## Motorcycle/Retailer Data

### Motorcycle Data

- Model
- Vehicle identification number
- Color number
- Initial registration
- License plate

### Retailer Data

- Contact in Service
- Ms./Mr.
- Phone number
- Retailer's address/phone number (company stamp)
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 Motorrad.
<table>
<thead>
<tr>
<th>1 General instructions</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>6</td>
</tr>
<tr>
<td>Abbreviations and symbols</td>
<td>6</td>
</tr>
<tr>
<td>Equipment</td>
<td>7</td>
</tr>
<tr>
<td>Technical data</td>
<td>7</td>
</tr>
<tr>
<td>Notice concerning current status</td>
<td>7</td>
</tr>
<tr>
<td>2 Overviews</td>
<td>9</td>
</tr>
<tr>
<td>General view, left side</td>
<td>11</td>
</tr>
<tr>
<td>General view, right side</td>
<td>13</td>
</tr>
<tr>
<td>Multifunction switch, left</td>
<td>14</td>
</tr>
<tr>
<td>Multifunction switch, right</td>
<td>15</td>
</tr>
<tr>
<td>Underneath seat</td>
<td>16</td>
</tr>
<tr>
<td>Instrument cluster</td>
<td>17</td>
</tr>
<tr>
<td>3 Displays</td>
<td>19</td>
</tr>
<tr>
<td>Multifunction display</td>
<td>20</td>
</tr>
<tr>
<td>Warning and indicator lights</td>
<td>21</td>
</tr>
<tr>
<td>ABS Pro display</td>
<td>22</td>
</tr>
<tr>
<td>Service display</td>
<td>22</td>
</tr>
<tr>
<td>Cruising range</td>
<td>23</td>
</tr>
<tr>
<td>Warning lights</td>
<td>23</td>
</tr>
<tr>
<td>4 Operation</td>
<td>35</td>
</tr>
<tr>
<td>Steering and ignition lock</td>
<td>36</td>
</tr>
<tr>
<td>EWS Electronic immobi- lizer</td>
<td>37</td>
</tr>
<tr>
<td>Clock</td>
<td>37</td>
</tr>
<tr>
<td>Odometer</td>
<td>38</td>
</tr>
<tr>
<td>Speed warning</td>
<td>38</td>
</tr>
<tr>
<td>Lights</td>
<td>40</td>
</tr>
<tr>
<td>Turn indicators</td>
<td>40</td>
</tr>
<tr>
<td>Hazard warning flashers</td>
<td>41</td>
</tr>
<tr>
<td>Emergency-off switch (kill switch)</td>
<td>42</td>
</tr>
<tr>
<td>Heated handlebar grips</td>
<td>42</td>
</tr>
<tr>
<td>BMW Motorrad Race ABS</td>
<td>43</td>
</tr>
<tr>
<td>Dynamic Traction Control (DTC)</td>
<td>44</td>
</tr>
<tr>
<td>Riding mode</td>
<td>45</td>
</tr>
<tr>
<td>Brakes</td>
<td>48</td>
</tr>
<tr>
<td>Mirrors</td>
<td>48</td>
</tr>
<tr>
<td>Spring preload</td>
<td>49</td>
</tr>
<tr>
<td>Damping</td>
<td>51</td>
</tr>
<tr>
<td>Tires</td>
<td>55</td>
</tr>
<tr>
<td>Headlight</td>
<td>55</td>
</tr>
<tr>
<td>Rider and passenger seats</td>
<td>56</td>
</tr>
<tr>
<td>Helmet holder</td>
<td>57</td>
</tr>
<tr>
<td>Luggage straps</td>
<td>58</td>
</tr>
<tr>
<td>5 Riding</td>
<td>59</td>
</tr>
<tr>
<td>Safety instructions</td>
<td>60</td>
</tr>
<tr>
<td>Observe checklist</td>
<td>61</td>
</tr>
<tr>
<td>Starting</td>
<td>62</td>
</tr>
<tr>
<td>Breaking in</td>
<td>64</td>
</tr>
<tr>
<td>Shifting gears</td>
<td>65</td>
</tr>
<tr>
<td>Steering</td>
<td>67</td>
</tr>
<tr>
<td>Brakes</td>
<td>67</td>
</tr>
<tr>
<td>Parking your motorcycle</td>
<td>69</td>
</tr>
<tr>
<td>Refueling</td>
<td>70</td>
</tr>
<tr>
<td>Fastening motorcycle for transport</td>
<td>71</td>
</tr>
<tr>
<td>6 On the racetrack</td>
<td>75</td>
</tr>
<tr>
<td>Multifunction display</td>
<td>76</td>
</tr>
<tr>
<td>LAPTIMER mode</td>
<td>78</td>
</tr>
<tr>
<td>INFO mode</td>
<td>83</td>
</tr>
</tbody>
</table>
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 12. 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.

- Indicates the end of an item of information.
- Instruction.

> Result of an activity.

⇒ Reference to a page with more detailed information.

<< Indicates the end of accessory or equipment-dependent information.

Tightening torque.

Technical data.

* OE Optional extra. BMW Motorrad optional extras are already completely installed during motorcycle production.
OA Optional accessory. BMW Motorrad optional accessories can be purchased and installed at your authorized BMW Motorrad retailer.

EWS Electronic immobilizer.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.

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 outputs in the Rider’s Manual refer to the Deutsches Institut für Normung e. V. (DIN) and comply with its tolerance regulations. 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, aspects of your motorcycle may vary from the descriptions in this Operating instructions. 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, right side ............. 13
Multifunction switch, left .......... 14
Multifunction switch, right ........ 15
Underneath seat ...................... 16
Instrument cluster .................. 17
General view, left side

1 Adjusting front spring preload (⇒ 49)
   Adjusting front rebound-stage damping (⇒ 52)
2 Adjusting rear compression (jounce) damping (⇒ 53)
3 Adjuster for spring preload, rear (⇒ 50)
4 Seat lock (⇒ 56)
5 Tire inflation pressure table
   Payload table
   Chain adjustment values
6 Engine oil level indicator (⇒ 117)
7 Adjusting front compression damping (⇒ 51)
General view, right side

1. Brake-fluid reservoir, rear  (⇒122)
2. Vehicle Identification Number and type plate (on steering-head bearing at right)  (⇒121)
3. Brake-fluid reservoir, front  (⇒121)
4. Steering damper (behind the right side panel)  (⇒67)
5. Coolant level indicator (behind side panel)  (⇒123)
6. Engine oil fill location  (⇒118)
7. Adjusting rear rebound-stage damping  (⇒54)
**Multifunction switch, left**

1. High-beam headlight and headlight flasher (⇒ 40)
   Using lap timer (⇒ 80)
2. Operating ABS (⇒ 43)
   - with ABS Pro
   Operating ABS Pro (⇒ 43)
3. Hazard warning flashers operation (⇒ 41)
4. Turn indicators (⇒ 40)
5. Horn
6. Setting clock (⇒ 37)
   Using racing functions (⇒ 76)
7. Operating odometer (⇒ 38)
Multifunction switch, right
1  – with heated handlebar grips OE
   Heated hand grip (⇒ 42)
2  Selecting riding mode (⇒ 45)
3  Emergency-off switch (kill switch) (⇒ 42)
4  Starting the engine (⇒ 62)
Underneath seat
1 Battery (148)
2 Helmet holder (57)
3 Luggage loops (58)
4 Onboard tool kit (116)
5 Fuse box (146)
6 Rider’s Manual (US Model)
Instrument cluster

1. Indicator and warning lights (see 21)
2. Tachometer
3. Shiftpoint light (see 65)
4. Ambient light sensor (for brightness adjustment of instrument lighting)
   - with anti-theft alarm system (DWA) OE
5. Alarm system LED (see operating instructions)
6. Multifunction display (see 20)
Displays
Multifunction display ................. 20
Warning and indicator lights........ 21
ABS Pro display ..................... 22
Service display ..................... 22
Cruising range ..................... 23
Warning lights ..................... 23
Multifunction display

1. Speedometer
2. Coolant temperature
3. with heated handlebar grips (HE)
   Heated grip display (42)
4. Odometer (38)
5. Clock (37)
6. Set riding mode (45)
7. Gear indicator display, "N" indicates "neutral."
8. Selection of the ride mode (45)

**NOTICE**
Refer to Chapter 5 for information regarding the display modes available for track use.
Warning and indicator lights

1. ABS indicator light ([30]
2. with Dynamic Traction Control (DTC)\(^{OE}\)
   DTC indicator light ([31])
3. Indicator light for left turn indicator
4. Universal warning light, appears together with warnings in display panel ([23])
5. Indicator light for right turn indicator
6. Fuel-reserve warning light ([28])
7. Neutral indicator light
8. Headlight high beam indicator light
9. Engine-electronics warning light ([29])
10. "Fastest lap" lamp ([81])
During the Pre-Ride-Check, the availability of the ABS Pro function is indicated in the multifunction display with ABS Pro.

If the time remaining until the next service will elapse within one month, the service date 1 appears briefly following the Pre-Ride-Check. In this example the display means “August, 2012.”

If the motorcycle covers high annual mileages then shorter service intervals may be required. When the odometer reading for the recalculated early service falls to within 700 mls (1000 km), the remaining miles (kilometers) 2 are counted down in 60-mile (100-km) increments and 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.

**Cruising range**

The cruising range 1 indicates the distance that can still be driven with the remaining fuel. It is only displayed after the fuel reserve is reached. This distance is calculated based on fuel level and average consumption. When refueling after running on reserve, make sure to top up the tank to a level above reserve, as otherwise the sensor will not be able to register the new level. If the sensor cannot register the new level the residual-range readout cannot be updated.

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.

**NOTICE**

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

**Warning lights**

**Display**

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

If several warnings are active, all corresponding warning lamps and warning symbol are displayed; warnings appear alternately.

The following page contains a list of potential warnings.
<table>
<thead>
<tr>
<th>Lights up yellow</th>
<th>! EWS is indicated</th>
<th>Electronic immobilizer is active ([28])</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lights up</td>
<td>Fuel down to reserve ([28])</td>
<td></td>
</tr>
<tr>
<td>Lights up red</td>
<td>Temperature display flashes</td>
<td>Coolant temperature too high ([28])</td>
</tr>
<tr>
<td>Lights up</td>
<td>Engine in emergency-operation mode ([29])</td>
<td></td>
</tr>
<tr>
<td>Lights up yellow</td>
<td>! LAMFR is indicated</td>
<td>Rear bulb defective ([29])</td>
</tr>
<tr>
<td>! LAMFR is indi-</td>
<td>Parking light bulb defective ([29])</td>
<td></td>
</tr>
<tr>
<td>cated</td>
<td>! LAMF is indi-</td>
<td>Turn signal bulb defective ([29])</td>
</tr>
<tr>
<td></td>
<td>cated</td>
<td>! VDS is shown in the empty display</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motorcycle has fallen over ([30])</td>
</tr>
<tr>
<td>Warning symbols in the display panel</td>
<td>Meaning</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>1. VDS is indicated</td>
<td>Fall sensor defective (〈 30)</td>
<td></td>
</tr>
<tr>
<td>flashes</td>
<td>ABS self-diagnosis not completed (〈 30)</td>
<td></td>
</tr>
<tr>
<td>lights up</td>
<td>ABS deactivated (〈 30)</td>
<td></td>
</tr>
<tr>
<td>lights up</td>
<td>ABS error (〈 31)</td>
<td></td>
</tr>
<tr>
<td>flashes rapidly</td>
<td>DTC intervention (〈 31)</td>
<td></td>
</tr>
<tr>
<td>flashes slowly</td>
<td>DTC self-diagnosis not completed (〈 31)</td>
<td></td>
</tr>
<tr>
<td>lights up</td>
<td>DTC deactivated (〈 31)</td>
<td></td>
</tr>
<tr>
<td>lights up</td>
<td>DTC error (〈 31)</td>
<td></td>
</tr>
<tr>
<td>Warning and indicator lamps</td>
<td>Warning symbols in the display panel</td>
<td>Meaning</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>! DWALO is indicated</td>
<td>Anti-theft alarm battery weak (32)</td>
<td></td>
</tr>
<tr>
<td>! DWA is indicated</td>
<td>Anti-theft alarm battery discharged (32)</td>
<td></td>
</tr>
<tr>
<td>Shiftpoint lamp flashes or remains on continuously.</td>
<td>! SPEED is indicated</td>
<td>Speed warning (32)</td>
</tr>
</tbody>
</table>
Electronic immobilizer is active
- General warning light shows yellow.
- EWS is indicated.
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.

