil level is above maximum mark:
• Have oil level corrected at an authorized service facility, preferably an authorized BMW Motorrad retailer.

Topping up engine oil
• Park motorcycle, ensuring that support surface is firm and level.
• Wipe area around oil fill location to clean it.
Remove cap 1 of oil fill location.

ATTENTION
Too little or too much engine oil.
Engine damage
• Always make sure that the oil level is correct.
• Add engine oil up to specified level.
• Check engine oil level (⇒ 159).
• Install cap of oil fill location 1.

Brake system
Check brake operation
• Operate the brake lever.
  » Pressure point must be clearly perceptible.
• Actuate the footbrake lever.
  » Pressure point must be clearly perceptible.
If no clear pressure points are perceptible:

ATTENTION
Improper working on the brake system.
Endangering of the operating safety of the brake system.
• Have all work on the brake system carried out by experts.
• Have the brakes checked at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Checking front brake pad thickness
• Park motorcycle, ensuring that support surface is firm and level.
• Turn handlebars.

• Visually inspect left and right brake pads to determine their thickness. Direction of view: From rear looking at brake pads 1.
Front brake-pad wear limit
min 0.03 in (min 0.8 mm)
(Only friction material without carrier plate)

If brake pads are worn:

**WARNING**
Dropping below the minimum pad thickness.
Reduced braking action. Damage to the brake.
- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.
- Have brake pads replaced at an authorized service facility, preferably an authorized BMW Motorrad retailer.
- If genuine BMW Motorrad brake pads are not installed, be sure to check thickness of brake-pad carrier plate.

If carrier plate thickness is insufficient:

**WARNING**
Use of unsuitable brake pads.
Failure of the brake system due to loss of the brake pads.
- Only use brake pads with a carrier plate with a thickness of at least 0.18 in (4.5 mm).
- BMW Motorrad recommends installing only genuine BMW Motorrad brake pads.

Check rear brake pad thickness
- Make sure ground is level and firm and park motorcycle.

Thickness of brake-pad carrier plate
min 0.18 in (min 4.5 mm)
Conduct a visual inspection of the brake pad thickness. Direction of view: From rear looking at brake pads 1.

<table>
<thead>
<tr>
<th>Rear brake-pad wear limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>min 0.04 in (min 1.0 mm)</td>
</tr>
<tr>
<td>(Only friction material without carrier plate.)</td>
</tr>
</tbody>
</table>

If the wear indicating mark is no longer visible:

**WARNING**

Dropping below the minimum pad thickness.
Reduced braking action. Damage to the brake.

- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.
- Have the brake pads replaced at an authorized service facility, preferably an authorized BMW Motorrad retailer.

**Checking front brake fluid level**

- Make sure ground is level and firm and hold motorcycle vertically.
- Move handlebars into straight-ahead position.
Read off brake fluid level at brake-fluid reservoir 1.

**NOTICE**
The brake fluid level in the brake-fluid reservoir drops due to brake pad wear.

Front brake fluid level
Brake fluid, DOT4
The brake fluid level must not fall below the MIN mark.
(Brake-fluid reservoir horizontal)

If brake fluid level falls below the approved level:

**WARNING**
Insufficient brake fluid in the brake-fluid reservoir.

Considerably reduced braking performance caused by air in the brake system.

- Check brake fluid level regularly.
- Have the defect corrected as soon as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Checking rear brake fluid level

- Make sure ground is level and firm and hold motorcycle vertically.
Check level of brake fluid in rear brake-fluid reservoir 1.

NOTICE
The brake fluid level in the brake-fluid reservoir drops due to brake pad wear.

Rear brake fluid level
Brake fluid, DOT4
The brake fluid level must not fall below the MIN mark. (Brake-fluid reservoir horizontal)

If brake fluid level falls below the approved level:

WARNING
Insufficient brake fluid in the brake-fluid reservoir.

Considerably reduced braking performance caused by air in the brake system.
- Check brake fluid level regularly.
- Have the defect corrected as soon as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Clutch
Check clutch function
- Pull back the clutch lever.
  » Pressure point must be clearly perceptible.
  If no clear pressure point can be felt:
  - Have the clutch checked by an authorized workshop, preferably an authorized BMW Motorrad retailer.
Checking clutch lever play

- Operate clutch lever 1 until resistance is felt.
- Measure clutch play A between handlebar fitting and clutch lever in this position.

Clutch lever play

0.02...0.04 in (0.5...1.0 mm) (on the handlebar fitting, when the engine is cold)

If clutch pedal free play is outside tolerance:
- Adjusting clutch lever play (166).

Adjusting clutch lever play

- To increase clutch play: turn the screw 2 into handlebar fitting.
- To decrease clutch play: turn the screw 2 out of handlebar fitting.
- Checking clutch lever play (166).
- Repeat these operations until the clutch play is correctly adjusted.

Coolant

Checking coolant level

- Make sure ground is level and firm and park motorcycle.

- Read off coolant level on expansion tank 1. Direction of view: from front looking at inside of right-hand side panel.
Coolant, specified level between MIN and MAX marks on the expansion tank (With cold engine)

If coolant level drops below permissible level:
• Add coolant.

Topping up coolant
• Remove fairing side panel (⇒ 183).

Tires
Checking tire pressure

WARNING
Incorrect tire inflation pressure.

Poorer handling characteristic of the motorcycle. Reduced life of tires.
• Ensure proper tire inflation pressure.

WARNING
Valve inserts open of their own accord at high speeds. Sudden loss of tire inflation pressure.
• Use valve caps with rubber sealing ring and screw on firmly.
• Park motorcycle, ensuring that support surface is firm and level.
• Check tire pressures against data below.

<table>
<thead>
<tr>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Tire pressure, front" /></td>
</tr>
<tr>
<td>36.3 psi (2.5 bar) (with tire cold)</td>
</tr>
</tbody>
</table>
Tire pressure, rear

42.1 psi (2.9 bar) (with tire cold)

If tire pressure is too low:
• Correct tire pressure.

Wheel rims and tires

Check wheel rims
• Make sure ground is level and firm and park motorcycle.
• Subject wheel rims to visual inspection for defects.
• Have damaged rims checked and, if necessary, replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking tire tread depth

WARNING

Riding with heavily worn tyres

Risk of accident due to poorer rideability
• If necessary, replace the tyres before the legally specified minimum tread depth is reached.
• Make sure ground is level and firm and park motorcycle.
• Measure tire tread depth in main tread grooves with wear indicating marks.

NOTICE

Tread wear marks are integrated into the main grooves on every tire. If the tire tread has worn down to the level of the marks, the tire is completely worn. The locations of the marks are indicated on the edge of the tire, e.g. by the letters TI, TWI or by an arrow.

When the minimum tread depth is reached:
• Replace tires concerned.

Wheels

Tire recommendation

For every size of tire, BMW Motorrad has tested and approved certain makes as roadworthy. BMW Motorrad cannot evaluate the suitability of other tires, and can therefore take no responsibility for their driving safety. BMW Motorrad recommends only using the tires tested and approved by BMW Motorrad. Detailed information can be obtained from your authorized BMW Motorrad retailer or online at "www.bmw-motorrad.com".
Affect of wheel sizes on suspension control systems
The wheel sizes play a major role in the ASC and DTC suspension-control systems. The diameter and width of the wheels stored in the control unit have particular significance as the basis for all necessary calculations. A change in these sizes resulting from conversion to wheels not installed as standard equipment can seriously affect the control efficiency of these systems.