Fuel down to reserve
- Fuel-reserve warning lamp 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 procedure (⇒ 70).

Coolant temperature too high
- General warning light shows red.

- 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.

The coolant temperature display flashes.
Engine in emergency-operation mode

Engine error 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. In exceptional cases, the engine stops and can no longer be started. Otherwise, the engine runs in the emergency operating mode.

- 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 workshop, preferably an authorized BMW Motorrad retailer.

Rear bulb defective

General warning light shows yellow.

! LAMPR is indicated.

Possible cause:
Taillight or brake light bulb defective.
- The diode taillight must be replaced. Please contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

Parking light bulb defective

! LAMPF is indicated.

Possible cause:
Parking light bulb defective.
- Replacing left parking light bulb (142).
- Replacing right parking light bulb (143).

Turn signal bulb 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:
Parking light bulb defective.
- Replacing left parking light bulb (142).
- Replacing right parking light bulb (143).

Parking light bulb defective

! 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:
Parking light bulb defective.
- Replacing left parking light bulb (142).
- Replacing right parking light bulb (143).
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:
- Turn indicator bulb defective
- Replacing front and rear turn indicator bulbs (p. 144).

Possible cause:
The license-plate carrier is removed and the vehicle's electronic monitoring system detects the missing turn signals.
- Install license-plate carrier (p. 99).
- Activating suppression of the fault message in the SETUP mode.

Motorcycle has fallen over

! VDS (Vertical Down Sensor) is shown in the 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

! VDS (Vertical Down Sensor) is shown.
Possible cause:
A defect was determined in the fall sensor.
- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

ABS self-diagnosis not completed

ABS indicator light flashes.
Possible cause:
The ABS function is not available, because the self-diagnosis has not been completed. To check the wheel 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 deactivated

ABS indicator light lights up.
Possible cause:
The ABS system has been deactivated by the driver.
- Switch on ABS function (p. 44).
ABS error
ABS indicator light lights up.
Possible cause:
The ABS control unit has detected an error. The ABS function is not available.
- Continued driving is possible while taking the failed ABS function into account. Observe additional information on situations which can lead to an ABS error (⇒ 107).
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

DTC intervention
- with Dynamic Traction Control (DTC)\textsuperscript{OE}
  DTC indicator light flashes rapidly.
The DTC has detected instability at the rear wheel and has reduced the torque. The warning lamp flashes longer than the DTC intervention lasts. This feature continues to furnish the rider with optical 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)\textsuperscript{OE}
  DTC indicator light flashes slowly.
Possible cause:
The self-diagnosis routine was not completed; the DTC function is not available. The engine must be running and the motorcycle must be moved at a speed of at least 3 mph (5 km/h) in order for DTC self-diagnosis to complete.
- Ride off slowly. It must be noted that the DTC function is not available until the self-diagnosis has been completed.

DTC deactivated
- with Dynamic Traction Control (DTC)\textsuperscript{OE}
  DTC indicator light lights up.
Possible cause:
The DTC system has been deactivated by the driver.
- Switch on DTC function (⇒ 45).

DTC error
- with Dynamic Traction Control (DTC)\textsuperscript{OE}
DTC indicator light lights up.

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

- It remains possible to continue riding. It must be noted that the DTC function is not available or that its availability is restricted. Observe additional information on situations which can lead to a DTC error (p. 109).
- Have the malfunction corrected as soon as possible at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Anti-theft alarm battery weak
- with anti-theft alarm system (DWA) OE

! DWALO is indicated.

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 vehicle battery disconnected.

- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

Anti-theft alarm battery discharged
- with anti-theft alarm system (DWA) OE

! General warning light shows yellow.

! DWA is indicated.

NOTICE
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 vehicle's battery is disconnected.

- Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

Speed warning
Shiftpoint lamp flashes or remains on continuously according to the selected setting.

! SPEED is indicated.
Possible cause:
The preset maximum speed has been exceeded.
• Reduce speed.
• Entering a new maximum speed.
## Operation

<table>
<thead>
<tr>
<th>Feature</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering and ignition lock</td>
<td>36</td>
</tr>
<tr>
<td>EWS Electronic immobilizer</td>
<td>37</td>
</tr>
<tr>
<td>Clock</td>
<td>37</td>
</tr>
<tr>
<td>Odometer</td>
<td>38</td>
</tr>
<tr>
<td>Speed warning</td>
<td>38</td>
</tr>
<tr>
<td>Lights</td>
<td>40</td>
</tr>
<tr>
<td>Turn indicators</td>
<td>40</td>
</tr>
<tr>
<td>Hazard warning flashers</td>
<td>41</td>
</tr>
<tr>
<td>Emergency-off switch (kill switch)</td>
<td>42</td>
</tr>
<tr>
<td>Heated handlebar grips</td>
<td>42</td>
</tr>
<tr>
<td>BMW Motorrad Race ABS</td>
<td>43</td>
</tr>
<tr>
<td>Dynamic Traction Control (DTC)</td>
<td>44</td>
</tr>
<tr>
<td>Riding mode</td>
<td>45</td>
</tr>
<tr>
<td>Brakes</td>
<td>48</td>
</tr>
<tr>
<td>Mirrors</td>
<td>48</td>
</tr>
<tr>
<td>Spring preload</td>
<td>49</td>
</tr>
<tr>
<td>Damping</td>
<td>51</td>
</tr>
<tr>
<td>Tires</td>
<td>55</td>
</tr>
<tr>
<td>Headlight</td>
<td>55</td>
</tr>
<tr>
<td>Rider and passenger seats</td>
<td>56</td>
</tr>
<tr>
<td>Helmet holder</td>
<td>57</td>
</tr>
<tr>
<td>Luggage straps</td>
<td>58</td>
</tr>
<tr>
<td>Heated handlebar grips</td>
<td>42</td>
</tr>
<tr>
<td>BMW Motorrad Race ABS</td>
<td>43</td>
</tr>
<tr>
<td>Dynamic Traction Control (DTC)</td>
<td>44</td>
</tr>
<tr>
<td>Riding mode</td>
<td>45</td>
</tr>
<tr>
<td>Brakes</td>
<td>48</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) (37).

A single key fits the steering and ignition lock, the fuel filler cap and the seat lock.

Switching on ignition

- Turn key to position 1.

- Parking lights and all function circuits switched on.
- Engine can be started.
- Pre-Ride-Check in progress (62)
- ABS self-diagnosis in progress (63)
- with Dynamic Traction Control (DTC)
- DTC self-diagnosis is performed (64)

Switching off ignition

- Turn key to position 2.
- Light switched off.
- Handlebars not locked.

- Key can be removed.

Locking handlebars

- Turn handlebars to left.

- Turn key to position 3 while moving handlebars slightly.
- Ignition, lights and all function circuits switched off.
- Handlebars locked.
- Key can be removed.
EWS 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 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 “irritate” 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 a 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 key; however, a disabled 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 keys.

Clock
Setting clock

WARNING
Adjusting the clock while riding. Accident hazard
• Adjust the clock only when the motorcycle is stationary.
• Switch on ignition.

- Press and hold button 2 until hours 3 flash.
- Press button 1 to increase hours.
Press button 2 to decrease hours.
When hours have been set as desired, press and hold button 2 until minutes 4 flash.
Press button 1 to increase minutes.
Press button 2 to decrease minutes.
When minutes have been set as desired, press button 2 until minutes no longer flash.
Setting is completed.

Odometer

Selecting readings
- Switch on ignition.

Operation

Speed warning
Setting speed warning
- Activate the speed warning in the SETUP menu (refer to the chapter “On the racetrack”).

Resetting trip meter
- Switch on ignition.
- Select desired trip odometer.

The following data can be displayed:
- Total distance covered
- Trip odometer 1 (Trip I)
- Trip odometer 2 (Trip II)
- Remaining cruising range (when fuel level reaches reserve)
• Continue to press the button 2 until LIMIT appears in the display.

Either the current preset speed or OFF appears in the display.

• To adopt the current driving speed as the new limit: Press and hold the button 2 until the current speed appears in the display.

• Press button 1 to increase the set speed.

• Each time you press the button the speed increases by 5 km/h.

When you exceed the preset speed the shiftpoint lamp 3 responds by lighting up or flashing at the preset frequency and the warning 4 appears in the display.

• To deactivate the speed warning: Press and hold the but-
**Lights**

**Parking lights**

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

**NOTICE**

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

**Headlight low beam**

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.

- Press switch 1 toward front to switch on high beams.
- Pull switch 1 rearward to activate headlight flasher.

**Parking light**

- Switch off ignition.

- Immediately after switching off the ignition push button 1 to the left and hold until the parking lights come on.
- Switch ignition on and then off again to switch off parking light.

**Turn indicators**

**Operating turn indicators**

- Switch on the ignition.

**NOTICE**

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

- 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.

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.

NOTICE
If a turn indicator button is pressed with the emergency flashing function switched on, the flashing function replaces the emergency flashing function as long as the button is pressed. If the turn indicator button is released, the emergency flasher function becomes active again.

- Press button 1 to switch on hazard warning flashers.
- Ignition can be switched off.
- Press button 1 again to switch off hazard warning flashers.
Emergency-off switch (kill switch)

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

Heated handlebar grips
– with heated handlebar grips OE

Operating heated handlebar 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 shown.

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.
- 100 % heating output
- 50 % heating output

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

**BMW Motorrad Race ABS**

**Deactivating ABS function**
- Switch on the ignition.

**NOTICE**
The ABS function can also be deactivated while driving.

Press and hold 1 button until ABS indicator and warning light 2 changes its display behavior.

ABS indicator light lights up.
with Dynamic Traction Control (DTC)™

Press and hold 1 button until first DTC indicator light 3 and then ABS indicator and warning light 2 change their display behavior.

The DTC setting remains unchanged.

ABS indicator light lights up.

Release button 1 within two seconds.

ABS indicator light remains off or continues to flash.

> The ABS function is switched off.

Switch on ABS function

Press and hold 1 button until ABS indicator and warning light 2 changes its display behavior.

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

Release button 1 within two seconds.

ABS indicator light continues to be lit up.

> ABS function is now activated.

• If the coding plug is not used for the SLICK function, as an alternative, the ignition can be switched off, then on again.

NOTICE

If the ABS indicator light lights up after switching the ignition off and on and then continuing to ride at more than 3 mph (5 km/h), an ABS fault has occurred.