The sensor rings required for wheel speed detection must also match the installed control systems and may not be replaced. If you want to equip your motorcycle with different wheels, please contact a specialist service facility, preferably a BMW Motorrad retailer. In some cases the data stored in the control units must be adapted to the new wheel sizes.

Removing front wheel
• Park motorcycle, ensuring that support surface is firm and level.

- Remove screw 1 and take wheel speed sensor out of bore.
- Mask off areas of wheel rim that could be scratched in the process of removing the brake calipers.

ATTENTION
Pressing together the brake pads with the brake caliper removed.
The brake caliper cannot be mounted over the brake disc.
• Do not operate the brake lever with the brake caliper removed.
• Remove screws 1 of brake calipers on left and right.
Push brake pads slightly apart by turning brake caliper back and forth against brake rotor.

Carefully pull brake calipers back and outward to remove them from the brake rotors.

Place motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear wheel stand.

Mounting rear-wheel stands.

Raise front of motorcycle until the front wheel can turn freely. BMW Motorrad recommends

ATTENTION
Incorrect spacing between the sensor ring and wheel speed sensor caused by poorly aligned threaded bushing in the front suspension.
Damage to the wheel speed sensor. ABS malfunction.

The left clamp fixes the threaded bushing in position and must not be loosened or removed.

Loosen clamping screws.
Remove quick-release axle while supporting wheel.
Roll front wheel forward to remove it.

Installing front wheel

WARNING
Use of a wheel which does not comply with series specifications.
Malfunctions during control interventions by ABS and DTC.

Please see the information on the effect of wheel sizes on the ABS and DTC chassis control systems at the beginning of this chapter.
**ATTENTION**

Tightening of screwed connections with incorrect tightening torque.

- Damage or loosening of screwed connections.
- Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.

**ATTENTION**

Front wheel installation opposite the running direction.

- Accident hazard
- Observe running direction arrows on tire or rim.
- Roll front wheel into front suspension.

- Lift front wheel and install quick-release axle 1 with torque.
- Clamping screw in axle adapter
  - Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time
  - 37 lb/ft (50 Nm)
  - 14 lb/ft (19 Nm)

- Remove front wheel stand and auxiliary stand.
- Slide the brake calipers onto the brake rotors.

- Quick-release axle in threaded bush
  - 37 lb/ft (50 Nm)

- Tighten clamping screws 2 to specified torque.
Lay on brake caliper 1 on left and position cable guide 2. Install screws 3 with specified torque.

Radial brake calipers on the axle adapter 28 lb/ft (38 Nm)

Fasten cable for wheel speed sensor in bracket (arrow).

Insert wheel speed sensor in bore and fasten with screw 1.

Lay on brake caliper 1 on right and install screws 2 with specified torque.

Radial brake calipers on the axle adapter 28 lb/ft (38 Nm)

Remove adhesive tape from wheel rim.

Operate the brake lever firmly several times, until the pressure point is felt.

Removing rear wheel
- Raise motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Mounting rear-wheel stands (158).
- Support the rear wheel, e.g., with a wooden block, so that it cannot fall down after the quick-release axle is removed.

Maintenance
• Press brake caliper 1 against brake disk 2.
• Brake pistons are pressed back.

• Loosen lock nuts 2 on left and right.
• Loosen adjusting screws 3 on left and right.
• Remove adjusting plate 4 and slide axle as far as possible toward inside.

• Remove axle nut 1 with washer.

• Remove quick-release axle 2 and take out adjusting plate 1.

• Roll rear wheel as far forward as possible and remove chain 1 from chain sprocket.

• Remove screw 1 and detach brake line from bracket 2.
Make sure that the wheel speed sensor 1 is not damaged when rolling out the rear wheel.

Roll rear wheel toward rear out of swing arm while pulling brake caliper carrier 1 toward rear until rear-wheel rim can be guided past it.

**NOTICE**
The chain sprocket and the spacer sleeves on the left and right are loosely inserted in the wheel. Exercise care during the removal, in order that the parts are not damaged or are lost.

**Install rear wheel**

**ATTENTION**
The parameters of the control systems must be encoded by a BMW authorized workshop, preferably by a BMW Motorrad retailer.

**ATTENTION**
Tightening of screwed connections with incorrect tightening torque.
Damage or loosening of screwed connections.
- Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.
- Roll rear wheel on support into swing arm until brake-caliper support can be installed.

**ATTENTION**

Altering the tire size.
Influence on the control systems.
- When converting the rear tire size from 190/55 ZR 17 to 200/55 ZR 17 or vice versa, the parameters of the control systems must be encoded by a BMW authorized workshop, preferably by a BMW Motorrad retailer.
• Mount brake caliper carrier 1 in guide 2.

• Roll rear wheel further into swing arm while simultaneously pushing brake caliper carrier 1 toward the front.

• Roll rear wheel as far forward as possible and lay chain 1 on sprocket.

• Make sure that the wheel speed sensor 1 is not damaged when rolling the rear wheel into place.

• Insert right-hand adjusting plate 1 in swinging arm.
• Raise the rear wheel and install the quick-release axle 2.
through the shim in the brake-caliper support and the rear wheel.
- Make sure that quick-release axle meets the recess for key surfaces.

- Mount adjusting plate on left 1.
- Install axle nut 2 with washer, however do not tighten yet.

- Fasten brake line in holder 2 and install screw 1.
- Adjusting chain tension (⇒ 190).

**Light sources**

**Replacing light sources for low-beam and high-beam headlight**

- Park motorcycle, ensuring that support surface is firm and level.
- Switch off ignition.

- Remove cover 1 to replace light source for low-beam headlight.

**NOTICE**

The alignment of the connector may differ from the illustration depending on the light source to be replaced.
- Remove the cover 2 to replace the light source for the high-beam headlight.

- Disconnect plug 3.

- Release wire spring 4 from catch on left and right and fold up.
- Remove light source 5 from the socket.

- Replace defective light source.

**NOTICE**

Light sources featuring specification ratings for higher levels of illumination are commercially available as special accessories. These light sources have a shorter service life than conventional light sources and also generate more heat. Under some circumstances the high levels of heat radiation can damage the headlight assembly.

<table>
<thead>
<tr>
<th>Bulbs for low-beam headlight</th>
<th>H7 / 12 V / 55 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulb for high-beam headlight</td>
<td>H7 / 12 V / 55 W</td>
</tr>
</tbody>
</table>

- To protect the glass against soiling, only grasp the light source by the base.
Install light source 5. Start by inserting lug 6, then press light source into socket.

Insert both sides of wire spring 4 into the retainer.

Push the retainer 2 downward (using a screwdriver if necessary) and pull the socket 3 from the headlight housing.

Remove light source 4 from the socket.

Connect plug 3.

Remove cover 1.

Install cover.