Dynamic Traction Control (DTC)™

With Dynamic Traction Control (DTC)™

Switch off DTC function

• Switch on the ignition.
The DTC function can also be deactivated while driving.

Press and hold button 1 until DTC indicator light 3 changes its display behavior.

- DTC indicator light starts to light up.
- Release button 1 within two seconds.
- DTC indicator light continues to light up.
- DTC function is switched off.

Switch on DTC function

Press and hold button 1 until DTC indicator light 3 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 function is switched on.
- If the coding plug is not used for the SLICK function, as an alternative, the ignition can be switched off, then on again.

NOTICE

If the DTC warning light lights up after switching the ignition off and on and then continued driving over 3 mph (5 km/h), a DTC error has occurred.

Riding mode

Setting riding mode

- Switch on ignition.

• Press button 1.
Details on the selectable driving modes are provided in the chapter "Technology in Detail".

The selection arrow 1 and the selection menu 2 are displayed. The current setting is shown at position 3.

With the coding plug installed, the driving mode SLICK 4 is also offered in the selection menu.

- Installing coding plug (47).

Press button 1 repeatedly until selection arrow appears before desired setting.

**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.
- When selecting the SLICK mode, remember the restrictions on ABS control interven-
tion at the rear wheel (see the chapter "Technology in detail").

» When the motorcycle comes to a stop, the selected riding mode is activated after approx. ten seconds.

» The new riding mode is activated during operation under the following conditions:
  - Brakes not engaged
  - Throttle turned all the way back
  - Clutch disengaged

» After the new riding mode is activated, the selection menu disappears.

» The configured riding mode with the corresponding adaptations of the engine characteristics, ABS and DTC is maintained, even after the ignition is switched off.

### Installing coding plug

**ATTENTION**

Installing the encoding plug. Accident hazard. Expiry of operating license for public roads.

- Do not use the encoding plug on public roads.
- Switch off ignition.
- Removing driver's seat (p. 57).

**ATTENTION**

Penetration of dirt and moisture in the open connector.

**Malfunctions**

- After removing the encoding plug, refit the cover cap.
- Open cable ties and remove cover cap of the plug connection 1.
- To do so, press the locking device 2 down and pull off the cap by pulling it upwards.
- Insert the coding plug.
- Switch on ignition and secure plug connection using a new cable tie.
For safety reasons, after the coding plug is connected, the RAIN mode 1 is automatically activated.
- Setting riding mode (⇒ 45).
- Installing driver's seat (⇒ 57).

**Brakes**

**Adjusting brake lever**

**WARNING**

**Modified position of the brake-fluid reservoir.**

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**

Rotate the adjusting screw 1 into the desired position by applying gentle pressure from the rear.

- 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

**Mirrors**

**Adjusting mirrors**

- Move mirror to the desired position by turning it.
Spring preload

Setting
The spring preload on the front wheel must be adapted to the weight of the rider. Higher weight requires higher spring preload, lower weight requires 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
- Make sure ground is level and firm and park motorcycle.
- 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 measured values.

Adjustment of spring preload dependent on loading

- 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 the settings on the left and right sides are identical.

Adjusting spring preload at rear wheel

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

0.8...1 in (20...25 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 reduce the spring deflection (increase spring preload), use the tool from the onboard tool kit to turn the adjustment ring 2 in direction b.
- To increase the spring deflection (decrease 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.

### Damping Setting

The 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

- Use adjusting screws 1 on left and right to adjust compression damping.

<table>
<thead>
<tr>
<th>Clamp screw on upper spring plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 lb/ft (3 Nm)</td>
</tr>
</tbody>
</table>
To increase damping: turn adjusting screw with tool on on-board toolkit so that marking 2 points to a higher scale value.

To decrease damping: turn adjusting screw with tool of on-board toolkit so that marking 2 points to a lower scale value.

Compression stage, basic setting, front
- Position 2 (comfortable setting with driver 187 lbs (85 kg))
- Position 4 (normal setting with driver 187 lbs (85 kg))

Rebound-stage damping on front wheel
- Position 8 (sporty setting with driver 187 lbs (85 kg))

Make sure that the same values are set on the left and right.

Rebound stage, basic setting, front
- Position 2 (comfortable setting with driver 187 lbs (85 kg))
- Position 4 (normal setting with driver 187 lbs (85 kg))

Adjust rebound-stage damping with adjusting screws 1 on left and right-hand fork leg.
Rebound stage, basic setting, front

Position 7 (sporty setting with driver 187 lbs (85 kg))

- Make sure that the same values are set on the left and right.

**Factory settings at front wheel**

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

<table>
<thead>
<tr>
<th>Factory settings for jounce/rebound at front</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position 4</td>
</tr>
</tbody>
</table>

**Adjusting compression damping (jounce) at rear wheel**

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

- Adjust compression damping extended jounce travel (low speed) with adjusting screw 1 and compression damping for short jounce travel (high speed) with adjustment ring 2.

- To increase damping: turn adjusting screw or adjustment ring with tool of onboard tool kit so that marking 3 or 4 points to a higher figure on the scale.

- To decrease damping: turn adjusting screw or adjustment ring with tool of onboard tool kit so that marking 3 or 4 points to a lower figure on the scale.
Pressure stage basic setting at rear High-Speed
Position 2 (comfortable setting with rider 187 lbs (85 kg))
Position 4 (normal setting with rider 187 lbs (85 kg))
Position 9 (sport-oriented setting with rider 187 lbs (85 kg))

Pressure stage basic setting at rear Low-Speed
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))

Adjusting rebound-stage damping at rear wheel
- Make sure ground is level and firm and park motorcycle.

Adjust rebound-stage damping with adjusting screw 1.

- 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 at rear wheel
- Use the following specification data to adjust to factory settings.
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>Tire pressure, front</th>
<th>36.3 psi (2.5 bar) (With tire cold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire pressure, rear</td>
<td>42.1 psi (2.9 bar) (With tire cold)</td>
</tr>
</tbody>
</table>

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

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 spe-
Rider and passenger seats

Removing passenger seat

- Make sure ground is level and firm and park motorcycle.
- Unlock seat lock 1 with the vehicle ignition key.
- Lift passenger seat at rear, then remove by pulling back and upward.
- Remove ignition key and lay passenger seat on a clean surface with the upholstered side on the bottom.

Installing passenger seat

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

Specialized workshop, preferably by an authorized BMW Motorrad retailer.

Operation
Removing driver's seat

- Press cover of driver's seat above screws 1 forward somewhat and hold in place.
- Remove screws.
- Push the driver'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 driver's seat on a clean surface with the upholstered side down.

Installing driver's seat

- Mount driver'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

Lock helmet on motorcycle

- Removing passenger seat (56).
- 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.
- Installing passenger seat (⇒ 56).
- Set down helmet on driver's seat.

**Luggage straps**
Locking luggage on motorcycle
- Removing passenger seat (⇒ 56).
- Turn over passenger seat.
- Use 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.
- Take loops 1 out of holders and lay toward outside.
- Installing passenger seat (⇒ 56).
## Riding

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety instructions</td>
<td>60</td>
</tr>
<tr>
<td>Observe checklist</td>
<td>61</td>
</tr>
<tr>
<td>Starting</td>
<td>62</td>
</tr>
<tr>
<td>Breaking in</td>
<td>64</td>
</tr>
<tr>
<td>Shifting gears</td>
<td>65</td>
</tr>
<tr>
<td>Steering</td>
<td>67</td>
</tr>
<tr>
<td>Brakes</td>
<td>67</td>
</tr>
<tr>
<td>Parking your motorcycle</td>
<td>69</td>
</tr>
<tr>
<td>Refueling</td>
<td>70</td>
</tr>
<tr>
<td>Fastening motorcycle for trans-</td>
<td>71</td>
</tr>
</tbody>
</table>
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, suspension damping rate settings and tire inflation pressures 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 the engine immediately if it misfires
- Use unleaded fuel only
- Comply with all specified maintenance intervals.

Danger of overheating

ATTENTION

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

ATTENTION

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 (126)
• Checking tire tread depth (127)
• Firm seating of cases and luggage

Every 3rd refueling stop:
• Adjusting spring preload at rear wheel (50)
• Adjusting compression damping (jounce) at rear wheel (53)
• Adjusting rebound-stage damping at rear wheel (54)
• Check engine oil level (117)
• Check front brake pad thickness (119)

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.
Check rear brake pad thickness (120).
Check front brake fluid level (121).
Checking rear brake fluid level (122).
Checking coolant level (123).

Starting
Starting the engine
• Switch on ignition.
  » Pre-Ride-Check in progress (62)
  » ABS self-diagnosis in progress (63)
  » with Dynamic Traction Control (DTC)\textsuperscript{OE}
  » DTC self-diagnosis is performed (64)<
  » 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 the lever to disengage the clutch and twist the 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.
» Consult the troubleshooting chart if the engine refuses to start (156)

Pre-Ride Check
During the "Pre-Ride-Check", the instrument-cluster module executes a test routine to check the status of the warning lights and the tachometer. Starting the engine before the test routine is completed will cancel the remainder of the routine.

1. Press starter button.
Phase 1

The indicator and warning lamps 1 light up and the universal warning lamp 2 lights up in yellow. The tachometer needle 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.

- with ABS Pro OA
  » ABS Pro is displayed when the RAIN or SPORT riding mode is set.

The display reverts to the standard format.

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 sensor, 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 sensor while starting off. ABS indicator light flashes.
ABS self-diagnosis completed
» The ABS indicator and warning light goes out.

If an ABS error is indicated following completion of the ABS self-diagnosis routine:
• It remains possible to continue riding. Please be aware that neither the ABS nor the integral function is 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 readiness for operation of the BMW Motorrad DTC is checked by the self-diagnosis. 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.
  DTC indicator light flashes slowly.

Phase 2
» Checking the diagnosable system components while driving. So that the DTC self-diagnosis can be completed, the motorcycle must be driven at a speed of at least 3 mph (5 km/h).
  DTC indicator light flashes slowly.

DTC self-diagnosis completed
» The DTC symbol is no longer displayed.

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 DTC function is not available.
• Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

Breaking in
Engine
• While running in the motorcycle, vary the throttle opening and engine-speed range frequently; avoid driving for long periods at a constant speed.
• 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))

- Have the first inspection carried out after 300 - 750 mls (500 - 1200 km).

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 heel 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 lamp**

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

- Standup-start engine rpm
  - Shiftpoint lamp off: engine rpm too low
  - Shiftpoint lamp lit up: ideal rpm for start
Shiftpoint lamp flashing: engine rpm too high

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

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

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

Gearshift assistant
- with shift assistant OE
Your motorcycle is equipped with a shifting assistant developed based on racing requirements. It enables upshifting without actuating the clutch or throttle valve in virtually all load and engine speed ranges. During acceleration the throttle valve can remain open, and the shifting time is reduced to a minimum. The gears are shifted into as usual with foot force on the shift lever.

The sensor 1 in the shift linkage detects the shift request and initiates shifting support.

When driving at constant speed in low gears at high engine speeds, upshifting without clutch operation can result in major load change reactions. BMW Motorrad recommends only upshifting with clutch operation in these driving situations. The shifting assistant should not be used in the area of the rev-limiter.
No shifting support is provided in the following situations:
- during shifting with engaged clutch
- during shifting with the throttle valve closed (overrun)
- during downshifts

**Steering**

**Adjusting the steering damper**

- Turn the adjustment screw 1 in the direction A to increase the damping force.
- Turn the adjustment screw 1 in the direction B to reduce the damping force.

**WARNING**

Adjusting the steering damper while riding.

**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. 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. The front wheel can lock up.

Locking up of the front wheel is prevented by BMW Motorrad Race ABS.

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 disks 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 motorcycle.
- 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.
- Brake early until the full braking action is available again.

**ABS Pro**

with ABS Pro OA

**Physical riding limits**

**WARNING**

Braking in curves.

Danger of falling despite ABS Pro
- 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.

**Availability of ABS Pro**

- ABS Pro is available in the RAIN and SPORT riding modes.
The RACE and SLICK riding modes are not supported by the ABS Pro function.

Falling cannot be excluded Although ABS Pro represents valuable support and an enormous safety advantage for the rider when braking in the inclined position, it by no means redefines the physical riding limits. It is still possible to exceed those limits through misjudgments or riding errors. In extreme cases this may result in a fall.

ABS Pro was not developed for the racetrack

ABS Pro was not developed for the racetrack to increase the individual braking performance in the inclined position. On the contrary, ABS Pro helps make riding your motorcycle on public roads even safer. When braking due to unexpected hazards in curves, locking-up and slipping of the wheels is prevented within the scope of the physical riding limits.

On the racetrack

The first few times riding on the racetrack are considerably safer for less experienced riders with ABS Pro in the RAIN and SPORT riding modes.

NOTICE

ABS Pro was not developed to increase the individual braking performance in the inclined position in the limit range.

Use on public roads

ABS Pro was purposely designed for use on public roads.

Parking your motorcycle

Side stand

• Switch off engine.

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 caused by tipping over.
• Do not sit on the motorcycle when it is parked on the side stand.
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

Super unleaded (max. 10 % ethanol, E10)
89 AKI (95 ROZ/RON)
89 AKI

Refueling procedure

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
- Do not overfill the fuel tank.

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.

1

• Unlock fuel tank cap 1 with ignition key and fold up.

• Refuel with quality listed below at most until lower edge of filler neck is reached.

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.

Fuel reserve
Approx. 1.1 gal (Approx. 4 l)

Usable fuel quantity
Approx. 4.6 gal (Approx. 17.5 l)

•  Press fuel tank cap down firmly to close.
•  Remove key and close protective cap.

Fastening motorcycle for transport
•  Protect all component surfaces against which straps are routed against scratching. For example, use adhesive tape or soft cloths.
• Undo the screws 1 and remove the trim panel at the lower fork bridge.

ATTENTION
Motorcycle tips to the side when raising.
Component damage cause 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-pegs and then tighten them.
• Tension all straps evenly; the vehicle should be pulled down against its springs with the suspension compressed as much as possible.
On the racetrack
Multifunction display .................. 76
LAPTIMER mode ...................... 78
INFO mode ............................ 83
SETUP mode ......................... 88
In a gravel bed ......................... 96
Mirror removal and installation ...... 96
Removing and installing license-plate carrier ....................... 97
Removing and installing front turn indicator ....................... 100
Multifunction display
Selecting display mode

• Press button 2 repeatedly until desired mode appears.

ROAD mode: The ROAD mode provides all information required for operation on public roads. All descriptions outside of this chapter refer to this mode.

LAPTIMER mode: In the LAPTIMER mode, lap times and other data can be saved and displayed again in the INFO mode.

INFO mode: In the INFO mode the stored information from the LAPTIMER mode can be displayed. This mode can only be activated with the motorcycle stopped.

SETUP mode: In the SETUP mode the instrument cluster’s display features can be adjusted to driver’s preferences. This mode can only be activated with the motorcycle stopped.

Speed warning: A warning appears when the speed that you can set here is exceeded. This function must be activated in the SETUP mode.

On the racetrack

If INFO-MENU or SETUP-MENU is shown, press and hold button 2 to activate mode.
Overview of mode selection

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

1. Operating odometer (p. 38)
2. Setting clock (p. 37).
3. Start time recording (p. 80).
4. Start INFO menu (p. 83)
5. Start SETUP menu (p. 88)
6. Speed warning (p. 38)
LAPTIMER mode

Display

1 Speedometer
2 Current race lap
3 Engine temperature
4 The display in these lines can be adjusted (page 78) in illustration: time of preceding lap (LASTLAP) and current lap time
5 Set riding mode
6 Gear indicator

Marking displayed value

The following times can be shown in the second 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 third 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 (91).

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 (94).
Overview of lap timer mode

— Solid line: briefly press button.
- - Dotted line: press and hold button.
1 End time entry (81).
2 Interrupt time entry (81).
3 Start time recording (80).
4 Adjust display setting (80).
Adjusting display setting

- To change display setting in LAPTIMER mode, press button 2 repeatedly until display has desired appearance.

Starting time recording

- Press button 1 to start recording.

NOTICE

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

- 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.
- 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

Operation of the instrument cluster in the LAPTIMER mode can be carried out conveniently with an infrared signal. For this purpose, the infrared receiver available as an optional accessory must be connected to the instrument cluster. Operation with the headlight flasher button is also possible with the integrated sensor.

To avoid the premature detection of a completed lap due to interference signals, a minimum lap time can be specified (p. 94). Signals received before this time expires are then ignored.
Interrupting time entry

• To interrupt time entry, press button 1.
• To continue time entry, press button 1 again.

End time entry

• First, press the button 1 to interrupt the time entry.
• To save the displayed time as the last racing lap, press and hold down the button 1 until --:--:-- is displayed. Then, change the display mode using the button 2.
• If you do not want to save the displayed time any longer, press the button 2 to change the display mode.

**NOTICE**

If additional laps are recorded at a later time, the numbering of the laps is continued. Only after the current recording has been deleted in RACE INFO mode does counting begin at lap 1 again.

**Fastest lap expected**

This function must be activated in the SETUP menu (⇒ 95).
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" lamp 1 lights up.
INFO mode
Selecting stored lap

- Press button 1 or button 2 to display stored laps consecutively.

NOTICE
If the rider drives off in this mode, the display automatically switches over to the ROAD mode.

When the button 1 is pressed, the stored laps are displayed in the following order. Each time the button 2 is pressed, they are displayed in the opposite order:
- All-time best lap time (ATBEST)
- Best stored lap time (BEST)
- Last stored lap time (LAST)
- All other stored laps
- The total sum of all recorded lap times (TOTAL)
- Exit INFO mode (INFO RETURN)
- Allows deletion of stored data (INFO CLEAR ALL) (except all-time best lap time)
Overview of Info mode

- Solid line: briefly press button.
- Dotted line: press and hold button.
1. Select stored lap (☞ 83).
2. Delete lap times (☞ 87).
3. Jump directly to CLEAR ALL menu.
4. Exit INFO mode (☞ 85).
5. Clear recording (☞ 86).
6. Activate ROAD mode (☞ 86).
Information on each race lap

1. Alternately: top speed (max) and minimum speed (min) of the indicated race lap.
2. Race lap to which displayed data refer.
3. Alternately: average throttle position (TH) in percent, driving percentage with brake actuation (BR) in percent and number of shifts (G) of indicated race lap.
4. Lap time of displayed race lap.

Exiting INFO mode

Press and hold button 2 to exit INFO mode.
» The recorded values are stored.

Press button 1 or button 2 repeatedly until INFO RETURN is displayed.
Clearing recording

- Press and hold down the button 1 until INFO CLEAR ALL is displayed.
- Press and hold down the button 2 to delete the recorded data and return to LAPTIMER mode.

Activate ROAD mode

- Press and hold down the button 1 until INFO CLEAR ALL is displayed.
- Press and hold button 1 to return to ROAD mode.
- The recorded values are stored.

All-time best lap

The all-time best lap (ATBEST) 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.
Deleting lap times

- Press button 1 or button 2 repeatedly until the lap to be deleted is displayed.
- Press and hold button 2 to delete the lap.
  - If the selected lap is
  - the all-time best lap ATBEST, the best of the stored laps is taken over as the new all-time best lap.
  - the best stored lap BEST, the corresponding lap is deleted. The lap that previously had been the second best lap is taken over as the new best lap.
  - a random stored lap, it is deleted. The numbering of the remaining laps is maintained.
  - The deleted lap time is subtracted from the overall time.

- the last stored lap LAST, the corresponding lap is deleted. The lap that previously had been the second to last lap is taken over as the new last lap.

On the racetrack
SETUP mode
Selecting parameter

Press button 1 or button 2 repeatedly until desired parameter is displayed.

NOTICE
If the rider drives off in this mode, the display automatically switches over to the ROAD mode.

When the button 1 is pressed the available parameters are displayed in the following order. Each time the button 2 is pressed, they are displayed in the opposite order:
- Shiftpoint light activation rpm (SFT-ON)
- Shiftpoint light switch-off rpm (SFT-OFF)
- Shiftpoint light brightness setting (SFT-BR)
- Shiftpoint light flashing frequency (SFT-FL)
- Display structure in Laptimer mode (SETUP LAPTIMER)
- Display duration for last recorded time (HOLD)
- Minimum lap time (LAP-TM)
- Activating and canceling the lamp malfunction display (LAMP)
- Comparison between current lap and fastest lap (FSTLAP)
- Activating and canceling the speed warning (SPEED) in the ROAD mode
- Display dimmer (NIGHT)
- End of SETUP (SETUP RETURN)
Overview of Setup mode

Solid line: button pressed briefly
Dotted line: press and hold button

1 Select parameter (⇒ 88).
2 Jump directly to ROAD mode
3 Set parameter (⇒ 90).
4 Exit settings (⇒ 90).

On the racetrack
Setting parameter

- Press and hold button 2 until displayed parameter begins to flash.
- Press button 1 or button 2 repeatedly until desired value is displayed.

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

Exiting settings

- Press and hold button 1 until multifunction display switches over to ROAD mode.
- A value which is still flashing will not be saved.
- As an alternative, press button 1 or button 2 repeatedly until SETUP RETURN is displayed.

If "SETUP RETURN" is displayed:
- Press and hold button 2 to exit SETUP mode.
- SETUP MENU is indicated.

Switch-on speed of shifting flasher

Display of switch-on speed in rpm.
Switch-off speed of shifting flasher
Display of switch-off speed in rpm. Only speeds which lie above the switch-on speed can be selected.

Brightness of shifting flasher
Display of shifting flasher brightness in percent of the maximum brightness. The shifting flasher remains switched on during setting and is immediately adjusted to the selected brightness.

Flashing frequency of shiftpoint lamp
Flashing frequency of the shiftpoint lamp and the speed warning in Hz (cycles per second). When ON is selected the shiftpoint lamp and the speed warning remain on constantly.

Display structure in Laptimer mode
The display structure in the Laptimer mode can be selected from six versions.
Version 1  
The running time of the current lap is shown in the second line and the best lap time of the stored values is shown in the third line.

Version 2  
The time required for the preceding lap is shown in the second line and the running time of the current lap is shown in the third line.

Version 3  
The running time of the current lap is shown in the second line and the all-time best lap time is shown in the third line (⇒ 86).
Version 4
The time required for the preceding lap is shown in the second line and the best lap time of the stored values is shown in the third line.

Version 5
The running time of the current lap is shown in the second line and the third line remains empty.

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

Display duration for last stopped time

Display of the display duration in seconds. After the start of a new lap, the stopped time of the preceding lap is shown for the selected time. Then the running time of the current lap is shown again.

Minimum lap time

When using an infrared receiver to determine the lap times, the time can be set which must elapse after the first received signal before a new signal is accepted. This prevents the signals of several transmitters positioned next to each other from being evaluated. It is also not possible to start a new lap with the headlight flasher button within this time.