Replacing light source for left-hand parking light

- Park motorcycle, ensuring that support surface is firm and level.  
- Switch off ignition.
Replacing defective light source.

Bulb for parking light
W5W / 12 V / 5 W

To prevent dirt from being deposited on the glass surface, always use a clean, dry cloth to hold the light source.

Insert light source 4 in light source socket.

Insert socket 3 in the headlight housing such that the retainer 2 engages.
Install the cover.

Replacing right-hand parking light light source
Park motorcycle, ensuring that support surface is firm and level.
Switch off ignition.

Remove cover 1.

Push the retainer 2 downward (using a screwdriver if necessary) and pull the socket 3 from the headlight housing.
Remove light source 4 from the socket.

Replacing defective light source.

Bulb for parking light
W5W / 12 V / 5 W

To prevent contaminants from being deposited on the glass surface, always use a clean, dry cloth to hold the light source.

Insert light source 4 in light source socket.

Insert socket 3 in headlight housing, continuing to apply pressure until the retainer 2 engages.

Install the cover.

Replacing front and rear turn indicator light sources

Park motorcycle, ensuring that support surface is firm and level.

Switch off ignition.

Remove the screw 1.
Pull glass on screw connection side out of mirror housing.

• Replace defective light source.

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

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

• To prevent dirt from being deposited on the glass surface, always use a clean, dry cloth to hold the light source.

• Remove the light source 2 from the light housing by pressing it in and turning it counterclockwise.

Install the light source 2 in the light housing by pressing it in and turning it clockwise.

• Insert inside end of lens into light housing and close it.
• Fit the screw 1.

**Diode taillight**
If the taillight LEDs have failed, the taillight must be replaced. In this case:
• Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

**Replace license plate light**

- Pull license-plate light 1 out of light housing.
- Remove light source from socket.
- Replace defective light source.

**Bulb for license-plate light**
W5W / 12 V / 5 W

- To prevent contaminants from being deposited on the glass surface, always use a clean, dry cloth to hold the light source.

- Press light source into socket.
Press license-plate light 1 into light housing.

**Fairings and panels**

**Remove fairing side panel**

**WARNING**

The working steps described here for the right fairing side panel also apply logically for the left side.

- Park motorcycle, ensuring that support surface is firm and level.
- Remove screw 1 on inside of fairing side panel.
- Disconnect connector 5 for turn indicator.
- Take off fairing side panel.
- Protect connector on motorcycle 6 against soiling.
- Remove screws 2.
- Detach fairing side panel from grommet 3 and detent pin 4.
Installing fairing side panel

- Mount fairing side panel 7 in mount 8 on engine spoiler.
- Insert connector 5 in connector 6.
- Fasten fairing side panel in grommet 3 and detent pin 4.
- Install screws 2.

Jump-starting

**CAUTION**

- Touching live parts of the ignition system when the engine is running.
- Electrocuton
- Do not touch parts of the ignition system when the engine is running.

**ATTENTION**

- Current too high when jump-starting the motorcycle
- Cable fire or damage to the vehicle electronics
- Do not jump-start the motorcycle using the power socket, only via the battery terminal.

**ATTENTION**

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

**ATTENTION**

**Jump-starting with a voltage higher than 12 V.**
Damage to the motorcycle’s electronics.
- The battery of the donor motorcycle must have a voltage of 12 V.
- Do not disconnect battery from onboard electrical system for jump-starting procedure.
- Removing rider’s seat (=> 63).
- Allow engine on support motorcycle to run while jump-starting.
- Begin by clamping one end of the red jumper cable to the positive terminal of the discharged battery and clamping the other end to the positive terminal of the donor battery.
- Then clamp one end of the black jumper cable to the donor battery’s negative terminal while connecting the other end to discharged battery’s negative terminal.
- Start engine of motorcycle with discharged battery in usual way; if engine does not start, wait a few minutes before repeating attempt in order to protect starter motor and donor battery.
- Allow both engines to idle for a few minutes before disconnecting jumper cables.
- Disconnect jumper cable from negative terminals first, then disconnect second cable from positive terminals.
- Installing driver’s seat (=> 63).

**Battery Maintenance instructions**
Correct upkeep, recharging and storage will prolong the life of the battery and are essential for recognition of warranty claims. Compliance with the points below is important in order to maximize battery life:
- Keep the surface of the battery clean and dry
- Do not open the battery
- Do not top up with water
- Be sure to read and comply with the instructions for charging the battery on the following pages
- Do not turn the battery upside down.

**ATTENTION**

Discharging of the connected battery by the vehicle electronics (e.g. clock).
Total discharge of battery leading to a rejection of warranty claims.
- During riding breaks of more than 4 weeks, connect a trickle-charger to the battery.

**NOTICE**
BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, you can keep the battery charged during long periods when the motorcycle is not being used without having to disconnect the battery from the motorcycle’s onboard systems. Additional information is available at your authorized BMW Motorrad retailer.

**ATTENTION**
Incorrect battery disconnection.
Danger of short circuit
- Follow the disconnection sequence.

**Disconnect battery from motorcycle**
- Park motorcycle, ensuring that support surface is firm and level.
- Removing rider’s seat (63).
- First remove negative battery cable 1.
- Then remove positive battery cable 2.
- with anti-theft alarm system (DWA)OE

**ATTENTION**
Incorrect battery disconnection.
Danger of short circuit
- Follow the disconnection sequence.
- First remove negative battery cable 1.
Connect battery to vehicle

- First install positive battery cable 2.
- Then install negative battery cable 1.
- First install positive battery cable 2.
- Then install negative battery cable 1.
- Installing driver's seat (63).

Charging battery

- Disconnect battery from motorcycle (186).
- Charge battery using a suitable charger.
- Comply with operating instructions of charger.

NOTICE

In the case of longer periods when the motorcycle is not being used, the battery must be recharged regularly. See the instructions for caring for your battery. Always fully recharge the battery before returning it to use:

- Connect battery to vehicle (187).

Removing battery

- Removing rider's seat (63).
- Disconnect battery from motorcycle (186).
- Lift battery upwards; if it is difficult to move, moving it back and forth will help.

- Then remove positive battery cable 2.

Once battery is fully charged, disconnect charger's terminal clips from battery terminals.
Install battery

**NOTICE**

If the motorcycle was disconnected from the battery for a longer time, the current date must be entered in the instrument cluster to ensure the proper operation of the service display. Consult a certified service facility, preferably an authorized BMW Motorrad retailer, for setting of the date.

- Place battery in battery compartment, positive terminal on right in direction of travel.
- Place battery in battery compartment with negative terminal on left in driving direction.
- Connect battery to vehicle (187).
- Installing driver's seat (63).
- Set clock (50).

Fuses

**Removing fuse**

**ATTENTION**

Bypassing defective fuses. Risk of short circuit and fire.
- Replace defective fuses with new fuses.
- Switch off ignition.
- Park motorcycle, ensuring that support surface is firm and level.
- Remove passenger seat (62).

1. Press together locking lever and remove cover of fuse box 1.
2. To replace main fuse, remove cover 2.
3. Pull defective fuse upward out of fuse box.

**NOTICE**

If the fuses blow frequently, have the electrical system checked by an authorized specialized workshop, preferably an authorized BMW Motorrad retailer.
Installing fuse

- Replace defective fuse with fuse with required amperage.

**NOTICE**

An overview of the fuse assignment and the required amperages is provided in the chapter "Technical Data". The numbers in the graphic match the fuse numbers.

- Close fuse cover.
- Locking device audibly engages.
- Install the passenger seat (➡️ 62).

Chain

Lubricate chain

**ATTENTION**

Insufficient cleaning and lubrication of the drive chain. Increased wear.
- Clean and lubricate the drive chain regularly.
- Lubricate drive chain at least every 500 mls (800 km). After driving through water or dust and dirt perform the lubrication at shorter intervals.
- Switch off ignition and engage Neutral.
- Clean drive chain with suitable cleaning agent, dry and apply chain lubricant.
- To extend and maximize the chain’s service life BMW recommends using BMW Motorrad chain lubricant or:

<table>
<thead>
<tr>
<th>Lubricant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lubricant spray</td>
</tr>
</tbody>
</table>

- Wipe off excess lubricant.

Checking chain tension

- Park motorcycle, ensuring that support surface is firm and level.
- Turn the rear wheel until the position with the lowest chain sag is reached.

- Using a screwdriver, push the chain in the middle between...
9. Chain sag

1.8...2 in (45...50 mm) (Motorcycle unloaded on side stand)

If the measured value is outside the approved tolerance:
- Adjusting chain tension (190).

Adjusting chain tension
- Make sure ground is level and firm and park motorcycle.

- Loosen quick-release axle nut 1.
- Loosen lock nuts 3 on left and right.
- Adjust chain tension with adjusting screws 2 on left and right.
- Checking chain tension (189).
- Ensure that the figures indicating the adjustment settings are identical on left and right.
- Tighten locknuts 3 on left and right to the specified torque.

Checking chain wear
- Engage 1st gear.
- Rotate rear wheel toward front of vehicle until the chain is tensioned.
- Determine chain length below rear wheel swinging arm.
Permissible chain length

max 5.7 in (max 144.30 mm)
(Measured over the center of 10 rivets, chain tensioned)

If the chain has reached the maximum approved length:

- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.
Accessories
General instructions……………… 194
General instructions

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Your authorized BMW Motorrad retailer is the right place to go for genuine BMW parts and accessories, other BMW approved products, and expert advice on their installation and use. These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for these products.

Conversely, BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved. Observe the information on the importance of tire sizes for chassis control systems (☞ 169).

⚠️ CAUTION

Use of products from other manufacturers.

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 motorcycles without constituting a safety hazard. Nor is this guarantee provided when the official approval of a specific country has been granted. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances.

• Use only parts and accessories approved by BMW for your motorcycle.

Whenever you are planning modifications, comply with all the legal requirements. The motorcycle must not infringe on national road-motorcycle construction and use regulations of your country.
## Care

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care products</td>
<td>196</td>
</tr>
<tr>
<td>Washing your motorcycle</td>
<td>196</td>
</tr>
<tr>
<td>Cleaning sensitive motorcycle parts</td>
<td>197</td>
</tr>
<tr>
<td>Paint care</td>
<td>197</td>
</tr>
<tr>
<td>Store motorcycle</td>
<td>198</td>
</tr>
<tr>
<td>Protective wax coating</td>
<td>198</td>
</tr>
<tr>
<td>Return motorcycle to use</td>
<td>198</td>
</tr>
</tbody>
</table>
Care products
BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. BMW Care Products have been materials tested, laboratory tested, and field tested and provide optimum care and protection for the materials used in your motorcycle.

ATTENTION
Use of unsuitable cleaning and care agents.
Damage to motorcycle parts.
- Do not use any solvents such as nitro thinners, cold cleaners, fuel or similar, and do not use cleaning agents that contain alcohol.

Washing your motorcycle
BMW Motorrad recommends that you use BMW Insect Remover to soften and wash off insects and stubborn dirt from painted parts before washing the motorcycle.
To prevent stains, do not wash the motorcycle immediately after it has been exposed to bright sunlight and do not wash it in the sun.
Make sure that the motorcycle is washed frequently, especially during the winter months.
To remove road salt, clean the motorcycle with cold water immediately after completion of every trip.

WARNING
Damp brake disks and brake pads after washing the motorcycle, after riding through water or in the rain.
Poorer braking action.
- Brake early until the brake rotors and brake pads are dry.

ATTENTION
Increased effect of salt caused by warm water.
Corrosion
- Only use cold water to remove road salt.

ATTENTION
Damage caused by high water pressure from high-pressure cleaners or steam-jet devices.
Corrosion or short-circuit, damage to seals, to hydraulic brake system, to the electrical system and the seat.
Exercise caution when using high-pressure or steam-jet devices.

Cleaning sensitive motorcycle parts

Plastics

**ATTENTION**
Use of unsuitable cleaning agents.
Damage to plastic surfaces.
• Do not use abrasive cleaners or cleaners containing alcohol or solvents.
• Do not use insect sponges or sponges with a hard surface.

Fairings and panels
Clean body panels with water and BMW plastic cleaner.

Windshields and lenses are manufactured in plastic
Clean off dirt and insects with a soft sponge and plenty of water.

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

Chrome
Especially in the case of road salt, carefully clean chrome parts with plenty of water and BMW auto shampoo. Use chrome polish for additional treatment.

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

**ATTENTION**
Radiator fins bend easily.
Damage to radiator fins.
• When cleaning, ensure that the cooler fins are not bent.

Rubber
Treat rubber components with water or BMW rubber protection coating agent.

**ATTENTION**
Use of silicone sprays for care of rubber seals.
Damage to rubber seals.
• Do not use silicone sprays or care products that contain silicone.

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

However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilled fuel, oil, grease and brake fluid as well as bird droppings. BMW Car Polish and BMW Paint Cleaner are recommended for this procedure. Contamination on the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar spots with BMW Tar Remover. Then add a protective wax coating to the paint at these locations.

Store motorcycle
- Clean motorcycle.
- Completely fill the motorcycle’s fuel tank.
- Removing battery (187).
- Spray the brake and clutch lever, and the center and side stand pivots with a suitable lubricant.
- Protect metal and chrome-plated parts with an acid-free grease (Vaseline).
- Park the motorcycle in a dry space in such a way that both wheels are under no load (preferably by using the front and rear-wheel stands available from BMW Motorrad).

Protective wax coating
BMW Motorrad recommends that you apply BMW Car Wax or another wax containing carnauba or synthetic wax additives to protect the paintwork. When water fails to form beads on the paint surface this indicates it is time to apply wax.