Lamp malfunction displays

If lamps or bulbs are removed or the license plate carrier is detached for track use the vehicle’s electronic monitoring system will interpret this as a defective lamp or bulb and the corresponding warning message will appear in the display. This function cancels the display.
Fastest lap display

The "fastest lap expected" function (⇒ 81) is activated.

Speed warning

When you select this function a supplementary main menu allowing selection of a maximum speed is activated. A warning appears when the vehicle speed rises beyond this limit.

Display brightness

Five different intensities are available for adjusting the display brightness.
In a gravel bed
  - with Dynamic Traction Control (DTC)\textsuperscript{OE}

DTC shut-off
On very loose substrates (e.g., a gravel bed on a racetrack), the control interventions of the DTC can attenuate the drive force on the rear wheel until 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 the DTC back on.

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.

\textbf{NOTICE}
Use the HP Race Cover Kit from BMW Motorrad to cover the exposed screw sockets and secure the mounting attachment.

Installing mirrors
- Make sure ground is level and firm and park motorcycle.
• Remove fairing fastener.

Remove mirrors on left and right in mounts 4.
• Install nuts on back of fairing with torque.

Removing and installing license-plate carrier

Removing license-plate carrier
• Switch off ignition.
• Make sure ground is level and firm and park motorcycle.
  – with anti-theft alarm system (DWA) OE
• Deactivate anti-theft alarm system if necessary.
• Removing passenger seat (► 56).

Thread-locking compound: mechanical
6 lb/ft (8 Nm)

6
97
On the racetrack
with anti-theft alarm system (DWA) OE

3. Activate locking mechanisms and disconnect plug.
5. Remove anti-theft alarm system from bracket by extracting toward front.

Carefully disconnect anti-theft alarm system bracket from rear frame and rotate it upward.

6. Activate locking mechanism and disconnect plug.
7. Press locking mechanism 7 to left with small screwdriver while simultaneously sliding connector toward rear off anti-theft alarm system bracket.
8. Remove anti-theft alarm system bracket.

Protect connector plugs on motorcycle against contamination.

On the racetrack
Install license-plate carrier
- Park motorcycle, ensuring that support surface is firm and level.
- Removing passenger seat (⇒ 56).

Position license-plate carrier and guide cable through opening 9.
- Install screws 8 with washers.

Close plug connection so that locking mechanism 2 engages and secure on rear frame with cable tie 1.

Slide connector of license-plate carrier onto anti-theft alarm system (DWA) OE.
• Close plug connection so that locking mechanism 6 engages.

• Mount anti-theft alarm system in bracket from front.

• Install screw 4.

• Close plug connection so that locking devices 3 engage.<

• Installing passenger seat (⇒ 56).

Removing and installing front turn indicator
Removing front turn signal

NOTICE
The working steps described here for the right fairing side panel also apply logically for the left side.◆

• Removing fairing side panel (⇒ 124).

• Unclip the turn signal cable at position 1.

• Mount anti-theft alarm system bracket 5 in rear frame.
• Undo the screw 2 and remove the turn signal. Guide cable through fairing side panel.
• Protect connector on motorcycle against contamination.

• Mount fairing side panel in mount 6 on engine spoiler.

• Mount side panel in rubber buffer at position 4.
• Install screws 3 with washers.
• Install screws 2.

• Position the wind deflection wing 2 ensuring that is on the correct side.
• The letters “R” for the right side and “L” for the left side are stamped on the surfaces of the deflector panels.
• Install screws 1.

• Install screw 1.
Installing front turn signal

1. Unfasten the screws 1 then remove the wind deflection wing 2.
2. Remove the screw 1 on the inside of the right side panel.
3. Remove screws 3 with washers.
4. Pull fairing side panel out of rubber buffer at position 4 and remove.
5. Guide cable through fairing side panel.
7. Clip the turn signal cable in at position 1.
8. Installing fairing side panel (⇒ 125).
Technology in detail

Riding mode ....................... 104
Brake system with BMW Motorrad Race ABS ....................... 106
Engine management with BMW Motorrad DTC ............... 109
Riding mode Selection

There are four 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)

ATTENTION

Installing the encoding plug.

Accident hazard. Expiry of operating license for public roads.
- Do not use the encoding plug 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. However, the shut-off of ABS and/or DTC is maintained only if the coding plug is installed.

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 modes are designed for riding with series tires recommended by BMW Motorrad. SLICK mode assumes racing tires and roads with very good 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
  - The engine output is only partially available. Twisting the throttle produces a virtually linear increase in power while the engine’s response is smooth.
  - 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.
  - The DTC system intervenes early enough to always prevent the rear wheel from spinning if possible.
- SPORT
  - In this mode the full engine output is available. While twisting the throttle grip still results in restrained power generation, the engine response is crisper and more direct.
The ABS response characteristics remain identical to those provided in the RAIN mode. The DTC system intervenes later than in the RAIN mode so that minor drifts are possible at the ends of curves.

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

Engine output and power generation both increase beyond the levels offered in the SPORT mode. The ABS system intervenes later in this mode. The wheels are still prevented from locking up, however the lift-off detection for the rear wheel is deactivated. The rear wheel can lift off the ground! The DTC system intervenes even later so that longer drifts and brief wheelies are also possible at the end of curves.

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

The engine output, increase in power and response are designed for maximum sportiness.

The overrun cutoff is deactivated. The behavior of the ABS system matches that of the RACE mode, however with one difference: If the footbrake lever is actuated, ABS control is no longer carried out on the rear wheel. The rear wheel can lock up. The lift-off detection for the rear wheel is also deactivated.

In this 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!

**Switchover**
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 obtain this state,
- Motorcycle must be stopped with the ignition switched on or
- Throttle grip must be turned back,
- Brake levers may not be actuated,
The clutch must be actuated. First the desired riding mode is preselected. The switchover does not take place until the affected systems are in the required state. The selection menu does not disappear in the display until the driving mode has been switched over.

**Brake system with BMW Motorrad Race ABS**

**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 brake 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 transferrable braking force is exceeded when the driver increases the brake pressure, the wheels begin to block and driving stability is lost, and a fall can result. Before this situation occurs, ABS intervenes and adjusts the brake pressure to the maximum transferrable 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 transferrable 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.

**How is the BMW Motorrad Race ABS noticeable to the rider?**

If the ABS system must reduce the braking forces due to the conditions described above, then vibrations can be felt at 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 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 a longer period of time, the ABS function is deactivated for safety reasons and an ABS fault is indicated. The condition for a fault code is the completed self-diagnosis. In addition to problems on the BMW Motorrad Race ABS, unusual driving conditions can also lead to a fault message.

**Unusual driving 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 de-
scribed 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 in a curve, the motorcycle’s weight and momentum take over and even BMW Motorrad Race ABS is unable to counteract their effects.

Further development of Race ABS to ABS Pro – with ABS Pro

In the past, the BMW Motorrad Race ABS system of the S 1000 RR provided for a very high level of safety while braking during straight-ahead riding. Now ABS Pro also offers increased safety even when braking in curves. ABS Pro prevents locking-up of the wheels even in case of rapid brake actuation. ABS Pro reduces abrupt changes in steering forces, especially during panic braking, and therefore decreases the risk of unwanted wheelies occurring.

**ABS control**

From a technical standpoint, ABS Pro adjusts the ABS control to the angle of inclination of the motorcycle in dependence on the respective riding situation. Signals for the roll and yaw rate and the lateral acceleration are used to determine the inclination of the motorcycle. They come from the yaw rate sensor, which is already used for Dynamic Traction Control DTC and for Dynamic Damping Control DDC.

With an increasing inclination, the braking pressure gradient is increasingly limited at the start of braking. This results in a slower pressure buildup. In addition, the pressure modulation in the range of the ABS control is more uniform.
Advantages for the driver
The advantages of ABS Pro for the rider are sensitive response and high braking and riding stability with the best possible deceleration, even in curves.

**NOTICE**
ABS Pro is only available in the RAIN and SPORT riding modes.

**Engine management with BMW Motorrad DTC**
- with Dynamic Traction Control (DTC) OE

**How does DTC work?**
The BMW Motorrad DTC compares the wheel speeds of the front and rear wheel. From the speed difference the slip, and with it the stability reserves on the rear wheel are determined.

When a slip limit is exceeded, the engine torque is adapted by the engine management system.

**WARNING**
**Risky riding style.**
- 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, the speeds of the front and rear wheel are compared and the angle is considered, for example. If these values are detected to be implausible for a long period, a replacement value is used for the angle and 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.

In the following unusual driving states, the BMW Motorrad DTC can be automatically deactivated.

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

7109

Technology in detail
Provided that the coding plug for the SLICK mode is not installed, the DTC will be reactivated by switching the ignition off and on again and then accelerating the vehicle to a speed of more than 3 mph (5 km/h).

If the front wheel loses contact to the ground during extreme acceleration, the DTC reduces the engine torque until the front wheel touches the ground again. 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 the BMW Motorrad DTC.
## Accessories

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General instructions</td>
<td>112</td>
</tr>
<tr>
<td>BMW Motorrad ABS Pro</td>
<td>112</td>
</tr>
</tbody>
</table>
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 (⇒ 130).

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.

BMW Motorrad ABS Pro
- with ABS Pro OA

Since the introduction of the Race ABS, BMW Motorrad has offered an ABS system custom-tailored to meet the special needs of super sports motorcycles. With the ABS Pro function, now the further development of the Race ABS system follows, also enabling ABS-supported braking in dependence on the inclined position. ABS Pro is an optional accessory and can be purchased and installed at your authorized
BMW Motorrad retailer.
Depending on the motorcycle's equipment, the following steps are necessary:

**ABS Pro Retrofit**
- Check yaw rate sensor and replace if necessary.
- Update software of ABS control unit.
- Update software of instrument cluster.

**NOTICE**
ABS Pro cannot be retrofitted in conjunction with the HP Race Power Kit and/or the HP Race Calibration Kit.
## Maintenance

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General instructions</td>
<td>116</td>
</tr>
<tr>
<td>Onboard tool kit</td>
<td>116</td>
</tr>
<tr>
<td>Engine oil</td>
<td>117</td>
</tr>
<tr>
<td>Brake system</td>
<td>118</td>
</tr>
<tr>
<td>Coolant</td>
<td>123</td>
</tr>
<tr>
<td>Fairings and panels</td>
<td>124</td>
</tr>
<tr>
<td>Clutch</td>
<td>126</td>
</tr>
<tr>
<td>Wheel rims and tires</td>
<td>127</td>
</tr>
<tr>
<td>Chain</td>
<td>127</td>
</tr>
<tr>
<td>Wheels</td>
<td>129</td>
</tr>
<tr>
<td>Front wheel stand</td>
<td>137</td>
</tr>
<tr>
<td>Rear-wheel stand</td>
<td>139</td>
</tr>
<tr>
<td>Lamps</td>
<td>140</td>
</tr>
<tr>
<td>Fuses</td>
<td>146</td>
</tr>
<tr>
<td>Jump-starting</td>
<td>147</td>
</tr>
<tr>
<td>Battery</td>
<td>148</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 vehicle 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. Spare fuses with gripper
   Miniature fuses, 4 A and 7.5 A
2. Box wrench
   Wrench size: 34 mm
   - Adjusting chain tension (128).
3. Socket wrench
   Wrench size: 17 mm
   - Adjusting spring preload on front wheel (49).
   - Adjusting compression damping (jounce) at rear wheel (53).
4. Use plastic attachment for adjusting damping and spring preload.
5. Extension for hook wrench
6. TORX wrench, T25
7. Removing and installing body panels.
8. Hook wrench
   - Adjusting spring preload at rear wheel (50).
9. Extension for screwdriver insert
   - Adjusting rear damping (in conjunction with slotted blade).
10. Open-ended wrench
    Wrench size: 10/13
    - Adjusting chain tension (128).
11. Plastic attachment for socket wrench
    - Adjusting spring preload on front wheel (49).
8 Adjusting compression damping (jounce) at rear wheel (☞ 53).
9 Reversible screwdriver with Phillips and straight blade
   – Removing battery (☞ 150).
   – Adjust front and rear damping.
10 Reversible screwdriver insert
    Phillips PH1 and Torx T25
   – Removing driver’s seat (☞ 57).
   – Removing and installing body panels.
   – Replacing front and rear turn indicator bulbs (☞ 144).