Return motorcycle to use
- Remove the protective wax coating.
- Clean motorcycle.
- Install battery (188).
- Observe checklist (81).
<table>
<thead>
<tr>
<th>Technical data</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troubleshooting chart</td>
<td>200</td>
</tr>
<tr>
<td>Threaded fasteners</td>
<td>201</td>
</tr>
<tr>
<td>Fuel</td>
<td>204</td>
</tr>
<tr>
<td>Engine oil</td>
<td>205</td>
</tr>
<tr>
<td>Engine</td>
<td>206</td>
</tr>
<tr>
<td>Clutch</td>
<td>207</td>
</tr>
<tr>
<td>Transmission</td>
<td>207</td>
</tr>
<tr>
<td>Rear-wheel drive</td>
<td>208</td>
</tr>
<tr>
<td>Frame</td>
<td>208</td>
</tr>
<tr>
<td>Suspension</td>
<td>209</td>
</tr>
<tr>
<td>Brakes</td>
<td>209</td>
</tr>
<tr>
<td>Wheels and tires</td>
<td>210</td>
</tr>
<tr>
<td>Electrical system</td>
<td>211</td>
</tr>
<tr>
<td>Dimensions</td>
<td>213</td>
</tr>
<tr>
<td>Weights</td>
<td>213</td>
</tr>
<tr>
<td>Performance data</td>
<td>214</td>
</tr>
</tbody>
</table>
### Troubleshooting chart

Engine does not start at all or is very difficult to start.

<table>
<thead>
<tr>
<th>Possible cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side stand extended and gear engaged</td>
<td>Retract side stand.</td>
</tr>
<tr>
<td>Gear engaged and clutch not disengaged</td>
<td>Place transmission in neutral or disengage clutch.</td>
</tr>
<tr>
<td>No fuel in tank</td>
<td>Refueling (→ 90).</td>
</tr>
<tr>
<td>Battery drained</td>
<td>Charge battery.</td>
</tr>
</tbody>
</table>
### Threaded fasteners

<table>
<thead>
<tr>
<th></th>
<th>Front wheel</th>
<th>Value</th>
<th>Valid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick-release axle in threaded bush</td>
<td></td>
<td>M24 x 1.5</td>
<td>37 lbf/ft (50 Nm)</td>
</tr>
<tr>
<td>Clamping screw in axle adapter</td>
<td></td>
<td>M8 x 35</td>
<td>14 lbf/ft (19 Nm)</td>
</tr>
<tr>
<td>Radial brake calipers on the axle adapter</td>
<td></td>
<td>M10 x 65</td>
<td>28 lbf/ft (38 Nm)</td>
</tr>
</tbody>
</table>

### Rear wheel

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locknut of drive-chain tensioning screw</td>
<td>M8</td>
</tr>
<tr>
<td>Rear-wheel quick-release axle in swinging arm</td>
<td>M24 x 1.5 mechanical</td>
</tr>
<tr>
<td>Rear wheel</td>
<td>Value</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
</tr>
<tr>
<td>Swinging-arm adapter on rear wheel swinging arm</td>
<td>M8 x 30</td>
</tr>
<tr>
<td>Screw on adjustment ring</td>
<td>M5 x 25</td>
</tr>
<tr>
<td>Spring strut on main frame</td>
<td>M10 x 65 - 10.9</td>
</tr>
<tr>
<td>Mirrors</td>
<td>Value</td>
</tr>
<tr>
<td>Mirror on front panel carrier</td>
<td>M6, Replacing the nuts mechanical</td>
</tr>
<tr>
<td>Shift rod on gearshift lever</td>
<td>Value</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>M6 x 20 Micro-encapsulated or medium-strength screw lock</td>
<td>6 lbf/ft (8 Nm)</td>
</tr>
</tbody>
</table>
## Fuel

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended fuel quality</strong></td>
<td>Premium grade unleaded fuel (max. 10 % ethanol, E10) 91 AKI (98 ROZ/RON) 91 AKI</td>
</tr>
<tr>
<td><strong>Alternative fuel quality</strong></td>
<td>Super unleaded (minor restrictions with regard to power and fuel consumption) (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI</td>
</tr>
<tr>
<td><strong>Usable fuel quantity</strong></td>
<td>Approx. 4.6 gal (Approx. 17.5 l)</td>
</tr>
<tr>
<td><strong>Fuel reserve</strong></td>
<td>Approx. 1.1 gal (Approx. 4 l)</td>
</tr>
</tbody>
</table>
### Engine oil

<table>
<thead>
<tr>
<th>Engine oil, capacity</th>
<th>Approx. 3.7 quarts (Approx. 3.5 l), with filter replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity rating</td>
<td>SAE 5W-40, API SL/JASO MA2</td>
</tr>
<tr>
<td></td>
<td>Additives (for instance, molybdenum-based substances) are prohibited, because they would attack the coatings on engine components, BMW Motorrad recommends BMW Motorrad ADVANTEC Ultimate Oil</td>
</tr>
<tr>
<td>Engine oil, quantity for topping up</td>
<td>max 0.8 quarts (max 0.8 l), Difference between MIN and MAX</td>
</tr>
</tbody>
</table>

**BMW recommends** ADVANTEC OIL
### Technical data

<table>
<thead>
<tr>
<th>Engine design</th>
<th>Water/oil-cooled 4-cylinder four-cycle in-line engine with four valves per cylinders and two overhead cams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement</td>
<td>999 cc (999 cm³)</td>
</tr>
<tr>
<td>Cylinder bore</td>
<td>3.1 in (80 mm)</td>
</tr>
<tr>
<td>Piston stroke</td>
<td>2 in (49.7 mm)</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>13:1</td>
</tr>
<tr>
<td>Rated output</td>
<td>199 hp (146 kW), at engine speed: 13500 min⁻¹</td>
</tr>
<tr>
<td>– with power reduction&lt;sup&gt;OE&lt;/sup&gt;</td>
<td>107 hp (79 kW), at engine speed: 7750 min⁻¹</td>
</tr>
<tr>
<td>Torque</td>
<td>83 lb/ft (113 Nm), at engine speed: 10500 min⁻¹</td>
</tr>
<tr>
<td>– with power reduction&lt;sup&gt;OE&lt;/sup&gt;</td>
<td>72 lb/ft (97 Nm), at engine speed: 7750 min⁻¹</td>
</tr>
<tr>
<td>Maximum engine speed</td>
<td>max 14200 min⁻¹</td>
</tr>
<tr>
<td>Idle speed</td>
<td>1250 min⁻¹, Engine at operating temperature</td>
</tr>
</tbody>
</table>
### Clutch

| Clutch design                  | Multi-disk oil-bath clutch, slipper clutch |

### Transmission

<table>
<thead>
<tr>
<th>Transmission design</th>
<th>Claw-shifted 6-speed transmission integrated in engine housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission gear ratios</td>
<td>1.652 (76:46 teeth), Primary gear ratio</td>
</tr>
<tr>
<td></td>
<td>2.647 (45:17 teeth), 1st gear</td>
</tr>
<tr>
<td></td>
<td>2.091 (46:22 teeth), 2nd gear</td>
</tr>
<tr>
<td></td>
<td>1.727 (38:22 teeth), 3rd gear</td>
</tr>
<tr>
<td></td>
<td>1.500 (33:22 teeth), 4th gear</td>
</tr>
<tr>
<td></td>
<td>1.360 (34:25 teeth), 5th gear</td>
</tr>
<tr>
<td></td>
<td>1.261 (29:23 teeth), 6th gear</td>
</tr>
</tbody>
</table>
**Technical data**

### Rear-wheel drive

<table>
<thead>
<tr>
<th>Type of final drive</th>
<th>Chain drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of rear suspension</td>
<td>Two-arm aluminum swinging arm</td>
</tr>
<tr>
<td>Number of teeth of rear-wheel drive (Pinion/sprocket)</td>
<td>17:45</td>
</tr>
<tr>
<td>Secondary gear ratio</td>
<td>2.647</td>
</tr>
</tbody>
</table>

### Frame

<table>
<thead>
<tr>
<th>Frame design</th>
<th>Aluminum composite bridge frame, load-sharing engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of type plate</td>
<td>Frame at front right on steering head</td>
</tr>
<tr>
<td>Location of the vehicle identification number</td>
<td>Frame at front right on steering head</td>
</tr>
</tbody>
</table>
## Suspension

### Front wheel
- **Type of front suspension**: Upside-down telescopic forks
- **Spring travel, front**: 4.7 in (120 mm), on wheel

### Rear wheel
- **Type of rear suspension**: Two-arm aluminum swinging arm
- **Type of final drive**: Chain drive
- **Spring travel, rear**: 4.7 in (120 mm), on wheel

## Brakes
- **Type of front brake**: Hydraulic radially operated twin disc brake with 4-piston radial fixed caliper and floating brake discs
- **Brake-pad material, front**: Sintered metal
- **Type of rear brake**: Hydraulically operated disc brake with 1-piston floating caliper and fixed brake disc
- **Brake-pad material, rear**: Organic
### Wheels and tires

<table>
<thead>
<tr>
<th>Recommended tire combinations</th>
<th>An overview of the current tire approvals is available from your authorized BMW Motorrad retailer or on the Internet at bmw-motorrad.com.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed category of front/rear tires</td>
<td>W, minimum requirement: 168 mph (270 km/h)</td>
</tr>
</tbody>
</table>

#### Front wheel
- **Front wheel design**: Aluminum cast wheel
- **Front-wheel rim size**: 3.50” x 17”
- **Front tire designation**: 120/70 ZR 17
- **Load index for front tire**: At least 48
- **Permissible front-wheel imbalance**: max 0.2 oz (max 5 g)

#### Rear wheel
- **Rear wheel design**: Aluminum cast wheel
- **Rear-wheel rim size**: 6.0” x 17”
- **Rear tire designation**: 190/55 ZR 17
- **Load index for rear tire**: At least 63
- **Permissible rear-wheel imbalance**: max 1.6 oz (max 45 g)
### Tire inflation pressure

<table>
<thead>
<tr>
<th>Component</th>
<th>Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire pressure, front</td>
<td>36.3 psi (2.5 bar)</td>
</tr>
<tr>
<td>Tire pressure, rear</td>
<td>42.1 psi (2.9 bar)</td>
</tr>
</tbody>
</table>

### Electrical system

#### Fuses

<table>
<thead>
<tr>
<th>Fuse</th>
<th>Current (A)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>Instrument cluster</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>Cutoff relay, diagnosis plug, anti-theft alarm system</td>
</tr>
<tr>
<td>3</td>
<td>Not in use</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7.5</td>
<td>Low-beam headlight</td>
</tr>
<tr>
<td>5</td>
<td>7.5</td>
<td>High-beam headlight</td>
</tr>
<tr>
<td>6</td>
<td>7.5</td>
<td>Optional accessory connector, license plate light</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>Ignition switch/electronic immobilizer (EWS)</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>Angular rate sensor, left multifunction switch, infrared receiver (optional accessories)</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td>AGM (Absorptive Glass Mat) battery.</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Battery design</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Battery voltage</strong></td>
<td>12 V</td>
<td></td>
</tr>
<tr>
<td><strong>Battery capacity</strong></td>
<td>8 Ah</td>
<td></td>
</tr>
<tr>
<td>- with anti-theft alarm system (DWA)</td>
<td>10 Ah</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Spark plugs</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spark plugs, manufacturer and designation</strong></td>
<td>NGK LMAR9D-J</td>
</tr>
<tr>
<td><strong>Electrode gap of spark plug</strong></td>
<td>0.03 in (0.8 mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Light sources</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bulb for high-beam headlight</strong></td>
<td>H7 / 12 V / 55 W</td>
</tr>
<tr>
<td><strong>Bulbs for low-beam headlight</strong></td>
<td>H7 / 12 V / 55 W</td>
</tr>
<tr>
<td><strong>Bulb for parking light</strong></td>
<td>W5W / 12 V / 5 W</td>
</tr>
<tr>
<td><strong>Bulb for taillight/brake light</strong></td>
<td>LED</td>
</tr>
<tr>
<td><strong>Bulbs for flashing turn indicators, front</strong></td>
<td>RY10W / 12 V / 10 W</td>
</tr>
<tr>
<td><strong>Bulbs for flashing turn indicators, rear</strong></td>
<td>RY10W / 12 V / 10 W</td>
</tr>
<tr>
<td><strong>Bulb for license-plate light</strong></td>
<td>W5W / 12 V / 5 W</td>
</tr>
</tbody>
</table>
### Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorcycle length</td>
<td>80.7 in (2050 mm), across splash guard</td>
</tr>
<tr>
<td>Motorcycle height</td>
<td>44.9 in (1140 mm), across windshield at DIN unladen weight</td>
</tr>
<tr>
<td>Motorcycle width</td>
<td>32.5 in (826 mm), across mirrors</td>
</tr>
<tr>
<td>Rider's seat height</td>
<td>32.1 in (815 mm), without driver</td>
</tr>
<tr>
<td>Rider's inside-leg arc, heel to heel</td>
<td>71.1 in (1805 mm), without driver</td>
</tr>
</tbody>
</table>

### Weights

<table>
<thead>
<tr>
<th>Weight</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unladen weight</td>
<td>450 lbs (204 kg), DIN unladen weight, ready for road, 90 % full tank of gas, without OE</td>
</tr>
<tr>
<td>Permissible gross weight</td>
<td>897 lbs (407 kg)</td>
</tr>
<tr>
<td>Maximum payload</td>
<td>448 lbs (203 kg)</td>
</tr>
</tbody>
</table>
### Performance data

| Top speed | min 124 mph (min 200 km/h) |
Service
Reporting safety defects .......... 216
BMW Motorrad Service .......... 217
BMW Motorrad Mobility Services .................. 217
Maintenance procedures .......... 217
Maintenance schedule .......... 221
Standard BMW Service .......... 222
Confirmation of maintenance work .................. 223
Confirmation of service .......... 228
Reporting safety defects
If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying BMW of North America, LLC.

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

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (teletypewriter TTY for the deaf: 1-800-424-9153); go to the website http://www.safercar.gov; or write to: Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. You can also obtain other information about motor vehicle safety from http://www.safercar.gov.
BMW Motorrad Service
With its worldwide dealer network, BMW Motorrad can attend to you and your motorcycle in over 100 countries around the globe. BMW Motorrad retailers have the technical information and expertise needed to conduct reliable service and repairs covering every aspect of your BMW. You can find the nearest authorized BMW Motorrad retailer by visiting our Internet site at "www.bmw-motorrad.com".