Engine oil
Checking 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 op-
  erating temperature vertically.
- Let the engine run in neutral
  for one minute.
- Switch off ignition.

• Read the oil level in the
display 1.

Specified level of engine oil
between MIN- and MAX mark
Engine oil, capacity

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

If the oil level is below MIN mark:
- Topping up engine oil (⇒ 118).

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

Topping up engine oil
- Make sure ground is level and firm and park motorcycle.
- Wipe area around fill location clean.
- Remove cap 1 of engine 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 (⇒ 117).
- Install cap of engine 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.
Check front brake pad thickness

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

1. 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](image)

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.

- If genuine BMW Motorrad brake pads are not installed, be sure to check thickness of brake-pad carrier plate.

Thickness of brake-pad carrier plate

- min 0.18 in (min 4.5 mm)
If carrier plate thickness is insufficient:

**WARNING**

Use of unsuitable brake pads.
Failure of the brake system due to loss of the brake pads.
- Use only brake pads with a sufficient thickness of the brake pad carrier plate.
- 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.

- 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 sys-
tem, 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.

**NOTICE**

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

- Read off brake fluid level at brake-fluid reservoir 1.

**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.

![Brake Fluid Reservoir Image]

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

![Check Level of Brake Fluid in Rear Brake-fluid Reservoir Image]

- Check level of brake fluid in rear brake-fluid reservoir 1.

<table>
<thead>
<tr>
<th>Rear brake fluid level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brake fluid, DOT4</td>
</tr>
</tbody>
</table>

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.

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
- Removing fairing side panel (➡️ 124).
Fairings and panels
Removing fairing side panel

1. Open cap 1 of expansion tank.
2. Add coolant up to specified level.
3. Checking coolant level (➡️ 123).
5. Installing fairing side panel (➡️ 129).

NOTICE

The working steps described here for the right fairing side panel also apply logically for the left side.

- Unfasten the screws 1 then remove the wind deflection wing 2.
- Make sure ground is level and firm and park motorcycle.
- Remove the screw 1 on the inside of the side panel.
- Remove screws 2.
- Remove screws 2.
• Remove screws 3 with washers.
• Pull fairing side panel out of rubber buffer at position 4 and remove.

Installing fairing side panel

• Mount fairing side panel in mount 6 on engine spoiler.

• Disconnect plug 5.
• Take off fairing side panel.

• Connect the plug 5.

• Mount side panel in rubber buffer at position 4.
• Install screws 3 with washers.
• Install screws 2.

• Install screw 1.
Position the wind deflection wing 2 ensuring that is on the correct side.
» The letters “R” for the right side and “L” for the left side are stamped on the surfaces of the deflector panels.
» Install screws 1.

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.

Adjusting clutch lever play

To increase clutch play: turn the screw 2 into handlebar fitting.

Clutch lever play

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

If clutch play is outside tolerance:
• Adjusting clutch lever play (☞ 126).
To decrease clutch play: turn the screw 2 out of handlebar fitting.

Checking clutch lever play (p. 126).

Repeat these operations until the clutch play is correctly adjusted.

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 tires
Risk of accident due to poorer rideability
- If necessary, replace the tires 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.

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 Motorrad recommends using BMW Motorrad chain lubricant or:

<table>
<thead>
<tr>
<th>Lubricant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain spray</td>
</tr>
</tbody>
</table>
| Wipe off excess lubricant.

**Checking chain tension**
- Make sure ground is level and firm and park motorcycle.
- Turn the rear wheel until the position with the lowest chain sag is reached.

If the measured figure is outside the approved tolerance range:
- Adjusting chain tension (⇒ 128).

**Adjusting chain tension**
- Make sure ground is level and firm and park motorcycle.
- Using a screwdriver, push the chain in the middle between the pinion and sprocket and measure the difference a.
- 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 (⇒ 128).
- Ensure that the figures 4 indicating the adjustment settings are identical on left and right.
Tighten locknuts 3 on left and right to the specified torque.

<table>
<thead>
<tr>
<th>Locknut of drive-chain tensioning screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 lb/ft (19 Nm)</td>
</tr>
</tbody>
</table>

Tighten quick-release axle nut 1 to specified torque.

<table>
<thead>
<tr>
<th>Rear-wheel quick-release axle in swinging arm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thread-locking compound: mechanical</td>
</tr>
<tr>
<td>74 lb/ft (100 Nm)</td>
</tr>
</tbody>
</table>

Check chain wear
- Engage 1st gear.
- Rotate rear wheel toward front of vehicle until the chain is tensioned.
- Determine chain length below the rear wheel swinging arm with 9 rivets.

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.

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. Extensive information is available at your authorized BMW Motorrad retailer or on the Internet at www.bmw-motorrad.com.
Effects of wheel size on suspension-control systems

The wheel sizes play a major role in the chassis control systems ABS and DTC. 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 can be adapted for 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 2 of brake calipers on left and right.
Push brake pads 3 slightly apart by turning brake caliper 4 back and forth against brake rotor 5.
- Carefully pull brake calipers back and outward to remove them from brake rotors.
- Place motorcycle on an auxiliary stand; BMW Motorrad recommends BMW Motorrad rear wheel stand.
- Installing the auxiliary stand on the rear wheel (⇒ 137).
- Attaching the auxiliary stand on the front wheel (⇒ 137).

ATTENTION
Incorrectly aligned threaded support sleeve in the front suspension.
Damage to the wheel speed sensor. ABS malfunction.

The left-hand wheel axle clamping bolts lock the threaded support sleeve in position and must not be loosened or removed.
- Unscrew right-hand axle clamping screws 1.
- Remove quick-release axle 2 while supporting wheel.
- Roll front wheel forward to remove.

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.

BMW Motorrad front wheel stand for lifting the motorcycle.
- Installing the auxiliary stand on the front wheel (⇒ 137).

Installation instructions for BMW Motorrad rear wheel stand.
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 wheel guide.

- Lift front wheel and install quick-release axle 2 with torque.
  Quick-release axle in threaded bush
  37 lb/ft (50 Nm)
  Tighten right axle clamping screws 1 to specified tightening torque.

- Remove front wheel stand and auxiliary stand.
- Slide the brake calipers onto the brake rotors.
Position clip 6.

Install screws 2 on left and right with appropriate torque.

Radial brake calipers on the axle adapter

28 lb/ft (38 Nm)

Insert wheel speed sensor in bore and install screw 1.

Remove adhesive tape from wheel rim.

Firmly pull the handbrake lever until the pressure point is perceptible, and repeat this operation several times.

Removing rear wheel

- Place motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear wheel stand.
- Installing the auxiliary stand on the rear wheel (139).
- Support the rear wheel, e.g., with a wooden block, so that it cannot fall down after the quick-release axle is removed.

Remove axle nut 1 with washer.

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

- Remove quick-release axle 5 and take out adjusting plate 6.

- Roll rear wheel as far forward as possible and remove chain 7 from chain sprocket.

- Remove brake and ABS line from bracket 8.

- Remove brake line from bracket 8.

- Make sure that the wheel speed sensor 9 is not damaged when rolling out the rear wheel.
Roll rear wheel toward rear out of swing arm while pulling brake caliper carrier 10 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.

**Installing rear 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.

- Roll rear wheel on support into swing arm until brake-caliper support can be installed.

- Mount brake caliper carrier in guide 11.
Make sure that wheel speed sensor 9 is not damaged when rolling in rear wheel.

Roll rear wheel further into swing arm while simultaneously pushing brake caliper carrier 10 toward front.

Roll rear wheel as far forward as possible and lay chain 7 on sprocket.

Insert right side shim 6 in swing arm with travel stop 12 pointing toward front.

Raise rear wheel and install quick-release axle 5 through shim in brake-caliper support and rear wheel.

Ensure that quick-release axle seats securely against travel stop on adjustment plate.
Mount adjusting plate on left 4.
Install axle nut 1 with washer but do not yet tighten down.
Mount brake line in bracket 8.
Mount brake and ABS line in bracket 8.
Adjusting chain tension (128).

Front wheel stand
Installing the auxiliary stand on the front wheel

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.
Installing the auxiliary stand on the rear wheel (139).
Use basic stand (83 30 0 402 241) with mounting pieces (83 30 2 152 839).

Insert the mounting pins (83 30 2 152 840) 1 at the left and right into the front suspension.

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

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

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

Attach the auxiliary stand to the front suspension and press it on the ground evenly.
Rear-wheel stand
Installing the auxiliary stand on the rear wheel

- Use basic stand with part number (83 30 0 402 241) and the mounting pieces (83 30 2 152 839).

1. Install the mounting pins (83 30 2 152 841) on the left and right into the rear wheel swing arm, tightening to specified torque.

2. Swing arm adapter on rear wheel swing arm

- 15 lb/ft (20 Nm)

3. Turn in the bracket 2 with the long sides facing the outside.

4. Adjust the mounting pieces 3 to the width of the pins inserted into the rear wheel swing arm.

5. Adjust the height of the auxiliary stand so that the rear wheel is lifted slightly off the ground.
Attach the auxiliary stand to the rear wheel swing arm and press it on the ground evenly.

**Lamps**

**Replacing low-beam and high-beam bulbs**

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.

1. Remove the cover 1 to replace the low-beam bulb.
2. Remove the cover 2 to replace the high-beam bulb.
3. Disconnect plug 3.

**NOTICE**
The alignment of the connector may differ from the illustration depending on the bulb to be replaced.
Remove spring wire brackets 4 from their detents on left and right and swivel them up.

- Remove bulb 5 from the socket.
- Replace defective bulb.

**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>Bulb 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 avoid contamination on the bulb’s glass surface, never touch or hold the bulb anywhere other than on its metal socket base.

Install bulb 5. Start by inserting the lug 6 then press the bulb into the socket.

- Insert both sides of wire spring 4 into the retainer.

Attach plug 3.
Install the cover.

Replacing left parking light bulb

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.

1. Remove parking light cover 1.

2. Push the locking device 2 downwards (using a screwdriver if necessary) and pull the socket 3 out of the headlight housing.

3. Remove bulb 4 from the socket.

4. Replace defective bulb.

Bulb for parking light

W5W / 12 V / 5 W

To prevent contaminants from being deposited on the new bulb's glass surface, always use a clean, dry cloth to hold it.
Replacing right parking light bulb

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.

1. Remove cover 1.
2. Push the retainer 2 downward (using a screwdriver if necessary) and pull the socket 3 from the headlight housing.
3. Insert socket 3 in the headlight housing such that the retainer 2 engages.
4. Insert bulb 4 into the socket.

- Remove bulb 4 from the socket.
- Install the cover.
• Replace defective bulb.