**WARNING**
Improperly performed maintenance and repair work. Accident hazard due to subsequent damage.

- BMW Motorrad recommends having corresponding work on your motorcycle carried out by a specialized workshop, preferably by an authorized BMW Motorrad retailer.

To ensure that your BMW consistently remains in optimal condition BMW Motorrad urges you to observe the recommended service intervals. Have all maintenance and repair work confirmed in the "Service" chapter in this manual. Documentation confirming regular maintenance is essential for generous treatment of claims submitted after the warranty period has expired (goodwill).

You can obtain information on the contents of the BMW Services from your BMW Motorrad retailer.

BMW Motorrad Mobility Services
The BMW Motorrad Mobility Services furnish you and your new BMW motorcycle with extra security by offering a wide array of assistance services in the event of a breakdown (BMW Roadside Assistance, breakdown assistance, vehicle recovery and retrieval, etc.). Contact your authorized BMW Motorrad retailer for additional information on available mobility-maintenance services.

Maintenance procedures

BMW Pre-Delivery Check
The BMW pre-delivery check is carried out by your authorized BMW Motorrad retailer before it turns over the motorcycle to you.
BMW Running-in Check

Carrying out the first running-in check

300...750 miles (500...1200 km)

BMW Service

BMW Service is carried out once a year. The scope of the services performed may be dependent on the motorcycle owner and the mileage driven. Your BMW Motorrad retailer confirms that the service has been performed and enters the date for the next service. For riders who drive long distances annually, it may be necessary to come in for service before the entered date. In this case a corresponding maximum odometer reading will also be entered in the confirmation of service. If this odometer reading is reached before the next service date, service must be performed sooner.

The service display in the multifunction display reminds you of the next service date approx. one month or 700 mls before the entered values.

The specified service intervals apply to street operation. For racing operation, adjust the intervals in accordance with loading.

More information on the topic of service is available at: bmw-motorrad.com/service

The required scope of maintenance work for your motorcycle can be found in the following maintenance plan:
| Service | 500 - 1200 km | 300 - 750 mls | 10 000 km | 6 000 mls | 20 000 km | 12 000 mls | 30 000 km | 16 000 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             |                |            |           |           |            |           |            |           |            |           |            |           |            |           |            |           |            |           |            |           |            | x         |            |
| 2       |               |                |            |           |           |            |           |            |           |            |           |           |           |            |           |            |           |            |           |            |           |            |           |            |
| 3       | x             | x              | x          | x         | x         | x          | x         | x          | x         | x          | x         | x          | x         | x          | x         | x          | x         | x          | x         | x          | x         | x          | x         |            |
| 4       |               |                |            |           |           |            |           |            |           |            |           |           |           |            |           |            |           |            |           |            |           |            |           |            |
| 5       |               |                |            |           |           |            |           |            |           |            |           |           |           |            |           |            |           |            |           |            |           |            |           |            |
| 6       |               |                |            |           |           |            |           |            |           |            |           |           |           |            |           |            |           |            |           |            |           |            |           |            |
| 7       |               |                |            |           |           |            |           |            |           |            |           |           |           |            |           |            |           |            |           |            |           |            |           |            |
| 8       |               |                |            |           |           |            |           |            |           |            |           |           |           |            |           |            |           |            |           |            |           |            |           |            |
| 9       |               |                |            |           |           |            |           |            |           |            |           |           |           |            |           |            |           |            |           |            |           |            | x^b        |            | x^b        |            |
Maintenance schedule

1. BMW running-in check
2. Standard BMW Service (⇒ 222)
3. Engine oil change with filter
4. Check valve clearance
5. Checking the engine timing
6. Replace all spark plugs
7. Replacing air filter
8. Telescopic fork oil change
9. Change the brake fluid in the entire system
   a. annually or every 6000 miles (whichever comes first)
   b. for the first time after one year, then every two years
Standard BMW Service

The standard BMW Service includes the following maintenance work:

- Performing the brief test using the BMW Motorrad diagnosis system.
- Visual inspection of brake lines, brake hoses and connections.
- Checking the front/rear brake fluid level.
- Checking the front/rear brake pads and brake discs for wear.
- Checking the steering head bearings.
- Checking the coolant level.
- Checking the fastening of the clutch lever assembly.
- Checking the clutch cable and clutch lever play.
- Lubricating the clutch control.
- Checking the drive chain, rear wheel sprocket and engine sprocket.
- Checking the tyre pressure and tread depth.
- Checking the side stands for ease of movement.
- Lubricating the side stand.
- Checking the lighting and signal system.
- Checking that the engine starting suppression works.
- Final inspection and checking for road safety.
- Setting the service date and remaining distance to service.
- Checking the battery state of charge.
- Recording the BMW Service in the on-board literature.
Confirmation of maintenance work

**BMW Pre-Delivery Check**
Conducted on ________________

**BMW Running-in Check**
Conducted on ________________
Odometer reading ________________
Next service at the latest on ________________
or, if reached sooner, Odometer reading ________________

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Stamp, Signature
BMW Service
Conducted
on
Odometer reading
Next service
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or, if reached sooner,
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Stamp, Signature

BMW Service
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Next service
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13 227
The table is intended as proof of maintenance and repair work, the installed optional accessories and any special campaign (recall) work carried out.

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Service
Appendix
Certificate for Electronic Immobilizer .......................... 232
FCC Approval

Ring aerial in the ignition switch

To verify the authorization of the ignition key, the electronic immobilizer exchanges information with the ignition key via the ring aerial.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

⚠️ Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.
Approbation de la FCC

Antenne annulaire présente dans le commutateur d'allumage

Pour vérifier l'autorisation de la clé de contact, le système d'immobilisation électronique échange des informations avec la clé de contact via l'antenne annulaire. Le présent dispositif est conforme à la partie 15 des règles de la FCC. Son utilisation est soumise aux deux conditions suivantes :

1. Le dispositif ne doit pas produire d'interférences nuisibles, et
2. Le dispositif doit pouvoir accepter toutes les interférences extérieures, y compris celles qui pourraient provoquer une activation inopportune.

Toute modification qui n’aurait pas été approuvée expressément par l'organisme responsable de l'homologation peut annuler l'autorisation accordée à l'utilisateur pour utiliser le dispositif.
Clutch
- Adjusting play, 166
- Check play, 166
- Checking operation, 165
- Technical Data, 207
- Coding plug
- Installing, 56
- Confirmation of maintenance work, 223

Coolant
- Checking fill level, 166
- Fluid level indicator, 15
- Topping up, 167
- Warning light for overtemperature, 29

Cruise-control system
- Operating, 57

Damping
- Adjust, without DDC, 72
- Adjusting, 72
- Adjusting, with DDC, 75
- Front adjustment element, 11
  Rear adjuster, 11, 15

DDC
- Adjusting, 75
- Technology in detail, 144

Dimensions
- Technical Data, 213

DTC
- Adjusting control, 127
- Control, 16
- Indicator light, 33
- Operating, 52
- Self-diagnosis, 85
- Switching off, 53
- Switching on, 53
- Technology in detail, 145

DWA
- Indicator light, 20
- Warning light, 35

Electrical system
- Technical Data, 211

Engine
- Engine electronics warning light, 29
- Parking, 41
- Starting, 82
- Technical Data, 206
- Warning light for engine management system, 30

Engine oil
- Check fill level, 159
- Fluid level indicator, 11, 13
- Oil fill location, 15
- Technical Data, 205
- Topping up, 160
- Equipment, 7

Fairing
- Installing fairing side panel, 184
- Remove fairing side panel, 183

Fall sensor
- Indicator light, 32

Frame
- Technical Data, 208
| Index | Front wheel stand Mounting, 157 Fuel Refueling, 90 Technical data, 204 Technical Data, 204 Fuel reserve Cruising range, 38 Warning light, 37 Fuses Position on vehicle, 19 Replacing, 188 Technical data, 211 G Gearshift assistant, 87, 152 H Hazard warning flashers Control, 16 Operating, 43 Headlight Adjusting for RHD/LHD traffic, 66 Headlight range, 66 Heated handlebar grips Control, 18 Operating, 60 Helmet holder Position on vehicle, 19 Securing helmet, 63 Horn, 16 I Ignition Switching off, 41 Switching on, 40 Immobilizer, 41 Warning indicator, 29 Indicator lights, 20 Overview, 22 Instrument cluster Overview, 20 Photosensor, 20 J Jump-start, 184 K Keys, 40 L Lap-Timer Clear recording, 108 Deleting lap, 108 Display structure, 121 End time entry, 101 Fastest lap expected, 102 individualizing, 100 Information on each race lap, 106 Infrared receiver, 100 Interrupting time entry, 101 Operating, 98 RACE INFO, 103 Starting time recording, 100 Launch control, 128 Start of race, 128 License-plate carrier Removing/installing, 132 Lights Control, 16 Low-beam headlight, 42 Operating headlight flasher, 42 Operating high-beam headlight, 42 |
Operating parking lights, 42
Parking lights, 42
Luggage
Loading information, 80
Luggage loops
Position on vehicle, 19
Using, 64

M
Maintenance
General instructions, 156
Maintenance schedule, 221
Maintenance intervals, 217
Mirrors
Adjusting, 66
Removing/installing, 131
Mobility Services, 217
Motorcycle
Care, 195
Cleaning, 195
Parking, 89
Returning to use, 198
Storage, 198
Tying down, 92

Multifunction display, 20
Control, 16
Display for racing mode, 96
Exiting settings, 116
LAPTIMER Operating, 98
Overview, 23
RACE INFO, 103
Select submenu, 113
Selecting display readings, 45
Setting parameter, 115
SETUP DDC-SYS, 117
SETUP EQUIPMENT, 118
SETUP MENU, 111
SETUP RACETRACK, 120
SETUP USER-MODE, 125
Multifunction switch
General view, left, 16
General view, right, 18

N
Notice concerning current status, 7

O
Onboard tool kit
Contents, 156
Position on vehicle, 19
Overview of warning indicators, 25
Overviews
Instrument cluster, 20
Left side of vehicle, 11, 13
Left-side multifunction switch, 16
Multifunction display, 23
Right side of vehicle, 15
Right-hand multifunction switch, 18
SETUP DDC-SYS, 117
SETUP EQUIPMENT, 118
SETUP MENU, 111
SETUP RACETRACK, 120
SETUP USER-MODE, 125
Underneath seat, 19
Warning and indicator lights, 22

P
Parking light, 42
Pre-Ride-Check, 83
Racetrack display for racing mode, 95
LAPTIMER Operating, 98
Race start with Launch Control, 128
Speed limiter for pit lane, 130
Rear-wheel drive
Technical Data, 208
Rear-wheel stand
Mounting, 138
Refueling, 90
Rider's Manual (US Model)
Position on vehicle, 19
Riding mode
Adjusting, 53
Control, 18
Technology in detail, 146
Seats
Installing, 61
Locking mechanism, 11, 13
Removing, 61
Service, 217
Reporting safety defects, 216
Service display, 37
Shift lever
Shift pattern reversal, 136
Shifting gears
Shiftpoint light, 20, 87
Spark plugs, 212
Speed limiter for pit lane
Adjust maximum speed, 125
Operating, 130
Speed warning
Adjusting, 59
Speedometer, 23
Spring preload
Adjusting, 67
Front adjustment element, 11, 13
Rear adjuster, 11, 13
Starting, 82
Control, 18
Steering damper
Adjusting, 67
Position on vehicle, 15
Steering lock
Locking, 40
Suspension
Technical Data, 209
Switching off, 89
Tachometer, 20
Technical data
Battery, 212
Brakes, 209
Clutch, 207
Dimensions, 213
Electrical system, 211
Engine, 206
Engine oil, 205
Frame, 208
Fuel, 204
Fuses, 211
Light sources, 212
Rear-wheel drive, 208
Spark plugs, 212

Seat installing, 61
Locking mechanism, 11, 13
Removing, 61
Service, 217
Reporting safety defects, 216
Service display, 37
Shift lever
Shift pattern reversal, 136
Shifting gears
Shiftpoint light, 20, 87
Spark plugs, 212
Speed limiter for pit lane
Adjust maximum speed, 125
Operating, 130
Speed warning
Adjusting, 59
Speedometer, 23
Spring preload
Adjusting, 67
Front adjustment element, 11, 13
Rear adjuster, 11, 13
Starting, 82
Control, 18
Steering damper
Adjusting, 67
Position on vehicle, 15
Steering lock
Locking, 40
Suspension
Technical Data, 209
Switching off, 89
Tachometer, 20
Technical data
Battery, 212
Brakes, 209
Clutch, 207
Dimensions, 213
Electrical system, 211
Engine, 206
Engine oil, 205
Frame, 208
Fuel, 204
Fuses, 211
Light sources, 212
Rear-wheel drive, 208
Spark plugs, 212
The descriptions and illustrations in this manual may vary from your own motorcycle's actual equipment, depending upon its equipment level and accessories as well as your specific national version. No claims stemming from these differences can be recognized.

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

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

Errors and omissions excepted.

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80788 Munich, Germany

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Important data for refueling:

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<tr>
<td><strong>Recommended fuel quality</strong></td>
<td>Premium grade unleaded fuel (max. 10 % ethanol, E10) 91 AKI (98 ROZ/RON) 91 AKI</td>
</tr>
<tr>
<td><strong>Alternative fuel quality</strong></td>
<td>Super unleaded (minor restrictions with regard to power and fuel consumption) (max. 10 % ethanol, E10) 89 AKI (95 ROZ/RON) 89 AKI</td>
</tr>
<tr>
<td><strong>Usable fuel quantity</strong></td>
<td>Approx. 4.6 gal (Approx. 17.5 l)</td>
</tr>
<tr>
<td><strong>Fuel reserve</strong></td>
<td>Approx. 1.1 gal (Approx. 4 l)</td>
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**Tire inflation pressure**

- Tire pressure, front: 36.3 psi (2.5 bar), with tire cold
- Tire pressure, rear: 42.1 psi (2.9 bar), with tire cold

You'll find additional information on all aspects of your motorcycle at: bmw-motorrad.com

BMW recommends ADVANTEC

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