Bulb for parking light
W5W / 12 V / 5 W

• To prevent contaminants from being deposited on the new bulb’s glass surface, always use a clean, dry cloth to hold it.

Insert bulb 4 into the 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 bulbs
• 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.
• Remove the bulb 2 from the light housing by turning it counterclockwise.
• Replace defective bulb.

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

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

• To prevent contaminants from being deposited on the new bulb's glass surface, always use a clean, dry cloth to hold it.

Install bulb 2 by turning clockwise in light housing.

• Insert inside end of lens into light housing and close.

Fit the screw 1.

Diode tail light
If more LEDs have burned out in the tail light than are indicated in the Technical Data below, the tail light bulb must be replaced. In this case:
• Contact an authorized service facility, preferably an authorized BMW Motorrad retailer.

Maximum number of defective LEDs in the tail-lamp
1
Replacing license plate light

- Pull license-plate light 1 out of lamp housing.
- Pull bulb out of socket.
- Replace defective bulb.
- Bulb for license-plate light
  W5W / 12 V / 5 W
- To prevent contaminants from being deposited on the new bulb’s glass surface, always use a clean, dry cloth to hold it.
- Press bulb into socket.
- Press license-plate lamp 1 into lamp housing.

Fuses
Removing fuse

ATTENTION
Bypassing defective fuses.
Risk of short circuit and fire.
- Replace defective fuses with new fuses.
- Switch off ignition.
- Make sure ground is level and firm and park motorcycle.
• Removing passenger seat ( gioc 56).

- Press together locking lever and remove cover of fuse box 1.
- To replace main fuse, remove cover 2 from relay box.
- 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.
- Latch audibly engages.

**Installing passenger seat ( gioc 56).**

**Jump-starting**

**CAUTION**
Touching live parts of the ignition system when the engine is running.
- Electrocutio

**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 vehicle must have a voltage of 12 V.
- Do not disconnect the battery from the onboard electrical system when jump-starting the engine.
- Removing driver's seat (➔ 57).

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 vehicle 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 (➔ 57).

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.

Disconnecting battery from motorcycle.
- Make sure ground is level and firm and park motorcycle.
- Removing driver’s seat (57).

ATTENTION
Incorrect battery disconnection.
Danger of short circuit
- Follow the disconnection sequence.
- Remove negative cable 1 first.
- Then remove positive cable 2.

Connecting battery to vehicle
- First install positive battery cable 2.
- Then install negative battery cable 1.
- Installing driver’s seat (57).

Charging battery
- Disconnecting battery from motorcycle (149).
- Charge battery using a suitable charger.
- Comply with operating instructions of charger.
• Once battery is fully charged, disconnect charger’s terminal clips from battery terminals.

**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.  

**Removing battery**

• Disconnecting battery from motorcycle. (⇒ 149).
• Lift battery upwards; if it is difficult to move, moving it back and forth will help.

**Install battery**

• Connecting battery to vehicle (⇒ 149).
• Place battery in battery compartment, positive terminal on right in direction of travel.
• Connect battery to vehicle (⇒ 149).
• Removing driver’s seat (⇒ 57).
• Setting clock (⇒ 37).

**Removing battery**

• Removing driver’s seat (⇒ 57).
• Disconnecting battery from motorcycle. (⇒ 149).
• Lift battery upwards; if it is difficult to move, moving it back and forth will help.
Care

Care products ...................... 152
Washing your motorcycle .......... 152
Cleaning sensitive motorcycle parts .............................................. 153
Paint care .................................. 153
Store motorcycle .................... 154
Protective wax coating ............. 154
Return motorcycle to use .......... 154
Care products
BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. BMW CareProducts have been materials tested, laboratory tested, and field tested and provide optimum care and protection for the materials used in your vehicle.

**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 on painted parts prior to 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

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 of 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 vehicle regularly will help counteract the long-term effects of substances that damage the paint, especially if your ve-
A vehicle is ridden in areas with high air pollution or natural sources of dirt, e.g. tree resin or pollen. At the same time, you should remove particularly aggressive materials immediately; otherwise changes in the paint and 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 such marks as soon as possible using white spirit or methylated spirits on a clean cloth or cotton pad. 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 (150).
- 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 (150).
- Observe checklist (61).
## 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 procedure (<a href="#">70</a>).</td>
</tr>
<tr>
<td>Battery drained</td>
<td>Charge battery.</td>
</tr>
<tr>
<td>Threaded fasteners</td>
<td>Value</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Front wheel</td>
<td></td>
</tr>
<tr>
<td>Quick-release axle in threaded bush</td>
<td></td>
</tr>
<tr>
<td>M24 x 1.5</td>
<td>37 lb/ft (50 Nm)</td>
</tr>
<tr>
<td>Clamping screw in axle adapter</td>
<td></td>
</tr>
<tr>
<td>M8 x 35</td>
<td>Tighten the screws 6 times, alternating between one and the other each time</td>
</tr>
<tr>
<td>Radial brake calipers on the axle adapter</td>
<td></td>
</tr>
<tr>
<td>M10 x 65</td>
<td>28 lb/ft (38 Nm)</td>
</tr>
<tr>
<td>Rear wheel</td>
<td>Value</td>
</tr>
<tr>
<td>Locknut of drive-chain tensioning screw</td>
<td>M8</td>
</tr>
<tr>
<td></td>
<td>14 lb/ft (19 Nm)</td>
</tr>
<tr>
<td>Rear-wheel quick-release axle in swinging arm</td>
<td>M24 x 1.5 mechanical</td>
</tr>
<tr>
<td></td>
<td>74 lb/ft (100 Nm)</td>
</tr>
<tr>
<td>Component</td>
<td>Value</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Rear wheel</td>
<td></td>
</tr>
<tr>
<td>Swinging-arm adapter on rear wheel swinging arm</td>
<td>M8 x 30</td>
</tr>
<tr>
<td>Drain screw on upper spring plate</td>
<td>M5 x 25</td>
</tr>
<tr>
<td>Spring strut on main frame</td>
<td>M10 x 65</td>
</tr>
<tr>
<td>Mirrors</td>
<td></td>
</tr>
<tr>
<td>Mirror on front panel carrier</td>
<td>M6, Replacing the nuts mechanical</td>
</tr>
</tbody>
</table>
### Engine

<table>
<thead>
<tr>
<th>Engine design</th>
<th>Transverse-mounted four-cylinder, four-stroke inline engine, angled 32° toward front. With four valves per cylinder, actuated by two overhead camshafts and trailing valve levers; liquid cooled, electronic fuel injection, integrated six-speed transmission, wet-sump lubrication.</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>193 hp (142 kW), at engine speed: 13000 min⁻¹</td>
</tr>
<tr>
<td>Torque</td>
<td>83 lb/ft (112 Nm), at engine speed: 9750 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>
### Fuel

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended fuel quality</td>
<td>Super unleaded (max. 10 % ethanol, E10)</td>
</tr>
<tr>
<td></td>
<td>89 AKI (95 ROZ/RON)</td>
</tr>
<tr>
<td>Usable fuel quantity</td>
<td>Approx. 4.6 gal (Approx. 17.5 l)</td>
</tr>
<tr>
<td>Fuel reserve</td>
<td>Approx. 1.1 gal (Approx. 4 l)</td>
</tr>
</tbody>
</table>

### Engine oil

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine oil, capacity</td>
<td>Approx. 3.7 quarts (Approx. 3.5 l), with filter replacement</td>
</tr>
<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>
### 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 (36:24 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>
### 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>

### Suspension

#### Front wheel

<table>
<thead>
<tr>
<th>Type of front suspension</th>
<th>Upside-down telescopic forks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring travel, front</td>
<td>4.7 in (120 mm), On wheel</td>
</tr>
</tbody>
</table>

#### Rear wheel

<table>
<thead>
<tr>
<th>Type of rear suspension</th>
<th>Two-arm aluminum swinging arm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of final drive</td>
<td>Chain drive</td>
</tr>
<tr>
<td>Spring travel, rear</td>
<td>5.1 in (130 mm), On wheel</td>
</tr>
</tbody>
</table>
### Brakes

<table>
<thead>
<tr>
<th>Type of front brake</th>
<th>Hydraulic radially operated twin disc brake with 4-piston radial fixed caliper and floating brake discs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brake-pad material, front</td>
<td>Sintered metal</td>
</tr>
<tr>
<td>Type of rear brake</td>
<td>Hydraulically operated disc brake with 1-piston floating caliper and fixed brake disc</td>
</tr>
<tr>
<td>Brake-pad material, rear</td>
<td>Organic</td>
</tr>
</tbody>
</table>

### Wheels and tires

- **Recommended tire combinations**: An overview of the current tire approvals is available from your authorized BMW Motorrad retailer or on the Internet at bmw-motorrad.com.
- **Speed category of front/rear tires**: W, minimum requirement: 168 mph (270 km/h)

#### Front wheel

<table>
<thead>
<tr>
<th>Front wheel design</th>
<th>Cast aluminum, MT H2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front-wheel rim size</td>
<td>3.50&quot; x 17&quot;</td>
</tr>
<tr>
<td>Front tire designation</td>
<td>120/70 ZR 17</td>
</tr>
<tr>
<td>Load index for front tire</td>
<td>48</td>
</tr>
<tr>
<td>Permissible front-wheel imbalance</td>
<td>max 0.2 oz (max 5 g)</td>
</tr>
</tbody>
</table>
### Rear wheel

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear wheel design</td>
<td>Cast aluminum, MT H2</td>
</tr>
<tr>
<td>Rear-wheel rim size</td>
<td>6.0&quot; x 17&quot;</td>
</tr>
<tr>
<td>Rear tire designation</td>
<td>190 / 55 ZR 17</td>
</tr>
<tr>
<td>Load index for rear tire</td>
<td>63</td>
</tr>
<tr>
<td>Permissible rear-wheel imbalance</td>
<td>max 1.6 oz (max 45 g)</td>
</tr>
</tbody>
</table>

### Tire inflation pressure

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire pressure, front</td>
<td>36.3 psi (2.5 bar), With tire cold</td>
</tr>
<tr>
<td>Tire pressure, rear</td>
<td>42.1 psi (2.9 bar), With tire cold</td>
</tr>
</tbody>
</table>

### Electrical system

<table>
<thead>
<tr>
<th>Fuse</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuse 1</td>
<td>10 A, Instrument cluster</td>
</tr>
<tr>
<td>Fuse 2</td>
<td>4 A, Cutoff relay, diagnosis plug</td>
</tr>
<tr>
<td>Fuse 3</td>
<td>7.5 A, Fan</td>
</tr>
<tr>
<td>Fuse 4</td>
<td>7.5 A, Low-beam headlight, load relief relay</td>
</tr>
<tr>
<td>Fuse 5</td>
<td>7.5 A, High-beam headlight</td>
</tr>
<tr>
<td>Fuse 6</td>
<td>7.5 A, Horn</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Fuse 7</td>
<td>4 A, Ignition switch</td>
</tr>
<tr>
<td>Fuse 8</td>
<td>4 A, Angular rate sensor</td>
</tr>
<tr>
<td>Main fuse</td>
<td>40 A</td>
</tr>
</tbody>
</table>

**Battery**

<table>
<thead>
<tr>
<th>Battery design</th>
<th>AGM (Absorptive Glass Mat) battery.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery voltage</td>
<td>12 V</td>
</tr>
<tr>
<td>Battery capacity</td>
<td>10 Ah</td>
</tr>
</tbody>
</table>

**Spark plugs**

<table>
<thead>
<tr>
<th>Spark plugs, manufacturer and designation</th>
<th>NGK LMAR9D-J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrode gap of spark plug</td>
<td>0.03 in (0.8 mm)</td>
</tr>
</tbody>
</table>

**Bulbs**

<table>
<thead>
<tr>
<th>Bulb for high-beam headlight</th>
<th>H7 / 12 V / 55 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulbs for low-beam headlight</td>
<td>H7 / 12 V / 55 W</td>
</tr>
<tr>
<td>Bulb for parking light</td>
<td>W5W / 12 V / 5 W</td>
</tr>
<tr>
<td>Bulb for taillight/brake light</td>
<td>LED / 12 V</td>
</tr>
</tbody>
</table>
### Technical Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of defective LEDs in the tail-lamp</td>
<td>1</td>
</tr>
<tr>
<td>Bulbs for flashing turn indicators, front</td>
<td>RY10W / 12 V / 10 W</td>
</tr>
<tr>
<td>Bulbs for flashing turn indicators, rear</td>
<td>RY10W / 12 V / 10 W</td>
</tr>
<tr>
<td>Bulb for license-plate light</td>
<td>W5W / 12 V / 5 W</td>
</tr>
</tbody>
</table>

**Frame**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame design</td>
<td>Cast light alloy - welded design with screwed-on light alloy rear frame</td>
</tr>
<tr>
<td>Location of type plate</td>
<td>Right steering head</td>
</tr>
<tr>
<td>Location of the vehicle identification number</td>
<td>Right steering head</td>
</tr>
</tbody>
</table>
### Dimensions

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorcycle length</td>
<td>80.9 in (2056 mm)</td>
</tr>
<tr>
<td>Motorcycle height</td>
<td>44.8 in (1138 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>32.3 in (820 mm), Without driver</td>
</tr>
<tr>
<td>Rider’s inside-leg arc, heel to heel</td>
<td>71.3 in (1810 mm), Without driver</td>
</tr>
</tbody>
</table>

### Weights

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unladen weight</td>
<td>445 lbs (202 kg), DIN unladen weight, ready for road, 90 % full tank of gas, without OE</td>
</tr>
<tr>
<td>Permissible gross weight</td>
<td>893 lbs (405 kg)</td>
</tr>
<tr>
<td>Maximum payload</td>
<td>448 lbs (203 kg)</td>
</tr>
<tr>
<td>Performance data</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Top speed</td>
<td>&gt;124 mph (&gt;200 km/h)</td>
</tr>
<tr>
<td>Service</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------</td>
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</tr>
<tr>
<td>Reporting safety defects</td>
<td>170</td>
</tr>
<tr>
<td>BMW Motorrad Service</td>
<td>171</td>
</tr>
<tr>
<td>BMW Motorrad Mobility</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>171</td>
</tr>
<tr>
<td>Maintenance procedures</td>
<td>171</td>
</tr>
<tr>
<td>Maintenance schedule</td>
<td>175</td>
</tr>
<tr>
<td>Standard BMW Service</td>
<td>176</td>
</tr>
<tr>
<td>Confirmation of maintenance work</td>
<td>177</td>
</tr>
<tr>
<td>Confirmation of service</td>
<td>182</td>
</tr>
</tbody>
</table>
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. For generous treatment of claims submitted after the warranty period has expired (goodwill), evidence of regular maintenance is essential.

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 vehicle to you.
BMW Running-in Check
The BMW running-in check must be carried out between 300 mls (500 km) and 750 mls (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 (1127 km) before the entered values.

The specified service intervals apply to street operation. For racing operation, adjust the intervals in accordance with loading.
## Maintenance schedule

1. **BMW running-in check**
2. **Standard BMW Service**
   (→ 176)
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 tire 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 __________

Stamp, Signature

Stamp, Signature
BMW Service
Conducted on
Odometer reading
Next service at the latest on
or, if reached sooner, Odometer reading
Stamp, Signature

BMW Service
Conducted on
Odometer reading
Next service at the latest on
or, if reached sooner, Odometer reading
Stamp, Signature

BMW Service
Conducted on
Odometer reading
Next service at the latest on
or, if reached sooner, Odometer reading
Stamp, Signature
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<tr>
<th>BMW Service</th>
<th>BMW Service</th>
<th>BMW Service</th>
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<tr>
<td>Conducted on</td>
<td>Conducted on</td>
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<td>Odometer reading</td>
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<tr>
<td>Next service at the latest</td>
<td>Next service at the latest</td>
<td>Next service at the latest</td>
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<tr>
<td>or, if reached sooner,</td>
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<tr>
<td>Odometer reading</td>
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</table>

Stamp, Signature

Stamp, Signature

Stamp, Signature
BMW Service
Conducted on ________
Odometer reading ________
Next service at the latest on ________
or, if reached sooner, Odometer reading ________

Stamp, Signature

BMW Service
Conducted on ________
Odometer reading ________
Next service at the latest on ________
or, if reached sooner, Odometer reading ________

Stamp, Signature

BMW Service
Conducted on ________
Odometer reading ________
Next service at the latest on ________
or, if reached sooner, Odometer reading ________

Stamp, Signature
## Confirmation of service

The table is intended as proof of maintenance and repair work, the installed optional accessories and any special campaign (recall) work carried out.

<table>
<thead>
<tr>
<th>Work carried out</th>
<th>Odometer reading</th>
<th>Date</th>
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<tr>
<td>Work carried out</td>
<td>Odometer reading</td>
<td>Date</td>
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Service
Appendix
Certificate for Electronic Immobilizer .......................... 186
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. ⚠
Damping
Adjusting, 51
Front adjustment element, 11
Rear adjuster, 11, 13
Dimensions
Technical Data, 167
DTC
Control, 14
Operating, 44
Self-diagnosis, 64
Technology in detail, 109
Warning indicators, 31
DWA
LED, 17
Warning indicators, 32
E
Electrical system
Technical Data, 164
Emergency on/off switch (kill switch)
Operating, 42
Position on motorcycle, 15
Engine
Starting, 62
Technical Data, 159
Warning for electronic engine management, 29
Engine oil
Checking level, 117
Fill level indicator, 11
Fill location, 13
Technical Data, 160
Topping up, 118
Equipment, 7
Fuel reserve
Cruising range, 23
Warning indicator, 28
Fuses
Position on vehicle, 16
Replacing, 146
Technical data, 164
H
Hazard warning flashers
Control, 14
Operating, 41
Headlight
Adjusting for RHD/LHD traffic, 55
Headlight range, 55
Heated handlebar grips
Control, 15
Operating, 42
Helmet holder
Position on vehicle, 16
Securing helmet, 57
Horn, 14
I
Ignition
switch on, 36
Switching off, 36
Immobilizer, 37
Warning indicator, 28
Indicator lights, 17
Overview, 21
Instrument cluster
Ambient light photosensor, 17
Overview, 17
J
Jump-start, 147
K
Keys, 36
L
License-plate carrier
Removing/installing, 97
Lights
Control, 14
Headlight low beam, 40
Operating headlight flasher, 40
Operating high-beam headlight, 40
Operating parking light, 40
Parking lights, 40
Luggage
Loading information, 60
Luggage loops
Position on vehicle, 16
Using, 58
M
Maintenance
General instructions, 116
Maintenance schedule, 175
Maintenance intervals, 171
Mirrors
Adjusting, 48
Removing/installing, 96
Mobility Services, 171
Motorcycle
Care, 151
Cleaning, 151
Lashing down with straps, 71
Parking, 69
Returning to use, 154
Storage, 154
Multifunction display, 17
Control, 14
Overview, 20
Select display mode, 76
Using INFO mode, 83
Using LAPTIMER mode, 78
Using SETUP mode, 88
Multifunction switch
General view, left, 14
General view, right, 15
N
Notice concerning current status, 7
O
Onboard tool kit
Contents, 116
Position on vehicle, 16
Overview of warning indicators, 25
Overviews
Instrument cluster, 17
Left side of motorcycle, 11
Left-side multifunction switch, 14
Multifunction display, 20
Right side of motorcycle, 13
Right-hand multifunction switch, 15
Underneath seat, 16
Warning and indicator lights, 21

P
Pre-Ride-Check, 62

R
Rear-wheel drive
Technical Data, 162
Rear-wheel stand
Mounting, 139
Refueling, 70
Rider's Manual (US Model)
Position on vehicle, 16
Riding mode
Adjusting, 45
Driving mode control, 15
Technology in detail, 104

S
Safety instructions
On braking, 67
On riding, 60
Seats
Installing, 56
Locking mechanism, 11
Removing, 56
Service, 171
Reporting safety defects, 170
Service display, 22
Shifting gears
Gearshift assistant, 66
Shiftpoint lamp, 65
Shiftpoint light, 17
Spark plugs, 165
Speed warning
Adjusting, 38
Speedometer, 20
Spring preload
Adjusting, 49
Front adjustment element, 11
Rear adjuster, 11
Starting, 62
Control, 15
Steering damper, 67
Position on motorcycle, 13
Steering lock
Locking, 36
Suspension
Technical Data, 162
Switching off, 69

T
Tachometer, 17
Technical data
Battery, 165
Brakes, 163
Bulbs, 165
Clutch, 161
Dimensions, 167
Electrical system, 164
Engine, 159
Engine oil, 160
Frame, 166
Fuel, 160
Fuses, 164
Rear-wheel drive, 162
Spark plugs, 165
Standards, 7
Index

Suspension, 162
Transmission, 161
Weights, 167
Wheels and tires, 163
Tires
Checking tire inflation pressures, 55
Checking tire tread depth, 127
Inflation pressure table, 11
Inflation pressures, 164
Recommendation, 129
Running in, 65
Technical Data, 163
Torques, 157
Transmission
Technical Data, 161
Trip distance recorder
Operating, 38
Troubleshooting chart, 156
Turn indicators
Control, 14
Operating, 40
Removing/installing, 100
Type plate
Position on motorcycle, 13

V
Vehicle identification number
Position on motorcycle, 13

W
Warning lamps, 17
ABS, 30
Anti-theft alarm system, 32
Bulb defective, 29
Display, 23
DTC, 31
Electronic engine management, 29
Fall sensor, 30
Fuel reserve, 28
Immobilizer, 28
Overheating, 28
Overview, 21
Weights
Payload table, 11
Technical Data, 167
Wheels
Checking wheel rims, 127
Installing front wheel, 131
Installing rear wheel, 135
Removing front wheel, 130
Removing rear wheel, 133
Size change, 130
Technical Data, 163
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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Important data for refueling.

### Fuel

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended fuel quality</td>
<td>Super unleaded (max. 10 % ethanol, E10)</td>
</tr>
<tr>
<td></td>
<td>89 AKI (95 ROZ/RON)</td>
</tr>
<tr>
<td>Usable fuel quantity</td>
<td>Approx. 4.6 gal (Approx. 17.5 l)</td>
</tr>
<tr>
<td>Fuel reserve</td>
<td>Approx. 1.1 gal (Approx. 4 l)</td>
</tr>
</tbody>
</table>

### Tire inflation pressure

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire pressure, front</td>
<td>36.3 psi (2.5 bar), With tire cold</td>
</tr>
<tr>
<td>Tire pressure, rear</td>
<td>42.1 psi (2.9 bar), With tire cold</td>
</tr>
</tbody>
</table>

You'll find additional information on all aspects of your motorcycle at: bmw-motorrad.com

**BMW recommends**

Order No.: 01 41 8 542 547
07.2015, 4th edition, 07